Usenet Newsgroup Archive: rec.radio.amateur.antenna

2003-04 - 2003-06

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Date span: 2003-04-01 through 2003-06-30

Source text: rec.radio.amateur.antenna.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 7,692

Message records with no readable body available in the source text: 1

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: Phasing/delay line combiner for two antenas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 00:36:04 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <ohnh8vcqd0j7fv2ef8rdh4fgg6si4re8dd@4ax.com>
Source record: 121504

"Larry Phipps" <larry@telepostinc.com> wrote:

> For Eric's application, where antenna parameters are not controlled, phasing
> lines should still work if he doesn't care about what settings are needed
> and he has a full 360 degree range at the lowest frequency.

That is indeed my situation.

> Also,
> differential gain between antenna 1 should be adjustable by at least 6db
> above and below antenna 2. But if all he needs is to obtain a null at some
> setting, then the MFJ or the WA1ION circuits I mentioned should work fine,
> and probably easier to implement over a wide frequency range where a LOT of
> coax would be needed.

No, I'm looking for the phasing delay. And, yes, the longest delay
loop for my "design," if you could laughably call it that, would be 32
meters of LMR-100 (RG-174 size but less loss). It would indeed be a
monster.

--
73, Eric F. Richards, KB0YDN, efricha@dim.com
"A few old diehards still blazoned 'Spark Forever!' on their QSL cards..."
- from "200 Meters & Down", copyright 1936, ARRL

2. Re: Phasing/delay line combiner for two antenas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 00:56:15 UTC
From: Larry Phipps <larry@telepostinc.com>
Message-ID: <Ps5ia.30$Xp3.15489@newssvr28.news.prodigy.com>
Source record: 121503

Roy, that's exactly what my system does...it uses short broadbanded elements with swamping resistors to reduce the mutuals to a negligible level and provide a wide bandwidth. All the lines and other circuit elements are terminated in 50 ohms...and I get excellent and stable voltage and phase levels across a 3:1 frequency range.

Of course, with lossy elements, much care must be taken with the design of the elements, preamps and other components to provide a total system NF low enough to be compatible with HF atmospheric noise levels...and at the same time strong enough so that IM distortion products remain below the noise floor with the loudest interfering signals typically encountered in the HF bands. Also, total gain balance and differential phase between element paths must be held to very close tolerances to avoid retuning when changing frequency.

After a month of design and testing, my antenna system now achieves 20-30db F/B, independent of frequency, with one constant gain and phase setting. With slight tweaking, up to 40db F/B is acheived. Much of the tweaking has to do with band conditions...and whether the signal is exactly "off-the-back".

For Eric's application, where antenna parameters are not controlled, phasing lines should still work if he doesn't care about what settings are needed and he has a full 360 degree range at the lowest frequency. Also, differential gain between antenna 1 should be adjustable by at least 6db above and below antenna 2. But if all he needs is to obtain a null at some setting, then the MFJ or the WA1ION circuits I mentioned should work fine, and probably easier to implement over a wide frequency range where a LOT of coax would be needed.

--
73,
Larry N8LP
www.telepostinc.com

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:v8haa4gkdr5v68@corp.supernews.com...
> There's a basic problem with using transmission lines for delay. The
> current or voltage delay in a transmission line is equal to the
> transmission line electrical length only if the transmission line is
> terminated in its characteristic impedance. In addition, the voltage or
> current will be transformed to a different value from one end of the
> cable to the other only if it's correctly terminated. (There are a few
> exceptions to this with particular lengths of line and/or load
> impedances.) In a transmitting array, each element typically has an
> impedance quite different from the impedance of the line. Even if each

> element is individually carefully matched, element impedances can, and
> often do, change dramatically when in the presence of other current
> carrying elements.
>
> When receiving, the transmission lines can be properly terminated, but
> then the impedances of the elements feeding the lines cause unexpected
> magnitude and phase transformations. The net effect is the same as for
> the transmitting case.
>
> A simple-minded system of phase delay using transmission lines does work
> if the elements are very lossy and/or very short, and individually
> matched. Under those circumstances, mutual coupling is negligible
> compared to the self impedance and can be ignored. This is ok for an HF
> receiving array, but undesirable for transmitting.
>
> For more information about this topic, see Chapter 8 of the ARRL Antenna
> Book. A system of feeding phased arrays using only transmission lines,
> but taking mutual coupling into account, is described in "The Simplest
> Phased Array Feed System -- That Works", in the ARRL Antenna Compendium,
> Vol. 2.
>
> Roy Lewallen, W7EL
>
> Larry Phipps wrote:
> > I have done extensive work recently with a number of delay mechansims
> > including the MCL units, symmetrical pin-net phasers, fixed delay
modules
> > from Rhombus, etc. In my case, I wound up with a combination of the
Rhombus
> > delay lines for 1, 2, 4 and 8 nsec. For .5ns and 16ns I used RG-174U
coiled
> > up. The Rhombus lines don't have sufficient tolerance beyond 8 ns,
making
> > it impossible to achieve resolutions better than about 1ns. In my case,
I
> > have a range of 0-31.5 ns in .5 ns steps, which is good for my needs.
It's
> > relatively small, and has low insertion loss. Of course, using coax for
all
> > delays would be cheaper, but larger.
> >
> > Be aware that by using time delay as opposed to phase delay, the phase
> > delays change with frequency...if you need actual calibrated phase
delay...a
> > simple PIC chip can be used to calculate and display the phase delay if
you
> > feed it the frequency.
> >
> > The stepped delay option is the only one I tried with really broad
> > bandwidth... and it's easily computer controlled.

> >
> > My circuit is part of a high-performance, calibrated broadband phaser
that I
> > have built that is the subject of an antenna article I am working on.
> >
> > You might also want to do a search for WA1ION on the web, as he has
designed
> > a couple of such devices for low-band use which could be modified for
use up
> > to 30 MHz. There is also the MFJ-1025 which actually works pretty well
from
> > what I hear, in spite of being from MFJ...although it has limited signal
> > handling capability, since the active components are small signal FETs.
> >
> > If you're in Europe, Wellbrook makes a better unit, but doesn't export
it to
> > the US.
> > --
> > 73,
> > Larry N8LP
> > www.telepostinc.com
> >
> >
> > "Eric F. Richards" <efricha@dim.com> wrote in message
> > news:66cf8vo46be92gm00q2gvk99bbf9i5on9i@4ax.com...
> >
> >>Greetings, all...
> >>
> >>I posted this over on rec.radio.shortwave, but they seem to be caught
> >>up in a poly-sci discussion, so I'm going to try here.
> >>
> >>I have two HF receive antennas that perform very well; a T2FD and a
> >>250 foot random wire. I'd like to build a phaser for them.
> >>
> >>Now doing so where the second antenna is in phase or 180 degrees out
> >>is fairly easy. What I want to do is build a delay line or phase
> >>shift network.
> >>
> >>I've considered building a Goniometer, but have only found one article
> >>online about doing so. The construction seems easy, but what should
> >>the inductance of each of the windings be? I want something that will
> >>work from LF to 30 MHz, if possible.
> >>
> >>Likewise, has anyone tried using an old Selsyn as a Goniometer?
> >>
> >>The other approach, the brute-force approach, is to switch in and out
> >>various lenghts of LMR-100 as delay lines. If you do powers of two up
> >>to, say, 64 meters, you get a lot of flexibility.
> >>
> >>You also get a lot of cable.

> >>
> >>I've seen narrow-band phase-shift network modules on Mini-circuit's
> >>web page, but nothing to give me the coverage I want.
> >>
> >>Any ideas or suggestions?
> >>
> >>(Oh, BTW, I want to have no preamps or tuned circuits in whatever I
> >>build, because either/both are more hinderance than help, IMHO.)
> >>
> >>Thanks!
> >>
> >>
> >>--
> >>73, Eric F. Richards, KB0YDN, efricha@dim.com
> >>"A few old diehards still blazoned 'Spark Forever!' on their QSL
cards..."
> >>- from "200 Meters & Down", copyright 1936, ARRL
> >
> >
> >
>

3. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:04:07 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E88F3A1.3030900@adelphia.net>
Source record: 121506

TonyWard wrote:
> Hi Guys,
> I,m just wondering weather 5 feet of copper pipe sunk into the ground would
> be a good "earth" for the radio......
> I could get a rod but had some pipe left over from a heating fix....
>
> its not solid copper but surley has twice the surface area of a rod

I made a ground system thusly:

I took two pieces of 8 foot copper tubing, .5 inch and connected a garden hose to one end of the pipes (one at a time, of course.

I marked about 6 inches from the end on each pipe. I then marked two spots a bit less than 8 feet apart on the ground

Then I attached the hose, and pushed water through it. In this way, I pushed dirt out from in front of the pipe, and rather quickly worked my way down into the ground. After I got to the marks, I removed the hose and connector, and joined the two upright pipes together with another peice of pipe and a couple elbows. Then I connected it all to the set with wire braid. All the joints were soldered, as well as the braid.

The "Hydrostatic" drilling method is surprisingly powerful, and will even move small rocks out of the way. Obviously if you are on bedrock, it won't work as well.

This is all a FWIW thing, as I've been told it DOESN'T work! But it was fun, and *seems* to work for me.

- Mike KB3EIA -

4. Re: Military Ribbon Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:07:15 UTC
From: efuchs03@hotmail.com
Message-ID: <bf1abc14.0303311807.61d7ead3@posting.google.com>
Source record: 121507

It is nice to know that I'm not the only "nut". And I agree with you
that this is probably not a good antenna for a ht bnc. Too military
tough, but it was fun to try. I think I'll try Fair Radio for the
PRC-77 goosenect and try to make it a mobile/field-base antenna and
run a short bnc terminated cable to the ht. BTW, it is one of the
37.5" low band antenna. Not only am I wasting time trying to make a
non-standard antenna work, I am curious as to how a 1/2 wave would
work in the field. When I get it operational, I am just praying for
it to work reasonably well between the impedenance, 1/2 wave length,
and (probably) questionable mounting system. Thanks for sharing your
experience.

Mike <km6ab@pacbell.net> wrote in message news:<3E87C1AC.30109@pacbell.net>...
> I made one by cannibalizing a VHF BNC rubber duck to get the BNC with
> threaded stud sticking out of a small white insulator. I then cut the
> threaded top from a PRC-77 style flexible gooseneck (which mates with
> the PRC-128 whip) and drilled and tapped the bottom of this to fit the
> threaded stud on the BNC. I then covered it with heat shrink and have a
> beautiful whip adaptor which will break off almost any HT BNC connector
> you attach it too. I hope your using the short 18" 128 antenna and not
> the long version used for VHF low band. At least the short one makes a
> good 1/4 VHF antenna and no ground is used or necessary.
> Where else but the Internet would you find another nut who tried to make
> one of these?
>
> Mike
>
> efoxx wrote:
> > I have a ribbon antenna for the prc-126/128. I am looking for a
> > connector or adapter to mate this antenna to a standard bnc. I am
> > also wondering about grounding for the transceiver (it's originally
> > designed for a ht) and impedance matching. I've tried finding a
> > matching nut/washer combination, but cannot seem to match the military
> > threading. It is a nice looking antenna and I have to admit that I
> > like the style, so I don't want to build it into a pvc contraption.
> > If anyone has any experience with using these antennas I would
> > appreciate the help.

5. Re: Military Ribbon Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:16:58 UTC
From: efuchs03@hotmail.com
Message-ID: <bf1abc14.0303311816.32377285@posting.google.com>
Source record: 121508

Thanks. I'll look into the "Dribble" antenna info. Right now, all I find is info on bumper-beeper dribble antennas. I probably will give up on directly mounting the antenna to the ht (see the next post) due to too much stress on the ht bnc. Thanks for the post.

<Jimnn7k@reno.rmci.net> wrote in message news:<f6Mha.12691$G6.8828@fe01.atl2.webusenet.com>...
> My former employer used "Dribble" antennas with good results. these sound
> like the antennas you describe (about 12-14 inches long, vwry flexible, (and
> for counterpoise, the METAL in the frame/circuit board is the counterpoise!)
> They obtained an adaptor, both in "F" fitting for motorola ht-1000, and in
> 3/8 inch stud (for mt1000/ht600 motorolas, but you probably could make one
> with a 4-40 , or 3-56 screw with the head chopped off, soldered into the
> center pin of a bnc male. , would need a 1/4 inch piece of plastic , drilled
> out in the center, forced down inside the bnc connector. and cinch down the
> antenna with a nut. dont know who they obtanien these adaptors from, but
> try a search for "dribble antenna" jim nn7k
> "efoxx" <efuchs03@hotmail.com> wrote in message
> news:bf1abc14.0303271954.2e03083c@posting.google.com...
> > I have a ribbon antenna for the prc-126/128. I am looking for a
> > connector or adapter to mate this antenna to a standard bnc. I am
> > also wondering about grounding for the transceiver (it's originally
> > designed for a ht) and impedance matching. I've tried finding a
> > matching nut/washer combination, but cannot seem to match the military
> > threading. It is a nice looking antenna and I have to admit that I
> > like the style, so I don't want to build it into a pvc contraption.
> > If anyone has any experience with using these antennas I would
> > appreciate the help.

6. SSB brand RF sensed 6M preamps any good?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:21:40 UTC
From: zaax@aol.com
Message-ID: <20030331212140.23070.00000447@mb-fh.aol.com>
Source record: 121509

I am going to put together my first 6m antenna system. My plan is to use two stacked loops from KB6KQ (www.kb6kq.com) on a 30 foot tower feeding my FT-100D. Because the coax run will be about 75 feet I am considering getting an RF sensed/switched preamp from SSB (www.ssb.com/gaasfet.html). Has anyone out there used these preamps? Are they worth the cost? Any problems or concerns with them?
BTW, the above stacked antennas are claimed to have a gain of 5dBd. Do you think that this would be a good setup for dxing?
Any info on this will be greatly appreciated.

73
Zack
N8FNR

7. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:24:25 UTC
From: richardharrison@webtv.net
Message-ID: <13048-3E88F859-236@storefull-2314.public.lawson.webtv.net>
Source record: 121510

Reg wrote:
"(who`s Bailey?)"

Arnold B. Bailey was a consulting engineer, an alumnus of Bell Labs, and holds U.S. patent No. 2184729, issued in 1939 on the "coaxial antenna".

Bailey`s "TV and Other Receiving Antennas" is a gem. It was copyrighted in 1950. It was published by John F. Rider.

Best regards, Richard Harrison, KB5WZI

8. G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:39:49 UTC
From: Lloyd Mitchell <lloydm75@hotmail.com>
Message-ID: <JW5ia.4225$0P3.2692@fe04.atl2.webusenet.com>
Source record: 121505

I am thinking of constructing a G5RV, and a friend gave me a roll of 75ohm, 1/2" dia cable. Is this cable a good match to the antenna with a tuner? I am thinking that the impedance of the antenna is approx...80 ohms and to use the 75 cable might be a better match for the tuner.

waddayathink?

Lloyd

9. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 02:53:54 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM_@Sympatico.ca>
Message-ID: <6b7ia.1443$DD6.348212@news20.bellglobal.com>
Source record: 121511

"Richard Harrison"
> Bailey's "TV and Other ~Receiving~ Antennas" is a gem.
> It was copyrighted in 1950.

Was that before the discovery of reciprocity ? ;-)

10. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 03:11:11 UTC
From: richardharrison@webtv.net
Message-ID: <29689-3E89034F-252@storefull-2313.public.lawson.webtv.net>
Source record: 121513

CAM wrote:
"What size wire and what material did Terman use?"

Terman doesn`t tell us. In the middle of page 871 of his 1955 edition is a "Directive Gain Table" in which the elementary dipole is singled out for prominent display among a number of antennas all compared in gain to the isotropic radiator.

Bailey, however, describes the folded quarter-wave dipole on page 509 of "TV and Other Receiving Antennas".

"Two parallel quarter-wave horizontal rods, connected together at outer-ends, one is center-fed.

Size at 200 MHz: Two 13-inch long, 0.25-inch diameter rods spaced 1.0 inch.

Resistance at center frequency: 6000 ohms.

Antenna average surge impedance: 260 ohms.

Gain at center frequency: -0.5 dBd.

Frequency bandwidth: 1 db down, 2%; 3 db down, 5%.

References: Grainger, J.T.N., Proc. IRE, vol. 38, p. 280, March 1950.

Lindenblad, N.E., RCA Rev. vol. 3, p. 400, April 1939.

Best regards, Richard Harrison, KB5WZI

11. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 03:29:34 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <is1i8v0r4dt9nneol0qm2srtkdj2u04qd4@4ax.com>
Source record: 121512

On Tue, 01 Apr 2003 02:04:07 GMT, Mike Coslo <mcoslo@adelphia.net>
wrote:

>TonyWard wrote:
>> Hi Guys,
>> I,m just wondering weather 5 feet of copper pipe sunk into the ground would
>> be a good "earth" for the radio......
>> I could get a rod but had some pipe left over from a heating fix....
>>
>> its not solid copper but surley has twice the surface area of a rod
>
>
> I made a ground system thusly:
>
>I took two pieces of 8 foot copper tubing, .5 inch and connected a
>garden hose to one end of the pipes (one at a time, of course.
>
>I marked about 6 inches from the end on each pipe. I then marked two
>spots a bit less than 8 feet apart on the ground
>
>Then I attached the hose, and pushed water through it. In this way, I
>pushed dirt out from in front of the pipe, and rather quickly worked my
>way down into the ground. After I got to the marks, I removed the hose
>and connector, and joined the two upright pipes together with another
>peice of pipe and a couple elbows. Then I connected it all to the set
>with wire braid. All the joints were soldered, as well as the braid.
>
>The "Hydrostatic" drilling method is surprisingly powerful, and will
>even move small rocks out of the way. Obviously if you are on bedrock,
>it won't work as well.
>
>This is all a FWIW thing, as I've been told it DOESN'T work! But it was
>fun, and *seems* to work for me.
>
> - Mike KB3EIA -

Hi Mike,

I am sure that it does in fact give you somewhat of a ground system.
However it is not recommended to disturb the soil around a ground rod.
I.e., don't dig a hole and back fill, don't wash in with water. These
methods make it easy to install a ground rod but the soil never packs
in tightly like it was originally and you don't get as good a ground
connection. That is the reason copper pipe is not recommended. You
can't drive it in very far the way it should be done.

Soldering connections on a ground system is also not the recommended thing to do. A large current will melt the solder connections and break the connection. Also it can deteriorate in the soil or from UV from the sun.

One more thing while I am picking, braided wire is not good to use outside. It should be solid wire or strap. Braided wire will corrode much faster than solid and when you go to renew your connection (something that should be done every year or so) You will never be able to clean the braided wire to make a good connection.

73
Gary K4FMX

12. Re: Ground plane antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 04:19:33 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030331231933.28582.00000228@mb-fv.aol.com>
Source record: 121514

>When we
>installed the system 12 years ago I cut a quarter wave dipole made
>from #12 solid bare copper wire, fed it with RG8U and suspended it at
>an angle of approximately 45 degrees between two plastic insulators.
.....
>Now both
>antenna go through a coaxial switch and feed my base station. And
>although they both work, the old crappy dipole still seems to perform
>better than the ground plane. I have tested this between mobiles at
>different locations and seem to always find that switching to the
>dipole always seems better. Both antennas are at the same height and
>on the same roof about 10 feet apart. Can anyone offer some
>suggestions?

Do you see any difference in different directions? Like in the direction of the slope of the dipole vs. towards the back? There could be some gain in the direction in the slope of the dipole.
Could it be that PVC is RF "dirty" and "eats" some RF?

Yuri, K3BU

13. Re: SSB brand RF sensed 6M preamps any good?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 04:45:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <MoqdnRyxHvDGhBSjXTWcpA@comcast.com>
Source record: 121515

Don't bother with the preamp. Put the money you save towards getting better coax. That will help both receive and transmit. You want Belden 9913 type, or Times Microwave LMR400. Don't let old timers talk you into RG213. If you use the 9913, make sure no water can get in at the top.

How far apart do you plan to space the antennas? I don't know what separation you need for the loops, but 6m beams are usually stacked 12 -20 feet apart. Also, keep in mind that a single 3 - 5 element beam and a TV rotator will blow away the stacked loops.

Tam/WB2TT
"zaax.at.nojunk.aol.com" <zaax@aol.com> wrote in message news:20030331212140.23070.00000447@mb-fh.aol.com...
> I am going to put together my first 6m antenna system. My plan is to use two
> stacked loops from KB6KQ (www.kb6kq.com) on a 30 foot tower feeding my FT-100D.
> Because the coax run will be about 75 feet I am considering getting an RF
> sensed/switched preamp from SSB (www.ssb.com/gaasfet.html). Has anyone out
> there used these preamps? Are they worth the cost? Any problems or concerns
> with them?
> BTW, the above stacked antennas are claimed to have a gain of 5dBd. Do you
> think that this would be a good setup for dxing?
> Any info on this will be greatly appreciated.
>
> 73
> Zack
> N8FNR

14. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 05:24:27 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <v8i8ki2gdljia5@corp.supernews.com>
Source record: 121516

Fill those tubes with copper sulfate? There is interesting reading around
the web on this sort of system. Usually larger diameter tube I believe. Also
special "backfill". Coal "coke"?

Why "cap" the tubes? If left accessible you can occasionally run water
inside and even refill with ionic salts.

Someday... <G>

Regards,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

15. Re: Ground Rod Question?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 05:26:12 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <v8i8nr1c62hhdb@corp.supernews.com>
Source record: 121517

http://www.arrl.org/tis/info/grounding.html

See especially "assorted hints and kinks"

Regards,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.
"buo" <hkl@er.com> wrote in message news:3E887E52.9E378613@er.com...
> Can't I just ohm out across the clamp connection to test
> it?
>

16. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 05:40:34 UTC
From: richardharrison@webtv.net
Message-ID: <13046-3E892652-701@storefull-2314.public.lawson.webtv.net>
Source record: 121518

J. Harvey wrote:
"Was that (1950) before the discovery of reciprocity?"

Most antenna people had made the discovery.

I can`t be sure why Bailey would name his book "TV and Other Receiving Antennas". But 1950 was about the time of TV`s fastest growth. Sales of TV receiving antennas were hot. It was reasonable that books about TV receiving antennas might be hot too.

Bailey also must have thought that most professional customers for his book would know all about reciprocity, so the title wouldn`t put them off either.

There are differences between TV transmitting antennas and TV receiving antennas. First, the broadcaster wants to send his signal in all horizontal directions, while concentrating it in the horizontal plane for high effective radiated power, in most cases.

The TV viewer wants high horizontal directivity to minimize interference from azimuths other than the azimuth of his desired station. The viewer`s antenna doesn`t have to handle near the power level the sender`s antenna must handle, either.

Best regards, Richard Harrison, KB5WZI

17. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 07:25:40 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e893f37$0$26355$626a54ce@news.free.fr>
Source record: 121519

Hello Lloyd,

For RX only, any kind of antenna or random length wire would be OK if you use an antenna tuner as low-pass or band-pass filter.

For RX only, your 75 Ohms (coaxial) would do the job.

If you don't want to make a G5RV the right way as Mr. G5RV described it, it would only work for RX, but yes, for TX too with less performance due to the coaxial feeding.

The only way to find out if it's good enough for your purpose is to try! I use sometimes a random dipole fed with 50 Ohms RG58cu through an antenna tuner to make local QSO and it works (only in the 1500 to 2500 km circle and local)

Bye, Olivier ...-.-

18. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 08:43:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6bjff$cg1$1@sparta.btinternet.com>
Source record: 121520

No-one ever learned anything from trying one antenna. It is essential to try
at at least one more in order to make a comparison and then choose.

If the try's are spaced in time and one of them is the G5RV then it is
strongly recommended to try the G5RV first,

Reg, G4FGQ

19. Re: WTD:WIN 95 for shack 'puter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 08:53:50 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <bikh8vsi781rl0to5kldimmrq7uaddd684@4ax.com>
Source record: 121521
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

On Mon, 31 Mar 2003 18:41:48 GMT, Jasper Janssen <jasper@jjanssen.org>
wrote:

>On Tue, 28 Jan 2003 21:33:55 -0500, Technician <travis57@megalink.net>
>wrote:
>
>>Slightly off on a tangent here, but has anybody else noticed that in
>>Win98, if you create a new shortcut (Richt-click --> New --> Shortcut),
>>that the picture to the left shows the Win95 start menu?
>>

It doesn't in mine in 98 or SE as well.

>>And its still there in second edition. Don't tell me that windows is not
>>programed in the copy & paste method.

>
>It's not, or at least this isn't evidence of it. It's programmed in the
>"alter only the bits that need altering" method.
>
>Now if you found win3.11 in 9x, or 9x in NT, that'd be evidence of c/p
>programming.
>
>Jasper

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

20. Re: Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 09:06:57 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8956B0.5B3E6A34@cwis.net>
Source record: 121522

" Well, I did make an offer in good faith, shame it didn't work out but
you still have my respect and no hard feelings." ...

Mark,
Well, that didn't take long! You have to jump through
the 'hoops' according to Art's script, or he takes his
bat and goes home. Of course, that's what he said at the
start, so why should anyone be suprized. It's disappointing,
though...
'Doc

21. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 13:58:03 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <o26j8v0sp9nlmcomer0mj2f5d0dto3orbl@4ax.com>
Source record: 121524

On Mon, 31 Mar 2003 20:39:49 -0600, "Lloyd Mitchell"
<lloydm75@hotmail.com> wrote:

>I am thinking of constructing a G5RV, and a friend gave me a roll of 75ohm,
>1/2" dia cable. Is this cable a good match to the antenna with a tuner? I
>am thinking that the impedance of the antenna is approx...80 ohms and to use
>the 75 cable might be a better match for the tuner.
>
>waddayathink?
>
>Lloyd
>
>

See Mr. Varney's article at http://www.qsl.net/aa3px/g5rv.htm

He okays coax of any impedance between 50 and 80 ohms.

Bob
k5qwg

22. Small antenna location

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 14:03:11 UTC
From: Bill Ogden <ogden@us.ibm.com>
Message-ID: <3E899C1E.FF829A97@us.ibm.com>
Source record: 121523

An article in one of the Antenna Compendiums (#6 or #7) was interesting. It discussed a ferrite rod antenna for reception on 80 and 160 meters. The bundle of ferrite rods was 18 inches long and about an inch square IIRC. Two variable capacitors were needed for tuning. The advantage over a more conventional antenna was much lower noise.

The construction information was excellent. The usage information was minimal. Bandwidth was described as *very* narrow and tuning is needed for almost every frequency shift. There are two tuning controls and this implies (to me, at least) that the antenna needs to be at a convenient location for the operator. My shack is in my basement.

Question: Are the placement "rules" for such an antenna different than those for a more conventional antenna? I would never think of putting a 160 meter dipole in a basement. Should I think about putting one of these "magnetic" antennas in the basement? I assume the same discussion would apply to a "magnetic" loop(?).

My goal would be to use this antenna when noise is bad, but transmit on a conventional half-sloper.

Bill
W2WO

23. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 14:15:10 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E899EEB.44EBA65E@shaw.ca>
Source record: 121525

J Tabor wrote:
>
> Fill those tubes with copper sulfate? There is interesting reading around
> the web on this sort of system. Usually larger diameter tube I believe. Also
> special "backfill". Coal "coke"?
>
> Why "cap" the tubes? If left accessible you can occasionally run water
> inside and even refill with ionic salts.
>
> Someday... <G>
>
> Regards,
> Jim
> --
> email sent to: denews@taborsoft.com
> is discarded without being seen.
> Sorry for any inconvenience.

I pour a solution of water softener salt down the copper
pipes (10 ft long with perforations around the bottom three
feet). I cap the pipe with a cover just to prevent junk
from entering through the top.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

24. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 14:53:56 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <aChia.21835$G6.2462@fe01.atl2.webusenet.com>
Source record: 121526

"Gary Schafer" <gaschafer@attbi.com> wrote in message
news:is1i8v0r4dt9nneol0qm2srtkdj2u04qd4@4ax.com...
> I am sure that it does in fact give you somewhat of a ground system.
> However it is not recommended to disturb the soil around a ground rod.
> I.e., don't dig a hole and back fill, don't wash in with water. These
> methods make it easy to install a ground rod but the soil never packs
> in tightly like it was originally and you don't get as good a ground
> connection. That is the reason copper pipe is not recommended. You
> can't drive it in very far the way it should be done.
>

Yes, but six months later I bet it wouldn't make a difference.

I would also suggest using galvanized steel pipe like someone else
suggested. A year or two down the road it will be better than the copper.

> Soldering connections on a ground system is also not the recommended
> thing to do. A large current will melt the solder connections and
> break the connection. Also it can deteriorate in the soil or from UV
> from the sun.
>

Oh? Then all those antennas that my dad had up for years and years and
worked all kinds of dx don't work? Besides, you can always wrap it with
tape to protect the solder from those nasty UV rays.

Also, if you get a 'large current', I assume you mean from lightening, it
won't matter much if it is soldered or not. 20,000+ amps will melt just
about anything you could afford to put in the ground. I vote for the
solder.

> One more thing while I am picking, braided wire is not good to use
> outside. It should be solid wire or strap. Braided wire will corrode
> much faster than solid and when you go to renew your connection
> (something that should be done every year or so) You will never be
> able to clean the braided wire to make a good connection.
>
>
Likewise, my Dad's antennas that he has had up years and years and worked
all kinds of DX don't work? (He's been a ham over 60 years.)

Jim
N8EE

25. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 14:55:24 UTC
From: richardharrison@webtv.net
Message-ID: <15593-3E89A85C-766@storefull-2312.public.lawson.webtv.net>
Source record: 121529

I wrote:
"There are differences between TV transmitting antennas and TV receiving antennas."

One of the biggest is that the broadcaster is usually occupying only one, 6-MHz wide, channel. This is truly wide-band, especially when it`s between 54 and 60 MHz, but the TV VHF receiving antenna is often required to perform from 54 MHz to 216 MHz, with a couple of gaps.

TV receiving antennas are challenging. If you can design them, you should be able to handle just about anything.

Best regards, Richard Harrison, KB5WZI

26. Re: Small antenna location

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 15:08:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <K8mdnfoln7f0NhSjXTWcoA@comcast.com>
Source record: 121527

Bill,

You could put the rod antenna at an arbitrary location if you use varactor diodes for the tuning capcitors. Run the varactor control voltage to a box in the shack. Since on 160 m you only need to change frequency about 10%, you don't need a varactor with a very wide range; in fact, look at the C vs V specs on zener diodes.

Tam/WB2TT
"Bill Ogden" <ogden@us.ibm.com> wrote in message
news:3E899C1E.FF829A97@us.ibm.com...
> An article in one of the Antenna Compendiums (#6 or #7) was
> interesting. It discussed a ferrite rod antenna for reception on 80 and
> 160 meters. The bundle of ferrite rods was 18 inches long and about an
> inch square IIRC. Two variable capacitors were needed for tuning. The
> advantage over a more conventional antenna was much lower noise.
>
> The construction information was excellent. The usage information was
> minimal. Bandwidth was described as *very* narrow and tuning is needed
> for almost every frequency shift. There are two tuning controls and
> this implies (to me, at least) that the antenna needs to be at a
> convenient location for the operator. My shack is in my basement.
>
> Question: Are the placement "rules" for such an antenna different than
> those for a more conventional antenna? I would never think of putting a
> 160 meter dipole in a basement. Should I think about putting one of
> these "magnetic" antennas in the basement? I assume the same discussion
> would apply to a "magnetic" loop(?).
>
> My goal would be to use this antenna when noise is bad, but transmit on
> a conventional half-sloper.
>
> Bill
> W2WO
>

27. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 15:14:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8jb7ehqsro1eb@corp.supernews.com>
Source record: 121528

Unless an antenna conducts relatively heavy current into the ground (such as with a ground mounted vertical other than about a half wavelength high), the quality of the ground connection has little or no effect on antenna performance. And for those antennas like the vertical that need a ground, a ground rod is a poor choice. So chances are your dad could have disconnected his ground connection altogether with no appreciable effect on all that DX. Electrical safety and lightning protection are another matter altogether, though.

I should point out that antenna performance isn't a binary quantity, with "works" and "doesn't work" as the only possibilities. Although I don't doubt that your dad had a wonderful antenna system, it's possible to work a lot of DX with a pretty crappy one. I've worked quite a bit of DX running a watt or two with simple but efficient antennas, and I could have done as well with 100 watts and 1% efficient antennas or 1 kW and 0.1% efficient ones. If I'd made that choice, I could loudly and belligerently declare that the lousy antennas "work", I have proof, and nobody could convince me otherwise. And I'd be right. A 0.1% efficient antenna does "work". Just not very well.

Roy Lewallen, W7EL

JLB wrote:
> "Gary Schafer" <gaschafer@attbi.com> wrote in message
> . . .

>>Soldering connections on a ground system is also not the recommended
>>thing to do. A large current will melt the solder connections and
>>break the connection. Also it can deteriorate in the soil or from UV
>>from the sun.
>>
>
>
> Oh? Then all those antennas that my dad had up for years and years and
> worked all kinds of dx don't work? Besides, you can always wrap it with
> tape to protect the solder from those nasty UV rays.

> . . .

> Likewise, my Dad's antennas that he has had up years and years and worked
> all kinds of DX don't work? (He's been a ham over 60 years.)

28. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 15:41:47 UTC
From: richardharrison@webtv.net
Message-ID: <4061-3E89B33B-789@storefull-2318.public.lawson.webtv.net>
Source record: 121530

Jim, N8EE wrote:
"I would suggest using galvanized steel pipe like someone else
suggested. A year or two down the road it will be better than copper."

Galvanized pipe is zinc coated. We used "zincs" bolted in our heat
exchangers in my WW-2 warship to power the galvanic cell that ate the
zinc and protected other metals from corrosion.

I had to replace my underground galvanized water pipes after 50 years
because they rusted in, not rusted out. I replaced with galvanized
because I won`t care when the pipes are gone next time.

Copper-clad ground rods are used because they are best for the cost, and
they last.

Best regards, Richard Harrison, KB5WZI

29. Re: Earth rod question.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 16:29:08 UTC
From: tim conway <n9hmg@mailhot.reversethatanddropthis.com>
Message-ID: <pan.2003.04.01.16.31.00.15561@mailhot.reversethatanddropthis.com>
Source record: 121531

That'll work fine. Twice the surface area for corrosion, but the inside won't count as RF grounding surface area. It'll just look like the open end is part of the rod. It will corrode completely through much faster than a solid rod (by the ratio of solid rod thickness to pipe wall thickness) , but, depending on conditions, it should be good for at least a couple of years. It will, however, likely be more difficult to drive, as pipe has a tendency to buckle under impact.

tcc

On Mon, 31 Mar 2003 19:10:37 +0100, TonyWard wrote:

> Hi Guys,
> I,m just wondering weather 5 feet of copper pipe sunk into the ground
> would be a good "earth" for the radio..... I could get a rod but had
> some pipe left over from a heating fix....
>
> its not solid copper but surley has twice the surface area of a rod
> ????????
>
> thanks for the help.
>
> Tony.
> M3TOE.

30. Re: Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 17:53:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <o3kj8vg8l4c76vb4vjfqr17q3dkp5g3t4a@4ax.com>
Source record: 121532

On Tue, 01 Apr 2003 03:06:57 -0600, 'Doc <w5lz@cwis.net> wrote:

>
>
>" Well, I did make an offer in good faith, shame it didn't work out but
>you still have my respect and no hard feelings." ...
>
>
>Mark,
> Well, that didn't take long! You have to jump through
>the 'hoops' according to Art's script, or he takes his
>bat and goes home. Of course, that's what he said at the
>start, so why should anyone be suprized. It's disappointing,
>though...
> 'Doc

Hi Doc,

Suprized? Disappointed? And quoting text too! What's got you down
buckaroo? Have you missed the obvious timing?

This runs along the lines of Dr. Johnson's observation of divorce and
subsequent remarriage:
"the triumph of hope over experience."

73's
Richard Clark, KB7QHC

31. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 18:37:51 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <0Ukia.22877$G6.1315@fe01.atl2.webusenet.com>
Source record: 121533

I was refering to the comment about UV destroying the solder joint, Roy.
I've seen antennas that have been up for years with soldered connections.
Usually it is taken down for some other reason long before the solder goes
bad.

And as for the high current, I was trying to say that if the current was
high enough to melt the solder you've got other things to worry about!

I wish I could remember where, but I *did* read somewhere that commercial
tower installations are going to galvanized steel, instead of copper plated
steel, because it has to be replaced less often. The copper clad may be
better to start, but after a few years in the ground they have found that
the galvanized is better.

Jim
N8EE

32. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 19:32:03 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3E89E9AB.AD5DA6AD@att.net>
Source record: 121534

Gary,

I guess ya learn something every day. Would you care to explain the mechanism for (solar) UV degradation of metals?

I just went out and took a look at some soldered joints (plumbing, not antennas) that have been in the Texas sun for 20 years. Other than a gray cast from surface oxidation they seem fine.

There are many examples of metals used in industrial and scientific environments that see intense UV. I have never encountered a situation, or even heard of one, in which the UV caused any damage.

73,
Gene
W4SZ

Gary Schafer wrote:
>
[big snip]
>
> Soldering connections on a ground system is also not the recommended
> thing to do. A large current will melt the solder connections and
> break the connection. Also it can deteriorate in the soil or from UV
> from the sun.

33. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 19:36:35 UTC
From: richardharrison@webtv.net
Message-ID: <21308-3E89EA43-761@storefull-2315.public.lawson.webtv.net>
Source record: 121535

Jim, N8EE wrote:
"The copper clad may be better to start, but after a few years in the ground they found that galvanized is better."

There are only two common metals that rot faster in the earth than zinc. They are aluminum and magnisium. It is a matter of position in the electromotive series, a list of metals arranged in decreasing order of their tendency to pass into ionic form by losing electrons.

Make a wet cell using copper for the positive electrode and zinc for the negative terminal. Immerse them in brine and connect an electrical load to the cell. Watch the zinc disolve and the copper remain unscathed. I`ve done this many times and powered transistor oscillators, lamps, etc.

A "dry cell" has a carbon positive electrode inside a zinc can containing the electrolytic paste. When enough zinc is eaten away to make a hole in the can, the acidic electrolyte destroys your equipment.

Conduct the copper-zinc cell experiment for yourself. The copper lasts until hell freezes over. The zinc is soon a memory.

Best regards, Richard Harrison, KB5WZI

34. Homemade dummy load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 19:56:09 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <t9mia.265$Bx.144309@twister.southeast.rr.com>
Source record: 121538

while back I became the pround owner of several pounds of 2 watt carbon composite resistors. I diceded to make a 50 ohm dummy load out of some of them. 20 1000 ohm 2 watt resistors in paralell. I was hoping someone could tell me what the continuous duty power rating of this would be if it were placed in a gallon of transformer oil housed in a gallon paiint bucket.

TIA
Jimmy

35. Pawsey Stub Vs. W2DU Balun - Again....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 20:14:29 UTC
From: Scott <scott2rp789@netscape.net>
Message-ID: <3E89F325.B1EF268@netscape.net>
Source record: 121536

I didn't get any response to this question last time I asked it - so let me try it again.

How much more isolation does the Pawsey Stub (also called a Parallel-Line Stub, right?) provide over the W2DU HF Balun? I see figures around 1700 Ohms (on 10m) for the W2DU - so how about the Pawsey stub?

How much bandwidth can I expect from the Pawsey stub on upper HF using, let's say RG-8X? I saw some mention of the Roberts' balun while digging through old Usenet posts looking for answers to my questions. Does the Roberts' balun really provide better bandwidth than a Pawsey stub? Does anybody recommend this over the Pawsey stub?

Last question - the ARRL handbook says 1/2" - 1" of spacing between the 2 lines - with no mention of why. Should there be a difference on the spacing depending on what frequency you intend to use this on (say HF verse VHF)???

Thanks,

Scott.

36. Re: "Correct" feedline length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 20:17:39 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <Dtmia.269$Bx.148331@twister.southeast.rr.com>
Source record: 121537

Have you ever tried to visualise an antenna tunner as a variable parameter transmission line? I know this may seem a little far fetched but it is awful easy for me to at least see a pi-net tunner this way. I got interested in using transmission line transformers for impedance matching some time ago as a result of no longer finding cheap variable caps and roller inductors.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3E847DBE.2000306@ieee.org...
> Dave Shrader wrote:
> > Then you are the proud owner of some standing waves!!
>
> I am indeed proud of my standing waves. I can't do transmission
> line transformation without them. With an SWR of 9:1 on my 450
> ohm ladder-line, the transmission line does all the work of
> transforming the impedance seen by the transmitter to 50 ohms -
> no tuner needed.
> --
> 73, Cecil, W5DXP
>
>
>
> ------------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

37. Re: Homemade dummy load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 20:32:42 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E89F76A.C0444B31@cwis.net>
Source record: 121539

Jimmy,
40 watts, for ever...
'Doc

38. Re: Homemade dummy load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 21:23:22 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b6d00c$3tf49$1@ID-52642.news.dfncis.de>
Source record: 121540

Hmmmm...the thermal engineers on this group can probably give you a good ballpark figure of the efficacy of oil around a resistor.

Two things could help you get more than the 40w fixed power rating:

Spreading them out so there is plenty of oil flow past them as they heat.

Providing a mechanism other than convection to move the oil. (or don't use oil, use air (fan))

If you really are going to build this thing, I have two suggestions for ya:

1. Use the top and bottom of a cut out can, drill holes and solder the resistors to the top and bottom "lids". Keep as much separation as you can between resistors, to allow plenty of oil to flow.

2. Even better:

Since you have a ton of resistors, instead of doing 20 in parallel, do pairs in series, for 2000 ohms (each resistor is two 1-K in series) and put 40 of these combos in parallel. This will increase the free air power capability quite a bit, distributing the "loss" better. Someone will surely do the I-squared * R math for ya.

3. You could use even more:

Three 1K resistors in series (3000 ohms), 60 of these "units" in parallel.
Four 1K resistors in series (4000 ohms), 80 of these "units" in parallel.
Six 1K resistors in series (6000 ohms), 120 of these "units" in parallel.

Keep in mind, the longer you make these chains of resistors, the poorer the frequency response of the dummy load, because you are beginning to introduce lead inductance into the problem.

...hasan, N0AN

----- Original Message -----
From: "Jimmy" <Gfender@carolina.rr.com>
Newsgroups: rec.radio.amateur.antenna
Sent: Tuesday, April 01, 2003 1:56 PM
Subject: Homemade dummy load

> while back I became the pround owner of several pounds of 2 watt carbon
> composite resistors. I diceded to make a 50 ohm dummy load out of some of
> them. 20 1000 ohm 2 watt resistors in paralell. I was hoping someone could
> tell me what the continuous duty power rating of this would be if it were
> placed in a gallon of transformer oil housed in a gallon paiint bucket.
>

> TIA
> Jimmy
>
>
"Jimmy" <Gfender@carolina.rr.com> wrote in message
news:t9mia.265$Bx.144309@twister.southeast.rr.com...
> while back I became the pround owner of several pounds of 2 watt carbon
> composite resistors. I diceded to make a 50 ohm dummy load out of some of
> them. 20 1000 ohm 2 watt resistors in paralell. I was hoping someone could
> tell me what the continuous duty power rating of this would be if it were
> placed in a gallon of transformer oil housed in a gallon paiint bucket.
>
> TIA
> Jimmy
>
>

39. Re: 10 meter mobile questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 21:54:19 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <fUnia.20173$PM3.869773@twister.southeast.rr.com>
Source record: 121541

I use CB and 2 meter in my truck that is set up nearly like yours with a fiberglass cap on the back. I put hardware cloth between the fiberglass and the aluminum supports inside the cap to use as a ground plane and have used various shortened antennas with it all with about equal results. Current antenna is one of those center loaded CB antennas with the huge loading coil that does not require a center support through the coil. It seems to work quite well. Also tried a 9ft antenna on the back bumper. This was by far inferior to the shorter antennas mounted on the cap. This is also my connection point for various other antenas when I am parked. I dont talk on radios or cell phones when moving. but I do listen out for "Smokey Reports" and the 2m call channel. Wife likes to work 2m repeaters while traveling. OH Yeah, 2m amtenna is a 1/2 wl mounted on the rail on top of the cap. Antenna is supposed to cover 440 also but I dont have the radio for it.

GregEMT1 (nospam) (KF6ALC)" <@netzero.com> wrote in message news:3e853f30.17337905@news.earthlink.net...
> I am just getting into 10 meters, and am looking for a good way to go
> mobile. I have a fairly high 4wd truck that is also my daily driver,
> so my first thought is to use a steel whip from CB on a ball mount off
> the side of the bed, and trim it down a bit. I do use my truck off
> road, and have already lost more than one mag mount antenna both from
> bounces and trees, but I was wondering if there are any tips or
> suggestions about this whip idea, or any ohter options. BTW, my rig
> is only starter quality, a Radio Shack HTX-10, on sale for only $69.
> I also have a fiberglass shell, so about 2 feet of the antenna would
> be very close to that. Would the fiberglass eat alot of RF? Any help
> on this issue is greatly appreciated!!!!
> Greg
> KF6ALC

40. Re: Homemade dummy load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 22:49:23 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <THoia.20230$PM3.877164@twister.southeast.rr.com>
Source record: 121542

I wasn't expecting any one to do calculations for me but just hoped someone had expeience with this arrangement.
I have already built it but not added the oil. I drilled holes in the bottom of the can, slid the end of the resistors in and and soldered them in place for the ground end. The other side of the resistors are connected to a piece of copper pipe used as a central bus. Unfortunately I dont have a large enough supply of all the values of resistors I would like to have. This pretty much exhausted my stock of 1000 ohm ones. Have about 300 1.5M though. Plan is to build the dummy load like a seies of attennuators.
I wasn't expecting any one to do calculations for me but just hoped someone had experience with this arrangement. That is to say they built one and put x amount of power to it without blowing it up. I actually prefer this sort of data over calculated untested data though I would appreciate the latter also.
If I could get a handle on this power dissipation thing it would definitely effect the final design. I need to know this so that I will know what attenuation the next section should have. This info would also allow me to make the best use of the parts on-hand.

"hasan schiers" <schiers@netins.net> wrote in message news:b6d00c$3tf49$1@ID-52642.news.dfncis.de...
> Hmmmm...the thermal engineers on this group can probably give you a good
> ballpark figure of the efficacy of oil around a resistor.
>
> Two things could help you get more than the 40w fixed power rating:
>
> Spreading them out so there is plenty of oil flow past them as they heat. they are
>
> Providing a mechanism other than convection to move the oil. (or don't use
> oil, use air (fan))
I could do this, I have a pump
>
> If you really are going to build this thing, I have two suggestions for ya:
>
> 1. Use the top and bottom of a cut out can, drill holes and solder the
> resistors to the top and bottom "lids". Keep as much separation as you can
> between resistors, to allow plenty of oil to flow.
>
> 2. Even better:
>
> Since you have a ton of resistors, instead of doing 20 in parallel, do pairs

> in series, for 2000 ohms (each resistor is two 1-K in series) and put 40
of
> these combos in parallel. This will increase the free air power capability
> quite a bit, distributing the "loss" better. Someone will surely do the
> I-squared * R math for ya. Math is no problem, Dont have that many 1000
ohm resistors. Values between 1000 and 10,000 seem to be in shortest supply.
>
> 3. You could use even more:
>
> Three 1K resistors in series (3000 ohms), 60 of these "units" in parallel.
> Four 1K resistors in series (4000 ohms), 80 of these "units" in parallel.
> Six 1K resistors in series (6000 ohms), 120 of these "units" in parallel.
>
> Keep in mind, the longer you make these chains of resistors, the poorer
the
> frequency response of the dummy load, because you are beginning to
introduce
> lead inductance into the problem.
Thats why I was designing it like a string of attenuators
>
> ...hasan, N0AN
>
> ----- Original Message -----
> From: "Jimmy" <Gfender@carolina.rr.com>
> Newsgroups: rec.radio.amateur.antenna
> Sent: Tuesday, April 01, 2003 1:56 PM
> Subject: Homemade dummy load
>
>
> > while back I became the pround owner of several pounds of 2 watt carbon
> > composite resistors. I diceded to make a 50 ohm dummy load out of some
of
> > them. 20 1000 ohm 2 watt resistors in paralell. I was hoping someone
could
> > tell me what the continuous duty power rating of this would be if it
were
> > placed in a gallon of transformer oil housed in a gallon paiint bucket.
> >
> > TIA
> > Jimmy
> >
> >
> "Jimmy" <Gfender@carolina.rr.com> wrote in message
> news:t9mia.265$Bx.144309@twister.southeast.rr.com...
> > while back I became the pround owner of several pounds of 2 watt carbon
> > composite resistors. I diceded to make a 50 ohm dummy load out of some
of
> > them. 20 1000 ohm 2 watt resistors in paralell. I was hoping someone
could
> > tell me what the continuous duty power rating of this would be if it

were
> > placed in a gallon of transformer oil housed in a gallon paiint bucket.
> >
> > TIA
> > Jimmy
> >
> >
>
>

41. Re: Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-01 23:31:44 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <Ajpia.20261$PM3.883286@twister.southeast.rr.com>
Source record: 121544

Is the antenna you have been trying to describe a direction finding loop
with a sense antenna??? This is what it sounds like to me.

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0303311954.7dfa23f1@posting.google.com...
> nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0303311418.722f9d49@posting.google.com>...
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0303300924.1186eff5@posting.google.com>...
> > > nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0303291405.354438ff@posting.google.com>...
> > > > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0303290503.628af2ae@posting.google.com>...
> > > > > richardharrison@webtv.net (Richard Harrison) wrote in message
news:<13046-3E8534F5-153@storefull-2314.public.lawson.webtv.net>...
> > > > > > Art, KB9MZ wrote:
> > > > > > "Do you agree that for this description we can maintain a figure
eight
> > > > > > pattern for frequencies 10 thru 20M?"
> > > > > >
> > > snip.
> > >
> > > Mark
> > > This I gotta see for a "small" dipole...
> > >
> > > Do you really mean that ?
> >
> > Sure. Try modeling a 20m dipole on 40m using the matching method you
> > propose.
> > #1, with the small loop as in the one I modeled, the attachments to
> > the dipole are too close spaced to get a good match period. You can
> > adjust the cap to tune out reactance, but you still have a severe
> > mismatch. In the example I modeled, you would use appx 214 pf to tune
> > for 40m, but you still have a severe mismatch of about 256:1 if
> > feeding with 50 ohm coax. The problem? The feedpoint impedance is
> > super low. Now it may well be possible to adjust the attachments to
> > the dipole to get a better match, but do you have the provision for
> > this?
> We started off on a 10 thru 20 M antenna with a variable capacitor.
> For some reason you went to 40M and got some very bad mismatches.
> Maybe because
> you got confused or something. 256:1 is an impossible mismatch to work
> with even tho it is without reactance. I suspect that the problem is
> the choice of element diameters but that is only a guess. I certainly

> could not have operated on 40,
> 80 or 160 with those sort of figures but then the straying from 10
> thru 20 at the point of discussion botherds me.
>
>
> And even still, I'd expect some losses. I still stand by the
> > statement that there is no such thing as a "lossless" matching device
> > for a 1/2 size dipole.
> Well it all depends on the term loss less feed systems, for instance a
> capacitor is considered lossless in academia in that instance.
>
> I probably can't explain why worth a hoot, but
> > I will leave that to others to disassemble.
> > The main problem being the very low feedpoint impedance. You can't
> > really get around it. IE: you can feed with low loss ladder line, and
> > thats "nearly" lossless as far as the line is concerned, but the loss
> > will rear it's ugly head at the shack in the tuner coil. You can't
> > escape the problem. Or I don't think anyway.
> Well thats the whole point of my work! I have managed to get around
> it.
>
> You can only use the
> > least lossy device to match that you can.
> > >
> > > > What is pre conceived thinking of "charlatan" behaviour?
> > >
> > >
> > > Mark
> > > you haven,t been on this newsgroup for very many years.
> > > There have been a succession of people who have been torn apart
> > > by some of the supposedly notable figures on this newsgroup starting
> > > with Roy,
> > > Clark e.t.c under the pose that they are protecting amateur radio from
> > > untruthes. Naturaly this attracts people who will hang on and catcall.
> > > Now that Dr Cohen has gone I am the heir of this unfortunate behavior
> > > and like others
> > > before me I have tried to hang on to my self respect.
> >
> > So, doesn't bother me, and wouldn't even if I were in your position.
> > All of the people you mention know more than I do, so if they comment
> > on this, I would welcome it. If they tell you something is wrong, I
> > would believe them until you prove them wrong if this is the case. I
> > don't think it will be, very often.
> > >
> > > > Art, antennas follow known rules and laws of nature. If someone
> > > > proposes an antenna that seems to break the known laws of nature,
it's
> > > > going to be natural that people question it's operation.
> > >
> >

> > >
> > > O.K. Mark
> > > I would be willing to do the following
> > > On a separate thread I would be willing to start from the beginning
> > > a description of the whole antenna starting afresh all over again.
> > > Now this new thread will be inundated by comments by others in an
> > > attempt to harrass, find fault e.t.c that if you respond to them the
> > > whole debate will be splintered into so many different ways that it
> > > will be impossible to continue.
> > >
> > > So yes, I will go through the whole antenna thing with YOU ALONE
> > > where neither of us respond to interlopers attempts to disrupt.This
> > > ofcourse does not prevent communication on other threads even tho it
> > > may well be the same subject
> > > since the internet is free and for all.
> > >
> > > The antenna that I will share is one that is capable of efficient
> > > transmition from 10 down to 160M and below, rotatable such that a
> > > small lot can accomodate it. Its pattern will be one of a figure 8 at
> > > all times but ofcourse subject to the earth's influence the directive
> > > pattern elevation will follow normal elevation angles. It will also
> > > be confined to horisontal polarisation as moving into vertical
> > > polarisation situations will be to laborious at this point.
> >
> > Is this the same antenna which you have on the patent page? The one I
> > refer to is multi element. "United States Patent 5,625,367
> > Unwin April 29, 1997
>
> Not exactly tho some of its principles are used. That was my firct
> shot at this antenna problem.
> >
>
> ---

> > Variable capacitance antenna for multiband reception and transmission
> > "
> >
> > If not, as one mentioned, we need a picture. If the one above is the
> > antenna in question, I can use the TIFF file if I can d/l it.
> >
> > >
> > > Since this antenna is seen as impossible by this group I feel it is
> > > important that we proceed slowly and with mutual agreement until we
> > > get either to a point
> > > that contradicts laws of nature or total completion.
> >
> > I do not feel it's impossible. In fact, I know it works to an extent.
> > But there are niggling little details which you allude to which bother
> > me. IE: the most glaring problem I had with the antenna I modeled, was
> > your assertion that the pattern could be steered by changing the cap

> > in the "loop" section. I don't know if your patented antenna uses the
> > same method or should I say, "non-method" to steer the pattern. If so,
> > I have a problem with it. If not, and the antenna is rotated manually,
> > I don't.
> Well all of my antennas are rotatable, I thought steerable was usually
> reserved for vertical arrays where by phasing the radiation beam can
> be turned.
> I suppose my antenna can be classed has both sterable and rotatable if
> one can
> change the direction of the beam,depends how the question was posed I
> suppose.
>
> My other main gripe is the allusion of a "lossless" matching
> > device for the antenna when used on bands where the dipole will be
> > small sized.
>
> Again that is what I have been able to overcome
>
> These are my main two gripes. A minor question would be
> > how in the heck do you expect to adjust the elements and matching
> > device to the exact proper dimensions for each band on the fly without
> > using computer controled servo's or whatever? How do you know the
> > position or length of the elements if you can't see them from the
> > shack position?
>
> Don't know where you got the idea of changing element lengths. The
> whole basis of the antenna is that the element is of an arbitary
> length regardless of frequency
> so when the element length is chosen then that's it......no changes in
> length required as say with the IR antenna around which many
> discussions have revolved.
> >
> > > Politeness must be observed at all times. My computor is acting up and
> > > my antenna programs have gone, but if it interferes with the debate I
> > > will rectify the situation and obtain a fresh AO program from Beasely
> > > since that is versatile enough to deal with optimisation of element
> > > diameters together with the use of impedance values. It would help if
> > > we used the same programming and I would, if necessary, purchase a
> > > copy for you also. You have "page" abilities so I could send diagrams
> > > e.t.c. which you could display.
> >
> > I don't need a description of how it works. I can work that out on my
> > own. All I need is the exact picture, drawing, and other specs. I'll
> > let YOU know what I disagree with , and you can go from there.
>
> Well, I did make an offer in good faith, shame it didn't work out but
> you still have my respect and no hard feelings.
>
> >
> > > Again it would be a public interchange between only you and I which

> > > requires disregard to other posters on the same thread.
> > > I give you one warning !
> > > If you agree to any technical point that I discuss you will thus
> > > render yourself as a ligitimate target by certain 'professional'
> > > policemen and may well suffer the same fate of many that have
> > > proceeded you thru the years.
> >
> > Thats ok. I can take care of myself. Actually, I welcome any other
> > input just to verify or knock down any ideas either one of us has that
> > may be wrong. MK
>
> I know you can take care of yourself and it only because of your known
> tenacity in pursuing a particular problem that I thought it would be
> a good idea. Seems like others also thought it was not a good or
> suitable idea.
> On the question of patents, the final design is a combination of
> different
> ideas including parts of previous patents. If one cannot follow the
> first part of my description or agree on what happens then it is
> impossible to move to the next step. If the request is for me to give
> full design without explanations
> since the other stuff is of no interest.... just want to make the
> antenna e.t.c.
> then that time will come eventually. The future patent which does not
> require the whys and wherefore's.......just an outline drawing not
> necessarilly with dimensions and what is most important about the
> whole thing.......the substance of the claims which is the meat of any
> patent, of which you have to convince the examiner of the propriety of
> the claims which may require a face to face discussion with a sample.
> I found that with a working model and a discussion of the mathematical
> background e.t.c.The final examiner (not the day to day examiner) is
> experienced enough in the art to understand the veracity of the
> claims. By the way somebody a man with a doctorate locally built the
> antenna without assistance from me, he said the greatest fun he had
> was trying to explain to contacts the antenna he had. He is a silent
> key now and I do not know who has the antenna now
> but it was so beutifully made by a toolmaker I would pay money to get
> hold of it.
> Weather is now good so it is back to tower work and experimenting
> during the day
> and bookworming during the evening. Still will ocassionaly pop in to
> the newsgroup now and then to catch up on what is going on .
> Going to Dayton?
> Warmest regards
> Art XG.

42. Re: Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 00:16:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <29ak8v89jltrq662ffqp8d62dmbqjnlj35@4ax.com>
Source record: 121545

On Tue, 01 Apr 2003 23:31:44 GMT, "Jimmy" <Gfender@carolina.rr.com>
wrote:

>Is the antenna you have been trying to describe a direction finding loop
>with a sense antenna??? This is what it sounds like to me.
>

Sorry Jimmy,

There is no way to assemble it from pieces because it does not equal
the sum of its parts. All we can say is that it may be proto-fractal
in that it is equally improbable at every scale of explanation.

73's
Richard Clark, KB7QHC

43. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 00:27:51 UTC
From: Lloyd Mitchell <lloydm75@hotmail.com>
Message-ID: <57pia.34698$rD.13428@fe06.atl2.webusenet.com>
Source record: 121543

Thanks to all that responded. I will start my construction of a G5RV this weekend....phase one...next.

Lloyd KD4HTW

"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in message news:o26j8v0sp9nlmcomer0mj2f5d0dto3orbl@4ax.com...
> On Mon, 31 Mar 2003 20:39:49 -0600, "Lloyd Mitchell"
> <lloydm75@hotmail.com> wrote:
>
> >I am thinking of constructing a G5RV, and a friend gave me a roll of 75ohm,
> >1/2" dia cable. Is this cable a good match to the antenna with a tuner? I
> >am thinking that the impedance of the antenna is approx...80 ohms and to use
> >the 75 cable might be a better match for the tuner.
> >
> >waddayathink?
> >
> >Lloyd
> >
> >
>
> See Mr. Varney's article at http://www.qsl.net/aa3px/g5rv.htm
>
> He okays coax of any impedance between 50 and 80 ohms.
>
> Bob
> k5qwg
>

44. Effect of Tree on VHF/UHF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 00:40:10 UTC
From: James Cook <j.l.cook@mindspring.com>
Message-ID: <b6dbhr$h26$1@slb9.atl.mindspring.net>
Source record: 121546

I have pulled my groundplane antenna up into a tree on a rope such that there is a tree right next to the radiating element. I have greatly extended my range, but now cannot get some of the closer repeaters, possibly due to the loaction of the trunk, maybe weather(?)

Will/can the tree significantly block vhf/uhf?

45. Re: "Correct" feedline length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 00:51:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E8A3422.6020004@ieee.org>
Source record: 121547

Jimmy wrote:
> Have you ever tried to visualise an antenna tunner as a variable parameter
> transmission line? I know this may seem a little far fetched but it is awful
> easy for me to at least see a pi-net tunner this way. I got interested in
> using transmission line transformers for impedance matching some time ago as
> a result of no longer finding cheap variable caps and roller inductors.

I visualize an antenna tuner as a tuned feedline fed by a multiple-tap
transformer. After the tuned feedline transforms the impedance to a
purely resistive value, there is an addition function of transforming
that resistive value to 50 ohms.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

46. Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 01:49:37 UTC
From: Lee Jarvis <ljarvis@tampabay.rr.com>
Message-ID: <Rkria.97124$M7.1961791@twister.tampabay.rr.com>
Source record: 121548

I've got a friend headed for Haiti on a mission trip and I'll be his stateside contact.

I just picked up a Heathkit HD-1515 phone patch to enable my friend to contact his family and friends. The trouble is that I have no manual for the phone patch and am not sure how it is to be hooked up.

The purpose of the telephone jack on the back panel is relatively obvious. I'm assumming that the receiver audio goes into the REC jack and the MIC jack goes to the transmitter audio input. But what are the two LINE NULL adjustments for and how are they used?

Thanks in advance for the help!

73,
Lee KN4VN

47. Re: Effect of Tree on VHF/UHF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 02:19:11 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <zMria.20475$PM3.906810@twister.southeast.rr.com>
Source record: 121549

Yes it can.
"James Cook" <j.l.cook@mindspring.com> wrote in message
news:b6dbhr$h26$1@slb9.atl.mindspring.net...
> I have pulled my groundplane antenna up into a tree on a rope such that
> there is a tree right next to the radiating element. I have greatly
> extended my range, but now cannot get some of the closer repeaters,
possibly
> due to the loaction of the trunk, maybe weather(?)
>
> Will/can the tree significantly block vhf/uhf?
>
>

48. hf antenna newbie help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 02:28:10 UTC
From: Bill <kma371@attbi.com>
Message-ID: <_Uria.296801$3D1.163476@sccrnsc01>
Source record: 121550

i'm thinking about getting into HF. i want a antenna that can work all bands. i know nothing about HF antennas. a couple of questions i have are: a long wire would work, but is it really the best? an invereted v's might work too but it would have to go in the eve's of the roof how will reception/transmit be? what is a good length for an all band wire? are automatic antenna tuners good or should i just get a manual...

see tons of questions. all help is grateful.

bill
ke6les

49. Re: hf antenna newbie help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 03:00:49 UTC
From: Lee Jarvis <ljarvis@tampabay.rr.com>
Message-ID: <Bnsia.97978$M7.1975269@twister.tampabay.rr.com>
Source record: 121551

I'd go with a G5RV and transmatch.
"Bill" <kma371@attbi.com> wrote in message
news:_Uria.296801$3D1.163476@sccrnsc01...
> i'm thinking about getting into HF. i want a antenna that can work all
> bands. i know nothing about HF antennas. a couple of questions i have
are:
> a long wire would work, but is it really the best? an invereted v's might
> work too but it would have to go in the eve's of the roof how will
> reception/transmit be? what is a good length for an all band wire? are
> automatic antenna tuners good or should i just get a manual...
>
> see tons of questions. all help is grateful.
>
> bill
> ke6les
>
>
>

50. Any info on ULTRA-BAL 2000 "UB-1" ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 03:55:50 UTC
From: Dave <dave@somewhere.net>
Message-ID: <aink8vsqrbtd1sq5ltr6u0n3aa318p3s02@4ax.com>
Source record: 121552

I bought this balun "ULTRA-BAL UB-1" used for a couple of bucks. It seems to be pretty well made but I can't find anything about it. The name would seem to suggest that it is a 1:1 balun but there is no indication of power rating.

Can anyone help??

Thanks,

Dave WK8F dalden@comcast.net

51. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:05:36 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A61AE.8070307@adelphia.net>
Source record: 121553

Gary Schafer wrote:

> Hi Mike,
>
> I am sure that it does in fact give you somewhat of a ground system.
> However it is not recommended to disturb the soil around a ground rod.
> I.e., don't dig a hole and back fill, don't wash in with water. These
> methods make it easy to install a ground rod but the soil never packs
> in tightly like it was originally and you don't get as good a ground
> connection. That is the reason copper pipe is not recommended. You
> can't drive it in very far the way it should be done.
>
> Soldering connections on a ground system is also not the recommended
> thing to do. A large current will melt the solder connections and
> break the connection. Also it can deteriorate in the soil or from UV
> from the sun.
>
> One more thing while I am picking, braided wire is not good to use
> outside. It should be solid wire or strap. Braided wire will corrode
> much faster than solid and when you go to renew your connection
> (something that should be done every year or so) You will never be
> able to clean the braided wire to make a good connection.

Right, that's why I made the Caveat that my method doesn't work! 8^)

- Mike KB3EIA -

52. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:13:06 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8A6352.1090202@oda.com.au>
Source record: 121554

>
> I would also suggest using galvanized steel pipe like someone else
> suggested. A year or two down the road it will be better than the copper.
>

That is not a rule!

I have several 12mm copper clad steel driven electrodes (2.4m deep) and a single 25mm galvanised driven electrode (2.4m deep), and the low frequency earth resistance of the galvanised electrode is typically 150% to 300% of the copper clad electrode just a half metre from it, and shows much greater seasonal variation than the copper clad electrode. Earth conductivity is typically 0.03 to 0.05 Sm, (heavy clay, moderately dry climate).

A local electrical supply authority warns of poor performance of galvanised electrodes, namely that the measured resistance is often much higher than would be predicted given the particular earth conductivity.

Owen

53. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:13:35 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A638C.1030802@adelphia.net>
Source record: 121555

JLB wrote:
> "Gary Schafer" <gaschafer@attbi.com> wrote in message
> news:is1i8v0r4dt9nneol0qm2srtkdj2u04qd4@4ax.com...
>
>>I am sure that it does in fact give you somewhat of a ground system.
>>However it is not recommended to disturb the soil around a ground rod.
>>I.e., don't dig a hole and back fill, don't wash in with water. These
>>methods make it easy to install a ground rod but the soil never packs
>>in tightly like it was originally and you don't get as good a ground
>>connection. That is the reason copper pipe is not recommended. You
>>can't drive it in very far the way it should be done.
>>
>
>
> Yes, but six months later I bet it wouldn't make a difference.

It doesn't. I don't think it ever did. I'm not totally convinced that
disturbing the soil with water is less effective than disturbing it with
brute force. The soil seemed to pack back around the pipe very tightly

> I would also suggest using galvanized steel pipe like someone else
> suggested. A year or two down the road it will be better than the copper.
>
>
>
>>Soldering connections on a ground system is also not the recommended
>>thing to do. A large current will melt the solder connections and
>>break the connection. Also it can deteriorate in the soil or from UV
>>from the sun.
>>
>
>
> Oh? Then all those antennas that my dad had up for years and years and
> worked all kinds of dx don't work? Besides, you can always wrap it with
> tape to protect the solder from those nasty UV rays.
>
> Also, if you get a 'large current', I assume you mean from lightening, it
> won't matter much if it is soldered or not. 20,000+ amps will melt just
> about anything you could afford to put in the ground. I vote for the
> solder.

Systems can be made that will withstand a direct strike. I sure can't
afford one tho'. And If I do get a direct strike, the solder connections
are going to be pretty far down the list of my concerns! ;^)

- Mike KB3EIA -

54. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:27:52 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A66DD.1050300@adelphia.net>
Source record: 121556

Roy Lewallen wrote:

> I should point out that antenna performance isn't a binary quantity,
> with "works" and "doesn't work" as the only possibilities. Although I
> don't doubt that your dad had a wonderful antenna system, it's possible
> to work a lot of DX with a pretty crappy one. I've worked quite a bit of
> DX running a watt or two with simple but efficient antennas, and I could
> have done as well with 100 watts and 1% efficient antennas or 1 kW and
> 0.1% efficient ones. If I'd made that choice, I could loudly and
> belligerently declare that the lousy antennas "work", I have proof, and
> nobody could convince me otherwise. And I'd be right. A 0.1% efficient
> antenna does "work". Just not very well.

I hope I'm not being loud and belligerant! And I did offer my ground rod story just as my experience.

Not everyone can put in a "proper" ground system. It was tough enough to get my wife to consent to my antennas at all. She won't allow me to mess with *her* yard. I can only press my luck so far.

So I had to make a decision. Go with a ground system that "doesn't work" or maybe just not put up an antenna in the first place because I can't do it properly.

And since the fellow who originally posted this thread was posting about ground rods, I answered him with what I did.

- Mike KB3EIA -

55. Re: Earth rod question.this is all

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:34:13 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A6861.3060107@adelphia.net>
Source record: 121557

Richard Harrison wrote:
> Jim, N8EE wrote:
> "The copper clad may be better to start, but after a few years in the
> ground they found that galvanized is better."
>
> There are only two common metals that rot faster in the earth than zinc.
> They are aluminum and magnisium. It is a matter of position in the
> electromotive series, a list of metals arranged in decreasing order of
> their tendency to pass into ionic form by losing electrons.

I was also a little surprised at this one. IIRC, Zinc is very often used as a sacrificial metal. Not my first choice for dunking in the wet dirt.

- Mike KB3EIA -

56. Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:39:52 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A69B7.1020103@adelphia.net>
Source record: 121558

Richard Harrison wrote:
> Reg wrote:
> "(who`s Bailey?)"
>
> Arnold B. Bailey was a consulting engineer, an alumnus of Bell Labs, and
> holds U.S. patent No. 2184729, issued in 1939 on the "coaxial antenna".
>
> Bailey`s "TV and Other Receiving Antennas" is a gem. It was copyrighted
> in 1950. It was published by John F. Rider.

I thought she was the cute assistant on the old sitcom, "WKRP".

- Mike KB3EIA -

57. Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:43:40 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A6A9B.7060106@adelphia.net>
Source record: 121559

Richard Harrison wrote:
> I wrote:
> "There are differences between TV transmitting antennas and TV receiving
> antennas."
>
> One of the biggest is that the broadcaster is usually occupying only
> one, 6-MHz wide, channel. This is truly wide-band, especially when it`s
> between 54 and 60 MHz, but the TV VHF receiving antenna is often
> required to perform from 54 MHz to 216 MHz, with a couple of gaps.

Now you have me interested, Richard. What type of antenna is used for a 6 mHz wide signal? Hope I'm not too dense here, but that is one whopping wide signal, and I'm curious how they do it.

- Mike KB3EIA -

58. Re: hf antenna newbie help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 04:54:55 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8A6D3C.6000205@adelphia.net>
Source record: 121560

Bill wrote:
> i'm thinking about getting into HF. i want a antenna that can work all
> bands. i know nothing about HF antennas. a couple of questions i have are:
> a long wire would work, but is it really the best? an invereted v's might
> work too but it would have to go in the eve's of the roof how will
> reception/transmit be? what is a good length for an all band wire? are
> automatic antenna tuners good or should i just get a manual...

Of course a manual is good to get.

For an allband antenna, I'd start with a general purpose dipole. This is the longest length of dipole you can get into the air, as high as you can get it. Feed it with balanced ladder line, and tune it with a balanced tuner. This is a distinctly non-glamorous antenna, but it works pretty well. Something like one of the MFJ-949-whatever tuners works well. THe disadvantage of this method is you will have to tune every time you swtch bands, and the tuning can get pretty sharp on the lower bands. On 80/75 meters it will be a cloudwarmer, and 160 meters performance will not be too great. But it will get you on the air and having fun very quickly.

- Mike -

59. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 05:19:13 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3e8a7533_3@news1.prserv.net>
Source record: 121561

If you aren't running full duplex, they are inconsequential. What they do is balance the hybrid bridge, and null the path between the mike and speaker connections, while still providing receiver audio into the phone line, and phone line audio into the mike jack. The two adjustments adjust phase and amplitude, and interact. To adjust them, tune in a source of constant audio on the receiver, connect the phone line, and adjust both for minimum receiver audio at the mike connection. BTW, many transmitters had a high level input for phone patches back in those days, and the Heath might be internally set for high level output, which will be way too much audio for a microphone input. If it overloads the transmitter, look inside for a jumper which can be changed, or add a 10:1 voltage divider on the (mic) output.

--
Crazy George
Remove NO and SPAM from return address
"Lee Jarvis" <ljarvis@tampabay.rr.com> wrote in message
news:Rkria.97124$M7.1961791@twister.tampabay.rr.com...
> I've got a friend headed for Haiti on a mission trip and I'll be his
> stateside contact.
>
> I just picked up a Heathkit HD-1515 phone patch to enable my friend to
> contact his family and friends. The trouble is that I have no manual for
the
> phone patch and am not sure how it is to be hooked up.
>
> The purpose of the telephone jack on the back panel is relatively obvious.
> I'm assumming that the receiver audio goes into the REC jack and the MIC
> jack goes to the transmitter audio input. But what are the two LINE NULL
> adjustments for and how are they used?
>
> Thanks in advance for the help!
>
> 73,
> Lee KN4VN
>
>
>
>

60. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 06:55:20 UTC
From: richardharrison@webtv.net
Message-ID: <15593-3E8A8958-925@storefull-2312.public.lawson.webtv.net>
Source record: 121562

Mike, KB3EIA wrote:
"What type of antenna is used for a 6MHz wide signal?"

A microwave dish?

Seriously, where 6 MHz is a larger percentage of the carrier frequency, Radio Shack sells a discone. For h-f, one can be made from wires.

Arnold B. Bailey has several wideband antennas in his "TV and Other Receiving Antennas" catalog.

Early TV broadcasts were horizontally polarized. Now, they may include vertical polarization as well. Some have been circularly polarized so that a similar circularly polarized receiving antenna with the correct twist would reject a reflection with the opposite twist.

One popular early TV broadcast antenna was the turnstile. This is just horizontal folded dipoles at right angles. These were often stacked for concentration in the horizontal plane.

For the simple turnstile, Bailey says each folded dipole alone is the 300-ohm variety and has a frequency bandwidth of 17% between the 1 db down points. At 200 Mhz, 1/4-in. rods or tubes can be used in their construction for this bandwidth. At lower frequencies this diameter must be scaled or approximated with cage-type construction to get wide bandwidth.

When two of these folded dipoles are crossed to make a turnstile, and connected in parallel, the drivepoint is 150 ohms, and the gain drops by 3 db as the power is divided between the two directional patterns of the dipoles. Pattern circularity in the horizontal plane is good and the -1 db bandwidth of the turnstile is 25% between the 1 db down points.

A slotted vertical cylinder gives a horizontally polarized signal. This antenna is another old timer with good bandwidth. Slots in larger sheets are even better.

Then there are conicals, bi-conicals, and fat-element variants of other antennas that can give wideband performance. Log-periodics work well over a wide band and may be practical as rotatable h-f antennas.

Best regards, Richard Harrison, KB5WZI

61. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 08:28:17 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8A9F21.5EA8E126@cwis.net>
Source record: 121563

Lee,
All things considered, advertise the phone patch on
eBay, some fool will buy it. Then, get your friend a
cell phone. It'll be 100% more reliable, certainly
more sure of making connections, and less of a P.I.T.A.
for everyone else.
'Doc

62. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 10:16:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8le4fte7gdaad@corp.supernews.com>
Source record: 121564

The turnstile was invented by George Brown of RCA in 1935. This is the same Brown that coauthored the seminal 1937 paper on ground systems. He devotes a chapter to it in his autobiography "And Part of Which I Was". Near the end of the chapter he notes that RCA engineers later "greatly improved the Turnstile and even produced a Super-Turnstile".

In 1961, at the time Jasik's _Antenna Engineering Handbook_ (First Ed.) was published, "75 per cent of the antennas used for VHF transmitting purposes are superturnstiles." It's basically two "bow tie" or "bat wing" dipoles (to increase bandwidth), physically at right angles. But they're fed in phase quadrature, not simply in parallel as the antenna Richard describes. (It's not clear to me how you'd get an omnidirectional pattern with the elements fed simply in parallel.) There are some additional refinements, like stubs to increase bandwidth, shape modification to change the current distribution, and a skeleton construction to reduce wind loading. According to Ports and Rohrer, the authors of the "TV and FM Transmitting Antennas" chapter of Jasik, the antenna "yields a bandwidth of 35 per cent, with a VSWR of 1.1 or less". They're used in combinations of up to 12 bays on the higher channels, and 6 on the lower channels, to achieve gain while maintaining an omnidirectional azimuth pattern. Grouping like this would surely reduce the bandwidth, but apparently they're still wide enough even in arrays of this size. More information can be found beginning on p. 23-8 of the First Edition of the _Antenna Engineering Handbook_.

In the Third Edition of that book, copyright 1993 (edited by Johnson), there's a lot more emphasis on circularly polarized antennas for TV and FM transmitting. But it says that the superturnstile, or batwing, antenna is still the most popular horizontally polarized VHF TV antenna. Not bad for an antenna whose design roots go back nearly 60 years!

Roy Lewallen, W7EL

Richard Harrison wrote:
> Mike, KB3EIA wrote:
> "What type of antenna is used for a 6MHz wide signal?"
>
> A microwave dish?
>
> Seriously, where 6 MHz is a larger percentage of the carrier frequency,
> Radio Shack sells a discone. For h-f, one can be made from wires.
>
> Arnold B. Bailey has several wideband antennas in his "TV and Other
> Receiving Antennas" catalog.
>

> Early TV broadcasts were horizontally polarized. Now, they may include
> vertical polarization as well. Some have been circularly polarized so
> that a similar circularly polarized receiving antenna with the correct
> twist would reject a reflection with the opposite twist.
>
> One popular early TV broadcast antenna was the turnstile. This is just
> horizontal folded dipoles at right angles. These were often stacked for
> concentration in the horizontal plane.
>
> For the simple turnstile, Bailey says each folded dipole alone is the
> 300-ohm variety and has a frequency bandwidth of 17% between the 1 db
> down points. At 200 Mhz, 1/4-in. rods or tubes can be used in their
> construction for this bandwidth. At lower frequencies this diameter must
> be scaled or approximated with cage-type construction to get wide
> bandwidth.
>
> When two of these folded dipoles are crossed to make a turnstile, and
> connected in parallel, the drivepoint is 150 ohms, and the gain drops by
> 3 db as the power is divided between the two directional patterns of the
> dipoles. Pattern circularity in the horizontal plane is good and the -1
> db bandwidth of the turnstile is 25% between the 1 db down points.
>
> A slotted vertical cylinder gives a horizontally polarized signal. This
> antenna is another old timer with good bandwidth. Slots in larger sheets
> are even better.
>
> Then there are conicals, bi-conicals, and fat-element variants of other
> antennas that can give wideband performance. Log-periodics work well
> over a wide band and may be practical as rotatable h-f antennas.
>
> Best regards, Richard Harrison, KB5WZI
>

63. Measurements 59LF grid dip ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 15:12:09 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <v8lvej32ldg071@corp.supernews.com>
Source record: 121565

For my Measurements Model 59LF grid dip meter I'm still trying to find a manual or copy and hopefully a 50kc to 100kc coil or an old orphaned LF coil form with the ferrite. The form was made by American Phenolic Corp, Chicago, Part No. 24-5P. The base is like an old 5 pin tube and is a clear cylinder about 1 1/4" diameter and 2 1/4" long, "pill bottle". The coil form, a ferrite cylinder about 1 inch diameter and 3/4" long is inside the "pill bottle" . I'd guess there's several hundred turns of litz wire wound pancake fashion with 5 leads coming out. The .1 - .25 MC coil wire uses about 3/4 ths of the ferrite length and the turns stack up to about an 1/8" thick. It's well designed and well made and has some weight to it. The unit has 3 additional coils, .25 -.55 MC, .55MC - 1.5 MC, and 1.5 - 4.5 MC. All use the same form but with less turns, the highest freq. coil has about 1/20th of the turns. I'd rather find one covering .05 - .1 MC or an orphaned LF form for another frequency if I can because I think it would be a major endeavor to try make one as good as Measurements!.
tnx.
hank wd5jfr

64. Example of counterpoise/radians for Hi-Q antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 15:55:29 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e8b07f1_1@news.vo.lu>
Source record: 121566

Hi,

I will very soon buy an Hi-Q antenna (www.hiqantennas.com) that I will mainly use on the provided tripod for portable operations.

Charlie, the manufacturer, suggests to install a plan of radians with a counterpoise at the base in this configuration (at the tripod top level). I am not really an handyman, so I need some tricks to build - or buy - this counterpoise.

Has someone some blue prints or pictures + a manufacturer of such counterpoise or radians suited to Hi-Q antennas (standard model .3 or near). I haven't the ARRL books about antennas and I do not find on the Internet any true drawing or pic showing such installation.

My main problems are purely technical :
- what kind of "wire" to use to built these radians (if in copper, what tickness to support 100W but maybe 1 kW)
- how many radians (4, much ?)
- how long (to work between 40-10m, probably about 5m long ?) knowing this is a /p station
- how to fix/attach them to the main mast (or to the counterpoise, but in that case how to attach the counterpoise to the mast ?

Do you understand my problem ? Can you help me ? (pictures or URL if you have some, should be much more "speaking" than words)

Thanks in advance for any suggestion.

If you prefer to answer me directly, see my website email page, http://www.astrosurf.com/lombry

Thierry
ON1SKY

65. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 16:35:50 UTC
From: KC1DI <elbc2@gwi.net>
Message-ID: <l94m8vcvfgn3m0rqi0vp9m4hi2defn9i33@4ax.com>
Source record: 121567

On Mon, 31 Mar 2003 20:39:49 -0600, "Lloyd Mitchell"
<lloydm75@hotmail.com> wrote:

>I am thinking of constructing a G5RV, and a friend gave me a roll of 75ohm,
>1/2" dia cable. Is this cable a good match to the antenna with a tuner? I
>am thinking that the impedance of the antenna is approx...80 ohms and to use
>the 75 cable might be a better match for the tuner.
>
>waddayathink?
>
>Lloyd
>
>
\
Lloyd,\

I used 75 CATV cable here for my G5RV's and it works great go for it.
73 Dave KC1DI

66. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 17:03:14 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b6f53f$gv5$1@slb9.atl.mindspring.net>
Source record: 121568

Great advice....he is going to Haiti......do you think they even know what a cellphone is? And if they do....how much would it cost to run that call?

Of course there is always the problem of when the power goes off and the cell net drops like a rock into the sea.

There is plenty of room on ham radio for an occassional phone patch. This is the same idiotic crap the BARF/Stumpers were putting out. Doc get a new script.

Dan/W4NTI

"'Doc" <w5lz@cwis.net> wrote in message news:3E8A9F21.5EA8E126@cwis.net...
>
>
> Lee,
> All things considered, advertise the phone patch on
> eBay, some fool will buy it. Then, get your friend a
> cell phone. It'll be 100% more reliable, certainly
> more sure of making connections, and less of a P.I.T.A.
> for everyone else.
> 'Doc

67. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 17:29:44 UTC
From: richardharrison@webtv.net
Message-ID: <20687-3E8B1E08-64@storefull-2316.public.lawson.webtv.net>
Source record: 121420

Roy, W7EL wrote:
"But they are fed in phase quadrature, not simply in parallel as the antenna Richard Describes."

Roy put words in my mouth that I did not say. I said nothing about the 90-degree phasing between the crossed dipoles, one way or the other. I am well aware of that convention.

Best regards, Richard Harrison, KB5WZI

68. 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 17:41:27 UTC
From: denton <denton@oregontrail.net>
Message-ID: <b6f71k$s3h$1@news.oregontrail.net>
Source record: 121419

Hi all...
Can anyone give me the approx imput impendence of a 1/4 wave ground plane 20 meter vertical antenna above 20 meters to 10 meters, including the warc bands?
I want to homebrew a matching network at the base of the antenna, fed with 35 feet of Rg-8 213 coax.
Thanks....

69. Re: Measurements 59LF grid dip ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 18:28:36 UTC
From: carkenord@juno.com
Message-ID: <4346b55e.0304021028.7200fe3c@posting.google.com>
Source record: 121421

> For my Measurements Model 59LF grid dip meter I'm still trying to find a
> manual or copy and hopefully a 50kc to 100kc coil or an old orphaned LF coil
> form with the ferrite.

I don't know whether or not you are familiar with the following website:

http://www.qsl.net/n4xy/gdos.html

He might be able to help you out.

Lee Carkenord KA0FPJ

70. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:01:54 UTC
From: richardharrison@webtv.net
Message-ID: <9286-3E8B33A2-32@storefull-2314.public.lawson.webtv.net>
Source record: 121424

Roy, W7EL wrote:
"The turnstile was invented by George Brown of RCA in 1935."

I was indeed remiss in curtailing Arnold B. Bailey`s description of the turnstile. Bailey lists his references:
"Brown,G.H.,Electronics,vol.18,p.15,April 1936
Brown,G.H.,Electronics,Vol.18,p.102.June 1945
Duncan,R.D.,Broadcast News, January 1945"

Best regards, Richaed Harrison, KB5WZI

71. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:03:33 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8B3405.25683B6E@cwis.net>
Source record: 121422

Dan,
Contrary to popular belief, Haiti has cell phone coverage (also 'sat-phone' service). If the power grid goes down, how they gonna run the radio, and that doesn't take into account finding a ham in Haiti to start with. This guy is supposed to be going to the 'boonies', remember?
If you're going to classify me as anything, a 'Barfette' is one of the last things I'd be. Don't take my word for it, ask ol'Herby. My old call was 'AA5AN', I'll bet he remembers it (LOL)! I wish I had a penny for every patch I've run, but that was certainly before cell service was as wide spread as it is now. So if you're looking for dependability and convenience, a patch on ham radio isn't the way to go...
'Doc

72. FS Tek WM 490 mixers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:07:05 UTC
From: tonys2@aol.com
Message-ID: <20030402140705.16172.00000335@mb-ca.aol.com>
Source record: 121423

5 mixers in case with book. Up to 140 Gig. Like new
$900+ups
D & T
Alex Va

tonyS2@aol.com
Also avail Misc Alpha/ TRG Horns

73. Re: SWR this!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:18:31 UTC
From: Keith Beckmann <Kbeckman@execpc.com>
Message-ID: <PGGia.2160$5j.17737@twister.kc.rr.com>
Source record: 121425

"Harold Burton" <hwburton@cableone.net> wrote in message
news:v8b49c61ksls7b@corp.supernews.com...
>
> Don't know who first said it, but there may be more to it than one
perceives
> at first. "Time is natures way of keeping everything from happening at
> once." Do any of you know the author of the statement?

Woody Allen

74. Re: Measurements 59LF grid dip ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:21:57 UTC
From: richardharrison@webtv.net
Message-ID: <9288-3E8B3855-10@storefull-2314.public.lawson.webtv.net>
Source record: 121426

Lee Carcenord wrote:
"---I`m still trying to find a manual or copy and hopefully a 50 KC to 100 KC coil---."

Sorry I have no manual but I do have two Model 59`s. The coils are simple 2-terminal solenoids. For low frequency coverage, I just try promising coils until I find one that covers the frequency I want. I have alligator clips mounted on banana plugs for this. Other times I use a crystal in place of a coil as a generator. It has a built-in selectable hum modulator.

Best regards, Richard Harrison, KB5WZI

75. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 19:45:24 UTC
From: richardharrison@webtv.net
Message-ID: <9286-3E8B3DD4-36@storefull-2314.public.lawson.webtv.net>
Source record: 121427

Turnstile correction:
Brown,G.H.,Electronics,vol.9,p.15, April 1936.
(I wrote: vol.18) wrong!

Best regards, Richard Harrison, KB5WZI

76. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:12:42 UTC
From: dplatt@radagast.org
Message-ID: <v8mkianvehfa7e@corp.supernews.com>
Source record: 121428

In article <v8le4fte7gdaad@corp.supernews.com>,
Roy Lewallen <w7el@eznec.com> wrote:

>In 1961, at the time Jasik's _Antenna Engineering Handbook_ (First Ed.)
>was published, "75 per cent of the antennas used for VHF transmitting
>purposes are superturnstiles." It's basically two "bow tie" or "bat
>wing" dipoles (to increase bandwidth), physically at right angles. But
>they're fed in phase quadrature, not simply in parallel as the antenna
>Richard describes. (It's not clear to me how you'd get an
>omnidirectional pattern with the elements fed simply in parallel.)

One method I've seen described in a couple of contexts (for both
turnstile and "eggbeater" helix antennas) is to use a single feedline,
and to tweak the lengths and configurations of the two dipoles or
helices so that one has a substantial inductive reactance and the
other has a substantial capacitive reactance of the same absolute
value.

If you do this right, you can get the currents in the two diples or
helices to exhibit a 90-degree phase difference, without needing a
separate delay line, and you get a nice omnidirectional pattern.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

77. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:19:35 UTC
From: richardharrison@webtv.net
Message-ID: <9286-3E8B53E7-56@storefull-2314.public.lawson.webtv.net>
Source record: 121434

Denton wrote:
"Can anyone give me the approximate input impedance of a 1/4 wave ground plane 20 meter vertical antenna above 20 meters to 10 meters, including the warc bands?"

It depends on the length / diameter ratio, characteristic impedance of the radiator, actual length, ground plane characteristics, etc.

If you choose a typical 1/4-wave thin vertical at 20 meters, resonant impedance might be about 30-35 ohms resistive. Actual resonant length might be about 5% short of the free space 1/4-wavelength.

Impedance will rise steadily up to near 1/2-wavelength. Resonant impedance may be about 1000 ohms give or take 50% or more.

Charts such as Fig.18 on page 24 of "Vertical Antenna Handbook" by Capt. Paul H. Lee, USNR, K6TS may be helpful. Roy and Reg have modeling programs Denton could use.

The 1/4-wave antenna is series-resonant. Thus, it has a low end-fed impedance. The 1/2-wave antenna is parallel-resonant and thus has a very high end-fed impedance. Capt. Lee advises against trying to end-feed a half-wave as the voltage is very high.

If the match box can handle 25 ohms to 3000 ohms, it may handle both resonances and all the frequencies between the two extremes.

Best regards, Richard Harrison, KB5WZI

78. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:23:58 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b6flm2$525$2@slb5.atl.mindspring.net>
Source record: 121432

Next time I hear Herby jamming intercon I'll pass along your regards.

My point about cell service...is that when its needed most it will overload.
It is not designed for a maximum use effort. See what happens whenever a
emergency occurs. Cell service is overloaded.

Dan/W4NTI

"'Doc" <w5lz@cwis.net> wrote in message news:3E8B3405.25683B6E@cwis.net...
>
>
> Dan,
> Contrary to popular belief, Haiti has cell phone
> coverage (also 'sat-phone' service). If the power
> grid goes down, how they gonna run the radio, and
> that doesn't take into account finding a ham in Haiti
> to start with. This guy is supposed to be going to
> the 'boonies', remember?
> If you're going to classify me as anything, a
> 'Barfette' is one of the last things I'd be. Don't
> take my word for it, ask ol'Herby. My old call was
> 'AA5AN', I'll bet he remembers it (LOL)! I wish I
> had a penny for every patch I've run, but that was
> certainly before cell service was as wide spread as
> it is now. So if you're looking for dependability
> and convenience, a patch on ham radio isn't the way
> to go...
> 'Doc

79. Re: Yagi instructions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:33:22 UTC
From: Ed <imctcomments@ac3l.com>
Message-ID: <CGIia.343384$sf5.339253@rwcrnsc52.ops.asp.att.net>
Source record: 121429

www.qth.com/antenna

"M3***" <happyraveruk@yahoo.com> wrote in message
news:b5kimc$2a1kes$1@ID-155271.news.dfncis.de...
> I'd like to build my own Yagi for 2m. 3 element if possible. Anyone know
of
> an idiots style guide to building one, pref with pictures and precise
> instructions etc as im useless at this sort of thing !
>
> Cheers
>
> Richard
>
>

80. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:37:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8mm1lqeacm60f@corp.supernews.com>
Source record: 121430

Yes, this is a well known method of getting the necessary phase quadrature. However, it might not be very practical for a wide band antenna like the superturnstile, because you'd have to make the dipoles very different in size in order to get the required reactance. The pictures I've seen of these antennas shows equal sized elements, so this method apparently isn't used for these antennas.

There's also the question of bandwidth of the phase shift. That is, the phase shift will be correct only at one frequency. This is, of course, the case with coax or lumped element networks also. But I'd think that if you begin with wide bandwidth dipoles (by making them large diameter or in a "batwing" shape), the phase shift could be made more stable with frequency than with coax. Modern modeling programs make these sorts of determinations simple.

Roy Lewallen, W7EL

Dave Platt wrote:
> In article <v8le4fte7gdaad@corp.supernews.com>,
> Roy Lewallen <w7el@eznec.com> wrote:
>
>
>>In 1961, at the time Jasik's _Antenna Engineering Handbook_ (First Ed.)
>>was published, "75 per cent of the antennas used for VHF transmitting
>>purposes are superturnstiles." It's basically two "bow tie" or "bat
>>wing" dipoles (to increase bandwidth), physically at right angles. But
>>they're fed in phase quadrature, not simply in parallel as the antenna
>>Richard describes. (It's not clear to me how you'd get an
>>omnidirectional pattern with the elements fed simply in parallel.)
>
>
> One method I've seen described in a couple of contexts (for both
> turnstile and "eggbeater" helix antennas) is to use a single feedline,
> and to tweak the lengths and configurations of the two dipoles or
> helices so that one has a substantial inductive reactance and the
> other has a substantial capacitive reactance of the same absolute
> value.
>
> If you do this right, you can get the currents in the two diples or
> helices to exhibit a 90-degree phase difference, without needing a
> separate delay line, and you get a nice omnidirectional pattern.
>

81. Re: Lightning arrestors- your choice?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:44:45 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <hRIia.3719$Np.218402@twister.southeast.rr.com>
Source record: 121431

I used to know a guy that took his coax loose and put the end in a salad dressing bottle.
"Richard Harrison" <richardharrison@webtv.net> wrote in message news:14289-3E80B168-523@storefull-2313.public.lawson.webtv.net...
> Tam, WB2TT wrote:
> Won`t this (common mode on the coax) cause another problem?"
>
> It presents another problem. This is solved by proper grounding and
> bypassing. The coax is grounded at both ends. Power and other conductors
> into the equipment require additional protection. We know how to do that
> too.
>
> Best regards, Richard Harrison, KB5WZI
>

82. antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 21:45:21 UTC
From: Bill Grimwood <bill@grimwood.net>
Message-ID: <v8mmfe71n66ebe@corp.supernews.com>
Source record: 121433

I will be putting up two 50 foot telescoping masts soon and am wondering about how many guy wires I will need.

The first mast will stand beside a large 30 foot chimney and will be fastened at the top to the chimney, It will have a 24 foot vertical fastened to it with a pully to also sting up a long wire. Do I need to use a set of guys at 40 and another set at 50 feet or will one set at fifty feet be enough?

The second mast will be beside a building that is fifteen feet high. What height do the guy wires need to be attached for this mast? This mast will be used for the other end of the longwire antenna.

Thanks

Bill Grimwood
K1WEG

83. Re: SSB brand RF sensed 6M preamps any good?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 22:38:07 UTC
From: zaax@aol.com
Message-ID: <20030402173807.05598.00000450@mb-fo.aol.com>
Source record: 121435

Thanks for the reply Dale.
Wish that I had not bought the antennas already from Downeast. I had not heard of yours until your reply. I want to add stacked 2MT loops later on to my array and will seriously consider your antennas later in the year.
You mention getting a preamp from Downeast and making an RF sensed bypass. How would you do that? I have looked in vain for a way. Cannot see anything in their catalog to do that.

73
Zack
N8FNR

84. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 23:22:41 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <Xt6cnaj7sc4i7RajXTWcrg@crocker.com>
Source record: 121436

official recommendations...
1. follow the manufacturer's specifications
2. get it analyzed by an engineer

unofficial recommendations...
1. fasten to building at every pipe joint or at least at the top of the building and at least one place about halfway down from there
2. guy at every joint above the building and at the top, or at least at the top and half way from the top to the top of the building.
3. add extra guy on opposite side from pulley for long wire to offset the pull of the wire.

"Bill Grimwood" <bill@grimwood.net> wrote in message news:v8mmfe71n66ebe@corp.supernews.com...
> I will be putting up two 50 foot telescoping masts soon and am wondering
> about how many guy wires I will need.
>
> The first mast will stand beside a large 30 foot chimney and will be
> fastened at the top to the chimney, It will have a 24 foot vertical
> fastened to it with a pully to also sting up a long wire. Do I need to use
> a set of guys at 40 and another set at 50 feet or will one set at fifty feet
> be enough?
>
>
> The second mast will be beside a building that is fifteen feet high. What
> height do the guy wires need to be attached for this mast? This mast will
> be used for the other end of the longwire antenna.
>
>
> Thanks
>
> Bill Grimwood
> K1WEG
>
>

85. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-02 23:56:50 UTC
From: Lee Jarvis <ljarvis@tampabay.rr.com>
Message-ID: <6NKia.102545$M7.2118512@twister.tampabay.rr.com>
Source record: 121437

There may be cell phone coverage in some areas, but unfortunately, not where these folks are headed.

As for finding a ham in the remote areas, Dr. Matousek is working on getting his General class license now. I'll be sending him off with an ICOM IC-706 and dipoles for 80M, 40M and 17M, a transmatch and longwire, and a 5000w generator with a 1kw backup. He'll be taking his test on the 14th of this month, so he's working hard, but he seems to be having no trouble with the code. Of course, at 5wpm anybody who puts forth a minimal effort should be able to pass. We expect to do a good portion of our communications on 40 and 17.

He will have a satellite link to the Internet, but it has been less than reliable. Ham radio won't be his only, or even primary means of communication, but it will serve as a backup to the Internet service and will keep him in touch with a nearby hospital on 2M (about 90 minute "drive" in the 4WD) and on a daily net on 3823 with other missionaries in the Dominican Republic and in Haiti.

73,
Lee KN4VN

"'Doc" <w5lz@cwis.net> wrote in message news:3E8B3405.25683B6E@cwis.net...
>
>
> Dan,
> Contrary to popular belief, Haiti has cell phone
> coverage (also 'sat-phone' service). If the power
> grid goes down, how they gonna run the radio, and
> that doesn't take into account finding a ham in Haiti
> to start with. This guy is supposed to be going to
> the 'boonies', remember?
> If you're going to classify me as anything, a
> 'Barfette' is one of the last things I'd be. Don't
> take my word for it, ask ol'Herby. My old call was
> 'AA5AN', I'll bet he remembers it (LOL)! I wish I
> had a penny for every patch I've run, but that was
> certainly before cell service was as wide spread as
> it is now. So if you're looking for dependability
> and convenience, a patch on ham radio isn't the way
> to go...
> 'Doc
>

86. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 00:14:14 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <PrSdncQ9StxO4RajXTWcow@comcast.com>
Source record: 121438

I second this. I once put up a 30 foot mast/TV antenna that was guyed at the top only. It buckled near the middle.

Tam/WB2TT
"David Robbins" <k1ttt@arrl.net> wrote in message
news:Xt6cnaj7sc4i7RajXTWcrg@crocker.com...
> official recommendations...
> 1. follow the manufacturer's specifications
> 2. get it analyzed by an engineer
>
> unofficial recommendations...
> 1. fasten to building at every pipe joint or at least at the top of the
> building and at least one place about halfway down from there
> 2. guy at every joint above the building and at the top, or at least at
the
> top and half way from the top to the top of the building.
> 3. add extra guy on opposite side from pulley for long wire to offset the
> pull of the wire.
>
>
> "Bill Grimwood" <bill@grimwood.net> wrote in message
> news:v8mmfe71n66ebe@corp.supernews.com...

87. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 00:23:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8mvnj22opsu06@corp.supernews.com>
Source record: 121439

I'm not an expert at this, but I've read a number of times that it's
unwise to guy to a chimney. Apparently they're not designed to take a
lateral load, and can't take much of one.

Roy Lewallen, W7EL

David Robbins wrote:
> official recommendations...
> 1. follow the manufacturer's specifications
> 2. get it analyzed by an engineer
>
> unofficial recommendations...
> 1. fasten to building at every pipe joint or at least at the top of the
> building and at least one place about halfway down from there
> 2. guy at every joint above the building and at the top, or at least at the
> top and half way from the top to the top of the building.
> 3. add extra guy on opposite side from pulley for long wire to offset the
> pull of the wire.
>
>
> "Bill Grimwood" <bill@grimwood.net> wrote in message
> news:v8mmfe71n66ebe@corp.supernews.com...
>
>>I will be putting up two 50 foot telescoping masts soon and am wondering
>>about how many guy wires I will need.
>>
>>The first mast will stand beside a large 30 foot chimney and will be
>>fastened at the top to the chimney, It will have a 24 foot vertical
>>fastened to it with a pully to also sting up a long wire. Do I need to
>
> use
>
>>a set of guys at 40 and another set at 50 feet or will one set at fifty
>
> feet
>
>>be enough?
>>
>>
>>The second mast will be beside a building that is fifteen feet high. What
>>height do the guy wires need to be attached for this mast? This mast will
>>be used for the other end of the longwire antenna.
>>
>>
>>Thanks

>>
>>Bill Grimwood
>>K1WEG
>>
>>
>
>
>

88. Re: Measurements 59LF grid dip ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 00:24:52 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <v8mvqrir30dk3b@corp.supernews.com>
Source record: 121440

Model 59 uses 2 terminals whereas the 59LF uses 5!
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:9288-3E8B3855-10@storefull-2314.public.lawson.webtv.net...
> Lee Carcenord wrote:
> "---I`m still trying to find a manual or copy and hopefully a 50 KC to
> 100 KC coil---."
>
> Sorry I have no manual but I do have two Model 59`s. The coils are
> simple 2-terminal solenoids. For low frequency coverage, I just try
> promising coils until I find one that covers the frequency I want. I
> have alligator clips mounted on banana plugs for this. Other times I use
> a crystal in place of a coil as a generator. It has a built-in
> selectable hum modulator.
>
> Best regards, Richard Harrison, KB5WZI
>

89. Re: Example of counterpoise/radians for Hi-Q antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 00:40:43 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <i90n8vkgu2osngihu7pl6qlpvlniqod1o0@4ax.com>
Source record: 121441

On Wed, 2 Apr 2003 17:55:29 +0200, "Thierry - ON1SKY"
<lombrytNOSPAM@hotmail.com> wrote:

>Hi,
>
>I will very soon buy an Hi-Q antenna (www.hiqantennas.com) that I will
>mainly use on the provided tripod for portable operations.
>
>Charlie, the manufacturer, suggests to install a plan of radians with a
>counterpoise at the base in this configuration (at the tripod top level).
>I am not really an handyman, so I need some tricks to build - or buy - this
>counterpoise.
>
>Has someone some blue prints or pictures + a manufacturer of such
>counterpoise or radians suited to Hi-Q antennas (standard model .3 or near).
>I haven't the ARRL books about antennas and I do not find on the Internet
>any true drawing or pic showing such installation.
>
>My main problems are purely technical :
>- what kind of "wire" to use to built these radians (if in copper, what
>tickness to support 100W but maybe 1 kW)
>- how many radians (4, much ?)
>- how long (to work between 40-10m, probably about 5m long ?) knowing this
>is a /p station
>- how to fix/attach them to the main mast (or to the counterpoise, but in
>that case how to attach the counterpoise to the mast ?
>
>Do you understand my problem ? Can you help me ? (pictures or URL if you
>have some, should be much more "speaking" than words)
>
>Thanks in advance for any suggestion.

I'm not familiar with the antenna... but for elevated, above-ground
radials, measure out at least one 1/4-wave radial for each band you
plan to work. Use any medium guage copper wire -- 14, 16, 18 guage,
whatever. Attach the radials to the ground side of your antenna, to
the braid of the coax feeder where it goes to the antenna. Make sure
no humans or animals touch the wires while you are transmitting.

For more info, go to the Bencher site, and then to the Butternut
pages, and then to the technical papers on radials, grounds, etcetera
for verticals.

There are also a lot of books on this.

Have fun...

Bob
k5qwg

>
>If you prefer to answer me directly, see my website email page,
>http://www.astrosurf.com/lombry
>
>Thierry
>ON1SKY
>
>

90. EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 00:56:41 UTC
From: jgboyles@aol.com
Message-ID: <20030402195641.20442.00000422@mb-fu.aol.com>
Source record: 121442

Hi,
I just looked at the EH antenna site and found a section on "RF on the coax".
They state if you use rf beads, I assume current balun, you have a problem.
They state that the coax shield is not a magnetic shield, so the beads affect
both the inner and outer conductors. Therefore, most of the transmitter power
will be converted to heat. Not good. And a choke made of several turns of
coax is good.
Well, do I need to get rid of all my current baluns (W2DU) or what? This seems
to be stating that if you use beads on your transmission line, you are screwed,
no matter what the antenna.
I do not believe this, it flys in the face of everything I have read about
baluns. Comments?
73 Gary N4AST

91. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:05:37 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b6g1c2$s16$1@slb6.atl.mindspring.net>
Source record: 121443

Looks to me like you have it well in hand. Best of luck. If you need any commo help check with W4NTI (me) on 14.275 most any day in the afternoons, Got a patch and will certainly be glad to help.

Dan/W4NTI

"Lee Jarvis" <ljarvis@tampabay.rr.com> wrote in message news:6NKia.102545$M7.2118512@twister.tampabay.rr.com...
> There may be cell phone coverage in some areas, but unfortunately, not where
> these folks are headed.
>
> As for finding a ham in the remote areas, Dr. Matousek is working on getting
> his General class license now. I'll be sending him off with an ICOM IC-706
> and dipoles for 80M, 40M and 17M, a transmatch and longwire, and a 5000w
> generator with a 1kw backup. He'll be taking his test on the 14th of this
> month, so he's working hard, but he seems to be having no trouble with the
> code. Of course, at 5wpm anybody who puts forth a minimal effort should be
> able to pass. We expect to do a good portion of our communications on 40 and
> 17.
>
> He will have a satellite link to the Internet, but it has been less than
> reliable. Ham radio won't be his only, or even primary means of
> communication, but it will serve as a backup to the Internet service and
> will keep him in touch with a nearby hospital on 2M (about 90 minute "drive"
> in the 4WD) and on a daily net on 3823 with other missionaries in the
> Dominican Republic and in Haiti.
>
> 73,
> Lee KN4VN
>
> "'Doc" <w5lz@cwis.net> wrote in message news:3E8B3405.25683B6E@cwis.net...
> >
> >
> > Dan,
> > Contrary to popular belief, Haiti has cell phone
> > coverage (also 'sat-phone' service). If the power
> > grid goes down, how they gonna run the radio, and
> > that doesn't take into account finding a ham in Haiti
> > to start with. This guy is supposed to be going to
> > the 'boonies', remember?
> > If you're going to classify me as anything, a

> > 'Barfette' is one of the last things I'd be. Don't
> > take my word for it, ask ol'Herby. My old call was
> > 'AA5AN', I'll bet he remembers it (LOL)! I wish I
> > had a penny for every patch I've run, but that was
> > certainly before cell service was as wide spread as
> > it is now. So if you're looking for dependability
> > and convenience, a patch on ham radio isn't the way
> > to go...
> > 'Doc
> >
>
>

92. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:36:49 UTC
From: Roger Leone <arleonexxblockxx@inreach.com>
Message-ID: <DeMia.29$ew6.17@news.inreach.com>
Source record: 121444

Gary:

Currents on the coax center conductor and the inside of the shield braid are equal in ampliltude and opposite in phase (differential mode) so they are not affected by the choke. Currents on the outside of the coax are common mode (not balanced by opposing current) and are therefore choked off by the ferrite beads.

If your quote from the EH website is correct, they are not aware of the difference between differential mode and common mode currents.

Roger K6XQ

93. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:41:59 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E8B9184.1030701@adelphia.net>
Source record: 121445

'Doc wrote:
>
> Dan,
> Contrary to popular belief, Haiti has cell phone
> coverage (also 'sat-phone' service). If the power
> grid goes down, how they gonna run the radio, and
> that doesn't take into account finding a ham in Haiti
> to start with. This guy is supposed to be going to
> the 'boonies', remember?
> If you're going to classify me as anything, a
> 'Barfette' is one of the last things I'd be. Don't
> take my word for it, ask ol'Herby. My old call was
> 'AA5AN', I'll bet he remembers it (LOL)! I wish I
> had a penny for every patch I've run, but that was
> certainly before cell service was as wide spread as
> it is now. So if you're looking for dependability
> and convenience, a patch on ham radio isn't the way
> to go...

Well, I've used our patch to get my kiester hauled out of a jam on several occasions. Even here in central PA, there are plenty of places where a cell phone just won't work. and many others where you hvae to play the "Can you hear me now?...What... Can you hear me now?" game. I suspect that where he is going to, the problem will be much worse.

- Mike KB3EIA -

94. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:48:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8n4o587g9cg0c@corp.supernews.com>
Source record: 121447

Last time I checked the EH site (some time ago), they were explaining how EH operation requires an inductor having a 90 degree phase shift of current from one terminal to the other. Based on their obviously lacking knowledge of basic electrical principles, I certainly wouldn't take their advice on anything else. But each to his own.

I'm sure you can find lots of opinions about medicine, astrology, and other topics on the web, too.

Roy Lewallen, W7EL

JGBOYLES wrote:
> Hi,
> I just looked at the EH antenna site and found a section on "RF on the coax".
> They state if you use rf beads, I assume current balun, you have a problem.
> They state that the coax shield is not a magnetic shield, so the beads affect
> both the inner and outer conductors. Therefore, most of the transmitter power
> will be converted to heat. Not good. And a choke made of several turns of
> coax is good.
> Well, do I need to get rid of all my current baluns (W2DU) or what? This seems
> to be stating that if you use beads on your transmission line, you are screwed,
> no matter what the antenna.
> I do not believe this, it flys in the face of everything I have read about
> baluns. Comments?
> 73 Gary N4AST

95. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:48:53 UTC
From: jgboyles@aol.com
Message-ID: <20030402204853.20477.00000402@mb-fu.aol.com>
Source record: 121446

>If your quote from the EH website is correct, they are not aware of the
>difference between differential mode and common mode currents.

Hi Roger, the quote is correct. Do a search on EH antennas, you can view their web site. I don't have the URL at the moment, sorry.
73 Gary N4AST

96. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 01:55:58 UTC
From: k1bqt@aol.com
Message-ID: <20030402205558.01769.00000269@mb-fk.aol.com>
Source record: 121448

More likely, they'd rather not acknowledge that, lacking common-mode radiation from the feedline shield, the EH antenna is simply incapable of launching a usable signal.

Rick K1BQT

97. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 03:00:21 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304021900.70105282@posting.google.com>
Source record: 121449

richardharrison@webtv.net (Richard Harrison) wrote in message
> Capt. Lee advises against trying to end-feed a
> half-wave as the voltage is very high.

Thats kind of strange. By end feed, I assume he means base fed for a
vertical.
I've base fed many half waves with no problems at all. I've never
noticed any high voltage problems, but then again, I don't stick my
tongue on the antenna while I transmit...:/ MK

98. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 04:03:41 UTC
From: richardharrison@webtv.net
Message-ID: <16963-3E8BB29D-101@storefull-2317.public.lawson.webtv.net>
Source record: 121450

Bill Grimwood wrote:
"I will be putting up two 50 foot telescoping masts soon and am wondering about how many guy wires I will need."

Study the 19th edition of the ARRL "Antenna Book" , starting with page 22-8.

If telescoping means crank-up, the mast should not be used with guys as these impose a vertical load on the crank-up cable and may overload it. If clamps can be placed at section joints to avoid loading the crank-up cable, it may be OK to use guys.

Roy Lewallen is right on target with his advice to not fasten to a brick chimney. It has strength in compression, but it is very weak in tensile strength. It is easily snapped by a lateral load.

Guys are anchored at 120-degree intervals around a mast or tower. It`s the minimum required to fix the axis in space. Any more would be surperfluous..

The flimsyier the tower or mast, the more guy levels are required to prevent buckling.

Engineering the mast or tower is beyond the scope of an internet posting such as this in my opinion. The manufacturer will have guidelines which should be followed for confidence in results.

You can find windspeed history and predictions for your site. These translate into pounds per square foot of projected areas. Tower and appurtenances load and create moments which must be summed to determine maximum forces in tower and guys. You can add the safety factor of your choice if that`s your desire.

Since safety is involved, not much information appears in amateur literature. The Antenna Book is better than most general sources.

Best regards, Richard Harrison, KB5WZI

99. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 04:49:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E8BBD55.20303@ieee.org>
Source record: 121452

Mark Keith wrote:
> richardharrison@webtv.net (Richard Harrison) wrote in message
>
>> Capt. Lee advises against trying to end-feed a
>>half-wave as the voltage is very high.
>
> Thats kind of strange. By end feed, I assume he means base fed for a
> vertical.
> I've base fed many half waves with no problems at all. I've never
> noticed any high voltage problems, but then again, I don't stick my
> tongue on the antenna while I transmit...:/ MK

The feedpoint impedance of an end-fed half-wavelength vertical is
high, in the thousands of ohms. That would put 1000 watts in the
thousands of volts range. 1000 watts into 35 ohms is only 187 volts.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

100. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 04:50:46 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304022050.73131b87@posting.google.com>
Source record: 121451

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:<b6f53f$gv5$1@slb9.atl.mindspring.net>...
> Great advice....he is going to Haiti......do you think they even know what a
> cellphone is? And if they do....how much would it cost to run that call?
>
> Of course there is always the problem of when the power goes off and the
> cell net drops like a rock into the sea.
>
> There is plenty of room on ham radio for an occassional phone patch. This
> is the same idiotic crap the BARF/Stumpers were putting out. Doc get a new
> script.
>
> Dan/W4NTI
Absolutely correct. Not familiar with Haiti which makes me fortunate
but I am with the DR. Life can be good at the European Holiday resort
or at a main town.
Leave town and it is like going back in time.Hardly any traffic on the
roads
tho there will be some donkeys either carrying the owner or pulling a
beat up
trailer. If you have a cell phone you would keep it out of sight when
local police stop you and interogate you. As far as power....it will
go off, when you shower you make sure that you have a bowl of water
handy for when the power goes off and the water stops leaving you with
suds all over. If he is a missionary I suspect the phone patch would
be a must so that money saved went towards his mission. As for Haiti I
could not begin to think what it is like as you move towards the
mountains. Some of the populace emigrate to the DR and think it is
heavan. Fortunately the company left the DR as conditions got worse!
Art

>
> "'Doc" <w5lz@cwis.net> wrote in message news:3E8A9F21.5EA8E126@cwis.net...
> >
> >
> > Lee,
> > All things considered, advertise the phone patch on
> > eBay, some fool will buy it. Then, get your friend a
> > cell phone. It'll be 100% more reliable, certainly
> > more sure of making connections, and less of a P.I.T.A.
> > for everyone else.
> > 'Doc

101. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 05:22:24 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8BC510.4E554D22@cwis.net>
Source record: 121453

Mark,
If you don't touch your tongue to it, how do
you expect to tell if there's high voltage present
or not? Com'on Mark, how are you ever going to
become one of the 'guru's Art talks about if you
don't use all your senses? 'Touch' is a sense...
'Doc

102. Re: 10 meter mobile questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 05:50:46 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304022150.3b438c55@posting.google.com>
Source record: 121454

GregEMT1(nospam)@netzero.com (KF6ALC) wrote in message
news:<3e853f30.17337905@news.earthlink.net>...
> I am just getting into 10 meters, and am looking for a good way to go
> mobile. I have a fairly high 4wd truck that is also my daily driver,
> so my first thought is to use a steel whip from CB on a ball mount off
> the side of the bed, and trim it down a bit. I do use my truck off
> road, and have already lost more than one mag mount antenna both from
> bounces and trees, but I was wondering if there are any tips or
> suggestions about this whip idea, or any ohter options. BTW, my rig
> is only starter quality, a Radio Shack HTX-10, on sale for only $69.
> I also have a fiberglass shell, so about 2 feet of the antenna would
> be very close to that. Would the fiberglass eat alot of RF? Any help
> on this issue is greatly appreciated!!!!
> Greg
> KF6ALC

Back when I ran 10m mobile a good bit , I often used the radio shack
"deluxe magnet mount" CB antennas. This is totally different than most
the others they sell that are 36 to 48 inches long. Actually, it's
been so long, I'm not sure they still sell it. But it's a good antenna
for "cab" mounting on a truck or van. The antenna is about 54-58 or so
inches tall, and used a base loading coil with fairly thick wire, and
fairly few turns. It's the rat shack equal to a K-40 CB antenna for
all practical purposes.
It always worked fairly well, and can be easily taken off. I always
found a cab mounted shorter vertical to usually be better than a 1/4
wave whip low on a bumper as long as the loaded antenna is decently
made. MK

103. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 06:19:03 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <sHSBejCXJ9i+EAVz@ifwtech.co.uk>
Source record: 121457

OC_CAM's Razor wrote:
>Mark Keith wrote:
>> richardharrison@webtv.net (Richard Harrison) wrote in message
>>
>>> Capt. Lee advises against trying to end-feed a
>>>half-wave as the voltage is very high.
>> Thats kind of strange. By end feed, I assume he means base fed for a
>> vertical.
>> I've base fed many half waves with no problems at all. I've never
>> noticed any high voltage problems, but then again, I don't stick my
>> tongue on the antenna while I transmit...:/ MK
>
>The feedpoint impedance of an end-fed half-wavelength vertical is
>high, in the thousands of ohms. That would put 1000 watts in the
>thousands of volts range. 1000 watts into 35 ohms is only 187 volts.

Like Mark, I've used a half-wave vertical for 20m for years without problems. For an antenna that's self-supporting, the diameter of the tubing at the base ensures that the feedpoint impedance is well below a thousand ohms.

Accurate measurement is difficult. I made estimates by using a cut-and-try L-network to match the antenna, and then taking it apart, measuring the individual L and C values and calculating backwards. (Over the next few months I hope to be able to measure high impedances more directly and much more accurately.)

For the low bands over the past winter I've added a variable-length horizontal wire from the top, which allows various modes including end-fed half-wave on 80m, 40m, 20m and even (in desperation) 15 and 10m. Quarter-wave modes are also possible on 160, 80 and 40. The antenna is fed through a 1kW rated military auto-ATU, and full legal power causes not the slightest problem.

The "high impedance" of a half-wave end-fed is greatly exaggerated. This is largely due to the handbooks that draw current loops on the wires, and show the current passing through zero at every electrical half-wave from the open end of the wire. This is not actually true - the phase passes through zero, but the magnitude of the current does not. Therefore the impedance at such a point is not infinite... and it's lower than most people believe.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

104. No AM reception with extra wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 06:22:45 UTC
From: De kat <*@*.*>
Message-ID: <b6gjvk$1cmh0$1@sinclair.be.wanadoo.com>
Source record: 121455

I use an extra antenna wire (2 meters) to connect car radio to antenna near
the trunk.
Works fine with FM frequencies, but not a single AM radio station comes
through :-<
Any options, besides moving the antenna, please ?

105. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 06:33:11 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <sHeBecDnW9i+EA1y@ifwtech.co.uk>
Source record: 121458

Roy Lewallen wrote:
>I'm not an expert at this, but I've read a number of times that it's
>unwise to guy to a chimney. Apparently they're not designed to take a
>lateral load, and can't take much of one.
>

Think of a chimney as a pile of bricks, very lightly stuck together, but mostly held together by the weight of the bricks above. This is especially true of brick chimneys in an otherwise wooden house - it's a very tall, slender column of bricks.

The problem is not so much the lateral load as the leverage load, trying to snap the chimney in two. On the upwind side, the leverage places the mortar joints under tension - which they are not designed to take. The strength of the whole structure then depends on the condition of the mortar... of which you have very little knowledge.

And if a chimney does snap near the top, a large block of bricks is liable to come through your bedroom ceiling. Think about that.

Chimneys are fine for small VHF/UHF TV antennas, or for simple VHF/UHF verticals. If you can see lots of similar antennas on the houses around, then you're probably OK too. Beyond that, you're on your own and a mistake could be very costly.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

106. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 07:44:08 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e8be643$0$29127$626a54ce@news.free.fr>
Source record: 121456

Hi!

My first HF antenna was a "full size" G5RV crafted by Mr. Hari in Germany.

It was a really good looking masterpiece of shit, and that was all!
So it returned where it came from and I bought an MFJ 259!

73 de F8BOE Olivier ...-.-

107. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 09:30:58 UTC
From: Michele IZ2EAS <iz2eas@libero.it>
Message-ID: <b6guo5$529og$1@ID-149021.news.dfncis.de>
Source record: 121459

They are not aware of what an antenna is :-)))

Michele IZ2EAS

> If your quote from the EH website is correct, they are not aware of the
> difference between differential mode and common mode currents.
>
> Roger K6XQ

108. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 09:41:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8o0e9oefmkada@corp.supernews.com>
Source record: 121460

The feed system I've used for half wave verticals and similar antennas is a parallel resonant circuit connected between the base of the antenna and ground, with the capacitor being variable. The shield of the coax feedline is connected to ground and the center conductor tapped up on the coil. A good match is achieved by alternately adjusting the variable capacitor and the tap point.

The ground connection doesn't have to be very good to obtain good efficiency -- a single ground rod or a couple of buried radials is usually adequate.

Roy Lewallen, W7EL

109. Re: Small antenna location

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 11:53:03 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <zgVia.8354$Bx.724248@twister.southeast.rr.com>
Source record: 121461

If your radio is tunned via a DC control this you might could tap into this,
USing an op amp to taylor and buffer the voltage and apply ito the varactors
making it auto tracking.

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:K8mdnfoln7f0NhSjXTWcoA@comcast.com...
> Bill,
>
> You could put the rod antenna at an arbitrary location if you use varactor
> diodes for the tuning capcitors. Run the varactor control voltage to a box
> in the shack. Since on 160 m you only need to change frequency about 10%,
> you don't need a varactor with a very wide range; in fact, look at the C
vs
> V specs on zener diodes.
>
> Tam/WB2TT
> "Bill Ogden" <ogden@us.ibm.com> wrote in message
> news:3E899C1E.FF829A97@us.ibm.com...
> > An article in one of the Antenna Compendiums (#6 or #7) was
> > interesting. It discussed a ferrite rod antenna for reception on 80 and
> > 160 meters. The bundle of ferrite rods was 18 inches long and about an
> > inch square IIRC. Two variable capacitors were needed for tuning. The
> > advantage over a more conventional antenna was much lower noise.
> >
> > The construction information was excellent. The usage information was
> > minimal. Bandwidth was described as *very* narrow and tuning is needed
> > for almost every frequency shift. There are two tuning controls and
> > this implies (to me, at least) that the antenna needs to be at a
> > convenient location for the operator. My shack is in my basement.
> >
> > Question: Are the placement "rules" for such an antenna different than
> > those for a more conventional antenna? I would never think of putting a
> > 160 meter dipole in a basement. Should I think about putting one of
> > these "magnetic" antennas in the basement? I assume the same discussion
> > would apply to a "magnetic" loop(?).
> >
> > My goal would be to use this antenna when noise is bad, but transmit on
> > a conventional half-sloper.
> >
> > Bill
> > W2WO
> >
>
>

110. Antenna for fm dxing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 12:08:43 UTC
From: David Findlay <david@davsoft.com.au>
Message-ID: <fvVia.8835$ft3.65594@news-server.bigpond.net.au>
Source record: 121462

I'd like to build an omni directional antenna for fm radio listening. What type would be best, and what type of feedline works? Would RG6 quad shield do for feedline? Thanks,

David

--
Engineers aren't boring people, we just get excited about boring things.

111. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 12:48:59 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <8abo8v0mepfkc4gi3g60nckcv7ju03g05p@4ax.com>
Source record: 121463

On Thu, 3 Apr 2003 09:44:08 +0200, "F8BOE Olivier"
<f8boeNOSPAM@free.fr> wrote:

>Hi!
>
>My first HF antenna was a "full size" G5RV crafted by Mr. Hari in Germany.
>
>It was a really good looking masterpiece of shit, and that was all!
>So it returned where it came from and I bought an MFJ 259!
>
>73 de F8BOE Olivier ...-.-
>

So, how do you get out using the 259? In reality, you should have
used the 259 on the G5RV and feedline. Everyone who uses a GRV can't
be wrong...

Russ - kf4wxd

112. Re: Antenna for fm dxing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 14:15:49 UTC
From: Bill M <exray@caribe.net>
Message-ID: <v8ogfmi6kop06e@corp.supernews.com>
Source record: 121464

"David Findlay" <david@davsoft.com.au> wrote in message
news:fvVia.8835$ft3.65594@news-server.bigpond.net.au...
> I'd like to build an omni directional antenna for fm radio listening. What
> type would be best, and what type of feedline works? Would RG6 quad shield
> do for feedline? Thanks,
>
> David
>

For omni-coverage you pretty much have to sacrifice any gain. I use a pair
of crossed dipoles made out of old TV antenna parts for omni reception.
RG6 (quad or not) is fine for 'reasonable' feedline lengths.
-Bill M

113. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 14:59:24 UTC
From: K3UD <K3UD@charter.net>
Message-ID: <K3UD-07F92B.08592403042003@news.uswest.net>
Source record: 121465

In article <20030402195641.20442.00000422@mb-fu.aol.com>,
jgboyles@aol.com (JGBOYLES) wrote:

> Hi,
> I just looked at the EH antenna site and found a section on "RF on the
> coax".
> They state if you use rf beads, I assume current balun, you have a problem.
> They state that the coax shield is not a magnetic shield, so the beads affect
> both the inner and outer conductors. Therefore, most of the transmitter
> power
> will be converted to heat. Not good. And a choke made of several turns of
> coax is good.
> Well, do I need to get rid of all my current baluns (W2DU) or what? This
> seems
> to be stating that if you use beads on your transmission line, you are
> screwed,
> no matter what the antenna.
> I do not believe this, it flys in the face of everything I have read about
> baluns. Comments?
> 73 Gary N4AST

Check out the EH antenna review article that WB2WIK presently has up on
EHAM at: http://www.eham.net
Very interesting real world test and analysis.

73
George
K3UD

114. Re: antenna mast guying

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 16:15:48 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304030815.cb9971f@posting.google.com>
Source record: 121466

"Bill Grimwood" <bill@grimwood.net> wrote in message
news:<v8mmfe71n66ebe@corp.supernews.com>...
> I will be putting up two 50 foot telescoping masts soon and am wondering
> about how many guy wires I will need.
>
> The first mast will stand beside a large 30 foot chimney and will be
> fastened at the top to the chimney, It will have a 24 foot vertical
> fastened to it with a pully to also sting up a long wire. Do I need to use
> a set of guys at 40 and another set at 50 feet or will one set at fifty feet
> be enough?
>
>
> The second mast will be beside a building that is fifteen feet high. What
> height do the guy wires need to be attached for this mast? This mast will
> be used for the other end of the longwire antenna.
>
>
> Thanks
>
> Bill Grimwood
> K1WEG

Bill, You say two telescopic towers! Are you going to raise and lower
them ?
Are they connected ala dipole? Is saving the tower a priority over
saving the house? Guys are a must for the first non moveable stacking
section and I would opt for four. Note, getting away from house wiring
especially in the upper levels havs a lot of advantages.
Art

115. Re: No AM reception with extra wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 16:22:48 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <mrno8v8m3kicoiooko8hbj6fd24pm5v37r@4ax.com>
Source record: 121467

On Thu, 3 Apr 2003 08:22:45 +0200, "De kat" <*@*.*> wrote:

>I use an extra antenna wire (2 meters) to connect car radio to antenna near
>the trunk.
>Works fine with FM frequencies, but not a single AM radio station comes
>through :-<
>Any options, besides moving the antenna, please ?
>
AM reception requires the radio to be adjusted to compensate for
the short antenna length..
Somewhere behind the front cover there should be a small
trimmer capacitor.

w.

116. Re: No AM reception with extra wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 17:44:51 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Kp6cnVhVOK-S7hGjXTWcqQ@comcast.com>
Source record: 121468

What do you mean by "wire "? You should be using cable specifically made for extending a car radio. If you can't locate any, RG62 coax will probably work. But as the other posting mentioned, you will still have to retune the input, which may not be possible. My guess is that if this is an add-on radio, it is more likely to work than an OEM; especially if the latter had the antenna in the widshield.

Tam/WB2TT
"De kat" <*@*.*> wrote in message
news:b6gjvk$1cmh0$1@sinclair.be.wanadoo.com...
> I use an extra antenna wire (2 meters) to connect car radio to antenna
near
> the trunk.
> Works fine with FM frequencies, but not a single AM radio station comes
> through :-<
> Any options, besides moving the antenna, please ?
>
>

117. Antenna for 2 bands

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 18:15:02 UTC
From: James Cook <j.l.cook@mindspring.com>
Message-ID: <b6htt4$qv9$1@slb9.atl.mindspring.net>
Source record: 121369

How do you take measurements for seperate 2m and 70cm yagis and make them into one yagi antenna?

Or seperately, how do you use seperate antennas, but use one feedline?

KG4YTL

118. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 18:45:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8C8140.F173DEBE@cwis.net>
Source record: 121370

Russ,
That just depends on 'everyone's expectations. The
'majority's opinion' can be as wrong as an individual's.
'Doc

119. Re: Antenna for 2 bands

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 19:09:06 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <js0i6b-bc8.ln@p400bob.lse.com.au>
Source record: 121373

Like for a dual band radio eh?

> How do you take measurements for seperate 2m and 70cm yagis and make them
> into one yagi antenna?

There will always be interaction between antennas. The closer they are the worse that becomes. You can assume that directivity and gain will also be advsersly affected. The same feedline also brings its share of problems. In short there is no simple answer.

Perhaps you should look at an interleaved quad (70 and 2 on the one boom - I've seen a design on internet somewhere) or maybe even an LPDA design. (that will be as compromise though). It's fairly easier to make a two band lowish gain antenna because of the harmonic relationship between 2 and 70 (eg double extended zepp) but getting gain is a little more difficult.

> Or seperately, how do you use seperate antennas, but use one feedline?

You could certainly "filter" at the antennas using coax cable lengths (stubs) or passive devices (cavities etc). Personally I wouldnt want to go there. The easiest way out of that is a remote antenna switch.

Cheers Bob VK2YQA

120. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 19:21:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E8C89CC.5050507@ieee.org>
Source record: 121371

'Doc wrote:
> That just depends on 'everyone's expectations. The
> 'majority's opinion' can be as wrong as an individual's.

Sure was with Galileo Vs the Catholic Church.
--
73, Cecil, W5DXP

----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

121. Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 19:31:37 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6i23i$5iip1$1@ID-150848.news.dfncis.de>
Source record: 121372

http://www.wellbrook.uk.com/longwire.html

I do prefer the idea of bringing the end of the random wire down near to ground away from the house, and earthing the transformer to a ground rod. Then taking coaxial able to the RX, as in the picture shown in the URL.

Now I know that the balun will be a 9:1 toroid transformer. But what will the isolator consist of? Will the coax between the balun and the isolator be grounded at the balun end? Anyone know how this particular system works? TIA. Rich.

122. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 20:42:40 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6i6bvrtl1@sparta.btinternet.com>
Source record: 121377

> Anyone
> know how this particular system works? TIA. Rich.
>
==========

No-one has the foggiest idea. For starters, anyone who imagines a single earth rod constitutes a ground connection can be ruled right out. Substituting an unknown resistance between 50 and 200 ohms for the earth rod completely changes the equivalent 'circuit diagram' which defies analysis.

The proposal of 9:1 transformers indicates somebody has been reading the wrong magazine adverts for long-wire baluns.

If anyone says he's already tried it and it works then the reply should be 'I believe you. Any damned thing will work' - after a fashion.

I don't wish to be too discouraging. If you go ahead you will be sure to gain some satisfaction whether you ever or never get to understand how it manages to do it. ;o)

Reg, G4FGQ

123. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 20:48:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ah6p8vsp81rueg25d739rt0an35j6l5vop@4ax.com>
Source record: 121374

On Thu, 3 Apr 2003 20:31:37 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>http://www.wellbrook.uk.com/longwire.html
>
>
>I do prefer the idea of bringing the end of the random wire down
>near to ground away from the house, and earthing the transformer
>to a ground rod. Then taking coaxial able to the RX, as in the
>picture shown in the URL.
>
>Now I know that the balun will be a 9:1 toroid transformer. But
>what will the isolator consist of? Will the coax between the
>balun and the isolator be grounded at the balun end? Anyone
>know how this particular system works? TIA. Rich.

Hi Rich,

I use something like this for my own longwire (100M). However, the BalUn is a simple 1:1 for choking only (I do my tuning in the shack) and with grounds at the fed end (through a fan of shallow buried radials) and at the shack end (the service ground rod, and one RF ground rod that bracket the shack). All grounds are connected together and to a ground window through which most external connections pass.

The "far" end is only some 4 or 3 meters away, but that is far enough to make a difference noise-wise and to prevent coupling strong fields back into the shack (the wire runs away from that point, not back toward it as described in the page you offer). As you are interested in RX only, the proof of this as a better solution is found in my having reduced adjacent computer noise to zero by moving the feedpoint away from the house, ground management, AND snubbing noise with the BalUn.

I use this mostly for BCB/SWL to any of several rigs; currently it feeds my RadioShack DX-440 that I use through a tuner (to kill the enormous intermods that come blasting down the pike) to "monitor" the various crisises and hot-spots.

73's
Richard Clark, KB7QHC

124. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 21:30:36 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6i92a$5nn8k$1@ID-150848.news.dfncis.de>
Source record: 121375

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6i23i$5iip1$1@ID-150848.news.dfncis.de...
> http://www.wellbrook.uk.com/longwire.html
>
>
> I do prefer the idea of bringing the end of the random wire
down
> near to ground away from the house, and earthing the
transformer
> to a ground rod. Then taking coaxial able to the RX, as in the
> picture shown in the URL.
>
> Now I know that the balun will be a 9:1 toroid transformer.
But
> what will the isolator consist of? Will the coax between the
> balun and the isolator be grounded at the balun end? Anyone
> know how this particular system works? TIA. Rich.

```
-------X-----------------------------------------------------X----
|
|
|
|
|
|___ B___O_____O_____O______O__ I RX
| | | |
____| | | |
| | | |
G G G
```

X is antenna insulator.
B is 9:1 toroid transformer.
E is Ground at far end of garded.
I is isolator near RX.
____O____O___ is coax.

As I say, I do not know what isolator is or how it is connected.

I think isolator rejects mains borne inteference.

125. Re: Antenna for fm dxing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 21:34:33 UTC
From: David Findlay <david@davsoft.com.au>
Message-ID: <JN1ja.9089$ft3.68703@news-server.bigpond.net.au>
Source record: 121376

> For omni-coverage you pretty much have to sacrifice any gain. I use a
> pair of crossed dipoles made out of old TV antenna parts for omni
> reception. RG6 (quad or not) is fine for 'reasonable' feedline lengths.

Is that better or worse than a discone type? Thanks,

David

--
Engineers aren't boring people, we just get excited about boring things.

126. Re: Any info on ULTRA-BAL 2000 "UB-1" ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 22:39:16 UTC
From: Bill <n4wc@arrl.org>
Message-ID: <prdp8v846ebcjjhul9toruh2m76d4chr9u@4ax.com>
Source record: 121378

On Tue, 01 Apr 2003 22:55:50 -0500, Dave <dave@somewhere.net> wrote:

>I bought this balun "ULTRA-BAL UB-1" used for a couple of bucks. It
>seems to be pretty well made but I can't find anything about it. The
>name would seem to suggest that it is a 1:1 balun but there is no
>indication of power rating.
>
>Can anyone help??
>
>Thanks,
>
>Dave WK8F dalden@comcast.net

The Ultra Bal 2000 UB-1 looked ok on a HP vector impedance voltmeter
at 7mhz. Mine was tested years ago. Too much reactance on 20 and 80.
This was tested at 50ohms in and out.

Bill N4WC

127. Thanks

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 22:45:46 UTC
From: Bill Grimwood <bill@grimwood.net>
Message-ID: <v8pecibdsudnaf@corp.supernews.com>
Source record: 121379

Thanks to everyone. I will use plenty of guy wires and not fasten it to the chimney.

Bill

"Bill Grimwood" <bill@grimwood.net> wrote in message news:v8mmfe71n66ebe@corp.supernews.com...
> I will be putting up two 50 foot telescoping masts soon and am wondering
> about how many guy wires I will need.
>
> The first mast will stand beside a large 30 foot chimney and will be
> fastened at the top to the chimney, It will have a 24 foot vertical
> fastened to it with a pully to also sting up a long wire. Do I need to use
> a set of guys at 40 and another set at 50 feet or will one set at fifty feet
> be enough?
>
>
> The second mast will be beside a building that is fifteen feet high. What
> height do the guy wires need to be attached for this mast? This mast will
> be used for the other end of the longwire antenna.
>
>
> Thanks
>
> Bill Grimwood
> K1WEG
>
>

128. Re: Any info on ULTRA-BAL 2000 "UB-1" ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-03 22:55:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8peu8llc06ode@corp.supernews.com>
Source record: 121380

Bill wrote:
>
> The Ultra Bal 2000 UB-1 looked ok on a HP vector impedance voltmeter
> at 7mhz. Mine was tested years ago. Too much reactance on 20 and 80.
> This was tested at 50ohms in and out.
>
> Bill N4WC

How did you test its ability to do its intended job, that is, to balance currents (or voltages) on the two transmission line conductors? If the only tests are impedance match and transformation, a plain piece of coax will look like the best 1:1 balun of all.

Roy Lewallen, W7EL

129. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 00:05:58 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b6ii8hnjh1@slb3.atl.mindspring.net>
Source record: 121381

Sounds like some of the places Ive been in my travels around the globe with
the military. Especially loved it when the power jumped up and down and the
tubes glowed bright red and then went out.

Dan/W4NTI

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0304022050.73131b87@posting.google.com...
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:<b6f53f$gv5$1@slb9.atl.mindspring.net>...
> > Great advice....he is going to Haiti......do you think they even know
what a
> > cellphone is? And if they do....how much would it cost to run that
call?
> >
> > Of course there is always the problem of when the power goes off and the
> > cell net drops like a rock into the sea.
> >
> > There is plenty of room on ham radio for an occassional phone patch.
This
> > is the same idiotic crap the BARF/Stumpers were putting out. Doc get a
new
> > script.
> >
> > Dan/W4NTI
> Absolutely correct. Not familiar with Haiti which makes me fortunate
> but I am with the DR. Life can be good at the European Holiday resort
> or at a main town.
> Leave town and it is like going back in time.Hardly any traffic on the
> roads
> tho there will be some donkeys either carrying the owner or pulling a
> beat up
> trailer. If you have a cell phone you would keep it out of sight when
> local police stop you and interogate you. As far as power....it will
> go off, when you shower you make sure that you have a bowl of water
> handy for when the power goes off and the water stops leaving you with
> suds all over. If he is a missionary I suspect the phone patch would
> be a must so that money saved went towards his mission. As for Haiti I
> could not begin to think what it is like as you move towards the
> mountains. Some of the populace emigrate to the DR and think it is
> heavan. Fortunately the company left the DR as conditions got worse!
> Art
>
>
>

>
>
> >
> > "'Doc" <w5lz@cwis.net> wrote in message
news:3E8A9F21.5EA8E126@cwis.net...
> > >
> > >
> > > Lee,
> > > All things considered, advertise the phone patch on
> > > eBay, some fool will buy it. Then, get your friend a
> > > cell phone. It'll be 100% more reliable, certainly
> > > more sure of making connections, and less of a P.I.T.A.
> > > for everyone else.
> > > 'Doc

130. Re: Antenna for fm dxing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 00:06:09 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <ipip8vg12das6mbffr0b253somuvj8uj2t@4ax.com>
Source record: 121382

On Thu, 03 Apr 2003 12:08:43 GMT, David Findlay <david@davsoft.com.au>
wrote:

>I'd like to build an omni directional antenna for fm radio listening. What
>type would be best, and what type of feedline works? Would RG6 quad shield
>do for feedline? Thanks,
>
>David

Get a folded FM dipole at Radio Shack for a couple of bucks -- hang it
as high as possible, horizontally or vertically for omnidirectional
reception. That'll work as well as anything, for an all-direction
antenna.

Better still, get Radio Shack's cheapo rotater, and a small FM beam.

Whatever you use, you'll probably not receive anything much more than
100 or so miles out.

Bob
k5qwg

131. Re: Antenna for fm dxing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 00:13:38 UTC
From: David Findlay <david@davsoft.com.au>
Message-ID: <S64ja.9214$ft3.69769@news-server.bigpond.net.au>
Source record: 121383

> Get a folded FM dipole at Radio Shack for a couple of bucks -- hang it
> as high as possible, horizontally or vertically for omnidirectional
> reception. That'll work as well as anything, for an all-direction
> antenna.

Okay thanks.

> Better still, get Radio Shack's cheapo rotater, and a small FM beam.
>
> Whatever you use, you'll probably not receive anything much more than
> 100 or so miles out.

Except when sporadic e or other things come in. Although I'll probably need
a better antenna for that. Thanks,

David

--
Engineers aren't boring people, we just get excited about boring things.

132. Re: Antenna for 2 bands

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 00:42:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <5LydnV0XFNFjSRGjXTWc3w@comcast.com>
Source record: 121384

James,

The second part of your question has a more straigh forward answer - you use a duplexer. Several companies make these. One that comes to mind is Diamond. If your radio has separate RF connectors for the two bands, you need two duplexers; one at the radio and one at the antennas. If you go this way, make sure the manufacturer claims there is enough isolation that you won't fry the standby receiver. Check with an AES or HRO sales person, they should know, and be happy to sell you one (two). Ballpark price is $50 and up. each. So, that would pay for a lot of coax. I think people mostly use these for operating mobile .

Tam/WB2TT
"James Cook" <j.l.cook@mindspring.com> wrote in message
news:b6htt4$qv9$1@slb9.atl.mindspring.net...
> How do you take measurements for seperate 2m and 70cm yagis and make them
> into one yagi antenna?
>
> Or seperately, how do you use seperate antennas, but use one feedline?
>
>
> KG4YTL
>
>

133. Re: Thanks

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 01:07:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <N1qdnSTigocuRxGjXTWcrg@comcast.com>
Source record: 121385

Bill,
I was at a relatives house this afternoon, and looked at her neighbor's TV antenna. There was a pipe/tube going up the side of a two story house, starting AT GROUND LEVEL. This was fastened to the house with either 2 or 3 brakets; with the top braket as high as possible. There is an antenna rotator and a fairly large TV antenna 8 -10 feet above the house. There are 3 guy wires at the base of the rotator, coming down at about 45 degrees. It has been there for a while, but what you want to put up is bigger. I suspect that about 2 inch OD pipe is as small as you want to go. Also, I would use about 4 inch lag screws, goimg into studs, not plywood. Ground the bottom of the pipe.

Tam/WB2TT

134. Re: Thanks

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 01:27:58 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Pr2cnVzKmJ4HQhGjXTWcpg@comcast.com>
Source record: 121386

Bill,

I went back and reread your original posting. I had confused the 30 foot chimney and 50 foot mast. Ignore what I just said. Not convinced it can be done with any kind of mast, rather than tower; not for a permanent installation.

Tam/WB2TT
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message news:N1qdnSTigocuRxGjXTWcrg@comcast.com...
> Bill,
> I was at a relatives house this afternoon, and looked at her neighbor's TV
> antenna. There was a pipe/tube going up the side of a two story house,
> starting AT GROUND LEVEL. This was fastened to the house with either 2 or
3
> brakets; with the top braket as high as possible. There is an antenna
> rotator and a fairly large TV antenna 8 -10 feet above the house. There
are
> 3 guy wires at the base of the rotator, coming down at about 45 degrees.
It
> has been there for a while, but what you want to put up is bigger. I
suspect
> that about 2 inch OD pipe is as small as you want to go. Also, I would use
> about 4 inch lag screws, goimg into studs, not plywood. Ground the bottom
of
> the pipe.
>
> Tam/WB2TT
>
>

135. Re: Titanex or Optibeam ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 03:16:54 UTC
From: Greg <qrp73@talk21.com>
Message-ID: <3e8d0675_1@news.iprimus.com.au>
Source record: 121387

The gain of the Optibeam is similar to the Force 12 XR5. A log periodic antenna would need a boom length of at least 32 feet to be equal to these small multielement arrays. A 2 element quad would have the same or slighty better performance. The Fluidmotion seems like a good sollution but the power ratings seem to Low Intermittent Duty Cycle. A log periodic antenna to have equal gain to say the Fluidmotion antenna would need a boom length of at least 32 feet. Then again if you look at the Force 12 5BA which is a 30 ft boom all band antenna you have 2 feed lines many elements for not much more gain. I would opt for a log periodic for convenience on the same boomlength. Dont believe the gain figures on Force 12's web page on log periodics, his designs are put there to make log periodic antennas look bad. Log periodic antennas with booms over 30 feet for the 13 -30 mhz range competer very well with the large only triband only antennas, on most communications circuits you would not even see the difference between a XR Force 12 type antenna and a large over 32 ft boom log periodic antenna.

Unfortunately there are few people who tell the truth about the logs gain and many who seem to mouth off about all the negatives. Cebik w4rnl is the only one who seems to be balanced on his overviews of the antenna. On one manufacturers web page they mention harmonica radiation, how is this a problem if the transceiver meets specs? A normal tuned antenna might have better suppression of the second harmonic but thats about all. Whats funny is that the so call open sleeve in reality feeds all elements and all elements have current, so on 28mhz when you feed 14mhz you probably have just as much gain to radiate the second harmonic.

So in summary if you want a small antenna the Opti Beam or Force 12 XR5 would be a good choice. The Fluid motion would be a all round conevenient performance antenna. The quad and log periodic would be a good choice if the design is chosen well and you can handle the extra dimensions. My addvice is dont trade off the WARC bands. If you run the propagation models at the bottom cycle you will find 18mhz a really good band. In many cases average signal levels are high on 18mhz. So many hams are missing out because they ignore 18mhz because of antenna limitations. In most cases 18mhz can have 6db greater strengths for the same path reliability and power. As a final note i would take a Optibeam at 90ft over any higher gain antenna at 60ft. To me a dream installation would be 2 Fluidmotion Antennas on a light weight tube style tower. That would be a stack at 100 and 50 ft. Because all my playing around the angle of radiation is far more important than power and a low 1 or 2 db antenna gain.

Greg
"Alberto" <adibene@yahoo.com> wrote in message
news:e9aa0d73.0302061358.4d6060c4@posting.google.com...
> Hi all,

>
> I am evaluating the installation of a new HF beam, and the two models
> I have taken into consideration are the Titanex TY-5 and the
> Optibeam OB9-5.
>
> I would be much interested to hear from users of these two antennas their
> opinions, pros and cons, suggestions, caveats, etc.
>
> When dealing with HF beams, when you have installed it, usually it is
> too late to change your mind, so a bit of preliminary investigation
> is in order.
>
> Thanks for any answers,
>
> 73 Alberto I2PHD

136. Re: Sailboat Dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 03:33:35 UTC
From: Greg <qrp73@talk21.com>
Message-ID: <3e8d0a5e_1@news.iprimus.com.au>
Source record: 121388

i would take a simple vertical and let the sea water work for you. A small fibreglass whip or cb antenna with straight wire will do the job. Even a telescopic fishing pole with no graphite or carbon in it. The small MFJ L network tuner will do the job since its low impedance.

Sea water is the best Rf ground you can have, so the ground need to only be there for RF current return. A single radial will probably do that well.

Most yachties get out like they feeding there radios into a dummy load. The universal backstay antenna is a poor DX antenna, because its mostly a end fed random wire, or a vertical that is too long. On 20 meters the angle of radiation too high, combine with poor understanding of ground practise, ie sending there RF into the bilge with a Dynaplate or concentrating RF current into a dense area with copper foil, dealers believe this to be state of the art practise, but from a dx point of view it does not work so well. I can work mobiles in a big city with hamstick over poor ground better than i can work most yachtie backstay mobiles.

So for you a simple set of whips like hustlers will work very well or some other small vertical sollution. March QST had a article on a maritime ham using basically the same setup as you described. He used adapted mobile whips, you may want to read that article. The antenna is very interesting, he also described a multi mount which might work for you as well.

Greg
"Darren418" <dream@alumni.utexas.net> wrote in message
news:f9c1c3e6.0301191032.4a3dd813@posting.google.com...
> In about 2 weeks, I will be operating marine mobile HF from a 50'
> chartered sailboat in the Virgin Islands. The boat is equipped with a
> VHF radio, but no SSB equipment whatsoever, including no provision for
> an HF antenna.
>
> I would like to operate HF purely recreationally, so one or two bands
> is all I need to be able to operate on. My main constraint is size.
> We are each allowed to bring only one large dufflebag worth of stuff.
> My plan is to bring my Icom 706, power cords/adapters for 12 volt
> power, and one or two mono-band dipoles (plus 75' of RG8 50 ohm coax).
> Then string one end of the diploe up a halyard and secure the other
> end to about midway down the boom, so the dipole will be in basically
> a sloper configuration. The mast height is 55' so I should have
> plenty of height to do this including the small nylon cord I plan to
> use to secure each end of the dipole to the rigging. All rigging is
> metal, including the mast. Also, the system will only be used at
> anchor and not underway, so interfering with operation of the sails is
> not an issue.

>
> I am bringing at least a 10 meter center-fed dipole, and maybe a 15
> and/or 20 meter dipole as well. Question: should I also bring an
> antenna tuner or should I be able to trim the antenna once I set it up
> to achieve resonance? Since space in my duffel bag is at a serious
> premium already, I really can't bring the tuner unless I know ahead of
> time it'll be necessary. I know the rigging in close proximity to the
> antenna will detune it somewhat, but shouldn't I be able to still trim
> the antenna to resonance and NOT have to use a tuner? Am I asking for
> trouble by not bringing a tuner?

137. Re: WIDEBAND MAGNETIC LOOP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 04:05:53 UTC
From: Greg <qrp73@talk21.com>
Message-ID: <3e8d11ee$1_1@news.iprimus.com.au>
Source record: 121390

Also look at the QMAC web page in Australia. They have wide band loop for
mobile use

Greg
"Maarten Hagg" <maartenmiriam@hetnet.nl> wrote in message
news:at1okonok1@reader10.wxs.nl...
> LOOK @
> http://home.hetnet.nl/~maartenmiriam/index.html
>
>
>

138. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 04:43:01 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <p38ja.8654$ug3.6695@rwcrnsc51.ops.asp.att.net>
Source record: 121389

I remember you advocating this system a couple of years ago. BTW, yes, it
does work.
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b6i6bvrtl1@sparta.btinternet.com...

>
> The proposal of 9:1 transformers indicates somebody has been reading the
> wrong magazine adverts for long-wire baluns.
>

139. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 06:38:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6j95b$5t734$1@ID-150848.news.dfncis.de>
Source record: 121391

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b6i6bvrtl1@sparta.btinternet.com...
> > Anyone
> > know how this particular system works? TIA. Rich.
> >
> ============================
>
> No-one has the foggiest idea. For starters, anyone who
imagines a single
> earth rod constitutes a ground connection can be ruled right
out.
> Substituting an unknown resistance between 50 and 200 ohms for
the earth rod
> completely changes the equivalent 'circuit diagram' which
defies analysis.

True. But all that means is a particular se-up at a particular QTH defies analysis. In broad terms, if you set a ground resistance, and antenna inpedance it's obviously analyseable.

> The proposal of 9:1 transformers indicates somebody has been
reading the
> wrong magazine adverts for long-wire baluns.

Any idea what the turns ratio would be for a 60' or 70 ' random wire? Wonder if I ought to make the balun remotely tappable.

> If anyone says he's already tried it and it works then the
reply should be
> 'I believe you. Any damned thing will work' - after a fashion.

I think the system is not meant to acheive some great efficiency, just to be a significant improvement over connecting yout random wire directly to your RX antenna connection, or, connecting the antenna directly to the end of a length of coax.

> I don't wish to be too discouraging. If you go ahead you will
be sure to
> gain some satisfaction whether you ever or never get to
understand how it
> manages to do it. ;o)

I understand to some degree the balun (or Unun) bit. The bit I don't have a clue about is the isolator bit. That is suppossed to reduce mains-borne inteference.

Rich.

140. Ground rods: Where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 07:05:47 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jap4$5rud7$1@ID-150848.news.dfncis.de>
Source record: 121392

Anybody recommend a supplier in UK? TIA. Rich.

141. Re: Ground rods: Where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 07:11:44 UTC
From: John Hague <john.hague@nospam.net>
Message-ID: <oprm3flu0xh3nvf9@pixs00>
Source record: 121393

I managed to get some approx 4 feet in length from B&Q last year

73, John, G4GOY

On Fri, 4 Apr 2003 08:05:47 +0100, Richard <nearlynews_email@ntlworld.com>
wrote:

> Anybody recommend a supplier in UK? TIA. Rich.
>

--
Using M2, Opera's revolutionary e-mail client: http://www.opera.com/m2/

142. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 07:45:20 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jd3a$5vg3r$1@ID-150848.news.dfncis.de>
Source record: 121394

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6j95b$5t734$1@ID-150848.news.dfncis.de...
> > The proposal of 9:1 transformers indicates somebody has been
> reading the
> > wrong magazine adverts for long-wire baluns.
>
> Any idea what the turns ratio would be for a 60' or 70 ' random
> wire? Wonder if I ought to make the balun remotely tappable.
>

Actually, I probably just need a program that will give me the
impedance for the random length wire, because I have some
formulas to work out the turns ratio. But this does highlight
very clearly the uncertainty of things if one does not know the
ground impedance/resistance.

143. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 07:48:10 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jd89$5q9fn$1@ID-150848.news.dfncis.de>
Source record: 121395

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jd3a$5vg3r$1@ID-150848.news.dfncis.de...

> Actually, I probably just need a program that will give me the
> impedance for the random length wire, because I have some
> formulas to work out the turns ratio. But this does highlight
> very clearly the uncertainty of things if one does not know the
> ground impedance/resistance.

If I made the balun remotely tappable, that might help.

144. What's them things called? And where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 08:39:41 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jg90$60dub$1@ID-150848.news.dfncis.de>
Source record: 121396

Say I want to manually bore into the ground a 4" diameter hole about 6' deep, what do I use? Are they called augers? And can you buy them in UK? TIA. Rich.

145. Re: What's them things called? And where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 08:42:39 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jgef$60uvg$1@ID-150848.news.dfncis.de>
Source record: 121397

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jg90$60dub$1@ID-150848.news.dfncis.de...
> Say I want to manually bore into the ground a 4" diameter hole
> about 6' deep, what do I use? Are they called augers? And can
> you buy them in UK? TIA. Rich.

Ha, me does a Google and I find a site straight away.

http://www.universal-augers.co.uk/

But, it's matter of getting the right product for my needs.

146. Re: What's them things called? And where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 08:48:36 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jgpq$5r09b$1@ID-150848.news.dfncis.de>
Source record: 121398

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jg90$60dub$1@ID-150848.news.dfncis.de...
> Say I want to manually bore into the ground a 4" diameter hole
> about 6' deep, what do I use? Are they called augers? And can
> you buy them in UK? TIA. Rich.

Actually, when I say manually, I figure I'd buy an auger bit
(very basic one) and do it by hand. But, I bet hiring a one man
auger machine would be better.

147. Re: Ground rods: Where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 09:09:27 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <RuHeEODHvUj+EAIM@ifwtech.co.uk>
Source record: 121406

Richard wrote:
>Anybody recommend a supplier in UK? TIA. Rich.

Any electrical wholesaler, and probably the larger DIY sheds.

Moonraker, and also somebody else who seems to be at all the rallies (at least in the south).

They all have the standard 4ft copper-clad steel rods, although quality varies in terms of diameter and thickness of plating.

Wholesalers also have the extendable ones that will drive down to 8ft through most kinds of soil and gravel - but in most locations two 4ft rods (spaced 8ft or more) will be better than a single long rod.

But don't do anything at all before reading:
http://www.arrl.org/tis/info/grounding.html
This links to a number of other pages, and gives lots of good advice. In particular it explains how some systems need an RF ground, while others may actually be better without.

If you decide you do need an RF ground, wire radials beat ground rods every time (with maybe one central 4ft rod for good luck, and anyway it makes a handy anchor point).

A topical tip that you won't hear on "Gardeners' Question Time" on the BBC: now be the time to give the lawn a short buzz cut, and peg new radials down into the root mat for the grass to grow over.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

148. How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 09:33:16 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jjdj$5uclj$1@ID-150848.news.dfncis.de>
Source record: 121399

Can it be done in one day, if we are not drilling into very rocky ground?

149. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 09:57:55 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jkrl$5eu4i$1@ID-150848.news.dfncis.de>
Source record: 121400

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jjdj$5uclj$1@ID-150848.news.dfncis.de...
> Can it be done in one day, if we are not drilling into very
rocky
> ground?

Actually, it looks as if you cannot drill down 6' manually,
because all the tool hirers tell me is that the manual augers
will only drill to about 1 metre. You can get to 6' though with
a one man auger machine.

It's about ï¿½35 + VAT to hire a one man auger machine for a day.

Wonder if I could make my own manual auger to drill 6'.

Idea is to drill a 4" diameter hole, put in a 6' ground rod and
then backfill, compacting with good conductivity material.

150. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 09:59:50 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8D5796.8200BB6B@cwis.net>
Source record: 121402

Richard,
Sounds like a waste of time to me...
'Doc

151. Re: EH and feedline radiation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:05:26 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8D58E6.44039E04@cwis.net>
Source record: 121401

Gary,
Consider the source...
'Doc

152. Re: Any info on ULTRA-BAL 2000 "UB-1" ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:12:37 UTC
From: Bill <n4wc@arrl.org>
Message-ID: <l5mq8vouvl5ho3aqcf15ckdt4jpf3i0rl2@4ax.com>
Source record: 121403

On Thu, 03 Apr 2003 14:55:00 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>Bill wrote:
>>
>> The Ultra Bal 2000 UB-1 looked ok on a HP vector impedance voltmeter
>> at 7mhz. Mine was tested years ago. Too much reactance on 20 and 80.
>> This was tested at 50ohms in and out.
>>
>> Bill N4WC
>
>How did you test its ability to do its intended job, that is, to balance
>currents (or voltages) on the two transmission line conductors? If the
>only tests are impedance match and transformation, a plain piece of coax
>will look like the best 1:1 balun of all.
>
>Roy Lewallen, W7EL

This was back in the 70's. As I recall we were only looking to see
where the Ultra Bal was showing reactance. At 7mhz plus or minus
a little the input was 50ohms resistive when the output was terminated
in 50ohms. When we moved the freq down to the 4mhz and up to the
14mhz areas this was no longer true. This wasn't a thorough test;
no check for balance or isolation.

Bill N4WC

153. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:14:46 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jls1$61tvf$1@ID-150848.news.dfncis.de>
Source record: 121404

"'Doc" <w5lz@cwis.net> wrote in message
news:3E8D5796.8200BB6B@cwis.net...
>
>
> Richard,
> Sounds like a waste of time to me...
> 'Doc

Well, it does seem a lot of bother. But I think for general coverage receiving only, an inverted L with a magnetic balun is a good antenna option. Thing is to reduce the noise pick-up as much as anything else. And I think I need some kind of a ground connection to complete the circuit for the antenna current.

154. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:16:41 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jlv2$5qnrv$1@ID-150848.news.dfncis.de>
Source record: 121405

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jkrl$5eu4i$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b6jjdj$5uclj$1@ID-150848.news.dfncis.de...
> > Can it be done in one day, if we are not drilling into very
> rocky
> > ground?
>
> Actually, it looks as if you cannot drill down 6' manually,
> because all the tool hirers tell me is that the manual augers
> will only drill to about 1 metre. You can get to 6' though
with
> a one man auger machine.

Critical question: Are two or three 3' rods better or same as one
6' rod?

155. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:28:07 UTC
From: "Thomas C. Sefranek" <WA1RHP@ARRL.net>
Message-ID: <X6dja.7742$ey1.619748@newsread1.prod.itd.earthlink.net>
Source record: 121407

For antenna applications, more ground rods bonded togeather is better.
Space them at least their length apart.

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jlv2$5qnrv$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b6jkrl$5eu4i$1@ID-150848.news.dfncis.de...
> >
> > "Richard" <nearlynews_email@ntlworld.com> wrote in message
> > news:b6jjdj$5uclj$1@ID-150848.news.dfncis.de...
> > > Can it be done in one day, if we are not drilling into very
> > rocky
> > > ground?
> >
> > Actually, it looks as if you cannot drill down 6' manually,
> > because all the tool hirers tell me is that the manual augers
> > will only drill to about 1 metre. You can get to 6' though
> with
> > a one man auger machine.
>
>
> Critical question: Are two or three 3' rods better or same as one
> 6' rod?
>

--
*
| __O Thomas C. Sefranek WA1RHP@ARRL.net
|_-\<,_ Amateur Radio Operator: WA1RHP
(*)/ (*) Bicycle mobile on 145.41, 448.625 MHz

http://hamradio.cmcorp.com/inventory/Inventory.html
http://www.harvardrepeater.org

156. Re: Ground rods: Where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:54:36 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8D646C.8080206@oda.com.au>
Source record: 121408

John Hague wrote:
> I managed to get some approx 4 feet in length from B&Q last year

Keep in mind that the resistance of an 8ft long rod (driven fully) will be much less than half the resistance of a 4ft rod in most soil conditions.

If the soil was homogenous, a 2.4m electrode will have about 60% of the resistance (at low frequencies) of a 1.2 m electrode... but soil is typically drier in the upper layers, and I have commonly observed a 2.4m electrode way less than half a 1.2m electrode, and often around 30%.

Although 1.2m electrodes are commonly used here for MEN earth systems (where there could be scores to hundreds in parrallel via the neutral conductor), 2.4m is probably the minimum length you should consider for a small number of driven electrodes.

Owen

>
> 73, John, G4GOY
>
> On Fri, 4 Apr 2003 08:05:47 +0100, Richard
> <nearlynews_email@ntlworld.com> wrote:
>
>> Anybody recommend a supplier in UK? TIA. Rich.
>>
>
>
>

--
--

==========
Owen Duffy (owen@oda.com.au)
Phone: +61 2 6257 3872 (02) 6257 3872
Mobile: +61 417 408 424 0417 408 424
==========

157. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 10:56:49 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6joap$5jjth$1@ID-150848.news.dfncis.de>
Source record: 121409

"Thomas C. Sefranek" <WA1RHP@ARRL.net> wrote in message
news:X6dja.7742$ey1.619748@newsread1.prod.itd.earthlink.net...
> For antenna applications, more ground rods bonded togeather is
better.
> Space them at least their length apart.
>

Thanks.

I think things are resolving now. Best thing for me to do is
hire a 4 or 6" auger bit and manual drill about three holes
3' deep. Lot cheaper that way. I could in fact use 4' rods
and knock them in 1' after I drill the holes. I think I read
an article one time about surrounding the rods with
material that will help make the connection to ground a
good one.

158. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 11:01:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8qphbfef5o20a@corp.supernews.com>
Source record: 121412

Richard wrote:
>
> Critical question: Are two or three 3' rods better or same as one
> 6' rod?
>

Current doesn't penetrate very far into the soil, so depending on the frequency, the bottom portion of a 6' rod doesn't do much anyway. For radio purposes, you're better off burying wires horizontally just below the surface. Ideally, they radiate outward from the connection point. All I have to do here, where the climate is similar to most of England, is to lay wires on the ground, "stapling" them down here and there with a short piece of stiff wire, and letting the grass grow over them. Or you can cut a shallow slot with one tool or another and push the wire down into it.

Ground rods are appropriate for electrical mains grounds and for lightning protection, but if you're interested only in improving a radio antenna ground connection, radial horizontal wires are much more effective.

Roy Lewallen, W7EL

159. Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 11:12:20 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6jpgn$5hv42$1@ID-150848.news.dfncis.de>
Source record: 121411

A rod 1" diameter 4' long has a surface area of 1.2730745 square feet.

Sheet metal 4' long 2' wide has an area of 16 square feet.

If the sheet metal was buried 4' down would this be a far superior ground to the rod?

Presumably.

160. Re: WIDEBAND MAGNETIC LOOP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 11:14:50 UTC
From: Bernhard Rhondin <bernhard_rhondin@hotmail.com>
Message-ID: <3E8D692A.E5C4C70E@hotmail.com>
Source record: 121410

What is this?

1) ML-90 from QMAC is NOT wide-band. It is narrow-band, but it
is tuneable over a wide range. It is useable also for TX!
2) I do not think the WL3010 is particulary wide band, either.
I ususlly build in (sometimes switchable) varicap diodes into
my home-brewed loops. Thus, the loop can be tuned over a very,
very wide frequency range. But for each setting, the loop is
very narrow-band. My guess this thinamajig works i a similar
way. A wide-band antenna can be used WITHOUT any tuning!

If BR IS really wide-band, it has a rediclously low efficiency.
The utimately small wide-band antenna is called resistor!

B.R.

Greg wrote:
>
> Also look at the QMAC web page in Australia. They have wide band loop for
> mobile use
>
> Greg
> "Maarten Hagg" <maartenmiriam@hetnet.nl> wrote in message
> news:at1okonok1@reader10.wxs.nl...
> > LOOK @
> > http://home.hetnet.nl/~maartenmiriam/index.html
> >
> >
> >

161. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 12:03:15 UTC
From: Dennis McMillan <cocokiwi@attbi.com>
Message-ID: <7weja.322298$L1.92235@sccrnsc02>
Source record: 121413
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

And this! I just got a CDM 9500 and it has GPS inbuilt,if you dial 911 it sends the info from the gps reciever to the 911 telling them where you are within 3 ft!(grin)

Dennis!
"Joseph" <joeofseattle@yahoo.com> wrote in message news:adqh7v4qh7ukhb9l97mral3dt16c957j8p@4ax.com...
> On Wed, 19 Mar 2003 18:37:56 GMT, Spray On <aerosol@can.exxon.au>
> wrote:
>
> >You can do this, but you should not replace your landline telephone service
> >with cellular service. There are numerous reasons not to do this. If there is
> >a problem with the cellular service you will not be able to contact any one in
> >a emergency. In a natural disaster or other emergency if you call 911 you will
> >not have caller location and ID and the police or fire department may not be
> >able to locate where you are at if you are disabled.
> > If you have analog cell phone then people with receivers capable of receiving
> >those frequencies will be able to easily monitor all your telephone calls.
> > Some type of radio frequency interference a week or month from now may
> >disable your cellular service.
>
> Most people do not use analog cellular service any longer. As for
> location there are new standards being put into place that will
> triangulate your location within 300 meters. And there's no guarantee
> that your regular phone won't ever go out either. You have to look at
> the limitations and decide what is right for you. I have been without
> regular land line service for almost a year and haven't had any
> problems at all.
>
> -
> Replies are seldom read. Please reply in the group

162. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 13:11:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6k07g$67ifc$1@ID-150848.news.dfncis.de>
Source record: 121414

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jpgn$5hv42$1@ID-150848.news.dfncis.de...
> A rod 1" diameter 4' long has a surface area of 1.2730745
square
> feet.
>
> Sheet metal 4' long 2' wide has an area of 16 square feet.
>
> If the sheet metal was buried 4' down would this be a far
> superior ground to the rod?
>
> Presumably.

I bet putting in ground sheets is better than ground rods. Idea was to put one 4' x 2' sheet 4 ' under the ground laid flat as well as put in a sheet about 1' below the ground laid flat, + any radials I can get into my small yard. Could put sheets in vertical, but think that might not be as good.

Also, idea was to carefully backfill with a mixture of soil and perhps a material that might aid conductivity between sheets and ground.

Maybe even put in a pipe with holes drilled in it, so I can water the area.

163. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 14:06:36 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6k3hc$ar4$1@hercules.btinternet.com>
Source record: 121417

Rich,

I've tried several times to get the same surface areas as yours. But not very successful.

Would you amend please and then I can answer your question.

==========
"Richard" wrote
> A rod 1" diameter 4' long has a surface area of 1.2730745 square
> feet.
>
> Sheet metal 4' long 2' wide has an area of 16 square feet.
>
> If the sheet metal was buried 4' down would this be a far
> superior ground to the rod?
>
> Presumably.
>

164. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 14:15:49 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6k42lrtb1@sparta.btinternet.com>
Source record: 121418

Richard, most of your questions can be answered by small programs EARTHRES
and RADIOETH available from website below.

Download in a few seconds each and run immediately.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

165. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 14:18:27 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <mr4r8vk3gq0sgm5f8veahtv2gl1jl951c2@4ax.com>
Source record: 121416

On Thu, 3 Apr 2003 20:31:37 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>http://www.wellbrook.uk.com/longwire.html
>
>
>I do prefer the idea of bringing the end of the random wire down
>near to ground away from the house, and earthing the transformer
>to a ground rod. Then taking coaxial able to the RX, as in the
>picture shown in the URL.
>
>Now I know that the balun will be a 9:1 toroid transformer. But
>what will the isolator consist of? Will the coax between the
>balun and the isolator be grounded at the balun end? Anyone
>know how this particular system works? TIA. Rich.

Instead of going to all this trouble, you could just buy a small
transmitting-type antenna tuner that takes a single random wire, hook
your wire to it, and then peak the tuner at whatever frequency you're
going to be receiving at.

I think all the transformers, etcetera, will be difficult to get right
for a wide range of frequencies, but a little antenna tuner will do it
nicely, regardless of frequency.

Bob
k5qwg

166. Antenna Tripods and Masts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 14:22:45 UTC
From: Greg Roecker <n4osj@bellsouth.net>
Message-ID: <%wgja.32201$ln3.17255@fe08.atl2.webusenet.com>
Source record: 121415

At the Kennehoochee Hamfest in Marietta, Ga. on March 15th, there was a guy selling tripods and push-up masts in the equestrian pavilion. I thought I had I his contact information, but seem to have lost it. Does anyone know who he was and how to get in touch with him?

73,

Greg / n4osj

167. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 14:34:07 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b6k54h$6b39f$1@ID-175933.news.dfncis.de>
Source record: 121169

Perhaps the two sides of the main surface area of the sheet metal?

> I've tried several times to get the same surface areas as yours. But not
> very successful.
>
> Would you amend please and then I can answer your question.
>
> ==========
> "Richard" wrote

> > Sheet metal 4' long 2' wide has an area of 16 square feet.

168. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 15:41:42 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6k92e$6987h$1@ID-150848.news.dfncis.de>
Source record: 121170

"Richard Fry" <rfry@adams.net> wrote in message
news:b6k54h$6b39f$1@ID-175933.news.dfncis.de...

Yes, both sides.

> Perhaps the two sides of the main surface area of the sheet
metal?
> ----------
>
> > I've tried several times to get the same surface areas as
yours. But not
> > very successful.
> >
> > Would you amend please and then I can answer your question.
> >
> > ==========
> > "Richard" wrote
>
> > > Sheet metal 4' long 2' wide has an area of 16 square feet.
>
>

169. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 15:46:21 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6k9an$66kls$1@ID-150848.news.dfncis.de>
Source record: 121171

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b6k42lrtb1@sparta.btinternet.com...
> Richard, most of your questions can be answered by small
programs EARTHRES
> and RADIOETH available from website below.
>
> Download in a few seconds each and run immediately.
> ---
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================

Got 'em. Thanks.

Also saw the OSCTRACK program, I was looking for something like
that one time.

170. Re: What's them things called? And where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 15:55:37 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E8DAADF.34019268@shaw.ca>
Source record: 121172

Richard wrote:
>
> Say I want to manually bore into the ground a 4" diameter hole
> about 6' deep, what do I use? Are they called augers? And can
> you buy them in UK? TIA. Rich.

You might check out tool rental agencies. Be careful where you
dig -- you wouldn't want to pucture the Chunnel!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

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Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

171. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 15:56:43 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E8DAB21.19D75B6E@shaw.ca>
Source record: 121173

Richard wrote:
>
> Can it be done in one day, if we are not drilling into very rocky
> ground?

At one foot per hour, approximately 6 hours!
If you hire someone, pay them by the job -- not the hour!
--

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Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

172. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 17:13:35 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3e8db8ff.695119625@news.galilei.com>
Source record: 121174

"Richard" <nearlynews_email@ntlworld.com> verbositized:

>Can it be done in one day, if we are not drilling into very rocky
>ground?
>
Hi Richard

Hand augering to 6 or 8 feet is no harder than going 2 feet or 4 feet, unless you hit something solid.
Where I live we have solid clay below 6 inches, and ironically enough, once you pass the 3 foot point, it is not as compacted and actually easier to cut through.
Normally, when only making one or two holes, you will expend more energy setting up and using a power auger than you would using a manual auger.

Because we were digging in solid clay, we often placed two 10 or 25 lb sandbags over the handles when they were up at shoulder height and leaned on the handles when they were down to 3 feet or below.

I used to install 'ground setting tubes' for tall flagpoles. They go into the ground 1 foot for each 10 feet of exposed height, even though they were still surrounded in concrete. Two of us could bore an 8 inch 5 or 6 foot deep hole faster than two others using the power equipment, by the time they loaded it, unloaded it, set it up, used it, loaded it and unloaded it again. 6 inch, 6 foot holes were a piece of cake compared to an 8 inch. 4 inch should be a walk in the park!

TTUL
Gary

173. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 17:18:40 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3e8dbd80.696272468@news.galilei.com>
Source record: 121175

"Reg Edwards" <g4fgq.regp@btinternet.com> verbositized:

>Rich,
>
>I've tried several times to get the same surface areas as yours. But not
>very successful.
>
>Would you amend please and then I can answer your question.
>
Actually it's MORE than 16 square feet if you take into consideration
the thickness and include the 4 edge surfaces!
Since the thickness was not given and only the width and height, 16
square feet was sufficient for the post.

TTUL
Gary

174. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:02:41 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E8DC8A6.C0C3641C@shaw.ca>
Source record: 121176

"Gary V. Deutschmann, Sr." wrote:
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> verbositized:
>
> >Rich,
> >
> >I've tried several times to get the same surface areas as yours. But not
> >very successful.
> >
> >Would you amend please and then I can answer your question.
> >
> Actually it's MORE than 16 square feet if you take into consideration
> the thickness and include the 4 edge surfaces!
> Since the thickness was not given and only the width and height, 16
> square feet was sufficient for the post.
>
> TTUL
> Gary

and include the connecting conductor, unless its insulated of course!
--

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Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

175. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:04:30 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E8DC913.98E8ECCC@shaw.ca>
Source record: 121177

```
Irv Finkleman wrote:
>
> "Gary V. Deutschmann, Sr." wrote:
> >
> > "Reg Edwards" <g4fgq.regp@btinternet.com> verbositized:
> >
> > >Rich,
> > >
> > >I've tried several times to get the same surface areas as yours. But not
> > >very successful.
> > >
> > >Would you amend please and then I can answer your question.
> > >
> > Actually it's MORE than 16 square feet if you take into consideration
> > the thickness and include the 4 edge surfaces!
> > Since the thickness was not given and only the width and height, 16
> > square feet was sufficient for the post.
> >
> > TTUL
> > Gary
>
> and include the connecting conductor, unless its insulated of course!
> --
> -------------------------------------
> Diagnosed Type II Diabetes March 5 2001
> Beating it with diet and exercise!
> 297/215/210 (to be revised lower)
> 58"/43"(!)/44" (already lower too!)
> -------------------------------------
> Visit my HomePage at http://members.shaw.ca/finkirv/
> Visit my very special website at http://members.shaw.ca/finkirv4/
> Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
> http://members.shaw.ca/finkirv5/
> --------------------
> Irv Finkleman,
> Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> Calgary, Alberta, Canada

At one location my ground was an old boiler down about
five feet! Worked great as far as I could tell -- you
never really know about grounds unless you have a lot of
special test equipment.

--
-------------------------------------
```

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297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

176. fuck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:09:43 UTC
From: Tiger <steelkreeg@telia.com>
Message-ID: <HTjja.4014$Du.13316@newsc.telia.net>
Source record: 121178

fuck

177. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:27:37 UTC
From: ke4ruu@iag.net
Message-ID: <1e2b1776.0304041027.1c02693b@posting.google.com>
Source record: 121179

Drill? I just take the ground rod and a BIG hammer and wack away.
Takes about 5 minutes to sink a 6 foot ground rod. But then, Florida
is nothing but sand and water!
Sorry, I couldn't resist.
Alan :)

Irv Finkleman <finkirv@shaw.ca> wrote in message news:<3E8DAB21.19D75B6E@shaw.ca>...
> Richard wrote:
> >
> > Can it be done in one day, if we are not drilling into very rocky
> > ground?
>
> At one foot per hour, approximately 6 hours!
> If you hire someone, pay them by the job -- not the hour!
> --------------------
> Irv Finkleman,
> Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> Calgary, Alberta, Canada

178. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:29:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8djr8vcm60dvk9jjst1k4k42l5khhh0ojn@4ax.com>
Source record: 121180

On Fri, 4 Apr 2003 08:45:20 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>
>"Richard" <nearlynews_email@ntlworld.com> wrote in message
>news:b6j95b$5t734$1@ID-150848.news.dfncis.de...
>> > The proposal of 9:1 transformers indicates somebody has been
>> > reading the wrong magazine adverts for long-wire baluns.
>>
>> Any idea what the turns ratio would be for a 60' or 70 ' random
>> wire? Wonder if I ought to make the balun remotely tappable.
>
>Actually, I probably just need a program that will give me the
>impedance for the random length wire

Hi Richard,

Therein lies the rub. This is a frequency dependant variable and
unless you are working 2M DX, there is little likelihood of there
being anything close to a 9:1 requirement, or 4:1, or 2:1....

73's
Richard Clark, KB7QHC

179. Re: WIDEBAND MAGNETIC LOOP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 18:46:35 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304041046.34b51c72@posting.google.com>
Source record: 121181

Bernhard Rhondin <bernhard_rhondin@hotmail.com> wrote in message
news:<3E8D692A.E5C4C70E@hotmail.com>...
> What is this?
>
> 1) ML-90 from QMAC is NOT wide-band. It is narrow-band, but it
> is tuneable over a wide range. It is useable also for TX!
> 2) I do not think the WL3010 is particulary wide band, either.
> I ususlly build in (sometimes switchable) varicap diodes into
> my home-brewed loops. Thus, the loop can be tuned over a very,
> very wide frequency range. But for each setting, the loop is
> very narrow-band. My guess this thinamajig works i a similar
> way. A wide-band antenna can be used WITHOUT any tuning!
>
> If BR IS really wide-band, it has a rediclously low efficiency.
> The utimately small wide-band antenna is called resistor!

No, not so. It is low "Q" with inductance, resistance and capacitance
!
The Q is so low that a tuner is not required. Since it is stated for
receive only high efficiency is not necessarily required. Its
advantage over a normal telescopic antenna attached to a normal
consumer radio is that it is bi direction thus can null out front end
overloading nearby signals.
There are better and more suitable antennas available for amateur
useage.
I do not see at the present time any fraudulent advertising.
Art

> B.R.
>
> Greg wrote:
> >
> > Also look at the QMAC web page in Australia. They have wide band loop for
> > mobile use
> >
> > Greg
> > "Maarten Hagg" <maartenmiriam@hetnet.nl> wrote in message
> > news:at1okonok1@reader10.wxs.nl...
> > > LOOK @
> > > http://home.hetnet.nl/~maartenmiriam/index.html
> > >
> > >
> > >

180. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 19:10:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6klgb$6e0fl$1@ID-150848.news.dfncis.de>
Source record: 121182

"Gary V. Deutschmann, Sr." <raiar@bbs.galilei.com.nospam> wrote
in message news:3e8db8ff.695119625@news.galilei.com...

> I used to install 'ground setting tubes' for tall flagpoles.
They go
> into the ground 1 foot for each 10 feet of exposed height, even
though
> they were still surrounded in concrete. Two of us could bore
an 8
> inch 5 or 6 foot deep hole faster than two others using the
power
> equipment, by the time they loaded it, unloaded it, set it up,
used
> it, loaded it and unloaded it again. 6 inch, 6 foot holes were
a
> piece of cake compared to an 8 inch. 4 inch should be a walk
in the
> park!
>

Here in UK I phoned up some hire firms and they only offered hand
augers that could go 1 metre. Seems like in US they will do 2
metres. I take it that the US ones have 2 metre high shafts, or
what?

181. Re: Ground rods: Where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 19:15:04 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6klgb$6e0fl$2@ID-150848.news.dfncis.de>
Source record: 121183

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jap4$5rud7$1@ID-150848.news.dfncis.de...
> Anybody recommend a supplier in UK? TIA. Rich.

http://www.cableservices.co.uk/newsite/cat_pages/page50.html

http://www.cableservices.co.uk/newsite/cat_pages/page52.html

http://www.senate.co.uk/sector_folder/section4/earthing_surge.html

http://www.azad.co.uk/products/prodsection_10306.htm

http://www.tlc-direct.co.uk/Products/TLER.html

http://www.palstar.co.uk/Palstar-PRC.html

http://www.flacc.co.uk/pdf/Page%203.1.pdf

http://www.qvselectricalwholesale.co.uk/acatalog/QVS_Direct_Earth
ing_331.html

http://www.farmrite.co.uk/product.php3?code=128060&prev_cat=277#d
etail

http://www.screwfix.com/

http://www.electrical-discounts.co.uk/cat/itm00369.htm

182. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 20:43:18 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8DEE66.4000303@oda.com.au>
Source record: 121184

Reg Edwards wrote:
> Rich,
>
> I've tried several times to get the same surface areas as yours. But not
> very successful.

Well Reg, everyone is chasing the sheet.... but it seems ok. The rod
calc is just a little in error, though is it enough to be significant?
If one only considers the cylindrical surface of the rod it is more like
1.05 sq ft.

183. Re: fuck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 21:50:36 UTC
From: Batman <kg0wx@yahoo.com>
Message-ID: <M6nja.8168$lt5.8094@news2.central.cox.net>
Source record: 121185

"Tiger" <steelkreeg@telia.com> wrote in message
news:HTjja.4014$Du.13316@newsc.telia.net...
> fuck
>
>

...you.

184. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 22:53:12 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6l2co$i$1@hercules.btinternet.com>
Source record: 121187

Owen & Co,

I'll try to be as kind as possible.

The whole lot of you (perhaps one exception)are wallowing about in ignorance of the subject. And a pocket calculator error serves only to complicate the matter.

The resistance of an electrode to Mother Earth is only slightly related to its surface area.

Resistance is almost directly proportional to the length of an electrode's longest dimension.

It may be difficult to believe because Terman, it seems, omitted to mention such a useful fact in his Commandments. (Joke).

One of the practical consequences is that it is a shocking waste of good copper and hours of hard labour to bury your old boiler in your back yard.

You will, of course, have improved your back yard's appearance by relieving it of an unsightly load of junk before the neighbors start to complain.

Reg, G4FGQ.

185. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 23:42:43 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E8E1858.46E6A7A2@shaw.ca>
Source record: 121188

Reg Edwards wrote:
>
> Owen & Co,
>
> I'll try to be as kind as possible.
>
> The whole lot of you (perhaps one exception)are wallowing about in ignorance
> of the subject. And a pocket calculator error serves only to complicate the
> matter.
>
> The resistance of an electrode to Mother Earth is only slightly related to
> its surface area.
>
> Resistance is almost directly proportional to the length of an electrode's
> longest dimension.
>
Reg,
I'm not disputing your knowledge -- but this is something new to me
that I find difficult to accept. Are there any references to support
this fact? You really have me curious. I'll have to dig in my old
Radio Amateur's Handbooks and Antenna books as well as an old copy
of the Radio Handbook and see if I can find anything to help. This
should keep me busy for a while! :-)

--

Diagnosed Type II Diabetes March 5 2001
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297/215/210 (to be revised lower)
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Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

186. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-04 23:43:21 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <tMoja.3228$Xp3.1651017@newssvr28.news.prodigy.com>
Source record: 121186

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jkrl$5eu4i$1@ID-150848.news.dfncis.de...
>
> Idea is to drill a 4" diameter hole, put in a 6' ground rod and
> then backfill, compacting with good conductivity material.
>

No need to drill a hole for the ground rod. Ground rods are less than 1" in
diameter. Wait till the ground is softened by a good rain and simply drive
it with a large hammer or sledge hammer. Worked for me.

Dee Flint, N8UZE

187. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 00:33:46 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8E246A.6050207@oda.com.au>
Source record: 121189

Reg Edwards wrote:
> Owen & Co,
>
> I'll try to be as kind as possible.
>
> The whole lot of you (perhaps one exception)are wallowing about in ignorance
> of the subject. And a pocket calculator error serves only to complicate the
> matter.
>
> The resistance of an electrode to Mother Earth is only slightly related to
> its surface area.
>
> Resistance is almost directly proportional to the length of an electrode's
> longest dimension.
>

I agree, that is why I suggested that focussing on the accuracy of
calculation of the surface area was not very significant.

In respect of the low frequency (50Hz), perhaps a picture helps some:

http://u01.owenduffy.com.au/pub/earth01.gif

The situation for RF is different, so it depends whether Richard is
intending the earth system to have significant RF current flow into it,
or whether it is a protective earth (I don't think that is clear), or both.

Owen

188. Re: What's them things called? And where do you buy them from in UK?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 01:51:49 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <6xqja.33720$G6.16527@fe01.atl2.webusenet.com>
Source record: 121190

Also called " Post hole diggers" , or if you know someone from a local utility, they use (here they called a "Long Tom" (shovel or spade, with a 10 foot long handle), and a " Spoon" as the name implies, shapped like a giant spoon, the spoon tip beveled about 30 degrees, and the handle, again , 8-10 foot long)) Anyone who goes to work in pole line construction is familiar with these "implements of torture"! All of these are run by "Manual Labor" (he isn't the El Presidente of Mexico, tho some kids today seem to think so!) Jim nn7k

"Richard" <nearlynews_email@ntlworld.com> wrote in message news:b6jgpq$5r09b$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b6jg90$60dub$1@ID-150848.news.dfncis.de...
> > Say I want to manually bore into the ground a 4" diameter hole
> > about 6' deep, what do I use? Are they called augers? And can
> > you buy them in UK? TIA. Rich.
>
>
> Actually, when I say manually, I figure I'd buy an auger bit
> (very basic one) and do it by hand. But, I bet hiring a one man
> auger machine would be better.
>

189. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 02:22:01 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <v8sfdmthmhvu96@corp.supernews.com>
Source record: 121191

Read. His objective is to have a 4 inch hole so that he may fill the
hole with a rod and conductive material (presumably, CuSO4 or coke
breeze).

Companies make and sell what I will call cartridges consisting of a
rod with attachment that is inside of a canister of conductive material.
In a commercial setting, one can save money by having a team drill holes
into which such a "cartridge" is inserted. Saves time and thus money.
His goal is more than to have a rod in the ground. 73 Mac

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Dee D. Flint" <deehays@qix.net> wrote in message
news:tMoja.3228$Xp3.1651017@newssvr28.news.prodigy.com...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b6jkrl$5eu4i$1@ID-150848.news.dfncis.de...
> >
> > Idea is to drill a 4" diameter hole, put in a 6' ground rod and
> > then backfill, compacting with good conductivity material.
> >
>
> No need to drill a hole for the ground rod. Ground rods are less than
1" in
> diameter. Wait till the ground is softened by a good rain and simply
drive
> it with a large hammer or sledge hammer. Worked for me.
>
>
> Dee Flint, N8UZE
>
>

190. Re: SSB brand RF sensed 6M preamps any good?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 02:26:40 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <y1rja.33726$G6.2378@fe01.atl2.webusenet.com>
Source record: 121192

forget the switched preamp (tho, advanced reciever research makes them, amoung others-- but agree with TAM - to a point-- some of these lower loss coax have a habit of sucking water (and with that, LOSS!) but, also remember, 1) with a preamp, it is only necessary to have enough gain TO OVERCOME THE LOSS OF YOUR COAX, + the LOSS CAUSED BY THE NOISE FIGURE IN YOUR FIRST RF STAGE! any additional gain is at best, wasted, or at worst, contributes to front end overload, and dynamic compression (distortion, and generateing junk in your reciever), 2) the relays that switch the amp in and out must handle the power that is applied to the antenna, and 3) The deffination of a dB is the minimum you can hear a difference in (tho some will debate this). ! Personally, the loops that norm make are great for mobile, or for covented property (CC&R's) , but are a compromize at best for a serious vhf operator! with 75 foot of feed line, (based on 100 feet of: RG-213 loss, 3.2 dB, RG8 (foam) 2.1 dB, 9913, 1.75 dB , would correspond to : 2.4, 1.6, and 1.32 dB, respectively. Is THAT worth the extra expense, and effort for a preamp to overcome those loss's ? I dont think so! as info, jim nn7k (40 years on vhf)
"zaax.at.nojunk.aol.com" <zaax@aol.com> wrote in message news:20030402173807.05598.00000450@mb-fo.aol.com...
> Thanks for the reply Dale.
> Wish that I had not bought the antennas already from Downeast. I had not heard
> of yours until your reply. I want to add stacked 2MT loops later on to my array
> and will seriously consider your antennas later in the year.
> You mention getting a preamp from Downeast and making an RF sensed bypass. How
> would you do that? I have looked in vain for a way. Cannot see anything in
> their catalog to do that.
>
> 73
> Zack
> N8FNR

191. Re: Phone patch help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 02:37:17 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <xbrja.33732$G6.16932@fe01.atl2.webusenet.com>
Source record: 121193

That is NOT INCONSEQUENTIAL, if you use VOX with a phone patch! in this
case it nulls recieved audio that is applied to the TRANSMITTER mic jack,
precenting it tripping the vox! jim nn7k

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:3e8a7533_3@news1.prserv.net...
> If you aren't running full duplex, they are inconsequential. What they do
> is balance the hybrid bridge, and null the path between the mike and
speaker
> connections, while still providing receiver audio into the phone line, and
> phone line audio into the mike jack. The two adjustments adjust phase and
> amplitude, and interact. To adjust them, tune in a source of constant
audio
> on the receiver, connect the phone line, and adjust both for minimum
> receiver audio at the mike connection. BTW, many transmitters had a high
> level input for phone patches back in those days, and the Heath might be
> internally set for high level output, which will be way too much audio for
a
> microphone input. If it overloads the transmitter, look inside for a
jumper
> which can be changed, or add a 10:1 voltage divider on the (mic) output.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "Lee Jarvis" <ljarvis@tampabay.rr.com> wrote in message
> news:Rkria.97124$M7.1961791@twister.tampabay.rr.com...
> > I've got a friend headed for Haiti on a mission trip and I'll be his
> > stateside contact.
> >
> > I just picked up a Heathkit HD-1515 phone patch to enable my friend to
> > contact his family and friends. The trouble is that I have no manual for
> the
> > phone patch and am not sure how it is to be hooked up.
> >
> > The purpose of the telephone jack on the back panel is relatively
obvious.
> > I'm assumming that the receiver audio goes into the REC jack and the MIC
> > jack goes to the transmitter audio input. But what are the two LINE NULL
> > adjustments for and how are they used?
> >
> > Thanks in advance for the help!
> >
> > 73,

> > Lee KN4VN
> >
> >
> >
> >
>
>

192. Re: Measurements 59LF grid dip ??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 03:00:18 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <4xrja.33759$G6.9264@fe01.atl2.webusenet.com>
Source record: 121194

If can find: CQ for January, 1953 has good article on grid dippers (includeing the '59) (7 pgs), also, NOV 1978 issue of Ham Radio Magazine has basic schematics for these, as well as modification of the main box (NOT THE HEAD) to solid state (3 Pgs) !. If cant find, and need, contact me, and can make copies-- Jim- NN7K nn7k@reno.rmci.net

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message news:v8lvej32ldg071@corp.supernews.com...
> For my Measurements Model 59LF grid dip meter I'm still trying to find a
> manual or copy and hopefully a 50kc to 100kc coil or an old orphaned LF coil
> form with the ferrite. The form was made by American Phenolic Corp, Chicago,
> Part No. 24-5P. The base is like an old 5 pin tube and is a clear cylinder
> about 1 1/4" diameter and 2 1/4" long, "pill bottle". The coil form, a
> ferrite cylinder about 1 inch diameter and 3/4" long is inside the "pill
> bottle" . I'd guess there's several hundred turns of litz wire wound
> pancake fashion with 5 leads coming out. The .1 - .25 MC coil wire uses
> about 3/4 ths of the ferrite length and the turns stack up to about an 1/8"
> thick. It's well designed and well made and has some weight to it. The
> unit has 3 additional coils, .25 -.55 MC, .55MC - 1.5 MC, and 1.5 - 4.5 MC.
> All use the same form but with less turns, the highest freq. coil has about
> 1/20th of the turns. I'd rather find one covering .05 - .1 MC or an
> orphaned LF form for another frequency if I can because I think it would be
> a major endeavor to try make one as good as Measurements!.
> tnx.
> hank wd5jfr
>
>

193. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 03:05:55 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304041905.7b3fe05@posting.google.com>
Source record: 121195

Russ <carlzomer@hotmail.com> wrote in message
news:<8abo8v0mepfkc4gi3g60nckcv7ju03g05p@4ax.com>...
> On Thu, 3 Apr 2003 09:44:08 +0200, "F8BOE Olivier"
> <f8boeNOSPAM@free.fr> wrote:
>
> >Hi!
> >
> >My first HF antenna was a "full size" G5RV crafted by Mr. Hari in Germany.
> >
> >It was a really good looking masterpiece of shit, and that was all!
> >So it returned where it came from and I bought an MFJ 259!
> >
> >73 de F8BOE Olivier ...-.-
> >
>
> So, how do you get out using the 259? In reality, you should have
> used the 259 on the G5RV and feedline. Everyone who uses a GRV can't
> be wrong...

Wanna bet money on that?

>
> Russ - kf4wxd

w3rv

194. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 04:00:30 UTC
From: K7JEB <k7jeb@arrl.no_spam.net>
Message-ID: <yxsja.46112$ja4.2864865@bgtnsc05-news.ops.worldnet.att.net>
Source record: 121196

Regarding feeding the RCA Superturnstile, Roy Lewallen, W7EL, wrote:

> Yes, this is a well known method of getting the necessary phase
> quadrature. However, it might not be very practical for a wide band
> antenna like the superturnstile, because you'd have to make the dipoles
> very different in size in order to get the required reactance. The
> pictures I've seen of these antennas shows equal sized elements, so this
> method apparently isn't used for these antennas.

> There's also the question of bandwidth of the phase shift. That is, the
> phase shift will be correct only at one frequency. This is, of course,
> the case with coax or lumped element networks also. But I'd think that
> if you begin with wide bandwidth dipoles (by making them large diameter
> or in a "batwing" shape), the phase shift could be made more stable with
> frequency than with coax. Modern modeling programs make these sorts of
> determinations simple.

The installations I have seen of this type of antenna, the RCA Superturnstile, had the following features:

The arrayed "batwing" elements of a particular orientation (either "E-W" or "N-S") were each excited in-phase with a corporate feed structure having exactly equal lengths of feedline to each array element.

The feedlines for both orientations were brought to the base of the tower separately and with exactly the same line length. There, a precisely measured quarter-wave section of transmission line was inserted in ONE of the feedlines, producing the required 90-degree phase-shift for turnstile operation.

Both feedlines were then routed to a gadget called a duplexer which combined the outputs of the visual and aural transmitters into equal, in-phase excitations of both antenna lines. The duplexer was a kind of distributed-component Wheatstone bridge that isolated the visual and aural transmitter outputs from each other.

One of the features of this arrangement was that, in the event of a failure in one orientation, the other could be used independently to stay on the air at reduced power and with a bit of a null off the ends of the "good" batwings.

A note about the batwing elements - they were actually dual, slot radiators. One side of each slot was the support mast, the other side, the half-batwing. The feed point was at the vertical center of the half-batwing. A quarter-wavelength above and below the feed point, at the top and bottom of the batwing, a connection

was made to the support mast from the batwing element. The entire antenna was thus at DC ground for lightning protection.

The feedlines traversing up and down the support mast for a 12-element antenna were a marvel to behold.

--
Jim Bromley, K7JEB k7jeb(at)arrl(dot)net
Glendale, Arizona

195. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 04:30:48 UTC
From: fmmck@aol.com
Message-ID: <20030404233048.08784.00000430@mb-fj.aol.com>
Source record: 121197

<< Can it be done in one day, if we are not drilling into very rocky ground? >>

Richard-

I usually agree with comments by Roy Lewallen, W7EL. I disagree with his suggestion that the bottom portion of a ground rod does not have as much value as the top portion. Whether RF penetrates soil or not, is not important because of the conductivity of the ground rod itself. There is more likely to be moisture further down, hence ground conductivity should be better with a longer rod. Even so, having several long rods in parallel would be a further improvement. Be sure to locate your grounds beyond the "drip-line" of the roof, where the soil is be more likely to be exposed to rainfall.

But with respect to your question, why not use a steel water pipe as a ground rod? You can connect it to a water supply and use the water's force to dig the hole in a few minutes. (At least you can in Florida soil!) When it is as far down as you need, just cap it and leave it there. If you prefer the copper ground rod, pull up the pipe and insert the rod before the hole collapses. If that doesn't work, leave the water running and insert the ground rod beside the pipe before pulling it up.

73, Fred, K4DII

196. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 05:07:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8sp58bul9t7c@corp.supernews.com>
Source record: 121198

RF current decreases exponentially with depth, if ground conductivity is constant with depth (which admittedly it often isn't). The ironic thing is that the bottom portion of a ground rod is less effective in good soil than in poor soil. To get a better feel for what's going on, think of an extreme case where the ground is as conductive as copper. In that case, current flows only on the very top surface of the ground, and the ground effectively shields the bottom part of the ground rod from the current. The bottom of the ground rod is invisible to the surface for exactly the same reason that the inside of a conductor is invisible to the outside, making tubing just as conductive as solid wire at RF. This shielding effect becomes less and less as the ground becomes less conductive. At the other extreme, very poorly conductive soil, the whole ground rod is exposed to any field existing above the ground, since the field can easily penetrate.

Here are some values for the skin depth in "average" and "very good" soil. The skin depth is the depth at which the current density has dropped to about 37% of its value at the surface.

Average soil:

3.5 MHz 15.9 feet
10 MHz 13.2 feet
28 MHz 12.7 feet

Very good soil:

3.5 MHz 5.4 feet
10 MHz 3.6 feet
28 MHz 2.8 feet

Anything extending below more than a few skin depths is effectively invisible to RF on the surface -- it can be cut off with no noticeable difference at the frequency under consideration. In some ways, skin effect is like an impedance that's effective in a vertical direction but not a horizontal direction. (But be careful not to extend this comparison too far.)

It's important not to confuse RF conductivity, which is dominated by skin effect, with DC or 60 Hz conductivity, which isn't. Even if the ground conductivity is high at some depth, contacting it with a rod makes no difference at radio frequencies if there's no significant RF current at that depth -- that portion of the rod is effectively shielded by the ground above.

If the ground is poor at shallow depths, the skin depth will be relatively high, so significant current will flow more deeply. If the ground below that is highly conductive as in Fred's example, current won't flow very far into the conductive layer. In that case, extending a ground rod very far into the conductive layer is a waste of effort. However, if the soil above is poor enough to allow significant current to reach the conductive layer, it is worthwhile, as Fred says, to extend the ground rod down to it.

Based on the skin depths shown above, I'd like to correct my earlier blanket statement that the bottom part of a rod doesn't do much. As you can see from the skin depths, there's still considerable current flowing at 8 feet providing the ground is average or less conductive. The bottom portion of longer ground rods will will be ineffective only if the soil conductivity is quite good, and particularly at higher frequencies.

Shallow radial wires do remain the most effective ground for RF, however.

Roy Lewallen, W7EL

Fred McKenzie wrote:
> << Can it be done in one day, if we are not drilling into very rocky
> ground? >>
>
> Richard-
>
> I usually agree with comments by Roy Lewallen, W7EL. I disagree with his
> suggestion that the bottom portion of a ground rod does not have as much value
> as the top portion. Whether RF penetrates soil or not, is not important
> because of the conductivity of the ground rod itself. There is more likely to
> be moisture further down, hence ground conductivity should be better with a
> longer rod. Even so, having several long rods in parallel would be a further
> improvement. Be sure to locate your grounds beyond the "drip-line" of the
> roof, where the soil is be more likely to be exposed to rainfall.
>
> But with respect to your question, why not use a steel water pipe as a ground
> rod? You can connect it to a water supply and use the water's force to dig the
> hole in a few minutes. (At least you can in Florida soil!) When it is as far
> down as you need, just cap it and leave it there. If you prefer the copper
> ground rod, pull up the pipe and insert the rod before the hole collapses. If
> that doesn't work, leave the water running and insert the ground rod beside the
> pipe before pulling it up.
>
> 73, Fred, K4DII
>

197. AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 06:11:29 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <85ss8v4alrlmc9r12ht0btotrapkspbqu8@4ax.com>
Source record: 121199
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

It was just a matter of time...

A few days ago I started having problems with interference. I figured there was a new appliance in the neighborhood and it was making life miserable. That is the sort of thing I have been able to work around in the past.

Not this time.

The local utility has installed new electric meters, and they appear to be "smart" meters that can be read remotely. Now I have 60 Hz tones every 60 kHz up and down the dial.

My new meter is made by Schlumberger. I couldn't find a definitive part number on it.

Has anyone found an effective way of dealing with the noise from one of these monsters?
--
Eric F. Richards, efricha@dim.com
"This book reads like a headache on paper."
www.cnn.com/2001/CAREER/readingup/08/14/getting.things.done/index.html

198. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 06:49:08 UTC
From: Gray Shockley <gray7a6@cybercoffee.org>
Message-ID: <0001HW.BAB3D8840014A5DA107FED10@news-central.giganews.com>
Source record: 121201
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

On Sat, 5 Apr 2003 0:11:29 -0600, Eric F. Richards wrote
(in message <85ss8v4alrlmc9r12ht0btotrapkspbqu8@4ax.com>):

> It was just a matter of time...
>
> A few days ago I started having problems with interference. I figured
> there was a new appliance in the neighborhood and it was making life
> miserable. That is the sort of thing I have been able to work around
> in the past.
>
> Not this time.
>
> The local utility has installed new electric meters, and they appear
> to be "smart" meters that can be read remotely. Now I have 60 Hz
> tones every 60 kHz up and down the dial.
>
> My new meter is made by Schlumberger. I couldn't find a definitive
> part number on it.
>
> Has anyone found an effective way of dealing with the noise from
> one of these monsters?

Call your utility and state your problem. (Write down EVERYTHING that goes
on, btw).

Ask for the part number and ask for a FCC acceptance number (prolly doesn't
exist).

Take a look at

<http://www.goslb.com/>

and see if you can identify the meter.

Be aware that - in all liklihood - your utility company and/or Schlumberger
are probably running illegally: the meter should /not/ be putting out RFI.

My suggestion is to go to your util company in person and, very nicely, tell
them the problem and ask for their help (remember it may well be something
simple such as reversed polarity or a non-existent ground).

Again: keep notes and take them as you talk with people.

Let us know how goes it.

Gray Shockley

DX-392 DX-398
RX-320 DX-399
70ï¿½ Longwire
Torus Tuner (3-13 MHz)
Select-A-Tenna

Vicksburg, MS US

199. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 07:42:51 UTC
From: sideband <KRNO8SPAMLR@cac.net>
Message-ID: <3E8E7C28.8000401@cac.net>
Source record: 121200
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Call the power company, inform them of the interference. If they
choose not to fix it, notify the FCC of the problem, and have them
make the power company fix it. If that doesn't work, scream. Loudly.
VERY loudly.

-SSB

Eric F. Richards wrote:
> It was just a matter of time...
>
> A few days ago I started having problems with interference. I figured
> there was a new appliance in the neighborhood and it was making life
> miserable. That is the sort of thing I have been able to work around
> in the past.
>
> Not this time.
>
> The local utility has installed new electric meters, and they appear
> to be "smart" meters that can be read remotely. Now I have 60 Hz
> tones every 60 kHz up and down the dial.
>
> My new meter is made by Schlumberger. I couldn't find a definitive
> part number on it.
>
> Has anyone found an effective way of dealing with the noise from
> one of these monsters?

200. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 08:41:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6m4shemn1@titan.btinternet.com>
Source record: 121202

Irv,

If Terman doesn't say so it's a waste of time searching through ARRL publications. I'm fairly certain there must be an explanation somewhere in the depths of the IEEE.

I first came across the subject of earth electrodes in an English translation of a Russian book about construction of DC high-voltage, single-wire, transcontinental power transmission lines from hydro-electric stations in Siberia. I discovered it around 1955 in the City of Birmingam Technical Reference Library. At the time I was interested in earth electrodes needed at the terminal stations of the then new transatlantic coaxial telephone cables. The submerged repeaters (6 valves, germanium transistors not being good enough at HF), spaced about 26 miles, were powered over the cable's inner conductor using a 5000 volt, constant DC current supply at each end. The book gave some approximate formulae for different electrode geometries. I had to work out the derivations for myself. If you insist on a reliable reference try the Moscow or Beijing reference libraries.

Returning to our present little problem - what's needed is a formula to calculate the resistance to Earth of a particular shape of electrode. Why length rather than area matters will become clear during an exact derivation which a first year engineering student should be able to do. Even Roy will admit there's no need to make measurements to prove it.

To make life easy choose the most simple electrode imaginable - a hemisphere pressed into the soil surface to the depth of its radius.

r = radius in metres.

S = soil resistivity in ohm-metres.

I = DC current flowing into the electrode in amperes.

A = 2 * Pi * r * r = surface area of electrode in contact with the soil in square metres.

J = I / A = current density at the hemisphere's surface in amps per square metre.

G = S * J = voltage gradient in soil at the hemisphere's surface in volts per metre.

Let r1 be another radius in the soil outside the electrode.

We then obtain the voltage difference V between r and r1 by integrating the voltage gradient between r and r1 :

V = S * I / 2 / Pi * (1 / r - 1 / r1) volts between r and r1.

The Earth is extremely large in comparison with electrode dimensions.

So if we let r1 approach infinity then the potential difference between the electrode and the bulk of the Earth due to the current I is given by -

V = S * I / 2 / Pi / r volts.

and therefore the electrode-to-Earth resistance is

R = S / 2 / Pi / r ohms.

Which demonstrates the electrode has a resistance to Earth inversely proportional to the length of its circumference. Or to its diameter. Neither its surface area nor a square of anything appear in the formula.

It is integration of the voltage gradient which gets rid of r-squared (areas). This occurs during derivation of the formula for any shape of electrode.

Its just occurred to me this formula is identical to the formula for the capacitance of an isolated sphere. Which is also inversely proportional to the length of its diameter. This must be so because capacitance has the dimensions of a length.

==========

The resistance of a round rod with a hemispherical end cap is given by -

S / 2 / Pi / L * Inverse.Hyperbolic.Sine(2 * L / d) ohms

where S = resistivity, L = length, d = diameter.

An approximate good-enough formula is given by S / 2 / Pi / L * Ln(4 * L / d) ohms.

d appears in the formula but the the Inverse.Hyperbolic.Sine function is a very slowly moving function of d which leaves the resistance to ground mostly dependent on rod length. There's even less incentive to increase the diameter of long thin buried radials above that needed for mechanical durabilty. The same applies to elevated radials and antenna wires.

Incidentally, this resistance formula for a rod is almost identical to the formula for the capacitive reactance of a vertical antenna above ground. Just replace soil conductivity with the permittivity of free-space or whatever stuff the antenna protrudes into.

PS. When lightning strikes an antenna mast the voltage gradient along the soil surface in a radial direction away from the base of the mast may be sufficient to electrocute a 4-leg cow standing still without rubber boots. For a given number of amps in the lightning stroke and a given soil resistivity my formula for the voltage gradient can be used to decide how far away from the mast to build a safety fence. I wonder whether anyone has experience of this particular safety precaution.

Regards, Reg, G4FGQ

--
=======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
=======================
"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:3E8E1858.46E6A7A2@shaw.ca...
> Reg Edwards wrote:
> >
> > Owen & Co,
> >
> > I'll try to be as kind as possible.
> >
> > The whole lot of you (perhaps one exception)are wallowing about in
ignorance
> > of the subject. And a pocket calculator error serves only to complicate
the
> > matter.
> >
> > The resistance of an electrode to Mother Earth is only slightly related
to
> > its surface area.
> >
> > Resistance is almost directly proportional to the length of an
electrode's
> > longest dimension.
> >
> Reg,
> I'm not disputing your knowledge -- but this is something new to me
> that I find difficult to accept. Are there any references to support
> this fact? You really have me curious. I'll have to dig in my old
> Radio Amateur's Handbooks and Antenna books as well as an old copy
> of the Radio Handbook and see if I can find anything to help. This
> should keep me busy for a while! :-)
>
> --
> -------------------------------------
> Diagnosed Type II Diabetes March 5 2001
> Beating it with diet and exercise!
> 297/215/210 (to be revised lower)
> 58"/43"(!)/44" (already lower too!)
> -------------------------------------
> Visit my HomePage at http://members.shaw.ca/finkirv/
> Visit my very special website at http://members.shaw.ca/finkirv4/
> Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
> http://members.shaw.ca/finkirv5/
> --------------------

> Irv Finkleman,
> Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> Calgary, Alberta, Canada

201. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 09:52:06 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8EA746.8030709@oda.com.au>
Source record: 121203

Reg Edwards wrote:

> PS. When lightning strikes an antenna mast the voltage gradient along the
> soil surface in a radial direction away from the base of the mast may be
> sufficient to electrocute a 4-leg cow standing still without rubber boots.
> For a given number of amps in the lightning stroke and a given soil
> resistivity my formula for the voltage gradient can be used to decide how
> far away from the mast to build a safety fence. I wonder whether anyone has
> experience of this particular safety precaution.

Interestingly Reg, I found advice in the content of a course for crane drivers on action following contact of the crane with power lines. Power lines are a risk to cranes, the driver may slew into lines he doesn't see, or may cleverly mobile a load in under powerlines and contact the lines as the load is released and the jib deflects upwards.

The principle advice was to stay in the cab until the supply authority arrived, unless the crane was on fire.

However in the experience that crane drivers have most commonly ignored this advice, perhaps out of lack of confidence in their safety sitting in a crane cab that is in contact with a transmission line that may be live and possibly at tens or hundreds of kilovolts, they advised that if you must (and you generally shoudn't) try to leave the machine, jump clear so as to land on both feet together (ie feet next to each other), never touch the machine and the earth, don't risk falling over onto all fours, and then shuffle away from the machine (ie taking very short steps), and do not attempt to return and get back on the machine (eg if you left your mobile or lunch behind!).

The instructor didn't know the basis of the advice, but I think it was intended to minimise risk to the crane driver of the 'step voltage', especially given the risk of someone reclosing a HV breaker to see if there really was a line fault (and of course, some breakers are designed to reclose automatically, but usually after a very short period - too short for most drivers to get out of a crane cab even given the nature of the situation).

Owen

202. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 10:37:41 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8EB1F5.CFDD160B@cwis.net>
Source record: 121204

Owen,
It so happens that I've encountered something
simular to what you had to say about crane drivers
and jumping clear of equipment. At work when we
had to deal with downed high voltage lines, we were
advised to not take large steps when approching
them. It seems you are 'cutting' lines of force
produced by the downed power lines as you take a
step. The longer the step the more lines of force
you cut/cross and the higher the potential developed
in your body. Same thing as a wire cutting a line of
force in a generator? Made sense to me, and you really
can feel the 'tingle' when you do it...
'Doc

203. 4nec2 for the starting antenna modeler

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 11:06:41 UTC
From: 4nec2@gmx.net
Message-ID: <ee90361b.0304050306.2e1711fe@posting.google.com>
Source record: 121205

Hello,

As a result of reply in this group and to support the starting antenna modeler, I added a CAD-style drag and draw type antenne geometry editor to the 4nec2 freeware package and a more easy setup.exe install method.

I'd like to hear your comments about this.

Please visit www.qsl.net/wb6tpu/swindex.html and look for 4nec2.

Arie.

204. Earth rods you can buy in UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 12:37:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6mijc$6ulpc$1@ID-150848.news.dfncis.de>
Source record: 121206

<http://www.screwfix.com/app/sfd/cat/pro.jsp;jsessionid=0X4AOQG251VDLCJO
2C4CIIQ?id=13335&ts=42045>

Copper plated steel
1220mm x 9.5mm ï¿½1.99
Clamp ï¿½1.45

Probably best buy. Cheap, just over 4' long.

http://www.tlc-direct.co.uk/Products/TLER.html

1200mm x 9mm ï¿½3.55
Clamp ï¿½2.01

Probably copper plated steel? More expensive.

http://www.azad.co.uk/products/prodsection_10306.htm

1200mm x 15mm ï¿½2.50
Clamp ï¿½2.50
Driving stud ï¿½1.55
External coupler ï¿½3.60

Expensive. No real details given.

http://www.senate.co.uk/sector_folder/section4/earthing_surge.html

Copper bond on steel core
1200mm x 9.55mm ï¿½2.95
(Complete with clamp)

Looks a good buy.

http://www.cableservices.co.uk/newsite/cat_pages/page50.html

Solid copper
1200mm x 15mm ï¿½??.??
Coupling dowel ï¿½??.??
Spike ï¿½??.??
Driving Rod ï¿½??.??

Copper bond
1200mm x 16mm ï¿½??.??

Fittings
New coupling ï¿½??.??
Driving stud ï¿½??.??

Various clamp options.

Probably can make a real big rod using couplings etc. Not sure if this applies to copper bod rods. Probably expensive. Not totally sure of what all parts are suppossed to do, ie driving rod. Coupling dowel I think must screw rods together. New coupling, what's that?

Apparantly B&Q sell rods as well.

205. Re: Earth rods you can buy in UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 13:38:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6mm47$6uqlq$1@ID-150848.news.dfncis.de>
Source record: 121207

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6mijc$6ulpc$1@ID-150848.news.dfncis.de...

> http://www.cableservices.co.uk/newsite/cat_pages/page50.html

Under the section "Earthing Rods" can anyone explain the parts, for the
copperbond rod and the solid copper rod? TIA. Rich.

206. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 14:42:01 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6mps7$6ppv3$1@ID-150848.news.dfncis.de>
Source record: 121208

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jpgn$5hv42$1@ID-150848.news.dfncis.de...
> A rod 1" diameter 4' long has a surface area of 1.2730745 square
> feet.
>
> Sheet metal 4' long 2' wide has an area of 16 square feet.
>
> If the sheet metal was buried 4' down would this be a far
> superior ground to the rod?
>
> Presumably.

Using Reg's earthres program:

Soil resistivity 170 Ohms/m.

1 x 1.2m x 15mm earth rod. Resistance: 130.2 Ohms

1 x 0.5m squared plate vertical orientation. Resistance: 133 Ohms
Buried deep. Resistance: 95.9
Ohms

1 x radial 9m long, 2mm dia, buried 10mm:Resistance: 43.8 Ohms

This is just DC resistance I think. But which has best RF properties?

How can a thin wire 9m long, 10mm in ground, be better than the rod or
plate?

207. Force 12 Ruby 2/70

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 14:59:23 UTC
From: Harris <leckfamXXnospamXX@attglobal.net>
Message-ID: <I0Cja.7802$1s1.117219@newsfeeds.bigpond.com>
Source record: 121209

Can anyone comment on the performance of this antenna?
Harris VK6AV

208. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 16:04:50 UTC
From: "Reverend Berilac of the Lake :)" <mky007@earthlink.net>
Message-ID: <C8Dja.10106$4P1.861851@newsread2.prod.itd.earthlink.net>
Source record: 121210
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

I have the same problem here in Seattle area, but the interference is worst
in 60 meter band.

May you live as long as you want, and never want as long as you live.

"sideband" <KRNO8SPAMLR@cac.net> wrote in message
news:3E8E7C28.8000401@cac.net...
> Call the power company, inform them of the interference. If they
> choose not to fix it, notify the FCC of the problem, and have them
> make the power company fix it. If that doesn't work, scream. Loudly.
> VERY loudly.
>
> -SSB
>
> Eric F. Richards wrote:
> > It was just a matter of time...
> >
> > A few days ago I started having problems with interference. I figured
> > there was a new appliance in the neighborhood and it was making life
> > miserable. That is the sort of thing I have been able to work around
> > in the past.
> >
> > Not this time.
> >
> > The local utility has installed new electric meters, and they appear
> > to be "smart" meters that can be read remotely. Now I have 60 Hz
> > tones every 60 kHz up and down the dial.
> >
> > My new meter is made by Schlumberger. I couldn't find a definitive
> > part number on it.
> >
> > Has anyone found an effective way of dealing with the noise from
> > one of these monsters?
>
>

209. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 18:04:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6n5qk$262$1@hercules.btinternet.com>
Source record: 121211

> How can a thin wire 9m long, 10mm in ground, be better than the rod or
> plate?

==========

Richard, it's a little difficult at first to visual what is happening.
Suddenly things click into place. But I still have off-days and have to
force myself to stop worrying about it. I think I'm having one now.

I hope the following helps:

(1) Bear in mind the current does not flow in the direction of the wire
except very near and off its ends. The current which matters is that in the
soil which initially flows away from the wire over most of its length at
right angles to it.

(2) Consider an electrode deep in the soil. Whatever the form or shape or
orientation of this electrode, within a relatively short radius of its
midpoint the radial distribution of current in the soil becomes
indistinguishable from that which would suround a somwhat larger
equivalent/imaginary spherical electrode.

(3) The size of this equivalent/imaginary spherical electrode is
intuitively proportional to the length of the longest dimension of the
actual electrode. And so, for example, the resistance to earth of a straight
wire decreases as wire length increases much faster than with the same
proportional increase in wire diameter.

==========

Here's a free curious fact - the resistance of a circular disk laid flat on
the soil surface is given very simply by Soil/Dia/2 ohms. The resistance of
a disk of the same diameter half-buried in the soil in the vertical plane is
exactly the same.

==========

At HF the inductive reactance of buried radial wires affects input impedance
but this is tuned out with antenna reactance without anyone being aware of
it.

Reg, G4FGQ

210. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 18:17:12 UTC
From: richardharrison@webtv.net
Message-ID: <26874-3E8F1DA8-585@storefull-2313.public.lawson.webtv.net>
Source record: 121212

Roy, W7EL wrote:
"Yes, this is a well known method (90-degrees of extra feedline) of getting the necessary quadrature. Hovever, it might not be very practical for a wide band antenna like the superturnstile."

If a really wideband phase shift is needed, it`s pretty easy. You need a center tapped coil with a T-connection.

Example: Two transformers can be used to add and subtract 90-degrees to a center-fed source over a wide frequency range. This mechanism is commonly used to convert 3-phase power to 2-phase power (or vice versa). It is called the Scott or T-connection of transformers. In this arrangement wide bandwidth is usually not the aim but it could be made available.

An FM discriminator may have evolved from this transformer T-connection. Analog microwave customarily is FM and the baseband modulated on the carrier is commonly several MHz wide. The discriminator handles this very easily at the 60 or 70 MHz intermediate frequency.

Best regards, Richard Harrison, KB5WZI

211. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 18:59:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1c9u8v0903vu13rtsm6v4353l3avomdu87@4ax.com>
Source record: 121213

On Sat, 5 Apr 2003 15:42:01 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>How can a thin wire 9m long, 10mm in ground, be better than the rod or
>plate?

Hi Richard,

The earth presents a huge resistor that develops a potential through its dimensions due to current flow. A conductor through that resistor shorts out all those steps of potential difference (V/M). Does the short have to be a plate instead of a thin wire to accomplish this goal?

The plate may exhibit a lower inductance, but not for the plate's sake so much as surface area in this regard. As current will want to crowd the edges of the plate (potential seeks the smallest radius of a conductor), it would make more sense to present a surface with larger radii and thus we return to the cylinder. The plate is ok as long as you or your connections reside at the middle of it, but as for serving point-to-point connections, a plate comes with its own limitations.

73's
Richard Clark, KB7QHC

212. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 19:40:50 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3e8f2dbd.790456765@news.galilei.com>
Source record: 121214

Hi Richard

The shafts are in 4 foot sections.

The cutting head screws onto the first shaft, then a pin and cotter key keep it from overtightening or coming off. The T-handle goes onto the other end of the pipe, it screws on also and has a pin and cotter key. When you get down about the 2-1/2 to 3 feet level, you remove the cotter key, pin, and unscrew the T-handle, add a screw on union, with a pin and cotter key, add a second 4 foot pipe in the other end ov the union, it's pin and cotter key, and then install the T-handle to the top of the new pipe with its pin and cotter key.

If you use the super long (about 10 inch tall) cutting heads, you can drill about 6 inches each pass before pulling them out to remove the dirt from the head.

These are not the spiral type of auger used on framed power equipment drillers or attach in place of a backhoe on a tractor. They have a combination cutting head & bucket on the drilling end.

The short head type must be removed and emptied every 4 inches or so, and the long head type must be removed every 8 inches or so. Most of ours were of the super long head type and could hold about 10 inches before needing to be lifted for emptying.

The helical type of augers you exert a lot of energy spinning without digging to bring the soil to the top, where you have shovel it away manually to keep it from falling back into the hole. And if you dig a little too deep, they become a solid anchor. Which is why this design is used primarily for tent stakes, dog runs, tower anchors, etc. They only work if you have enough power behind them to pull the anchor out of the ground so to speak.

If your going much deeper than 6 feet, in an area you cannot get to with large power equipment, water powered hydraulic augers are really the only way to go. Only 20 to 30 psi of water pressure will not only drill the hole but wash out the dirt at the same time. Of course, it's a muddy mess, but less strenuous.

TTUL
Gary

213. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 19:40:56 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <v8ucacbmrbgb6c@corp.supernews.com>
Source record: 121215
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Hi,

Looks like you already received great suggestions. Just in case it's been awhile, you may also wish to refresh yourself with the contents of "the FCC letter". These rules are helpful.
http://www.arrl.org/tis/info/fcc_utility_letter.html

Good Luck,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

214. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 21:32:01 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6ni0h$g93$1@sparta.btinternet.com>
Source record: 121216

"CW" wrote
> I remember you advocating this system a couple of years ago. BTW, yes, it
> does work.
> >
==========

Did I ?

Thanks for letting me know. Was it the good system or the bad one ? I
forget.

Do you still have it ?

Reg, G4FGQ

215. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 22:07:57 UTC
From: dxlover <dxlover@adelphia.net>
Message-ID: <1tlja.10841$FN.6697740@news2.news.adelphia.net>
Source record: 121217
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

> I have the same problem here in Seattle area, but the interference is
worst
> in 60 meter band.

Hey Rev,
That is common for the 60 meter band, that is what makes it IMO....the most
challenging band to monitor and master.

It actually scares away many listeners, that's what drew me to it. Give it
a shot and take your listening skills to another level. :-)

--
~*~*~Monitoring the Spectrum~*~*~
GO BEARCATS
<>Hammarlund HQ129X/140X<>
~*~*~*Heathkit Q Multiplier~*~*~*
RCA Victor *Strato-World*
*numerous receivers / scanners
Alpha Delta DX Sloper antenna
750 ft. *eavesdropping* wire

216. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 23:12:17 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8F62D1.2000205@oda.com.au>
Source record: 121218

Richard wrote:

>
> How can a thin wire 9m long, 10mm in ground, be better than the rod or
> plate?
>

You need to try to visualise the electrode (of whatever type / shape) as being immersed in the soil which is not a good conductor. Think of the electrode as being surrounded by a sheath of soil that is not a good insulator, nor good conductor, and its effect is to resist current flowing through it, and when the current passes through this sheath, it passes into another sheath of slightly larger dimensions (and so lower resistance, and so on.

When the area of these sheaths reaches thousands of square metres, they are very good conductors by virtue of the area presented, even though the material is high in resistivity. So, eventually the earth (not soil) is a good conductor.

Can you visualise the hemispheres of equipotential that results when current flows into such an electrode? This is important in understanding the effects of connecting multiple earth electrodes, and whether under conditions of a power fault or lightning discharge, physically separated electrodes (which could have tens of thousands of volts difference) connected to different parts of an installation might weaken an installation's ability to withstand such events.

It is the area where the current enters the earth that it encounters most of the resistance, and it is this area that is of most interest for protective earths for power distribution and lightning protection.

At radio frequencies, you might be focussed on only the nearest part of an earth system. Reactive effects (inductance and capacitance) are more significant at radio frequencies, in terms of the impedance presented, and the attenuation of current a long way (perhaps only metres, depending on frequency, soil type etc) along metallic earth system might make its physical characteristics beyond that point unimportant (ie you could cut it off). So, at HF, the conventional wisdom would have you bury quarter wave radials, but the last n metres of length might not be sufficiently effective to be worth the effort. Whilst a metallic water distribution system might give you a very low 50Hz resistance, its impedance at radio frequencies will be poorer, it is unlikely that more that 5 to 10 metres of its length is effective, 30m at the outside depending on frequency, soil, etc.

At the end of the day, my thought is that antenna's that do not depend on an electrical connection to the natural ground for their radiation are more reliable and consistent. Nevertheless, you still need to consider earthing for protection of people and possibly equipment, indeed you may need to comply with local regulations. In this part of the world, regulations don't necessarily require some connections, but if you do make some connections, they must be made in compliance with the regulations... interesting eh!

If you are determined that you want to protect equipment from lightning, try and get a look at a cellular phone base station from the outside and inside and look at the earthing treatment. These things are pretty lightning hard, they take lots of direct strikes, but they still get taken out from time to time. You will find it hard to afford to 'fully' protect equipment, it is a risk management issue. The cheapest solution (though not very convenient) is to provide a decent path to ground for discharge currents from anything that is likely to take a hit, properly deal with equipotential bonding of the installation, not operate during electrical storms (always good advice) and disconnect the antennas, rotators etc when not in use.

Owen

217. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 23:21:25 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6nodl$1f7$1@hercules.btinternet.com>
Source record: 121319

"Richard Clark" wrote
"Richard" wrote
> >
> >How can a thin wire 9m long, 10mm in ground, be (snip)
>
> Hi Richard,
>
> The earth presents a huge resistor that develops a potential through
> its dimensions due to current flow. A conductor through that resistor
> shorts out all those steps of potential difference (V/M). Does the
> short have to be a plate instead of a thin wire to accomplish this
> goal?
>
> The plate may exhibit a lower inductance, but not for the plate's sake
> so much as surface area in this regard. As current will want to crowd
> the edges of the plate (potential seeks the smallest radius of a
> conductor), it would make more sense to present a surface with larger
> radii and thus we return to the cylinder. The plate is ok as long as
> you or your connections reside at the middle of it, but as for serving
> point-to-point connections, a plate comes with its own limitations.
>
==========

To Richard Clark, et al.

Yes Richard, that's an elegant, suitably brief, philosophic way of
describing what happens. I like it.

The long thin short-circuiting wire does just as good a job as a very fat
wire because its resistance (of Cu) is 10^9 times smaller than the rocks of
which this tiny planet is made, the miserable inhabitants of which are
presently in the process of self-destruction.

Your tame Italian clown, Punchinello.

218. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-05 23:52:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <61ru8v4gejtu9umnch75hqt94h351oej6a@4ax.com>
Source record: 121320

On Sat, 5 Apr 2003 23:21:25 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Your tame Italian clown, Punchinello.
>
>
Yes, I've noticed of late. I hope you are in good health otherwise.
Did you march?

73's
Richard Clark, KB7QHC

219. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 00:06:06 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <B3Kja.35392$G6.13639@fe01.atl2.webusenet.com>
Source record: 121321

And forgot : 4) You have to supply power to it. Also, remove your antenna from your 2 meter rig, and replace it with a 50 ohm termination. Note the noise level you hear from your reciever. Now replace the termination with your antenna. If the noise level INCREASES, usually you have as sensitive a reciever as you will ever have consistant with the antenna used . The extra noise is being recieved from external sources at your qth. (any preamp will amplify that NOISE as well as the signals, rendering the preamp gain redundant)! again , might get some disagreement on this, but more likely to get better results by narrowing the reciever bandwidth (thru cw, or AUDIO filter. as sensitivaty is defined as: 4 KTRb (in other words, halve the bandwidth of a reciever, quadruple the sensativity!) Jim NN7K

220. Re: Phone patch help (P.S.)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 00:09:10 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <t6Kja.35393$G6.31226@fe01.atl2.webusenet.com>
Source record: 121322

Thats PREVENTING, not Precenting! Cnnt type and chew bubblegume at the same time! jim nn7k

<Jimnn7k@reno.rmci.net> wrote in message news:xbrja.33732$G6.16932@fe01.atl2.webusenet.com...
> That is NOT INCONSEQUENTIAL, if you use VOX with a phone patch! in this
> case it nulls recieved audio that is applied to the TRANSMITTER mic jack,
> precenting it tripping the vox! jim nn7k
>

221. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 00:52:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v8uuifjflnmb76@corp.supernews.com>
Source record: 121323

The parenthetical addition in your quotation of my posting is in error. I was referring to the method of effecting phase shift by altering element lengths, as described by Dave Platt, not to feeding with 90 degrees of extra feedline. According to the texts I have, the superturnstile is commonly fed with a feedline phase shift. This works just fine, since the elements don't couple (to a first approximation, anyway), so present equal impedances (and ones which vary slowly with frequency) to the feedline and can be properly matched. And apparently the phase error of the feedline shift with frequency is small enough to have only a minor effect on pattern circularity.

I am curious about the Scott method, however, which you say is an easy way to get a 90 degree phase shift. The general problem in feeding phased arrays in quadrature is that mutual coupling makes the element impedances very different from each other, and they change fairly rapidly with frequency. Does this Scott method "easily" provide a wideband 90 degree phase shift (and unity voltage or current transformation) when presented by the unequal and frequency-varying load impedances commonly encountered in phased arrays? If so, can you direct me to a reference showing how this three-to-two-phase method is applied to the single-to-two-phase problem?

Roy Lewallen, W7EL

Richard Harrison wrote:
> Roy, W7EL wrote:
> "Yes, this is a well known method (90-degrees of extra feedline) of
> getting the necessary quadrature. Hovever, it might not be very
> practical for a wide band antenna like the superturnstile."
>
> If a really wideband phase shift is needed, it`s pretty easy. You need a
> center tapped coil with a T-connection.
>
> Example: Two transformers can be used to add and subtract 90-degrees to
> a center-fed source over a wide frequency range. This mechanism is
> commonly used to convert 3-phase power to 2-phase power (or vice versa).
> It is called the Scott or T-connection of transformers. In this
> arrangement wide bandwidth is usually not the aim but it could be made
> available.
>
> An FM discriminator may have evolved from this transformer T-connection.
> Analog microwave customarily is FM and the baseband modulated on the
> carrier is commonly several MHz wide. The discriminator handles this
> very easily at the 60 or 70 MHz intermediate frequency.
>

> Best regards, Richard Harrison, KB5WZI
>

222. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 02:17:32 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <vivu8vsg3l172469e4h5i17g05u24ks2bb@4ax.com>
Source record: 121324
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Gray Shockley <gray7a6@cybercoffee.org> wrote:

> On Sat, 5 Apr 2003 0:11:29 -0600, Eric F. Richards wrote
> (in message <85ss8v4alrlmc9r12ht0btotrapkspbqu8@4ax.com>):
>
> > It was just a matter of time...
> >
> > A few days ago I started having problems with interference. I figured
> > there was a new appliance in the neighborhood and it was making life
> > miserable. That is the sort of thing I have been able to work around
> > in the past.
> >
> > Not this time.
> >
> > The local utility has installed new electric meters, and they appear
> > to be "smart" meters that can be read remotely. Now I have 60 Hz
> > tones every 60 kHz up and down the dial.
> >
> > My new meter is made by Schlumberger. I couldn't find a definitive
> > part number on it.
> >
> > Has anyone found an effective way of dealing with the noise from
> > one of these monsters?
>
> ----------
>
> Call your utility and state your problem. (Write down EVERYTHING that goes
> on, btw).
>
> Ask for the part number and ask for a FCC acceptance number (prolly doesn't
> exist).
>
> Take a look at
>
> <http://www.goslb.com/>
>
> and see if you can identify the meter.

Yes, identified the meter and the modules in it. Thanks.

I *thought* C1S was the model number, but when a google search didn't
find it, I thought it might be a certification number or something
like that -- after all, google is perfect, right?

>
> Be aware that - in all liklihood - your utility company and/or Schlumberger
> are probably running illegally: the meter should /not/ be putting out RFI.

Yes, and we all should be at peace, etc...

The unfortunate fact is this is a remote-readable meter. Now I
haven't pulled a frequency for it yet but I will do so soon. Clearly
they aren't using 900 MHz part 15. They may be usiung VLF to get
through the transformer windings.

The other thing I need to do is ask my neighbors about their AM radio
reception.

> My suggestion is to go to your util company in person and, very nicely, tell
> them the problem and ask for their help (remember it may well be something
> simple such as reversed polarity or a non-existent ground).
>
> Again: keep notes and take them as you talk with people.
>
> Let us know how goes it.
>
>
>
> Gray Shockley
> ----------------------
> DX-392 DX-398
> RX-320 DX-399
> 70ï¿½ Longwire
> Torus Tuner (3-13 MHz)
> Select-A-Tenna
> ----------------------
> Vicksburg, MS US
>

--
Eric F. Richards, efricha@dim.com
"I have in mind a bloodbath that is thoroughly bipartisan. Let the
Clintons be the first to go. American politics will not be healthy until
they are purged from the system. Issue exit visas to Trent Lott and Tom
DeLay, to Dick Armey, to the ancient and awful Strom Thurmond and the
odious Jesse Helms. Let the ostraca fall upon the bombastic charlatan
Jesse Jackson, upon Henry Hyde and Maxine Waters, upon Barbara Boxer
and Orrin Hatch." - Lance Morrow,
http://www.time.com/time/nation/article/0,8599,88598,00.html

223. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 02:23:57 UTC
From: kf4toh@aol.com
Message-ID: <20030405212357.23860.00000386@mb-fv.aol.com>
Source record: 121325

ROYS RIGHT ON
why not just run some radials ?
its fine for rf current but not ac current
but if you just got to beat a long rod in the ground
do as i do at work with the local power co
i own my own butt
you can rent a small 40 lbs jack hammer
from home depo for very little
and just tap the rod in with a hammer to start with
then set a step ladder up and set the jack hammer on the rod and boom your
done
with very hard ground you may want the bigger
hammer
" jack hammer not hammer drill "

joe kane

224. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 02:44:24 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <mpvu8v4pnh2mp2g07ee1ii0aj0ba09g6vq@4ax.com>
Source record: 121326
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

"J Tabor" <denews@taborsoft.com> wrote:

> Hi,
>
> Looks like you already received great suggestions. Just in case it's been
> awhile, you may also wish to refresh yourself with the contents of "the FCC
> letter". These rules are helpful.
> http://www.arrl.org/tis/info/fcc_utility_letter.html
>
> Good Luck,
> Jim

Hi, Jim,

Bu-LEEVE me, I'm going to take this slowly, methodically and carefully through the system. A phone call with a gentle, courteous complaint will be followed by a certified letter with the sample letter included as an attachment. I will then contact the ARRL to find out what they want to do about it, if anything, and if they have advice.

I will also talk to my neighbors to ask how their AM reception has been. :-)

If I don't hear back in a "reasonable" amout of time (TBD), I will call the FCC. Again, with some flavor of "signature required" involved.

Hopefully the ARRL has a legal beagle in the area willing to help out gratis.

(They may help only if I get my "general," however... motivation?? :-))

Thanks,

Eric

--
73, Eric F. Richards, KB0YDN, efricha@dim.com
"A few old diehards still blazoned 'Spark Forever!' on their QSL cards..."
- from "200 Meters & Down", copyright 1936, ARRL

225. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 02:48:59 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <b55v8v811sdeolqcci9ahak3pn9u78ucv5@4ax.com>
Source record: 121327

On Sun, 06 Apr 2003 09:12:17 +1000, Owen Duffy <owen@oda.com.au>
wrote:

>At radio frequencies, you might be focussed on only the nearest part of
>an earth system. Reactive effects (inductance and capacitance) are more
>significant at radio frequencies, in terms of the impedance presented,
>and the attenuation of current a long way (perhaps only metres,
>depending on frequency, soil type etc) along metallic earth system might
>make its physical characteristics beyond that point unimportant (ie you
>could cut it off). So, at HF, the conventional wisdom would have you
>bury quarter wave radials, but the last n metres of length might not be
>sufficiently effective to be worth the effort. Whilst a metallic water
>distribution system might give you a very low 50Hz resistance, its
>impedance at radio frequencies will be poorer, it is unlikely that more
>that 5 to 10 metres of its length is effective, 30m at the outside
>depending on frequency, soil, etc.
>

To sum up, a good lightning ground will also make a good hf radio
ground.

73
Gary K4FMX

226. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 02:51:16 UTC
From: "Bill, W7TI" <jamspam@upyours.now>
Message-ID: <Xns9354BFCC6FC8Epookster@216.168.3.50>
Source record: 121328

Gary Schafer <gaschafer@attbi.com> wrote in
news:b55v8v811sdeolqcci9ahak3pn9u78ucv5@4ax.com:

> To sum up, a good lightning ground will also make a good hf radio
> ground.
>

For receiving maybe. Never use a dirt antenna for transmitting if you can
help it.

--
Bill, W7TI

227. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 03:21:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E8F9D25.48E7AB2F@cwis.net>
Source record: 121329
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Eric,
If your utility company doesn't give you any satisfaction
try your state utilities commission next. A phone call from
the commission to your utility company does wonders...
'Doc

228. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 04:01:03 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <489v8vsgsfjnbhnkenc835l5t0g6c3piil@4ax.com>
Source record: 121330
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Well...

This is gonna be an interesting one. The interference is completely gone today, so it may have had nothing to do with the new meters. Or it may only appear when they are being read by the utility.

If I'm lucky they're gone forever, but who knows?

On another note, I was at a hamfest today and who should come walking in while I'm walking out but Robert Sherwood of the famous Sherwood Engineering sync detector. I said hi, trying not to sound too much like Joe Fanboy, and explained to someone there helping me carry my junk, that it was comparable to running into Henry Kloss at a flea market, back when he was alive.

His response: "Who's Henry Kloss?"

...sigh...

--
Eric F. Richards, efricha@dim.com
"Nature abhors a vacuum tube." -- J. R. Pierce, Bell Labs, c. 1940

229. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 04:22:28 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8FAB84.6010803@oda.com.au>
Source record: 121331

Gary Schafer wrote:
> On Sun, 06 Apr 2003 09:12:17 +1000, Owen Duffy <owen@oda.com.au>
> wrote:
>
>
> To sum up, a good lightning ground will also make a good hf radio
> ground.
>

Gary, I just hate that word 'will' in there. Perhaps I spend too much time working with lawyers (never (whoops) use 'never', 'always', 'will', 'must' unless you are talking about someone elses obligation, don't warrant anything)!

And equally non-committal:

An adequate RF earth is not necessarily an adequate lightning earth. Many ham RF earth implementations would not withstand a discharge like 20KA for 100mS (inadequate conductor CSA, joints physically dependent on solder).

I really think that you have to consider both needs and harmonise them.

Adding an RF earth system might well compromise an installation with an existing lightning protection system if not properly integrated (eg effective equipotential bonding). If I was responsible for a facility that had a lighting protection system, I would be most conderned about someone sticking a stake out in the paddock and wiring it back into equipment in the equipment room without regard to the potential gradient that might exist and the consequences.

Sounds like it should be engineered, doesn't it!

Owen

230. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 04:24:31 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E8FABFF.8090403@oda.com.au>
Source record: 121332

Bill, W7TI wrote:
>
> Never use a dirt antenna for transmitting if you can
> help it.
>

Bill, I like that... I think I would suggest a small ammendment:

Never use a dirt antenna for transmitting if you can afford otherwise.

Owen (still chuckling)

231. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 05:28:12 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030406002812.18726.00000236@mb-cf.aol.com>
Source record: 121333

>On another note, I was at a hamfest today and who should come walking
>in while I'm walking out but Robert Sherwood of the famous Sherwood
>Engineering sync detector. I said hi, trying not to sound too much
>like Joe Fanboy, and explained to someone there helping me carry my
>junk, that it was comparable to running into Henry Kloss at a flea
>market, back when he was alive.
>
>His response: "Who's Henry Kloss?"
>

And my response: "Who's Henry Kloss, who's Robert Sherwood and what is the
famous Sherwood Engineering sync detector?"
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

232. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 07:04:45 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <hbkv8vsqatpgocelnp1cmqvdqrtcf8eibp@4ax.com>
Source record: 121334
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

On Sat, 05 Apr 2003 21:01:03 -0700, Eric F. Richards <efricha@dim.com>
wrote:

>Well...
>
>This is gonna be an interesting one. The interference is completely
>gone today, so it may have had nothing to do with the new meters. Or
>it may only appear when they are being read by the utility.
>
>If I'm lucky they're gone forever, but who knows?
>
>On another note, I was at a hamfest today and who should come walking
>in while I'm walking out but Robert Sherwood of the famous Sherwood
>Engineering sync detector. I said hi, trying not to sound too much
>like Joe Fanboy, and explained to someone there helping me carry my
>junk, that it was comparable to running into Henry Kloss at a flea
>market, back when he was alive.
>
>His response: "Who's Henry Kloss?"
>
Who * is * Henry Kloss?

w.

233. Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 07:05:14 UTC
From: JoanD'arcRoast <snakeplithkin2001@yahoo.com>
Message-ID: <060420030305146153%snakeplithkin2001@yahoo.com>
Source record: 121335

Some relationship to the wavelength it was built to receive, perhaps?
[This one is approximately 35 feet,4 inches long. It's an old beater
I'm trying to press back into service to SWL tropical.]

thanks,
J

234. Re: Really Wideband antennas, was Re: G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 07:36:02 UTC
From: richardharrison@webtv.net
Message-ID: <26874-3E8FD8E2-694@storefull-2313.public.lawson.webtv.net>
Source record: 121336

Dave Platt did indeed say:
"One method I`ve seen described in a couple of contexts (for both turnstile and "eggbeater" helix antennas is to use a single feedline, and tweak the lengths and configurations of the two dipoles or helices so that one has a substantial inductive reactance and the other has a substantial capacitive reactance of the same absolute value."

Well, if one dipole is too long by about the same amount as the other dipole is too short, they could have equal and opposite reactances. The sum of the current phase angle lead in the too short antenna, added to the current phase angle lag in the too long antenna can be made 90 degrees.

Roy, W7EL wrote:
"I was referring to the method of effecting phase shift by altering element lengths as described by Dave Platt, not to feeding with 90-degrees of extra feedline."

Sorry, I did not read the postings carefully enough, and I misquoted Roy.

Roy, W7EL wrote:
"Yes, this is a well known method of getting the necessary quadrature. However, it might not be very practical for a wide band antenna like the superturnstile, because you would have to make the dipoles quite different in size in order to get the required reactance."

That seems a good point as a 1/2-wave dipole is about 180 degrees end to end. 90 degrees is half its total length.

Back in early times, 2-phase power had applications. These were often supplied from a 2-phase source. A Scott T-connection of transformers supplied 2-phase power from a 3-phase source.

A "main transformer" had a center-tapped primary coil. Its outer ends were connected between phase-B and phase C.

A "teaser transformer" had its primary coil connected between phase A and the center-tap of the "main transformer" primary coil.

To make the voltages on the secondaries of the two transformers equal and separated in phase by 90 degrees, it is necessory to make the teaser transformer have 86.6% of its secondary turns. Phase angle between primary phases is 120 degrees. Of course, the purpose of the Scott connections is to make the angle between the secondary phases 90 degrees. It works. I`ve had experience using this arrangement to supply part of the power to a broadcast transmitter for lowest noise

production.

The 90-degree phase angle between secondary coils of the two transformers does not depend on reactance and so it is not a function of frequency.

Best regards, Richard Harrison, KB5WZI

235. Re: Earth rods you can buy in UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 08:48:41 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6ophp$7ao7s$1@ID-150848.news.dfncis.de>
Source record: 121337

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6mm47$6uqlq$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b6mijc$6ulpc$1@ID-150848.news.dfncis.de...
>
> > http://www.cableservices.co.uk/newsite/cat_pages/page50.html
>
> Under the section "Earthing Rods" can anyone explain the parts, for
the
> copperbond rod and the solid copper rod? TIA. Rich.

Nobody's answered. :c(

Here's my thoughts:

Solid copper rod:

RC010: 4 foot length of solid copper earth rod.
CG013 : Dowel that screws into rods connecting them.
SP010 : Spike end that screws into first rod.
ST010 : Driving rod, not sure what this is.

ST200 : Driving stud, goes on end of first rod, takes hammer blows.
CG270 : New coupling. Brass couplings that you crimp onto rods?

Copper Bond Rod:

RB205 : Probably just one 4 foot rod that's not extendable.

I'm not totally sure of every component.

236. Re: Earth rods you can buy in UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 08:54:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6opsa$7bah7$1@ID-150848.news.dfncis.de>
Source record: 121338

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6ophp$7ao7s$1@ID-150848.news.dfncis.de...

> Nobody's answered. :c(
>
> Here's my thoughts:
>
> Solid copper rod:
>
> RC010: 4 foot length of solid copper earth rod.
> CG013 : Dowel that screws into rods connecting them.
> SP010 : Spike end that screws into first rod.
> ST010 : Driving rod, not sure what this is.
>
> ST200 : Driving stud, goes on end of first rod, takes hammer blows.
> CG270 : New coupling. Brass couplings that you crimp onto rods?
>
> Copper Bond Rod:
>
> RB205 : Probably just one 4 foot rod that's not extendable.
>
> I'm not totally sure of every component.

Found the info:

http://www.furse.com/elp/pdf/erods.pdf

237. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 09:09:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6oqno$7ifqc$1@ID-150848.news.dfncis.de>
Source record: 121339

"J. McLaughlin" <JCM@Power-Net.Net> wrote in message
news:v8sfdmthmhvu96@corp.supernews.com...
> Read. His objective is to have a 4 inch hole so that he may fill the
> hole with a rod and conductive material (presumably, CuSO4 or coke
> breeze).
>
> Companies make and sell what I will call cartridges consisting of
a
> rod with attachment that is inside of a canister of conductive
material.
> In a commercial setting, one can save money by having a team drill
holes
> into which such a "cartridge" is inserted. Saves time and thus money.
> His goal is more than to have a rod in the ground. 73 Mac

As in:

http://www.furse.com/elp/pdf/scagents.pdf

238. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 11:52:44 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <g3309v48sir4pjq3c4svmqiln1oj7s5kid@4ax.com>
Source record: 121340
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Helmut Wabnig <hXwabnig@aXon.at> wrote:

> On Sat, 05 Apr 2003 21:01:03 -0700, Eric F. Richards <efricha@dim.com>
> wrote:
> >His response: "Who's Henry Kloss?"
> >
> Who * is * Henry Kloss?
>
> w.

Henry Kloss invented the accoustic suspension speaker as you know it
today. He was the first to use transistors in a hi-fidelity receiver.
He founded such companies as KLH, Advent, Accoustic Research,
Cambridge Soundworks and Tivoli, to name a few.

He was an american cult-figure in audio circles. When he died, nearly
every surviving company had an obit on their main web page.
--
Eric F. Richards, efricha@dim.com
"Nature abhors a vacuum tube." -- J. R. Pierce, Bell Labs, c. 1940

239. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 11:54:54 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <97409vc9oap7jur9g4amv4gj4unfq09s54@4ax.com>
Source record: 121341
Cross-posted to: rec.radio.amateur.antenna,rec.radio.shortwave

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote:

> >On another note, I was at a hamfest today and who should come walking
> >in while I'm walking out but Robert Sherwood of the famous Sherwood
> >Engineering sync detector. I said hi, trying not to sound too much
> >like Joe Fanboy, and explained to someone there helping me carry my
> >junk, that it was comparable to running into Henry Kloss at a flea
> >market, back when he was alive.
> >
> >His response: "Who's Henry Kloss?"
> >
>
> And my response: "Who's Henry Kloss, who's Robert Sherwood and what is the
> famous Sherwood Engineering sync detector?"

Robert Sherwood:

http://www.sherweng.com/

Henry Kloss:

http://www.chipcenter.com/columns/fgreenhalgh/col097.html

> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

--
Eric F. Richards, efricha@dim.com
"This book reads like a headache on paper."
www.cnn.com/2001/CAREER/readingup/08/14/getting.things.done/index.html

240. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 12:56:21 UTC
From: "John H. Carver Jr." <jcarver@netusa1.net>
Message-ID: <3e902277_4@newsfeed>
Source record: 121342

Try a thirty degree angle so that it slopes.

--
John H. Carver Jr.
Mid-North Indiana
"JoanD'arcRoast" <snakeplithkin2001@yahoo.com> wrote in message
news:060420030305146153%snakeplithkin2001@yahoo.com...
> Some relationship to the wavelength it was built to receive, perhaps?
> [This one is approximately 35 feet,4 inches long. It's an old beater
> I'm trying to press back into service to SWL tropical.]
>
> thanks,
> J

241. Re: WIDEBAND MAGNETIC LOOP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 13:41:20 UTC
From: Maarten Hagg <maartenmiriam@hetnet.nl>
Message-ID: <b6pbfainj1@reader10.wxs.nl>
Source record: 121343

The wl1030 is a wideband antenna for RX going
from 10kHz - 30 MHz
Look at the site http://home.hetnet.nl/~maartenmiriam/index.html

"Bernhard Rhondin" <bernhard_rhondin@hotmail.com> wrote in message
news:3E8D692A.E5C4C70E@hotmail.com...
> What is this?
>
> 1) ML-90 from QMAC is NOT wide-band. It is narrow-band, but it
> is tuneable over a wide range. It is useable also for TX!
> 2) I do not think the WL3010 is particulary wide band, either.
> I ususlly build in (sometimes switchable) varicap diodes into
> my home-brewed loops. Thus, the loop can be tuned over a very,
> very wide frequency range. But for each setting, the loop is
> very narrow-band. My guess this thinamajig works i a similar
> way. A wide-band antenna can be used WITHOUT any tuning!
>
> If BR IS really wide-band, it has a rediclously low efficiency.
> The utimately small wide-band antenna is called resistor!
>
> B.R.
>
> Greg wrote:
> >
> > Also look at the QMAC web page in Australia. They have wide band loop
for
> > mobile use
> >
> > Greg
> > "Maarten Hagg" <maartenmiriam@hetnet.nl> wrote in message
> > news:at1okonok1@reader10.wxs.nl...
> > > LOOK @
> > > http://home.hetnet.nl/~maartenmiriam/index.html
> > >
> > >
> > >

242. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 14:51:16 UTC
From: "Bill, W7TI" <jamspam@upyours.now>
Message-ID: <Xns93554FE68E81Bpookster@216.168.3.50>
Source record: 121344
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Eric F. Richards <efricha@dim.com> wrote in
news:489v8vsgsfjnbhnkenc835l5t0g6c3piil@4ax.com:

> This is gonna be an interesting one. The interference is completely
> gone today, so it may have had nothing to do with the new meters. Or
> it may only appear when they are being read by the utility.
>
> If I'm lucky they're gone forever, but who knows?
>

A couple of years ago I had a similar kind of interference which affected 40 meters mostly. It consisted of a rough broadband noise with peaks about every 50-60 khz. To make a long story short, it turned out to be the battery charger in a personal transportation vehicle similar to a golf cart, about 300 feet away. I contacted the manufacturer and they offered to fix it, but the owner moved away before repairs could be done. They were *well* aware of the problem. :-)

I wasn't going to reply to your original post since you were sure it was the electric meters, but now that it may not be, perhaps my experience will apply.

Good luck.

--
Bill, W7TI

243. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 14:53:34 UTC
From: "Bill, W7TI" <jamspam@upyours.now>
Message-ID: <Xns9355504A157C9pookster@216.168.3.50>
Source record: 121345

Owen Duffy <owen@oda.com.au> wrote in news:3E8FABFF.8090403@oda.com.au:

> Bill, I like that... I think I would suggest a small ammendment:
>
> Never use a dirt antenna for transmitting if you can afford otherwise.
>
>

Motion seconded. All those in favor say aye. :-)

--
Bill, W7TI

244. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 15:12:05 UTC
From: don bryant <dba@yebo.co.za>
Message-ID: <b6pg4gjvt1@ctb-nnrp2.saix.net>
Source record: 121346

After all the chit chat...We assume you want an RF ground, such as for an 1/4 wave vertical, NOT a safetry ground. A rod is useless for the antenna, and the typical 4 radials are not much better. You need a screen, preferably ON the surface, NOT buried. The deeper it is, the more the loss of RF power getting to the screen, and providing a return path back to the xmitter. See Moxon, and ARRL Antenna Manual.
Good d'luck

Donn ZS6BTP dba@yebo.co.za
> > On Sun, 06 Apr 2003 09:12:17 +1000, Owen Duffy <owen@oda.com.au>
> > wrote:
> >
> >
> > To sum up, a good lightning ground will also make a good hf radio
> > ground.
> >
> NOT true!!! See above
>
>

245. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 15:36:05 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <i3i09vk0p7eajb3ja696bbm338a30n2kb3@4ax.com>
Source record: 121347
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

"Bill, W7TI" <jamspam@upyours.now> wrote:

> Eric F. Richards <efricha@dim.com> wrote in
> news:489v8vsgsfjnbhnkenc835l5t0g6c3piil@4ax.com:
>
> > This is gonna be an interesting one. The interference is completely
> > gone today, so it may have had nothing to do with the new meters. Or
> > it may only appear when they are being read by the utility.
> >
> > If I'm lucky they're gone forever, but who knows?
> >
> ----------
>
> A couple of years ago I had a similar kind of interference which affected
> 40 meters mostly. It consisted of a rough broadband noise with peaks
> about every 50-60 khz. To make a long story short, it turned out to be
> the battery charger in a personal transportation vehicle similar to a
> golf cart, about 300 feet away. I contacted the manufacturer and they
> offered to fix it, but the owner moved away before repairs could be done.
> They were *well* aware of the problem. :-)
>
> I wasn't going to reply to your original post since you were sure it was
> the electric meters, but now that it may not be, perhaps my experience
> will apply.
>

Perhaps. But the neighbor on one side has an electric fence, and its
interference is well known. This started a couple days ago as a S5
buzzing; but when my meter was replaced it was replaced with S9+60
buzzing every 60 kHz from VLF to 15 MHz or so.

The meter model has an optional RF reading module (actually two, for
two different systems).

If I'm lucky it was a loose/dirty insulator somewhere down the road.

Right now everything is covered with ice crystals and there is ice fog
in the air, and there is uniform hum/buzz up and down the bands but
below S1.

We'll see.

> Good luck.

Thanks -- I'll need it! :-/

--
Eric F. Richards, efricha@dim.com
"Nature abhors a vacuum tube." -- J. R. Pierce, Bell Labs, c. 1940

246. Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 15:44:59 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304060744.56216f65@posting.google.com>
Source record: 121348

When one winds an inductance we introduce capacitance'.
With a plunger type capacitor we also introduce inductance.
So what actually happens when we place a plunger type capacitor
INSIDE a wound inductance with the intent of trimming the
inductance to a desired value ?
I suppose that the capacitor length could alter actual action
of the inductance flow lines,but for the life of me I just
can't get a handle on the interactions and the possible outcome.
Anybody got thoughts on the matter or can point to some references.
TIA
Art

247. Re: How long does it take to manually drill into ground a 6' deep4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 16:59:39 UTC
From: don bryant <dba@yebo.co.za>
Message-ID: <b6pmg3nrc1@ctb-nnrp2.saix.net>
Source record: 121349

Hi

I admit I haven't read most of the replies, so pardon me if I am out of line and/or repeating what other may have said..but..if you are looking for an RF ground, a rod is useless, based on my understanding of Moxon, "HF Antennas for All Locations" and the ARRL Antenna Manual. Assume a coax-fed quarter wave vertical. RF from the antenna flows on the surface of the ground back to the shield of the coax, completing the circuit. Ground radials, to be effective, have to approach a solid sheet of metal out to at least 1/4 wave from the base of the antenna. Four radials are typically called for, but are an absolute minimum and not very effective. A counterpoise could be substituted, but I can't comment here on that, mainly because I don't fully understand it.

FCC regulations for AM broadcast stations call for ..I forget the exact number..but something on the order of 100 radials! But Moxon points out the better arrangement is a 1/4 wave square screen, laid ON THE SURFACE. When the screen is buried, the RF has to penetrate the soil to reach the metal. This adds further losses. The screen provides a very good path back to the shield of the coax. Surface area is the issue, not depth. But check me out to ensure I am not misunderstanding the problem or Moxon/ARRL.
Don ZS6BTP dba@yebo.co.za
Roy Lewallen <w7el@eznec.com> wrote in message
news:v8sp58bul9t7c@corp.supernews.com...
> RF current decreases exponentially with depth, if ground conductivity is
> constant with depth (which admittedly it often isn't). The ironic thing
> is that the bottom portion of a ground rod is less effective in good
> soil than in poor soil. To get a better feel for what's going on, think
> of an extreme case where the ground is as conductive as copper. In that
> case, current flows only on the very top surface of the ground, and the
> ground effectively shields the bottom part of the ground rod from the
> current. The bottom of the ground rod is invisible to the surface for
> exactly the same reason that the inside of a conductor is invisible to
> the outside, making tubing just as conductive as solid wire at RF. This
> shielding effect becomes less and less as the ground becomes less
> conductive. At the other extreme, very poorly conductive soil, the whole
> ground rod is exposed to any field existing above the ground, since the
> field can easily penetrate.
>
> Here are some values for the skin depth in "average" and "very good"
> soil. The skin depth is the depth at which the current density has
> dropped to about 37% of its value at the surface.
>

> Average soil:
>
> 3.5 MHz 15.9 feet
> 10 MHz 13.2 feet
> 28 MHz 12.7 feet
>
> Very good soil:
>
> 3.5 MHz 5.4 feet
> 10 MHz 3.6 feet
> 28 MHz 2.8 feet
>
> Anything extending below more than a few skin depths is effectively
> invisible to RF on the surface -- it can be cut off with no noticeable
> difference at the frequency under consideration. In some ways, skin
> effect is like an impedance that's effective in a vertical direction but
> not a horizontal direction. (But be careful not to extend this
> comparison too far.)
>
> It's important not to confuse RF conductivity, which is dominated by
> skin effect, with DC or 60 Hz conductivity, which isn't. Even if the
> ground conductivity is high at some depth, contacting it with a rod
> makes no difference at radio frequencies if there's no significant RF
> current at that depth -- that portion of the rod is effectively shielded
> by the ground above.
>
> If the ground is poor at shallow depths, the skin depth will be
> relatively high, so significant current will flow more deeply. If the
> ground below that is highly conductive as in Fred's example, current
> won't flow very far into the conductive layer. In that case, extending a
> ground rod very far into the conductive layer is a waste of effort.
> However, if the soil above is poor enough to allow significant current
> to reach the conductive layer, it is worthwhile, as Fred says, to extend
> the ground rod down to it.
>
> Based on the skin depths shown above, I'd like to correct my earlier
> blanket statement that the bottom part of a rod doesn't do much. As you
> can see from the skin depths, there's still considerable current flowing
> at 8 feet providing the ground is average or less conductive. The bottom
> portion of longer ground rods will will be ineffective only if the soil
> conductivity is quite good, and particularly at higher frequencies.
>
> Shallow radial wires do remain the most effective ground for RF, however.
>
> Roy Lewallen, W7EL
>
>
> Fred McKenzie wrote:
> > << Can it be done in one day, if we are not drilling into very rocky
> > ground? >>

> >
> > Richard-
> >
> > I usually agree with comments by Roy Lewallen, W7EL. I disagree with
his
> > suggestion that the bottom portion of a ground rod does not have as much
value
> > as the top portion. Whether RF penetrates soil or not, is not important
> > because of the conductivity of the ground rod itself. There is more
likely to
> > be moisture further down, hence ground conductivity should be better
with a
> > longer rod. Even so, having several long rods in parallel would be a
further
> > improvement. Be sure to locate your grounds beyond the "drip-line" of
the
> > roof, where the soil is be more likely to be exposed to rainfall.
> >
> > But with respect to your question, why not use a steel water pipe as a
ground
> > rod? You can connect it to a water supply and use the water's force to
dig the
> > hole in a few minutes. (At least you can in Florida soil!) When it is
as far
> > down as you need, just cap it and leave it there. If you prefer the
copper
> > ground rod, pull up the pipe and insert the rod before the hole
collapses. If
> > that doesn't work, leave the water running and insert the ground rod
beside the
> > pipe before pulling it up.
> >
> > 73, Fred, K4DII
> >
>

248. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 17:03:17 UTC
From: "Albert P. Belle Isle" <belleisl@CerberusSystems.com>
Message-ID: <g4m09v8jc1nk8j3nrnsk3fmifhvj3mu9dg@4ax.com>
Source record: 121350

On Sun, 06 Apr 2003 03:05:14 -0400, JoanD'arcRoast
<snakeplithkin2001@yahoo.com> wrote:

>Some relationship to the wavelength it was built to receive, perhaps?
>[This one is approximately 35 feet,4 inches long. It's an old beater
>I'm trying to press back into service to SWL tropical.]
>
>thanks,
>J

J,

TFDs (mounted tilted or otherwise) tend to work best from about 3/4 of
their "knee frequency" to about 4 times that frequency.

Since the knee frequency (below which gain drops off rapidly, forming
a knee in its frequency response graph) is that for which the
antenna's length is 1/3 wavelengh, it would apear that yours has a
knee frequency corresponding to about 31 meters/9.7MHz.

You'll probably enjoy it for SWLing in its design range or even
VHF-low (the rate of high frequency drop-off isn't as rapid), but I
suspect you'll find it fairly deaf down on 5MHz and below.

My TFDs are roof-mounted on a two-story house (one tilted and one as a
shallow inverted-V) and my EZNEC modeling of each configuration
beforehand indicated that they'd work reasonably well over my
estimated ground conditions even down to half that height.

As predicted, they're fairly omnidirectional. They're not strongly
influenced by my antenna tuner (unlike my inverted-V doublet), but
they do benefit from it, as the EZNEC SWR curve would suggest..

Good listening,
Al
==========
Location: 42N39, 71W09
HF Antennas: 65ft TFD, 45ft T2FD, 28ft vertical, 65ft doublet
HF Receivers: Ten-Tec RX340, Ten-Tec RX320, Icom R71A
Decoders: Code300-32, Universal M-8000, PK-232MBX/DSP
==========

249. Re: Clock radio impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 18:24:06 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <ah_ja.103600$0g4.2981723@news2.east.cox.net>
Source record: 121351

1. AM or FM?

2. Does the set have an external antenna connector?

No one can give you an honest answer unless these two
questions are answered first.

Pete

"GD" <alfa@melb.something.au> wrote in message
news:Xns934DCD996136Dalfamelbsomethingau@203.166.23.254...
> To gain better reception of the station that I like to wake
> up to, I'm thinking of making an external antenna for my
> clock radio.
>
> So... whats the impedance likely to be? 50 ohms? 300ohms?
> Somewhere in between? How do I go about finding out?
>
> cheers...
> P.S. Yeah, I know it probably wont be a life threatening
> issue, but I'm curious to know.

250. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 19:00:17 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <RG_ja.37566$G6.26001@fe01.atl2.webusenet.com>
Source record: 121352

All electrical components (resistors, inductors, capacitors) have resistance, inductance, and capacitance. It is the one that predominates that determines how it will act in a circuit. Even just a straight piece of wire has all three.

Components also have a self resonance frequency, where the inductance and capacitance cancel each other, but in most cases this is of concern only at higher frequencies and you typically select components so that the self resonance frequency is many times the operating frequency.

By 'plunger type capacitor inside a wound inductor' do you mean a slugged tuned coil? I assume that is what you mean. It, too will have a self resonance frequency where the capacitance cancels the inductance. I would also expect that the self resonance frequency would change with the position of the tuning slug. Like I mentioned above, you would want the self resonant frequency to be several times the operating frequency.

Jim
N8EE

251. Re: How long does it take to manually drill into ground a 6' deep4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 19:13:43 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <alu09v8e7kiivk8luh99msiooj22ffl37s@4ax.com>
Source record: 121353

On Sun, 6 Apr 2003 18:59:39 +0200, "don bryant" <dba@yebo.co.za>
wrote:

... (excerpted) ...

All the original poster wants is a ground for a receiving antenna, an
inverted "L" with a "magnetic balun".

Most of the solutions sound like overkill, but that's just me :-)

Bob
k5qwg

252. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 19:38:36 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <0V-dnQsSP4ShHw2jXTWcoQ@comcast.com>
Source record: 121354

Richard,

I once installed almost 200 feet of fence, with a post every 8 - 10 feet. Found that there is an other kind of post hole digger that is much superior to the auger type. It consists of two poles, each about 7 feet long. There is a small shovel like thing on the end of each pole. The two poles are fastened to each other with a hinge contraption. You jam the thing into the ground, and just lift out the earth between the two shovel blades. My guess is I was taking less than 5 minutes per fence post. Probably 2 feet deep.

I started out using a rented auger. Neighbor came over, laughed at me, and handed me the right tool.

Tam/WB2TT
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6jjdj$5uclj$1@ID-150848.news.dfncis.de...
> Can it be done in one day, if we are not drilling into very rocky
> ground?
>

253. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:00:48 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <d_WcncfwQbrtGg2jXTWcpw@comcast.com>
Source record: 121355

Jim,

He is talking about 6 meters. It is highly unlikely that his reception is limited by receiver noise figure. You really have to live in the boonies for that. Even if so, the preamp only might make sense if you are running a KW, and can't hear the 100 watters calling you.

The directional antenna gets two things for you. Other than boosting the desired signal, it attenuates noise that is coming in from a different direction. I sometimes have to resort to turning the antenna to nul out noise, even if that means I am not pointing at the other station.I occasionally get S9 noise.

Tam/WB2TT
<Jimnn7k@reno.rmci.net> wrote in message
news:B3Kja.35392$G6.13639@fe01.atl2.webusenet.com...
> And forgot : 4) You have to supply power to it. Also, remove your antenna
> from your 2 meter rig, and replace it with a 50 ohm termination. Note the
> noise level you hear from your reciever. Now replace the termination with
> your antenna. If the noise level INCREASES, usually you have as sensitive
a
> reciever as you will ever have consistant with the antenna used . The
extra
> noise is being recieved from external sources at your qth. (any preamp
will
> amplify that NOISE as well as the signals, rendering the preamp gain
> redundant)! again , might get some disagreement on this, but more likely
to
> get better results by narrowing the reciever bandwidth (thru cw, or AUDIO
> filter. as sensitivaty is defined as: 4 KTRb (in other words, halve the
> bandwidth of a reciever, quadruple the sensativity!) Jim NN7K
>
>
>
>

254. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:04:01 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <v9121bfj0bb0ca@corp.supernews.com>
Source record: 121356

On special occasions, one might operate a component near its resonant
frequency. The MIT Radiation Lab series has an example (which might not
be in volume 18) of composing 30 MHz bypass capacitors by winding a
small coil in one lead so that the combination was series resonant.
This was a wartime expedient by people who knew what they were doing.
In some early work involving VHF BJT power amplifiers, I found it
expedient to use a compression capacitor (in a matching network) that
could selectively be made into a capacitor or inductor.
N8EE has described the general case.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
Office: JCM@McLMcL.Com
"JLB" <IHateSpam@nospam.net> wrote in message
news:RG_ja.37566$G6.26001@fe01.atl2.webusenet.com...
> All electrical components (resistors, inductors, capacitors) have
> resistance, inductance, and capacitance. It is the one that
predominates
> that determines how it will act in a circuit. Even just a straight
piece of
> wire has all three.
>
> Components also have a self resonance frequency, where the inductance
and
> capacitance cancel each other, but in most cases this is of concern
only at
> higher frequencies and you typically select components so that the
self
> resonance frequency is many times the operating frequency.
>

255. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:04:18 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <9v119vse9854tvbgfahn93u1huvv031n9j@4ax.com>
Source record: 121357

On 4 Apr 2003 19:05:55 -0800, kelly@dvol.com (Brian Kelly) wrote:

>Russ <carlzomer@hotmail.com> wrote in message
news:<8abo8v0mepfkc4gi3g60nckcv7ju03g05p@4ax.com>...
>> On Thu, 3 Apr 2003 09:44:08 +0200, "F8BOE Olivier"
>> <f8boeNOSPAM@free.fr> wrote:
>>
>> >Hi!
>> >
>> >My first HF antenna was a "full size" G5RV crafted by Mr. Hari in Germany.
>> >
>> >It was a really good looking masterpiece of shit, and that was all!
>> >So it returned where it came from and I bought an MFJ 259!
>> >
>> >73 de F8BOE Olivier ...-.-
>> >
>>
>> So, how do you get out using the 259? In reality, you should have
>> used the 259 on the G5RV and feedline. Everyone who uses a GRV can't
>> be wrong...
>
>Wanna bet money on that?
>
>>
>> Russ - kf4wxd
>
>w3rv

So what you are saying is that no G5RV works and that everyone you
uses one is wrong? Please elucidate.

Russ

256. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:13:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <uo519vcnj10ru2b6595n4qgpu0jg3tvdjb@4ax.com>
Source record: 121358

On 6 Apr 2003 08:44:59 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>or can point to some references.
>TIA
>Art

Hi Art,

You already demonstrate enough awareness and it already boils down to
a problem you can't fix anyway. However, treating it like a problem
is often a bigger problem.

It doesn't take a book or laurel browed academic to teach us: minimize
the negative and accentuate the positive. If you can't do anything
about the negative, overwhelm it and take control (use the "impure"
reactance instead of trying to get rid of it).

73's
Richard Clark, KB7QHC

257. TS430S REPAIR HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:30:53 UTC
From: Vince <vcl@sympatico.ca>
Message-ID: <U70ka.338$d55.80541@news20.bellglobal.com>
Source record: 121359

hi all, i need some help. i have a kenwood ts430s and my problem is that. i will turn on the radio i will use it for a bit it works fine. but if i leave it on for a while the rig will stay on but the display will go off and it will not tx or rx but if i turn it off and back on it will work again also sometimes the display will blink (off and on) and the rig will change the band and frequency. i need help as to what to do to repair it can anyone help me.....thank you

Vince ve3elb
==========
Email: ve3elb@rac.ca
Visit My Webpages @ :
www.qsl.net/ve3elb
http://www3.sympatico.ca/vcl

258. Re: TS430S REPAIR HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 20:58:26 UTC
From: James <jimboz@nospam.com>
Message-ID: <3E9094F0.C024D9F1@nospam.com>
Source record: 121360

hi vince,

are you on the kenwood reflector ? lots of good info there, here is how to get
on it
so you can post the question there

To subscribe or unsubscribe via the World Wide Web, visit
http://mailman.qth.net/mailman/listinfo/kenwood

another great site is www.eham.net if you don't already know about this site.

73 james

Vince wrote:

> hi all, i need some help. i have a kenwood ts430s and my problem is that. i
> will turn on the radio i will use it for a bit it works fine. but if i
> leave it on for a while the rig will stay on but the display will go off and
> it will not tx or rx but if i turn it off and back on it will work again
> also sometimes the display will blink (off and on) and the rig will change
> the band and frequency. i need help as to what to do to repair it can anyone
> help me.....thank you
>
> Vince ve3elb
> ======================
> Email: ve3elb@rac.ca
> Visit My Webpages @ :
> www.qsl.net/ve3elb
> http://www3.sympatico.ca/vcl

259. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:03:30 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ynidnQOfCv2-Cw2jXTWcoQ@comcast.com>
Source record: 121361

Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the loss
in 75 feet would be only 0.7 db.

Tam/WB2TT
"

260. Re: TS430S REPAIR HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:08:07 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E909708.D9279840@shaw.ca>
Source record: 121362

Vince wrote:
>
> hi all, i need some help. i have a kenwood ts430s and my problem is that. i
> will turn on the radio i will use it for a bit it works fine. but if i
> leave it on for a while the rig will stay on but the display will go off and
> it will not tx or rx but if i turn it off and back on it will work again
> also sometimes the display will blink (off and on) and the rig will change
> the band and frequency. i need help as to what to do to repair it can anyone
> help me.....thank you
>
> Vince ve3elb
> ======================
> Email: ve3elb@rac.ca
> Visit My Webpages @ :
> www.qsl.net/ve3elb
> http://www3.sympatico.ca/vcl

The easiest and quickest thing for an intermittent fault
like that might be to check that all the ground screws that
hold the circuit boards to the chassis are firmly tightened
down. Then loosen and reseat all connectors with plugs.
Also moving the various (rotary and other) switches through
their positions may help.
If this doesn't cure the problem then you might try tapping
around the circuitry with a plastic screwdriver or something
similar to see if you can cure the problem (if you can
do this while the problem is present), or cause the problem
(if it is not acting up when you begin the procedure). This
may sound odd, but I found this procedure to be very handy
for 'first step troubleshooting'. It's a refined version of
banging it with your hand to see if the fault clears.
Hopefully this will help. Please let me know how you
make out with it.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

261. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:15:26 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E9098EE.6060306@oda.com.au>
Source record: 121363

don bryant wrote:
...
> Donn ZS6BTP dba@yebo.co.za
>
>>>On Sun, 06 Apr 2003 09:12:17 +1000, Owen Duffy <owen@oda.com.au>
>>>wrote:
>>>
>>>
>>>To sum up, a good lightning ground will also make a good hf radio
>>>ground.
>>>
>>
>>NOT true!!! See above
>>
>>

Don, I said no such thing.

That was in another's post and you have crafted a quote which wrongly attributes the quote to me. Indeed you know that I responded disagreeing witht the statement.

Owen

262. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:24:21 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E909B23.3060609@adelphia.net>
Source record: 121364

don bryant wrote:
> After all the chit chat...We assume you want an RF ground, such as for an
> 1/4 wave vertical, NOT a safetry ground. A rod is useless for the antenna,
> and the typical 4 radials are not much better. You need a screen, preferably
> ON the surface, NOT buried. The deeper it is, the more the loss of RF power
> getting to the screen, and providing a return path back to the xmitter. See
> Moxon, and ARRL Antenna Manual.

I wonder how many people are talked out of putting up *any* antenna
after looking around in here? Lemmee check with my wife to see if its
okay to lay a screen over the yard! 8^)

- Mike KB3EIA -

263. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:49:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9186hnp753615@corp.supernews.com>
Source record: 121365

Richard Clark wrote:
> . . .
> It doesn't take a book or laurel browed academic to teach us: minimize
> the negative and accentuate the positive. If you can't do anything
> about the negative, overwhelm it and take control (use the "impure"
> reactance instead of trying to get rid of it).

Or, as we used to say in the engineering design world, if you can't fix it, feature it.

Roy Lewallen, W7EL

264. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 21:51:34 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <l7819vs1tupd90eu18aafroha3j6tqjnb7@4ax.com>
Source record: 121366

On Sun, 06 Apr 2003 14:22:28 +1000, Owen Duffy <owen@oda.com.au>
wrote:

>
>
>Gary Schafer wrote:
>> On Sun, 06 Apr 2003 09:12:17 +1000, Owen Duffy <owen@oda.com.au>
>> wrote:
>>
>>
>> To sum up, a good lightning ground will also make a good hf radio
>> ground.
>>
>
>
>Gary, I just hate that word 'will' in there. Perhaps I spend too much
>time working with lawyers (never (whoops) use 'never', 'always', 'will',
>'must' unless you are talking about someone elses obligation, don't
>warrant anything)!
>
>And equally non-committal:
>
>An adequate RF earth is not necessarily an adequate lightning earth.
>Many ham RF earth implementations would not withstand a discharge like
>20KA for 100mS (inadequate conductor CSA, joints physically dependent on
>solder).
>
>I really think that you have to consider both needs and harmonise them.
>
>Adding an RF earth system might well compromise an installation with an
>existing lightning protection system if not properly integrated (eg
>effective equipotential bonding). If I was responsible for a facility
>that had a lighting protection system, I would be most conderned about
>someone sticking a stake out in the paddock and wiring it back into
>equipment in the equipment room without regard to the potential gradient
>that might exist and the consequences.
>
>Sounds like it should be engineered, doesn't it!
>
>
>Owen

Maybe you would have been happier if I had put in the work "usually"?
:>)
But please note that I did not say that a good RF ground would

necessarily make a good lightning ground. A good example of that would be an elevated radial system. Pretty good rf ground but not a good lightning ground.

In contrast, a good lightning ground is a good rf ground, or at least it should be. To build a good lightning ground in average soil you should also have radials as well as ground rods. After all the energy that you are trying to dissipate consist of DC and RF. Most of the energy in a lightning strike is concentrated in the area of DC to 1 mhz. If you are only concerned with a good DC ground and ignore the RF part you have not installed a good lightning ground. That includes short low inductance leads as well as radials.

73
Gary K4FMX

265. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 22:11:44 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304061411.157c7b07@posting.google.com>
Source record: 121367

"JLB" <IHateSpam@nospam.net> wrote in message
news:<RG_ja.37566$G6.26001@fe01.atl2.webusenet.com>...
> All electrical components (resistors, inductors, capacitors) have
> resistance, inductance, and capacitance. It is the one that predominates
> that determines how it will act in a circuit. Even just a straight piece of
> wire has all three.
>
> Components also have a self resonance frequency, where the inductance and
> capacitance cancel each other, but in most cases this is of concern only at
> higher frequencies and you typically select components so that the self
> resonance frequency is many times the operating frequency.
>
> By 'plunger type capacitor inside a wound inductor' do you mean a slugged
> tuned coil? I assume that is what you mean. It, too will have a self
> resonance frequency where the capacitance cancels the inductance. I would
> also expect that the self resonance frequency would change with the position
> of the tuning slug. Like I mentioned above, you would want the self
> resonant frequency to be several times the operating frequency.
>
> Jim
> N8EE

Jim.
Plunger type capacitor....a insulated sliding tube within a aluminum
tube.
Intended for adjusting an inductance value, not for use as a trap
e.t.c.
I was thinking the inductor to be wound on a 3" dia fibre glass tube
with
the 1 1/4 dia variable compensating capacitor inside and parallel to
the inductor. Was thinking that possibly the inductance would
increase with
the presence of the aluminum capacitance tube but do not know what
other effects could possibly occur. Do not want to operate near
resonance of any sort ofcourse.
Regards
Art

266. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 22:26:35 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <vQ1ka.348879$3D1.188903@sccrnsc01>
Source record: 121368

9:1 transformer and random wire. I have been using this setup for about 8
years.
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b6ni0h$g93$1@sparta.btinternet.com...
> "CW" wrote
> > I remember you advocating this system a couple of years ago. BTW, yes,
it
> > does work.
> > >
> ==========
>
> Did I ?
>
> Thanks for letting me know. Was it the good system or the bad one ? I
> forget.
>
> Do you still have it ?
>
> Reg, G4FGQ
>
>

267. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 22:56:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6qbbf$2d5$1@hercules.btinternet.com>
Source record: 121219

Once again everybody is quibbling about nonsensical triviatilites just to display in public their supposed knowledge of the subject.

To relieve the pain of the genuine amateur bystanders why not just give it a rest.

268. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 23:32:03 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <DF2ka.37646$G6.31830@fe01.atl2.webusenet.com>
Source record: 121220

Usually non magnetic materials will decrease the inductance, not increase it, when placed inside the coil. Sometimes you see a brass screw inside a coil for VHF use.

I can't quite picture how a capacitor will adjust an inductance unless you are operating above the resonance frequency??

Other people here, I have noticed, think this is a trivial thing. I wouldn't call it that. It is one of those things that they usually don't tell you in school, but can make your 2 meter transmitter transmit on TV channel 12 if you aren't careful.

Jim
N8EE

269. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 23:36:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oee19vglv9hksu63g3p19d4td7ibq61gje@4ax.com>
Source record: 121221

On Sun, 6 Apr 2003 22:56:47 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Once again everybody is quibbling about nonsensical triviatilites
Back in good spirits I see, glad you could join us.

73's
Richard Clark, KB7QHC

270. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 23:42:40 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <DP2ka.37650$G6.16587@fe01.atl2.webusenet.com>
Source record: 121222

I just thought of another way to describe what's going on.

Yes, you are correct in that a coil will also have capacitance between the turns. However, what happens is that, at low frequencies, the inductance will be less than what you expect. As you approach the self resonant frequency, the inductance will get smaller and smaller until it drops to zero (at the self resonant frequency). Above this frequency it will actually measure as a capacitance.

Now, if you purposly add a capacitance in parallel with your coil the resonant frequency will be lower than what you would expect from the intended inductance and capacitance. This is because of the self capacitance of the coil (and self inductance of the capacitor, but we will ignore that for now).

So, it seems reasonable that if you are using the coil/capacitor combination somewhere below the resonant frequency you could, in affect, adjust the equivalent inductance by tuning the capacitor.

Unless there was some mechanical reason for it, I would put the capacitor outside the coil, not inside.

Jim
N8EE

271. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 23:48:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1je19vc6mddg10h9cv583l4fcns7dvf43t@4ax.com>
Source record: 121223

On Sun, 6 Apr 2003 19:32:03 -0400, "JLB" <IHateSpam@nospam.net> wrote:

>Other people here, I have noticed, think this is a trivial thing. I
>wouldn't call it that. It is one of those things that they usually don't
>tell you in school, but can make your 2 meter transmitter transmit on TV
>channel 12 if you aren't careful.

Hi Jim,

Trivial? Of course! By definition, specification and application
even.

Perhaps you mean of no consequence, another matter. And can any
difference be made to that consequence? Not much, again by
definition, specification and application.

Even if you are careful, you can still transmit channel 12 - some
trivial differences are inescapable.

If you cannot live with the trivial, you have to learn to use it - or
pretend it doesn't matter which at HF is often the case - going to VHF
to make the trivial an enormous problem is what I mentioned about
having to invent trouble to motivate the solution to the "problem."

What is trivial is the payback where these problems of invention are
designed to fix something that already works. To extend Roy's comment
(to the field of software) it would be called an "undocumented
feature."

73's
Richard Clark, KB7QHC

272. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-06 23:59:35 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E90BF67.C887510B@cwis.net>
Source record: 121224

Richard,
Yes, I would think that when using a "magnetic balun"
you would need some kind of ground/earthing also. Why
not simply put in a radial or two and forget the big
production in digging a hole? A shovel will work just
fine, and you only have to get the radial(s) deep enough
for the lawn mower to miss them.
'Doc

273. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 00:39:24 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <OE3ka.37684$G6.8331@fe01.atl2.webusenet.com>
Source record: 121225

Tam- I TOTALLY realize that! More than you will ever know! , corse his original comments were aimed at 2 METERS! (running stacked KB6KQ haloes for 2 meters),(and btw, know NORM,KB6KQ, myself) . but, for Six METERS, keep in mind, that terresterial NOISE PEAKS, arout 50-60 MHz! Noise figure no big here (even at 4 dB, but big selling point!) But, even at 2 meters (unless aimed towards the moon), the terrestrail; noise will throttle any low noise preamp (and again, keep in mind that the antenna under discussion is OMNI-DIRECTIONAL , stacked HALOES! -- they recieveing from all directions, 360 degrees (towards the horizon). also, those loss's for feedline were quoted for 100 foot at 150 MHz, and at 75 foot AGAIN, at 150 MHz! But, once again, the test i mention (note noise on TERMINATED reciever, then , connect antenna- If noise goes up, then you have the best sensativity you can obtain (but rotate the antenna to the quietest point in the sky first, not a condition here, as this is omnidirectional antenna under discussion). But like i say, it is up to arguement-- Do Itimashitmashta! -- Jimu Desu!! 6 Meter QRP W.A.S. # 724 !!!

Tamsan Sent:
> Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the loss
> in 75 feet would be only 0.7 db.
>
> Tam/WB2TT

274. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 00:45:46 UTC
From: KWA <junkmail@junkmail.com>
Message-ID: <_S3ka.61317$0X.12406950@twister.columbus.rr.com>
Source record: 121226

I am real happy with mine! I am in a situation where my subdivision bylaws do not allow outdoor antennas. When I built my house a year ago, I put in a 52' G5RV high up in the rafters of the attic and ran the line to my future shack in the basement. It gives me about 30-35' of height at the peak and I have worked several countries in my very brief time on the air.

No, I strongly disagree on the negative comments. Without the G5RV I would be off the air. I am very pleased.

Keith

"Russ" <carlzomer@hotmail.com> wrote in message news:9v119vse9854tvbgfahn93u1huvv031n9j@4ax.com...
> On 4 Apr 2003 19:05:55 -0800, kelly@dvol.com (Brian Kelly) wrote:
>
> >Russ <carlzomer@hotmail.com> wrote in message news:<8abo8v0mepfkc4gi3g60nckcv7ju03g05p@4ax.com>...
> >> On Thu, 3 Apr 2003 09:44:08 +0200, "F8BOE Olivier"
> >> <f8boeNOSPAM@free.fr> wrote:
> >>
> >> >Hi!
> >> >
> >> >My first HF antenna was a "full size" G5RV crafted by Mr. Hari in Germany.
> >> >
> >> >It was a really good looking masterpiece of shit, and that was all!
> >> >So it returned where it came from and I bought an MFJ 259!
> >> >
> >> >73 de F8BOE Olivier ...-.-
> >> >
> >>
> >> So, how do you get out using the 259? In reality, you should have
> >> used the 259 on the G5RV and feedline. Everyone who uses a GRV can't
> >> be wrong...
> >
> >Wanna bet money on that?
> >
> >>
> >> Russ - kf4wxd
> >
> >w3rv
>
> So what you are saying is that no G5RV works and that everyone you
> uses one is wrong? Please elucidate.
>

> Russ

275. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 00:49:35 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <lO3ka.37687$G6.17983@fe01.atl2.webusenet.com>
Source record: 121227

Oh, and BTW, the best inline amps (antenna mounted) as I remember, handle a MAX POWER of 50-100 WATTS at the Preamp (antenna)! for a KW, you need Tohsu or Dow-key relays, or equivelant, and a SEQUENCER for the relays! otherwise, the preamp turns to melted silicon real quick! (Question what acts faster than a fuse- Answer, a transistor , or diode overdriven!)-- Jim

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message news:ynidnQOfCv2-Cw2jXTWcoQ@comcast.com...
> Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the loss
> in 75 feet would be only 0.7 db.
>
> Tam/WB2TT
> "
>
>

276. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 00:57:41 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6qie5$b0c$1@titan.btinternet.com>
Source record: 121228

> So what you are saying is that no G5RV works and that everyone you
> uses one is wrong?
==========

Any multiband, all round dipole works better than a G5RV except on the 14MHz DX band, cloverleaf radiation pattern, for which it was originally intended by the designer.

On that band, the great man G5RV was concerned with tuned-tank, link-coupled, open-wire feed-line transmitters using tubes which have long since, during a period of 50 years, gone out of fashion.

But the myths have been continued in the magazines and annuals by old wives plagiarisers who long ago should have been sentenced to the old English custom of ducking stools. Specially those who have eneavoured to make profit from selling tall stories to novices.

In the crypt of Warwick Church, just a few miles from the our Bard Shakespeare's Stratford-on-Avon, there can be seen the only remaining ducking stool in this Great Merrie England of ours. All touring radio amateurs from the USA, and indeed international visitors welcome from many other regions of this small Earth, are recommended to include Ancient Warwick in their itineries. There is also the magnifient, well-maintained, historic, fully furnished Warwick Castle where Queen Elizabeth the 1st of England once or twice slept.

As you slowly, reverently, wend your way past the Ducking Stool, with other members of the tourist coach load, you may wish to consider the prospects of bringing it back into use, making a modest donation to the collecting box, bearing the G5RV old wives hangers-on in mind.

(Visitors from the USA are respectfully reminded not to leave remains of chewing gum on the ancient stone floors.)

Yours, Reg, G4FGQ.

277. Re: G5RV Coax Feed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 01:19:28 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <e6k19vcbo0tqcdjej3gv4lq82hefnkgcka@4ax.com>
Source record: 121229

On Mon, 7 Apr 2003 00:57:41 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>
>As you slowly, reverently, wend your way past the Ducking Stool, with other
>members of the tourist coach load, you may wish to consider the prospects of
>bringing it back into use, making a modest donation to the collecting box,
>bearing the G5RV old wives hangers-on in mind.

I imagine the Ducking Stool is the ancient cousin of the Electric
Chair we once used here in Texas? (Nowadays, our gas chamber takes
care of things much more nicely. No more smoking scalps.)

Bob
k5qwg

>
>(Visitors from the USA are respectfully reminded not to leave remains of
>chewing gum on the ancient stone floors.)
>---
>Yours, Reg, G4FGQ.
>

278. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 02:06:16 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3e90e021_3@news1.prserv.net>
Source record: 121231

Go to:
http://www.cebik.com/radio.html
and look at the couple of articles on the T2FD. It pretty much covers all
the aspects of the design.

--
Crazy George
Remove NO and SPAM from return address
"JoanD'arcRoast" <snakeplithkin2001@yahoo.com> wrote in message
news:06042003030514615 3%snakeplithkin2001@yahoo.com...
> Some relationship to the wavelength it was built to receive, perhaps?
> [This one is approximately 35 feet,4 inches long. It's an old beater
> I'm trying to press back into service to SWL tropical.]
>
> thanks,
> J

279. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 02:14:22 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6qmtt$g2s$1@titan.btinternet.com>
Source record: 121230

Dear CW,

I do appreciate you taking the trouble to feedback info on what I advocated a couple of years back. It is a fact I cannot remember any details. But at least you have been satisfied with whatever you have been doing for the last 8 years and whatever I said 2 years back made things neither better nor worse. I'm grateful for that.

But after this length of time, with a little extra experience of my own, for recieving purposes, I have not been able to show the transformer impedance ratio at the receiver end of a long random wire antenna makes any difference in performance. Under some local circumstances, in one band or another, there may be some improvement. But only at the expense of deterioration in other bands.

73 Reg, G4FGQ

280. Re: TS430S REPAIR HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 02:17:15 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3e90e022_3@news1.prserv.net>
Source record: 121232

The phase lock loop needs realignment. The display disappearing is Kenwood's way of telling you the loop has lost lock. Very common problem in old Kenwoods. See a repair shop familiar with Kenwoods. Describe the problem, and if they don't respond: loop lock lost, go to the next repair shop until you find one who knows the problem.

--
Crazy George
Remove NO and SPAM from return address
"Vince" <vcl@sympatico.ca> wrote in message
news:U70ka.338$d55.80541@news20.bellglobal.com...
> hi all, i need some help. i have a kenwood ts430s and my problem is that.
i
> will turn on the radio i will use it for a bit it works fine. but if i
> leave it on for a while the rig will stay on but the display will go off
and
> it will not tx or rx but if i turn it off and back on it will work again
> also sometimes the display will blink (off and on) and the rig will
change
> the band and frequency. i need help as to what to do to repair it can
anyone
> help me.....thank you
>
>
>
>
>
> Vince ve3elb
> ======================
> Email: ve3elb@rac.ca
> Visit My Webpages @ :
> www.qsl.net/ve3elb
> http://www3.sympatico.ca/vcl
>
>

281. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 03:00:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6qpkmoju1@sparta.btinternet.com>
Source record: 121233

KB7QHC wrote,

> I hope you are in good health otherwise.
> Did you march?

==========

My health is as well as can be expected at my time of life and I havn't marched any further than my local pub. It's our English weather you know.

But as you have mentioned the subject, like many other people around this Earth I am unhappy with the undeclared war. The number of self-inflicted injuries suffered by your armed services is already too high. You have my sympathies.

I wish you good DX.

Reg.

282. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 05:20:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v922l54t5a8db@corp.supernews.com>
Source record: 121234

Richard Clark wrote:
> . . .
> What is trivial is the payback where these problems of invention are
> designed to fix something that already works. To extend Roy's comment
> (to the field of software) it would be called an "undocumented
> feature."

That is, indeed, one way of applying the rule "If you can't fix it, feature it," and one that's done more often than you might think.

But there's another one, too. The principle is often applied to filter design, among other things. I'll give as an example a delay line compensator I designed some years ago. Its purpose was to correct for the frequency dependent skin effect loss in a coaxial delay line for a high-speed sampling oscilloscope (bandwidth to about 9 GHz, but with flat frequency and phase response from there down to DC). The compensator consisted of a number of bridged-tee sections, each of which corrected for a range of frequencies (or time, since this was a time-domain application) by having an approximately complementary response over the appropriate interval. The thing had to be made from real surface mount components. This meant inescapable shunt capacitance from the mounting pads, and series inductance from connections to the signal path and between components. As anyone who has dealt much with filters knows, a circuit can be transformed in a number of ways while retaining the same frequency and phase (and therefore time) response but with different components or topologies. One of the tricks to accomplishing the design was to find a topology for each of the compensator sections that required capacitance where I was stuck with having capacitance anyway, and likewise inductance. That way, the stray L and C (which I couldn't "fix") could be absorbed into the network as part of the required ("featured") circuitry. This approach is taken quite often in filter design.

There were some other tricks involved in this case, though. For example, each compensating section looked like a transmission line stub with associated reflections. The compensator sections were intentionally lossy, so I made sure that the significant reflections traveled through the lossy part, to minimize their effect on the overall response. Those reflections, however, weren't "featured", just suppressed. But they put some extra boundaries on what could be done with the topology of the compensating sections -- the usual case of mutually exclusive requirements. But hey, that's what makes it interesting.

Roy Lewallen, W7EL

283. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 05:28:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4r229v8qaagrfmblngd16c4bnc3lkkvvbp@4ax.com>
Source record: 121235

On Mon, 7 Apr 2003 03:00:38 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>KB7QHC wrote,
>
>> I hope you are in good health otherwise.
>> Did you march?
>
>==========
>
>My health is as well as can be expected at my time of life and I havn't
>marched any further than my local pub. It's our English weather you know.

Not much different from the climate here in Seattle. We had a dry day
to assemble 30000.

>
>But as you have mentioned the subject, like many other people around this
>Earth I am unhappy with the undeclared war. The number of self-inflicted
>injuries suffered by your armed services is already too high. You have my
>sympathies.
>
Thanx from the Soviet of Washington.

73's
Richard Clark, KB7QHC

284. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 05:29:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9236r87n9iv3e@corp.supernews.com>
Source record: 121236

Egad, is that "magnetic" balun still being peddled? What are its supposed advantages over "electric" baluns? Does it work like magnetic water softeners, arthritis cures, and gas mileage increasers, or is it just something specially made to use with "magnetic" loop antennas?

Roy Lewallen, W7EL

Richard wrote:
>
> Well, it does seem a lot of bother. But I think for general
> coverage receiving only, an inverted L with a magnetic balun is a
> good antenna option. Thing is to reduce the noise pick-up as
> much as anything else. And I think I need some kind of a ground
> connection to complete the circuit for the antenna current.
>

285. !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 05:52:16 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3E911205.77D1152C@att.net>
Source record: 121237

Mike Coslo wrote:

> I wonder how many people are talked out of putting up *any* antenna
> after looking around in here? Lemmee check with my wife to see if its
> okay to lay a screen over the yard! 8^)

Mike, I think that's the single big negative here, embedded in a huge positive field of great information.

All the high level expertise here so often just muddies things up for the lesser initiated and it seems inevitable that some throw up their hands and give up before ever getting started, or misinterpret something they've read here with unexpected sometimes very unpleasant results.

An example comes to mind. Some time back I offered the advice that one shouldn't use RG58 at power levels above around 100 watts. None other than W7EL responded with the true statement that RG58 is rated for several hundred watts and that he routinely uses it at 300 watts.

Of course I didn't challenge him, and his information is accurate. But as so often happens here on .antenna, there is more to the story. I think we can assume that Roy always matches at the antenna feedpoint when running high power through RG58, and operates the feedline at or near 1:1 SWR.
Neither he nor I made the point that when one uses a desktop tuner as so many do today, and matches a dipole at the line input, operating with maximum flexibility across a wide band, such as on 75/80 meters, the SWR will rise fairly drastically well away from the antenna's resonant frequency, placing SWR stress on the RG58 that it may well not be able to handle.

So Joe Newham, reading that thread, says, "Hey, if W7EL says you can run high power through RG58, that's good enough for me", and promptly places his 600 watt SB200 amp on the air exciting his RG58-fed dipole. All is well until the time he decides to excercise his new Extra privileges on 3505kc, when his dipole is cut to his usual hangout freqency of 3950 or whatever, and he cranks up the wick to try to work a rare one on CW.....

With no foldback circuitry in the amp, he tunes up at 600 watts into a high SWR and POOF!
"Hey! What happened? Why is my RG58 smoking out in the yard? And what was that brilliant
flash of light from the tubes in my SB200???!!!"

So you are definitely on the right track. If I had read this NG as a 14 year old getting ready to go
the air back in the 50's I'd have never even attempted it.

Dick

286. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 06:00:14 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3E9113E4.7E8056F1@att.net>
Source record: 121238

Reg Edwards wrote:

I am unhappy with the undeclared war.

Hey Reg.... We're all unhappy about something. No one I know, anywhere, is particularily
pleased about it, and I'm quite sure that extends from the White House all the way
to the lowest ranking grunt now approaching the outskirts of Baghdad.

Some of us, however, are similarily unhappy with all the airheads spouting
"Give Peace a Chance".
The question begs, "What about the 12-year chance it just had? How long did it take Hitler? I seem
to recall he was given a pretty good chance".

287. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 06:14:33 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3E911740.919B7E8B@att.net>
Source record: 121239

Dick Carroll wrote:

> Reg Edwards wrote:
>
> I am unhappy with the undeclared war.
>
> Hey Reg.... We're all unhappy about something. No one I know, anywhere, is
> particularily
> pleased about it, and I'm quite sure that extends from the White House all the
> way
> to the lowest ranking grunt now approaching the outskirts of Baghdad.

Ah, excuse me! I just learned on Fox News that some of those grunts just took a
shower in
Saddam's bathroom in his palace located on the west bank of the Tigris in downtown
Baghdad.

288. Re: How long does it take to manually drill into ground a 6' deep 4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 08:20:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6rc9g$7v25k$1@ID-150848.news.dfncis.de>
Source record: 121240

"'Doc" <w5lz@cwis.net> wrote in message
news:3E90BF67.C887510B@cwis.net...
>
>
> Richard,
> Yes, I would think that when using a "magnetic balun"
> you would need some kind of ground/earthing also. Why
> not simply put in a radial or two and forget the big
> production in digging a hole? A shovel will work just
> fine, and you only have to get the radial(s) deep enough
> for the lawn mower to miss them.
> 'Doc

Doc

Well that's what I was thinking. I am surprised to learn that if I put in just one 9m by 2mm dia wire, 10 centimeters deep in the ground, that is significantly better dc resistance to ground than a 4 foot 3/8 inch ground rod, or 0.5m plate. I say dc resistance because I thing Reg's earthreg.exe just works out dc resistance.

I was thinking the more area that contacted with soil the lower the resistance.

I don't know why we use the term "magnetic balun". Just a transformer isn't it.

289. Re: How long does it take to manually drill into ground a 6' deep4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 08:32:01 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E913781.2F414A67@cwis.net>
Source record: 121241

Roy,
It "magnetically" knows what impedance ratio
to 'be', according to what frequency is used? Or
maybe it uses a magnet instead of a nail to hang
it?? Beats me...
'Doc

290. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 09:08:32 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304070108.621ae678@posting.google.com>
Source record: 121242

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
>
> Instead of going to all this trouble, you could just buy a small
> transmitting-type antenna tuner that takes a single random wire, hook
> your wire to it, and then peak the tuner at whatever frequency you're
> going to be receiving at.
>
> I think all the transformers, etcetera, will be difficult to get right
> for a wide range of frequencies, but a little antenna tuner will do it
> nicely, regardless of frequency.
>
> Bob
> k5qwg

Yep, that's probably what I would do if I used one at all. Most times I use a random wire for just receive purposes, I don't bother with matching. It's unneeded in most all cases on HF as far as just getting enough signal level.
One advantage to the tuner is it will help reduce strong out of band crud a bit, and could help clean the receiver up a bit if that were a problem. Kind of a psuedo preselector.. I've got a mfj random wire tuner that will do this job nicely. They still sell it. I forgot the number and it's out in my truck where it's acting as my mobile matcher at this time. Maybe mfj-10610 or something like that? It sells for about $40. I think using a fixed ratio balun is a waste of time as it all goes out the window when you change bands. Using one may pump up the S meter a bit on a certain band, if the mismatch was severe, but it's unlikely to help the overall s/n ratio much at all on any modern radio. Taking steps to avoid noise is more productive. I hardly use long wires that much actually. I use my multi-band parallel dipoles fed with a single coax for SWL usually. Don't bother using a tuner. Don't need to. Plenty of signal on any band. I do have a MFJ-989c inline though, if I felt the need. MK

291. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 10:45:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v92lnbaknendb9@corp.supernews.com>
Source record: 121243

I agree entirely with all you said.

Just to check on exactly what I did say in my posting, I looked up the following exchange, posted last June 27. I assume it's what you were referring to:

-------- Begin previous posting --------

Dick Carroll wrote:

>
> At HF it is limited to power in the 100 watt range, otherwise works
> fine. At VHF it has too much loss to use in any application except short
> runs.
>
> Dick

I'd be interested in the source of that information. I've run 300 watts through RG-58 at HF for extended periods without any problem.

Roy Lewallen, W7EL

-------- End of previous posting --------

I'm afraid the real problem here is one I've seen over and over again -- that people want desperately to sort information into binary categories -- works/doesn't work, can/can't, good/bad, good/evil, and so forth. I'm not sure why this is, unless it's an unwillingness or inability to spend the time to learn more about the inevitable shades of gray, or perhaps it's a result of secular and/or religious education. But it's surely a fact. (There's no doubt that students routinely graduate from high school and even college without even rudimentary skills for evaluating information, let alone even a passing knowlege of the scientific method.) So I'm not surprised that readers with this need come away confused, and without the absolute knowledge they require. A lot of the very popular and revered writers of amateur articles (and newsgroup postings) have the skill of passing off absolute rules with the aura of great knowledge and authority. Ask W7EL about baluns, and he'll tell you that sometimes one helps, sometimes it doesn't, and sometimes it might even decrease your signal to some locations. (And, if pressed, he goes off on a bunch of stuff about currents, balance, impedance, and other obscure gobbledigook.) How much easier to understand and trust someone who just says authoritatively that you never need one, or that you should always use one. That Old Wife W7EL obviously doesn't know what these other folks do, so he has to waffle instead of giving me a straight answer.

So, my advice is that if you need black-and-white answers, you're not interested in understanding the topic, or you're restricted to warping every comment into what you think is the closest binary equivalent, you should be more selective in which postings you read and accept. Some posters do have the knack for putting advice into absolute terms -- you can identify them pretty easily by looking for the terms "old wives" and "gurus" in their postings, where they'll tell you how they have a much better grasp of fundamental knowledge than those two effete groups. So you can read and understand their postings, at least. But for sure, my postings aren't for you. I've definitely qualified for the "old wives" category, and by the (disparaging) descriptions given, often even the "guru" designation. But there's plenty of simplified material available. Follow the advice of the authors of those simplified books or postings. It's unlikely your antenna will work as well as it could, and it's even likely that it doesn't work like you think it does. But you'll make plenty of contacts and be spared the effort of really understanding how it all works. It's just a hobby, after all.

Roy Lewallen, W7EL

Dick Carroll wrote:
>
> Mike, I think that's the single big negative here, embedded in a huge positive
> field of great information.
>
> All the high level expertise here so often just
> muddies things up for the lesser initiated and it seems inevitable that some throw
> up their hands
> and give up before ever getting started, or misinterpret something they've read
> here
> with unexpected sometimes very unpleasant results.
>
> An example comes to mind. Some time back I offered the advice that one shouldn't
> use RG58 at power levels above around 100 watts. None other than W7EL responded
> with the true statement that RG58 is rated for several hundred watts and that he
> routinely
> uses it at 300 watts.
>
> Of course I didn't challenge him, and his information is accurate. But as so
> often happens here on
> .antenna, there is more to the story. I think we can assume that Roy always
> matches at the antenna
> feedpoint when running high power through RG58, and operates the feedline at or
> near 1:1 SWR.
> Neither he nor I made the point that when one uses a desktop tuner as so many do
> today,
> and matches a dipole at the line input, operating with maximum flexibility across
> a wide band,
> such as on 75/80 meters, the SWR will rise fairly drastically well away from the
> antenna's
> resonant frequency, placing SWR stress on the RG58 that it may well not be able to
> handle.

>
> So Joe Newham, reading that thread, says, "Hey, if W7EL says you can run high
> power through
> RG58, that's good enough for me", and promptly places his 600 watt SB200 amp on
> the air exciting
> his RG58-fed dipole. All is well until the time he decides to excercise his new
> Extra privileges
> on 3505kc, when his dipole is cut to his usual hangout freqency of 3950 or
> whatever, and
> he cranks up the wick to try to work a rare one on CW.....
>
> With no foldback circuitry in the amp, he tunes up at 600 watts into a high SWR
> and POOF!
> "Hey! What happened? Why is my RG58 smoking out in the yard? And what was that
> brilliant
> flash of light from the tubes in my SB200???!!!"
>
> So you are definitely on the right track. If I had read this NG as a 14 year old
> getting ready to go
> the air back in the 50's I'd have never even attempted it.
>
> Dick
>
>

292. Re: How long does it take to manually drill into ground a 6' deep4" diameter hole with an auger?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 10:52:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v92m3v3bi3d357@corp.supernews.com>
Source record: 121244

Hm. Thanks! You've given me an idea for a revolutionary new approach to transmitter/receiver design and communication!

Unfortunately, it's a week late. But I've made a note in my calendar to write it up for April 1 of next year.

Roy Lewallen, W7EL

'Doc wrote:
>
> Roy,
> It "magnetically" knows what impedance ratio
> to 'be', according to what frequency is used? Or
> maybe it uses a magnet instead of a nail to hang
> it?? Beats me...
> 'Doc

293. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 12:42:37 UTC
From: Scott Vanzandt <zandt@midsouth.rr.com>
Message-ID: <bds29vkfs77oi5mfcblc0k250p3atfumd8@4ax.com>
Source record: 121245

.5" Diam x Pi x 48" length = 75.40 Sq Inches / 144 sq inches/ sq ft =
0.5236 sq ft, I think.

On Fri, 4 Apr 2003 14:06:36 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Rich,
>
>I've tried several times to get the same surface areas as yours. But not
>very successful.
>
>Would you amend please and then I can answer your question.
>
>==========
>"Richard" wrote
>> A rod 1" diameter 4' long has a surface area of 1.2730745 square
>> feet.
>>
>> Sheet metal 4' long 2' wide has an area of 16 square feet.
>>
>> If the sheet metal was buried 4' down would this be a far
>> superior ground to the rod?
>>
>> Presumably.
>>
>

294. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 12:46:02 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304070446.751c553c@posting.google.com>
Source record: 121246

"JLB" <IHateSpam@nospam.net> wrote in message
news:<DP2ka.37650$G6.16587@fe01.atl2.webusenet.com>...
> I just thought of another way to describe what's going on.
>
> Yes, you are correct in that a coil will also have capacitance between the
> turns. However, what happens is that, at low frequencies, the inductance
> will be less than what you expect. As you approach the self resonant
> frequency, the inductance will get smaller and smaller until it drops to
> zero (at the self resonant frequency). Above this frequency it will
> actually measure as a capacitance.
>
> Now, if you purposly add a capacitance in parallel with your coil the
> resonant frequency will be lower than what you would expect from the
> intended inductance and capacitance. This is because of the self
> capacitance of the coil (and self inductance of the capacitor, but we will
> ignore that for now).
>
> So, it seems reasonable that if you are using the coil/capacitor combination
> somewhere below the resonant frequency you could, in affect, adjust the
> equivalent inductance by tuning the capacitor.
>
> Unless there was some mechanical reason for it, I would put the capacitor
> outside the coil, not inside.
>
> Jim
> N8EE

Jim,
I was thinking of an antenna that had a coil along its length
open to the environment. I was considering placing a variable
capacitor inside the element awsay from the environment e.t.c.
and remotely controled. Isn't there a static components that comes
with inductance that would impinge on the function of the internal
capacitor?
Appreciate the input
Art

295. Re: Combination of Impure reactances

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 12:46:02 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304070446.2ab702dd@posting.google.com>
Source record: 121247

"JLB" <IHateSpam@nospam.net> wrote in message
news:<DP2ka.37650$G6.16587@fe01.atl2.webusenet.com>...
> I just thought of another way to describe what's going on.
>
> Yes, you are correct in that a coil will also have capacitance between the
> turns. However, what happens is that, at low frequencies, the inductance
> will be less than what you expect. As you approach the self resonant
> frequency, the inductance will get smaller and smaller until it drops to
> zero (at the self resonant frequency). Above this frequency it will
> actually measure as a capacitance.
>
> Now, if you purposly add a capacitance in parallel with your coil the
> resonant frequency will be lower than what you would expect from the
> intended inductance and capacitance. This is because of the self
> capacitance of the coil (and self inductance of the capacitor, but we will
> ignore that for now).
>
> So, it seems reasonable that if you are using the coil/capacitor combination
> somewhere below the resonant frequency you could, in affect, adjust the
> equivalent inductance by tuning the capacitor.
>
> Unless there was some mechanical reason for it, I would put the capacitor
> outside the coil, not inside.
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> Jim
> N8EE

Jim,
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open to the environment. I was considering placing a variable
capacitor inside the element awsay from the environment e.t.c.
and remotely controled. Isn't there a static components that comes
with inductance that would impinge on the function of the internal
capacitor?
Appreciate the input
Art

296. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 13:49:57 UTC
From: Marc Sindell <marcus153@yahoo.com>
Message-ID: <b6rvpf$8cclh$1@ID-167069.news.dfncis.de>
Source record: 121248
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

"Dennis McMillan" <cocokiwi@attbi.com> wrote in message
news:7weja.322298$L1.92235@sccrnsc02...
> And this! I just got a CDM 9500 and it has GPS inbuilt,if you dial 911 it
> sends the info from the gps reciever to the 911 telling them where you are
> within 3 ft!(grin)

Most 911 systems are not operable with this yet, but should be soon. Vermont has been up (with Verizon) for a while. My Audiovox 9155 has E911 GPS, and that's one of the main reasons I decided to get it. The 9500 was not available yet, when I signed up last November.

297. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 15:03:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6s3ri$8fm7e$1@ID-150848.news.dfncis.de>
Source record: 121249

"Mark Keith" <nm5k@wt.net> wrote in message
news:25eb70d7.0304070108.621ae678@posting.google.com...
> Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
> >
> > Instead of going to all this trouble, you could just buy a small
> > transmitting-type antenna tuner that takes a single random wire,
hook
> > your wire to it, and then peak the tuner at whatever frequency
you're
> > going to be receiving at.
> >
> > I think all the transformers, etcetera, will be difficult to get
right
> > for a wide range of frequencies, but a little antenna tuner will do
it
> > nicely, regardless of frequency.
> >
> > Bob
> > k5qwg
>
> Yep, that's probably what I would do if I used one at all. Most times
> I use a random wire for just receive purposes, I don't bother with
> matching. It's unneeded in most all cases on HF as far as just getting
> enough signal level.

As far as I understand things, when you are interested in receive only, general coverage, when you don't want the random wire lead-in to pick up interference originating near the house, and you don't want to construct a remotely controlled tuner, you can profit by using a balun/unun + coax. The main objective it to allow a lo z coaxial connection to the random wire at the far end of your property. Some designs don't ground the balun winding at the antenna feed point, but I think it's probably best to do that. So, I need some kind of ground. It seems that just laying a 9m 2mm dia wire just below the surface will be better than a 4 foot 3/8" rod or 0.5m square plate. Probably, for my purposes a 4 foot rod + wire would be sufficient to sink the antenna current. (?) Also, a 9:1 balun used would be as good as most anything.

298. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 15:36:51 UTC
From: richardharrison@webtv.net
Message-ID: <9287-3E919B13-313@storefull-2314.public.lawson.webtv.net>
Source record: 121251

Roy, W7EL wrote:
"I`ve run 300 watts through RG-58 at HF for extended periods without any problem."

Put too much voltage on coax and it flashes over. This is a function of power in a "flat" line of given construction.

1000 watts is 223.6 volts rms in 50 ohms. That won`t likely flash over at the peak of 316 volts. 100% AM would make 632 volts. Still no flash over in normal circumstances.

Put too much current through coax for too long, and it may be destroyed. It`s a function of rms value, not peak.

Allowable coax current is about inversely proportional to the fourth root of its frequency.

B.Whitfield Griffith, Jr. in "Radio-Electronic Transmission Fundamentals" gives an example:

Manufacturer says a coax can carry 10 amp at 4MHz. Then the maximum current at 22MHz is:

10 / fourth root 22 / 4 = 6.53 amp

How long maximum current can flow depends on ambient temperature, ventilation, etc. Temperature could reach 250 degrees F and not melt solder.

Acceptable signal loss more likely limits power on longer runs and higher frequencies. That is, you would pick something bigger than RG-58 because you wouldn`t want to lose so much power and not because the coax might melt.

Best regards, Richard Harrison, KB5WZI

299. Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 15:36:56 UTC
From: a_g_lyph@hotmail.com
Message-ID: <f8479612.0304070736.18d57290@posting.google.com>
Source record: 121250

I am still trying to fully grasp the best way to solve my current antenna-less situation. A while back, I had inquired about G5RVs, tuners, ladder line and a whole litany of other items, but I can't recall all of the information I received and reading through this newsgroup and other online forums (fora?<g>) just adds to my confusion.

Essentially, I need to put an HF antenna up. Last fall, I had a G5RV, with no balun at the ladderline->coax junction (just six or eight turns of the coax coiled up), with the coax running into a ZM-2 QRP tuner, then a short coax stub into my FT-817. Unfortunately, weather has conspired against me and the G5RV is down.

What I'd like to do is put up a 135' dipole, which unfortunately will be at the sub-optimal height of approx. 30-35', but we work with what we have, eh? My thought was to run ladder line from the feedpoint of the dipole to the antenna connection of a remote tuner (SG-237, RT-11, etc.), then run coax from the remote tuner into the house (about 80' all told). Logistically, I can not run ladder line all the way to the house, and even if I could, I suspect my wife would rather I not.

What I'd like to know is if I'm going to see prohibitive losses (for certain valus thereof) on the coax running from the rig to the tuner. I'm looking at using this setup primarily for 80, 40, 20m. Also, does it make much sense to run ladderline from the tuner to the feedpoint? Would coax perform about the same? That run of ladderline would wind up being about 50' (from the tuner to the feedpoint).

As an added bonus, if I can get away with the coax from the tuner to the house, I would like to be able to remove that run, and use the FT-817 from the backyard, with perhaps a shorter run of coax, as I'd be nearer the tuner.

I know Cecil and a few others tried to set me on the right path the last time, but...I think I've wandered. ;) Ideally, there'd be a simple, elegent, functional solution to my problem. If there is, I'm all ears...

Thanks in advance!

AG

300. Basically this is the picture with random wire + 9:1 balun + coax.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 15:53:13 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6s6pi$8n35t$1@ID-150848.news.dfncis.de>
Source record: 121252

As far as I understand things, when you are interested in receive only, general coverage, when you don't want the random wire lead-in to pick up interference originating near the house, and you don't want to construct a remotely controlled tuner, you can profit by using a balun/unun + coax. The main objective it to allow a lo z coaxial connection to the random wire at the far end of your property. Some designs don't ground the balun winding at the antenna feed point, but I think it's probably best to do that. So, I need some kind of ground. It seems that just laying a 9m 2mm dia wire just below the surface will be better than a 4 foot 3/8" dia. rod or 0.5m square plate. Probably, therfore for my purposes a 4 foot rod + wire would be sufficient to sink the antenna current and generally be a sufficient ground for the set-up mentioned. (?) Also, a 9:1 balun used would be as good as most anything. I don't think exact impedance matching or real low ground impedance is all that important with this set-up. (?)

301. Re: Clock radio impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 16:31:45 UTC
From: richardharrison@webtv.net
Message-ID: <5574-3E91A7F1-37@storefull-2318.public.lawson.webtv.net>
Source record: 121254

GD wrote:
"---I am thinking of making an external antenna for my clock radio."

Say your radio has no antenna terminasls but has a whip antenna worked against earth. You can couple to the whip like a clamp-on ammeter is coupled to a current-carrying wire.

That is, a small toroid core appropriate to the frequency is slipped over the whip, which is a current-carrying wire. Electrically, the whip is too short, likely even in the FM band. The whip represents a high impedance, mostly a capacitive reactance. Only a few turns around the toroid core are needed to couple the lower impedance of the external antenna. The coil is connected between antenna and earth..

Experiment with turns on the toroid for best match and bandwidth.

You could instead just attach extra wire to the whip antenna.

Best regards, Richard Harrison, KB5WZI

302. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 16:34:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <e0939vgnkr4uvds9a81s55e0fl0j1blf3d@4ax.com>
Source record: 121253

On Mon, 7 Apr 2003 16:03:00 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

> Also, a
>9:1 balun used would be as good as most anything.

Hardly a recommendation.

SWLer's hug their teddy bear notions against the darkness like Hams do when it comes to BalUns and what they are, what they are used for, how they work and how useful they are.

In both cases, it is assumed that the "ratio" (another naive illusion) reduces all impedances. Or is it increases? I have yet to see just which way this "ratio" goes for the so-called random wire antenna that for BCB rarely exceeds a fraction of a wave, and for HF SWLing could barely muster 100 Ohms. The absence of discussion to these first principles is enough warning that the teddy bear grip around this notion is emotionally charged.

Does the SWL receiver have an input Z of 10 Ohms or 900 Ohms? One thing that can be taken for granted is that a single antenna is not going to serve through the same "9:1" equally across HF, much less AM BCB. That same "BalUn" will most likely be one of those tapped transformers with meager (if in fact any existent) common mode choking capacity.

73's
Richard Clark, KB7QHC

303. Re: Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 17:23:37 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E91B419.1E9B1CE3@cwis.net>
Source record: 121255

A.G.,
What you describe should work. It will probably
not be 'optimum' on all bands, but it will certainly
work.
'Doc

304. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 17:28:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l5b39vc7c9v49chn1jat8j58490gcevrk3@4ax.com>
Source record: 121256

On Mon, 7 Apr 2003 09:36:51 -0600 (CST), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>Manufacturer says a coax can carry 10 amp at 4MHz. Then the maximum
>current at 22MHz is:
>
>10 / fourth root 22 / 4 = 6.53 amp
>
>How long maximum current can flow depends on ambient temperature,
>ventilation, etc. Temperature could reach 250 degrees F and not melt
>solder.
>

Hi Richard,

This ignores Dick's complaint of where the match occurs.

With 2:1 at 22MHz on that same cable, what are the prospects of it supporting more than 6.53 Ampere along some section of that line?

As Roy points out, this is not a binary situation of works/fails because even 10 Amperes is a long way from most conductors "fusing" current. Any failure due to current magnification by SWR is, as you point out, no doubt derived from long term degradation related to heat accumulation. Here, it is arguable that something that "might" cripple you in the summer would pass unnoticed in the winter. It would be more profitable to examine the peak voltage specs, where they are exceeded by SWR, and where do those maxima occur (a connector being more vulnerable than an isolated stretch of line).

However, for Dick to fault Roy for RG-58 selection begs the issue (the conceptual understanding rather than binary answers) of ANY transmission line selected. Even the vaunted perfection of twin lead or open wire has to come to a head at the load or the source. Would connectors there unfailing support 10:1 mismatches? One could insure they do; or one could seek solace in a comfortable one-size-fits-all answer and sustain themselves with hope.

I agree (in some way) with Roy's observations of the pinning of terms such as "guru" on individuals to replace logic or rebuttal. Their bristling hopeless response more often than not comes when a snuggly warm level of comfort has been upset.

73's
Richard Clark, KB7QHC

305. Re: Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 17:29:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v93dcia7jln520@corp.supernews.com>
Source record: 121257

Here's the deal.

You should use ladder line between the antenna and tuner in this situation. There can be a very high SWR on the transmission line between the tuner and antenna, because the nonresonant antenna's impedance can be widely different from the transmission line impedance (regardless of whether the line is coax or ladder line). High SWR causes increased loss, with the amount of this increase depending on the matched loss of the line. Ladder line has much lower matched loss than coax, so it has much less loss increase when the SWR is high. You'll have acceptably low loss using ladder line, but potentially very high loss if you use coax.

You should use coax between the tuner and rig. The purpose of the tuner is to transform the impedance seen at the input of the ladder line to 50 ohms so that it matches a coax feedline. The coax will therefore have a 1:1 SWR, and the loss will be just the matched loss. It sounds like power isn't an issue, so you can choose the coax type solely on the basis of loss, cost, and convenience. A look at the graph in the ARRL Antenna Book shows the following amounts of loss for 50 feet of coax at 14 MHz:

RG-174 2.3 dB
RG-58 0.8 dB
RG-213 0.4 dB

You would surely never notice the difference(*) between RG-213 and RG-58, so you wouldn't gain any noticeable improvement going from RG-58 to RG-213. You might notice some difference between RG-174 and RG-58 on those QSOs which are right at the noise level, where the other station can just barely copy you. So I'd go with RG-58 in your situation.

You're not likely to see any difference between 50 feet of RG-58 and no coax at all. So operate in your back yard to enjoy the surroundings, but not to improve performance.

Roy Lewallen, W7EL

(*) You won't be able to tell any difference at all in your ability to copy received signals, since feedline loss decreases both the signal and noise at HF. The difference would be in the ability of other stations to hear you. And even a couple of dB would be hard or impossible for them to distinguish unless you're very near their noise level to begin with.

A. Gordon Lyph wrote:
> I am still trying to fully grasp the best way to solve my current
> antenna-less situation. A while back, I had inquired about G5RVs,
> tuners, ladder line and a whole litany of other items, but I can't

> recall all of the information I received and reading through this
> newsgroup and other online forums (fora?<g>) just adds to my
> confusion.
>
> Essentially, I need to put an HF antenna up. Last fall, I had a G5RV,
> with no balun at the ladderline->coax junction (just six or eight
> turns of the coax coiled up), with the coax running into a ZM-2 QRP
> tuner, then a short coax stub into my FT-817. Unfortunately, weather
> has conspired against me and the G5RV is down.
>
> What I'd like to do is put up a 135' dipole, which unfortunately will
> be at the sub-optimal height of approx. 30-35', but we work with what
> we have, eh? My thought was to run ladder line from the feedpoint of
> the dipole to the antenna connection of a remote tuner (SG-237, RT-11,
> etc.), then run coax from the remote tuner into the house (about 80'
> all told). Logistically, I can not run ladder line all the way to the
> house, and even if I could, I suspect my wife would rather I not.
>
> What I'd like to know is if I'm going to see prohibitive losses (for
> certain valus thereof) on the coax running from the rig to the tuner.
> I'm looking at using this setup primarily for 80, 40, 20m. Also, does
> it make much sense to run ladderline from the tuner to the feedpoint?
> Would coax perform about the same? That run of ladderline would wind
> up being about 50' (from the tuner to the feedpoint).
>
> As an added bonus, if I can get away with the coax from the tuner to
> the house, I would like to be able to remove that run, and use the
> FT-817 from the backyard, with perhaps a shorter run of coax, as I'd
> be nearer the tuner.
>
> I know Cecil and a few others tried to set me on the right path the
> last time, but...I think I've wandered. ;) Ideally, there'd be a
> simple, elegent, functional solution to my problem. If there is, I'm
> all ears...
>
> Thanks in advance!
>
> AG

306. Re: Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 17:51:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dtd39vgjr5a8li1i49nilr6psd06he4ppo@4ax.com>
Source record: 121258

On 7 Apr 2003 08:36:56 -0700, a_g_lyph@hotmail.com (A. Gordon Lyph) wrote:

>Also, does
>it make much sense to run ladderline from the tuner to the feedpoint?
>Would coax perform about the same? That run of ladderline would wind
>up being about 50' (from the tuner to the feedpoint).
>
>As an added bonus, if I can get away with the coax from the tuner to
>the house, I would like to be able to remove that run, and use the
>FT-817 from the backyard, with perhaps a shorter run of coax, as I'd
>be nearer the tuner.

Hi OM,

Abandon all this nonsense with ladder line and answer its need by installing a fan dipole instead. If you want to run 80/40/20, then build three dipoles in parallel (the fan mentioned), feed them through a choke with coax (a tuner will no doubt still be required) and be done with it. If you could manage the foolish excess of design of a G5RV, then certainly this example is equally within reach.

If some smooth talker glibly hints of cable loss compared to ladder line, smile, nod, and back away gracefully to escape that shower of early morn's mist that attends their glazed-eye moment of nirvana.

73's
Richard Clark, KB7QHC

307. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 18:32:34 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3E91C434.208DC45A@att.net>
Source record: 121259

If anyone regards my post as criticism of Roy for his selection of RG58, then you have
misinterpreted it. I've thought of that thread several times since and realize that we
both probably should have pointed out to the newcomer who asked the original question the potential pitfalls of using light coax. That Roy needs no such advice is
more than obvious.
Lots of years of experience as both a ham and commercial radio tech
have led me to the conclusion that RG58 will be used by me for power levels no greater than around 100 watts. I've seen it damaged in settings where temperature,
SWR and the power level used all could have had an impact. Several times.
I wouldn't advise anyone else to do otherwise unless I knew their exact circumstances.

This NG has been a fine resource for anyone who wants either information and/or
to benefit from the vast knowledge and experience base present. In no way do I intend to criticise any part of that, but felt obligated to point out that most hams
asking obviously basic questions here do need a bit of handholding while they gain knowledge and experience. Some will be the Roys and Wes's, etc of the future
but most will fall far short of that and spend their ham radio lives as only hams,
hopefully much better informed because of their participation here.
As Roy has said, we all learn here. I've benefited greatly from reading here, and Roy is
the only poster for which I have created a special file to hold his postings for future reference.
I think that fact might convey the respect with which he is regarded.

Dick

Richard Clark wrote:

> On Mon, 7 Apr 2003 09:36:51 -0600 (CST), richardharrison@webtv.net
> (Richard Harrison) wrote:
>
> >
> >Manufacturer says a coax can carry 10 amp at 4MHz. Then the maximum
> >current at 22MHz is:
> >
> >10 / fourth root 22 / 4 = 6.53 amp

> >
> >How long maximum current can flow depends on ambient temperature,
> >ventilation, etc. Temperature could reach 250 degrees F and not melt
> >solder.
> >
>
> Hi Richard,
>
> This ignores Dick's complaint of where the match occurs.
>
> With 2:1 at 22MHz on that same cable, what are the prospects of it
> supporting more than 6.53 Ampere along some section of that line?
>
> As Roy points out, this is not a binary situation of works/fails
> because even 10 Amperes is a long way from most conductors "fusing"
> current. Any failure due to current magnification by SWR is, as you
> point out, no doubt derived from long term degradation related to heat
> accumulation. Here, it is arguable that something that "might"
> cripple you in the summer would pass unnoticed in the winter. It
> would be more profitable to examine the peak voltage specs, where they
> are exceeded by SWR, and where do those maxima occur (a connector
> being more vulnerable than an isolated stretch of line).
>
> However, for Dick to fault Roy for RG-58 selection begs the issue (the
> conceptual understanding rather than binary answers) of ANY
> transmission line selected. Even the vaunted perfection of twin lead
> or open wire has to come to a head at the load or the source. Would
> connectors there unfailing support 10:1 mismatches? One could insure
> they do; or one could seek solace in a comfortable one-size-fits-all
> answer and sustain themselves with hope.
>
> I agree (in some way) with Roy's observations of the pinning of terms
> such as "guru" on individuals to replace logic or rebuttal. Their
> bristling hopeless response more often than not comes when a snuggly
> warm level of comfort has been upset.
>
> 73's
> Richard Clark, KB7QHC

308. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 19:02:02 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3E91CB1D.8FFAD321@att.net>
Source record: 121260

Roy Lewallen wrote:

> So, my advice is that if you need black-and-white answers, you're not
> interested in understanding the topic

Actually, Roy, that was what I saw as the problem with that thread. Both of us allowed it to pass as a "black and white answer" that RG58 is rated at high power, instead of explaining the perhaps vital details.

I fault myself for letting your stature as a great engineer and authority intimidate me such that I didn't follow through. I certainly know that wasn't your intent and I shouldn't have allowed it to be so. It won't happen again. That doesn't mean I'm any sort of authority on anything, but I did err in failing to follow up with a detailed explanation to the original poster. We both knew better. Perhaps next time we'll do better.

Dick W0EX

309. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 19:15:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nej39v065bvqof2uut77m85tljt93iai42@4ax.com>
Source record: 121261

On Mon, 07 Apr 2003 18:32:34 GMT, Dick Carroll <dickc58@att.net>
wrote:

> If anyone regards my post as criticism of Roy for his selection of RG58, then
>you have
>misinterpreted it. I've thought of that thread several times since and realize
>that we
>both probably should have pointed out to the newcomer who asked the original
>question the potential pitfalls of using light coax.

Hi Dick,

Fair enough.

I guess on a lighter side I should add: "me three!"

73's
Richard Clark, KB7QHC

310. Re: Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 19:56:12 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E91D7DC.4010804@ieee.org>
Source record: 121262

A. Gordon Lyph wrote:
> What I'd like to know is if I'm going to see prohibitive losses (for
> certain valus thereof) on the coax running from the rig to the tuner.
> I'm looking at using this setup primarily for 80, 40, 20m.

For a multi-band antenna for 80m, 40m, & 20m, it is hard to beat a
102' G5RV. It also works well on 12m. Make the tuned twinlead section
a 1/2 wavelength on 20m and use an antenna tuner for all bands. You
can find out why the G5RV works well on 80m and 40m on my web page.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

311. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 20:32:37 UTC
From: richardharrison@webtv.net
Message-ID: <16963-3E91E065-862@storefull-2317.public.lawson.webtv.net>
Source record: 121264

Richard Clark wrote:
With 2:1 at 22 MHz on that same cable, what are the prospects of
supporting more than 6.53 amperes along some section of that cable?"

Say we have 2000 watts in a 50 ohm cable. That is 6.3 amp.

SWR is the ratio of max to min. So, in this case, 8.9A / 4.45A = 2:1.

Conductors here work for heat as well as for r-f.
So, the SWR problem is mitigated by heat flow to the less stressed
adjacent cable, thus cooling the hot cable.

At h-f, loss is 1.1 dB at 10 MHz per 100 ft. of RG-58 (Belden 8240). At
VHF (100 MHz), the loss is 3.8 dB.

The amateur should listen more than he talks. That should cool the coax.

I agree that 300 watts at h-f in RG-58 should not usually trouble the
radio amateur.

Best regards, Richard Harrison, KB5WZI

312. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 20:44:08 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3E91E318.4070600@oda.com.au>
Source record: 121263

Scott Vanzandt wrote:
> .5" Diam x Pi x 48" length = 75.40 Sq Inches / 144 sq inches/ sq ft =
> 0.5236 sq ft, I think.

Yes, but the original article stated a diameter of 1".

If you followed the posts, the resistance is not very sensitive to rod diameter.

Owen

313. Need Help Tuning NCG/Comet UHV-4 Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 21:05:41 UTC
From: Travis <travis@cts.com>
Message-ID: <FKlka.4473$2x2.2067334@dca1-nnrp1.news.algx.net>
Source record: 121266

Hello All,
Here is a little background so you understand where I am coming from. I'm new to the Ham world. I decided to get my ticket while on Christmas/New Years vacation, so I bought Gordon West's book and got my ticket from the FCC 12-31-02. I bought my radio before I had my call sign from the FCC. I bought a Yaesu VX-5R. I really like the little radio but after using it for several months I learned I need a mobile radio in my truck.

So last week I bought the following;
Yaesu FT-8900R quad band radio 10m/6m/2m/70cm
Comet/NCG UHV-4 quad band antenna 10m/6m/2m/70cm
Comet/NCG CP-5M trunk mount
Daiwa CN-101 SWR Meter

This radio is being installed in a '02 Ford SuperCrew 4x4. This is a crew cab truck with a large roof for a ground plane. I installed the radio over the week-end, and I mounted the antenna as close as I could get to the pivot point of the rear door on the passengers side. I grounded my door to the chassis to be sure I have a good ground for the antenna.

I was ready to test my system so I drove into an open field next door to where I work. I made sure I had nothing in the bed of the truck and all doors were closed, so as to test the system the way it will be used 90% of the time. I turned on the radio and it receives much better than my HT ever did, I tuned it to 146MHz, put it low power, and keyed up the mike momentarily to check SWR and found that my 2m SWR is 1.1 to 1.2, the reflected needle barely moves... I then checked 70cm; again low power, tuned to 440MHz, and keyed up the mike and found an SWR of 1.6 to 1.7.

I read the instructions that came with the antenna, although vague, I have the general idea of how to tune my antenna. Comet/NCG say that the 2m/70cm portion of the antenna don't need to be tuned, but state that the 10m/6m portion need to be tuned before use. There are little rods fully inserted into collars with set screws; so I guess I start by pulling out the rods and watch the SWR number to see how it changes. If the SWR drops then I should keep removing the rod in small increments until my SWR number starts to climb again, and then change it back to the position for the optimal SWR reading. If the SWR initially climbs, then I need to cut some material off the rod and insert the rod further into the collar.

I was told by my dealer to start with the 6m element, then do the 10m element. Do any of you know how much, if any, adjusting the 10m element will affect the 6m element that has already been tuned?

My real question is, what should I not do, I don't want to harm my new transceiver?

What is an acceptable SWR reading that won't harm the radio after long term use; 2, 1.75, or 1.5?
How long should I key up the transceiver to check the SWR, should key it for a second or more to let the needles fully come to a rest?
What freq do I tune to? I'm guessing that I should tune for optimum SWR at the center of the band, then check the band edges and make fine adjustments if necessary to equalize the band edges.

If there is something I am missing please let me know. I want to do this right the first time, but more importantly I don't want to harm my new radio...

Thanks in advance for your help.

Travis

314. Has anyone used a "no ground plane" antenna for 2m?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 21:09:37 UTC
From: Roadie <roadstar98cc@hotmail.com>
Message-ID: <v93q2dcn49bd0b@corp.supernews.com>
Source record: 121265

I drive a Chevy Lumina APV van that has a fiberglass body and need a "no ground plane" antenna for the 2m band. Is anyone familier with these antennas or used one before? I see that there are a few on the market from Lasen and MaxRad but I am not sure which to get. Thanks.

Roadie
lowrider1@charter.net

315. Re: Recurring question about dipole, tuner and coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 21:46:02 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <VxycndffNdcCkw-jXTWcoQ@ctc.net>
Source record: 121271

"> I am still trying to fully grasp the best way to solve my current
> antenna-less situation. A while back, I had inquired about G5RVs,
> tuners, ladder line and a whole litany of other items, but I can't
> recall all of the information I received and reading through

Do a search for a Windom or 'off center fed' antenna. It can be a dipole fed about 1/3 of the way from one end with a 4 or 6 to 1 balun and then coax. The one cut for 80 meters will have a low swr on the coax so the aditional losses are not that great. One I saw was 41' 6" from one end to the balun and then 96' 6" from the other end.. Was suspose to work with a 4 to 1 balun over many of the ham bands.
As always not a great antenna for everything, but not everyone can have a beam for each band up 100 feet or more either.

316. Re: Antenna Tripods and Masts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 21:49:01 UTC
From: JC Quinn <kc4ee@sonet.net>
Message-ID: <Bmmka.61540$NV.1436977@news.direcpc.com>
Source record: 121267

Probably Sam McCullar, K4SWM He had a supply of push up poles at several hamfests this past winter. He's good on QRZ
73
Jim kc4ee@sonet

"Greg Roecker" <n4osj@bellsouth.net> wrote in message news:%wgja.32201$ln3.17255@fe08.atl2.webusenet.com...
> At the Kennehoochee Hamfest in Marietta, Ga. on March 15th, there was a guy
> selling tripods and push-up masts in the equestrian pavilion. I thought I
> had I his contact information, but seem to have lost it. Does anyone know
> who he was and how to get in touch with him?
>
> 73,
>
> Greg / n4osj
>
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.449 / Virus Database: 251 - Release Date: 1/27/2003

317. SETI Technology Meeting and Microwave Workshop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 22:14:41 UTC
From: KB9LZB <7210372@127.0.0.1>
Message-ID: <3e91f851$1_2@corp-news.newsgroups.com>
Source record: 121268

The annual SETI League SETICon03 will be meeting April 25 - April 27 near the Princeton/Trenton NJ area.

The leaders of this conference, Dr Al Katz and Dr. H. Paul Shuch are guiding lights in the area of Microwave communications.

I attended last year and loved the homebrew microwave hardware discussions...

http://www.setileague.org/seticon/prog03.htm

318. Re: Basically this is the picture with random wire + 9:1 balun + coax.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 22:34:28 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6sua1$8p87b$1@ID-150848.news.dfncis.de>
Source record: 121269

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b6s6pi$8n35t$1@ID-150848.news.dfncis.de...
> As far as I understand things, when you are interested in receive
only,
> general coverage, when you don't want the random wire lead-in to pick
up
> interference originating near the house, and you don't want to
construct
> a remotely controlled tuner, you can profit by using a balun/unun +
> coax. The main objective it to allow a lo z coaxial connection to the
> random wire at the far end of your property. Some designs don't
ground
> the balun winding at the antenna feed point, but I think it's probably
> best to do that. So, I need some kind of ground. It seems that just
> laying a 9m 2mm dia wire just below the surface will be better than a
4
> foot 3/8" dia. rod or 0.5m square plate. Probably, therfore for my
> purposes a 4 foot rod + wire would be sufficient to sink the antenna
> current and generally be a sufficient ground for the set-up mentioned.
> (?) Also, a 9:1 balun used would be as good as most anything. I don't
> think exact impedance matching or real low ground impedance is all
> that important with this set-up. (?)

Actually, can't you just put the random wire to the control grid of a
triode of a cathode follower. Would that work better than a
transformer/unun/balun?

319. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-07 23:45:36 UTC
From: John Siegel <JohnASiegel@worldnet.att.net>
Message-ID: <3E920D9D.9060500@worldnet.att.net>
Source record: 121270

While 100W rating is typical for many preamps using RF sensing to switch in/out, there are versions out there with full KW capability. For example, ARR sells mast mounted preamps with the relays built-in at a KW rating and also sells the sequencer.
73
John

Jimnn7k@reno.rmci.net wrote:
> Oh, and BTW, the best inline amps (antenna mounted) as I remember, handle a
> MAX POWER of 50-100 WATTS at the Preamp (antenna)! for a KW, you need Tohsu
> or Dow-key relays, or equivelant, and a SEQUENCER for the relays!
> otherwise, the preamp turns to melted silicon real quick! (Question what
> acts faster than a fuse- Answer, a transistor , or diode overdriven!)-- Jim
>
>
> "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
> news:ynidnQOfCv2-Cw2jXTWcoQ@comcast.com...
>
>>Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the loss
>>in 75 feet would be only 0.7 db.
>>
>>Tam/WB2TT
>>"
>>
>>
>
>
>
>

320. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 00:32:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6t5b0aeo1@titan.btinternet.com>
Source record: 121272

> If you followed the posts, the resistance is not very sensitive to rod
> diameter.

==========

The implication of this is that by replacing the soil surrounding the rod with a material such as coke, which has a very much lower resistance than the soil but a very much higher resistance than copper, the whole electrode has the same resistance to Earth as if the whole volume, copper + coke, was made of solid copper.

For example:

Let the copper rod or tube be 25 mm in diameter, length = 1 metre.
Let the rod be surrounded by crushed coke to a diameter of 250mm.
Let the soil have a resistivity of 100 ohm-metres, a typical sort of value.

The resistivity of crushed coke is 0.3 ohm-metres, of the same order as salt sea water, but because it is 330 times greater than the soil it doesn't enter into the arithmetic.

The coke has increased diameter of the electrode to 10 times greater than the rod alone.

Using program EARTHRES the resistance of the rod alone = 81 ohms.

The resistance of rod + coke = 44 ohms.

Which of the two is chosen is now a matter of engineering economics, labor costs and your bank balance. But although single rods are frequently advocated by old wives as being adequate for radio earths neither is a lot of use.

Eight rods spaced in a circle would be getting somewhere provided the 8 by 13-feet long radial connecting wires were shallow buried. The rods could then be removed without much difference.

If the length of these 8 radials (with no rods) is increased by the length of the rods, ie., radial length = 16 feet, then the earth resistance falls to 10 ohms which, it is submitted, is good enough for most amateur purposes and the radial system is the most economical way of doing the job.

The above resistance values are at DC and VLF. At HF, say above 5 MHz, depending on type of soil and permittivity, ground loss resistance falls.

I use the French spelling for the unit of length. As a matter of politeness it acknowledges that logical nation's invention of the International Standard of Length. It also eliminates the handicapping confusion caused by

use of the name "meter" which in English means something entirely different.
But to avoid entering the realm of SWR meters it is better we now stop. ;o)

=======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
=======================

321. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 00:44:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v946sb7deu7p0c@corp.supernews.com>
Source record: 121273

Dick Carroll wrote:
> If anyone regards my post as criticism of Roy for his selection of RG58, then
> you have
> misinterpreted it. I've thought of that thread several times since and realize
> that we
> both probably should have pointed out to the newcomer who asked the original
> question the potential pitfalls of using light coax. That Roy needs no such
> advice is
> more than obvious. . .

I hope no one has regarded your posting as criticism. I certainly didn't. You've noted the same phenomenon I have, and I agree entirely with everything in your posting.

Whenever I make a recommendation, I try to explain its basis, so that people can (hopefully) decide whether it applies to their situations. Unfortunately, I've seen quite a large number of indications that I often fail to communicate what I mean, and that the interpretation of what I said is very different from what I did say. Although a lot of this is due to the binary-sort problem, some is simply due to my lack of ability to communicate with the people reading the postings.

The posting in question is a vivid example of this. All I said is that I've used RG-58 at power levels up to 300 watts. And what was heard was that anyone can use RG-58 at that power level under any conditions. I didn't explain, since I was simply offering evidence questioning your unconditional statement. But it's clear that we've both got to be more careful, and explain and qualify even the simplest of statements whenever possible.

But the readers have to be more careful also. Again, for those who require absolute rules and clear, simplistic, black-and-white answers, you're best off ignoring my postings altogether.

Roy Lewallen, W7EL

322. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 00:53:55 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <nYoka.39738$G6.31470@fe01.atl2.webusenet.com>
Source record: 121274

John- that GREAT NEWS! What is the web page address for these? Biggest I see listed is for 160 WATTS (-10 dB- 2KW). could use one for six and one for 2 (someone should show this to N6CA - he has some of the best preamps out there, but queried him - no response-- Hmmmmm)
No , in truth, with the antennas mentioned, EVEN with a KW, would present little (if any) advantage (keep in mind this to gain 1-2 dB in the RECIEVE direction with a compromise omni-directional antenna) and at what cost! If have the bux to throw at the problem (rumor has it a certain 6 meter op's contacts run at around 2 Kilobux/each (down from 20 K each, a couple years ago) but this ?? think better use for money is a cw filter (more gain for the buck if you will)-- Jim

"John Siegel" <JohnASiegel@worldnet.att.net> wrote in message news:3E920D9D.9060500@worldnet.att.net...
> While 100W rating is typical for many preamps using RF sensing to switch
> in/out, there are versions out there with full KW capability. For
> example, ARR sells mast mounted preamps with the relays built-in at a KW
> rating and also sells the sequencer.
> 73
> John
>
> Jimnn7k@reno.rmci.net wrote:
> > Oh, and BTW, the best inline amps (antenna mounted) as I remember, handle a
> > MAX POWER of 50-100 WATTS at the Preamp (antenna)! for a KW, you need Tohsu
> > or Dow-key relays, or equivelant, and a SEQUENCER for the relays!
> > otherwise, the preamp turns to melted silicon real quick! (Question what
> > acts faster than a fuse- Answer, a transistor , or diode overdriven!)-- Jim
> >
> >
> > "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
> > news:ynidnQOfCv2-Cw2jXTWcoQ@comcast.com...
> >
> >>Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the loss
> >>in 75 feet would be only 0.7 db.
> >>
> >>Tam/WB2TT
> >>"
> >>
> >>

> >
> >
> >
> >
>

323. Re: Basically this is the picture with random wire + 9:1 balun + coax.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 01:02:07 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6t72f$c3c$1@titan.btinternet.com>
Source record: 121275

Richard, you can't beat an ordinary random length inverted-L or inverted-U with the near end of the wire brought into the shack to a home-brewed series-tuned L and C, highish-Q, preselector next to a low impedance receiver.

Wind your own coil(s). Toilet roll tube?

Use the incoming water main for the earth or a longish, single, shallow-buried wire in the back yard.

Try it!

Reg, G4FGQ.

324. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 01:06:14 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <agpka.360581$3D1.195409@sccrnsc01>
Source record: 121276

Richard, send me an email. I have some information that I'm sure you will find interesting.

--
CW
KC7NOD

"Richard" <nearlynews_email@ntlworld.com> wrote in message news:b6s3ri$8fm7e$1@ID-150848.news.dfncis.de...
>
> "Mark Keith" <nm5k@wt.net> wrote in message
>

325. Re: !Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 01:32:15 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <o6949vgqetq9gt2a5je977do3a8c3iifn2@4ax.com>
Source record: 121277

On Mon, 7 Apr 2003 15:32:37 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

[snip]

|The amateur should listen more than he talks. That should cool the coax.

I'm not sure whether that is a decree or an observation. <g>

Regardless, another factor is duty cycle. The average transmitted
power is much lower than the peak for almost all analog modes. This
often comes up when someone (me for instance) states that the loss in
something (line or tuner) is X dB and someone else says, "BS; if that
was true the line or tuner would burn up at Y watts."
|
|I agree that 300 watts at h-f in RG-58 should not usually trouble the
|radio amateur.

Me too.

326. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 01:47:20 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <o5a49vgvibllu6q2g14ng33m71rqpkheg5@4ax.com>
Source record: 121278

On Tue, 8 Apr 2003 00:32:32 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

|
|> If you followed the posts, the resistance is not very sensitive to rod
|> diameter.
|
|==================================
|
|The implication of this is that by replacing the soil surrounding the rod
|with a material such as coke, which has a very much lower resistance than
|the soil but a very much higher resistance than copper, the whole electrode
|has the same resistance to Earth as if the whole volume, copper + coke, was
|made of solid copper.
|
|For example:
|
|Let the copper rod or tube be 25 mm in diameter, length = 1 metre.
|Let the rod be surrounded by crushed coke to a diameter of 250mm.
|Let the soil have a resistivity of 100 ohm-metres, a typical sort of value.
|
|The resistivity of crushed coke is 0.3 ohm-metres, of the same order as salt
|sea water, but because it is 330 times greater than the soil it doesn't
|enter into the arithmetic.

Hmmm, 0.3 is 330 times *greater* than 100?

Must be old English math.

327. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 03:55:47 UTC
From: JoanD'arcRoast <snakeplithkin2001@yahoo.com>
Message-ID: <070420032355479525%snakeplithkin2001@yahoo.com>
Source record: 121280

In article <g4m09v8jc1nk8j3nrnsk3fmifhvj3mu9dg@4ax.com>, Albert P.
Belle Isle <belleisl@CerberusSystems.com> wrote:

> On Sun, 06 Apr 2003 03:05:14 -0400, JoanD'arcRoast
> <snakeplithkin2001@yahoo.com> wrote:
>
> >Some relationship to the wavelength it was built to receive, perhaps?
> >[This one is approximately 35 feet,4 inches long. It's an old beater
> >I'm trying to press back into service to SWL tropical.]
> >
> >thanks,
> >J
>
> J,
>
> TFDs (mounted tilted or otherwise) tend to work best from about 3/4 of
> their "knee frequency" to about 4 times that frequency.
>
> Since the knee frequency (below which gain drops off rapidly, forming
> a knee in its frequency response graph) is that for which the
> antenna's length is 1/3 wavelengh, it would apear that yours has a
> knee frequency corresponding to about 31 meters/9.7MHz.
>
> You'll probably enjoy it for SWLing in its design range or even
> VHF-low (the rate of high frequency drop-off isn't as rapid), but I
> suspect you'll find it fairly deaf down on 5MHz and below.

i'd built it over twenty years ago, forgot what range i'd originally
cut it for... sorry, i was too lazy to look up my old plans and
calculations...

now that i think about it, i used to have an enormous ttfd, about 3
times as long and wide. i'll bet that one was the tropical bander...
guess i've got another project to build!

> My TFDs are roof-mounted on a two-story house (one tilted and one as a
> shallow inverted-V) and my EZNEC modeling of each configuration
> beforehand indicated that they'd work reasonably well over my
> estimated ground conditions even down to half that height.

so i gather there would be no great advantage to getting this thing 70
to 90plus feet up in the trees [minding the 30 degree slope]? i can do
that fairly easily...

> As predicted, they're fairly omnidirectional. They're not strongly
> influenced by my antenna tuner (unlike my inverted-V doublet), but

> they do benefit from it, as the EZNEC SWR curve would suggest..
>
>
> Good listening,
> Al
> ==
> Location: 42N39, 71W09
> HF Antennas: 65ft TFD, 45ft T2FD, 28ft vertical, 65ft doublet
> HF Receivers: Ten-Tec RX340, Ten-Tec RX320, Icom R71A
> Decoders: Code300-32, Universal M-8000, PK-232MBX/DSP
> ==

328. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 03:55:54 UTC
From: JoanD'arcRoast <snakeplithkin2001@yahoo.com>
Message-ID: <070420032355549898%snakeplithkin2001@yahoo.com>
Source record: 121281

In article <3e90e021_3@news1.prserv.net>, Crazy George
<munschNO@attglobal.net.SPAM> wrote:

> Go to:
> http://www.cebik.com/radio.html
> and look at the couple of articles on the T2FD. It pretty much covers all
> the aspects of the design.

Thanks for the great link!

> --
> Crazy George
> Remove NO and SPAM from return address
> "JoanD'arcRoast" <snakeplithkin2001@yahoo.com> wrote in message
> news:060420030305146153%snakeplithkin2001@yahoo.com...
> > Some relationship to the wavelength it was built to receive, perhaps?
> > [This one is approximately 35 feet,4 inches long. It's an old beater
> > I'm trying to press back into service to SWL tropical.]
> >
> > thanks,
> > J
>
>

329. Re: Has anyone used a "no ground plane" antenna for 2m?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 05:41:34 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304072141.228bf5fd@posting.google.com>
Source record: 121282

"Roadie" <roadstar98cc@hotmail.com> wrote in message
news:<v93q2dcn49bd0b@corp.supernews.com>...
> I drive a Chevy Lumina APV van that has a fiberglass body and need a "no
> ground plane" antenna for the 2m band. Is anyone familier with these
> antennas or used one before? I see that there are a few on the market from
> Lasen and MaxRad but I am not sure which to get. Thanks.
>
> Roadie
> lowrider1@charter.net

Any 1/2 wave type would work. I haven't looked at any specific models.
Larson does make a good antenna in general. I've never seen a MaxRad.
MK

330. Re: Basically this is the picture with random wire + 9:1 balun + coax.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 06:11:40 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6tp34$8t3ou$1@ID-150848.news.dfncis.de>
Source record: 121284

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b6t72f$c3c$1@titan.btinternet.com...
> Richard, you can't beat an ordinary random length inverted-L or
inverted-U
> with the near end of the wire brought into the shack to a home-brewed
> series-tuned L and C, highish-Q, preselector next to a low impedance
> receiver.
>
> Wind your own coil(s). Toilet roll tube?
>
> Use the incoming water main for the earth or a longish, single,
> shallow-buried wire in the back yard.
>
> Try it!

Definitely superior to the wideband balun. I'd really need to make a
remote-controlled tuner, variable or pre-set for the ham bands. Some
resistance to that because of the extra effort involved, but probably
worth it.

331. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 06:13:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304072213.20c13d1d@posting.google.com>
Source record: 121283

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:<b6s3ri$8fm7e$1@ID-150848.news.dfncis.de>...
> "Mark Keith" <nm5k@wt.net> wrote in message
> news:25eb70d7.0304070108.621ae678@posting.google.com...
> > Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
> > >
> > > Instead of going to all this trouble, you could just buy a small
> > > transmitting-type antenna tuner that takes a single random wire,
> hook
> > > your wire to it, and then peak the tuner at whatever frequency
> you're
> > > going to be receiving at.
> > >
> > > I think all the transformers, etcetera, will be difficult to get
> right
> > > for a wide range of frequencies, but a little antenna tuner will do
> it
> > > nicely, regardless of frequency.
> > >
> > > Bob
> > > k5qwg
> >
> > Yep, that's probably what I would do if I used one at all. Most times
> > I use a random wire for just receive purposes, I don't bother with
> > matching. It's unneeded in most all cases on HF as far as just getting
> > enough signal level.
>
> As far as I understand things, when you are interested in receive only,
> general coverage, when you don't want the random wire lead-in to pick up
> interference originating near the house, and you don't want to construct
> a remotely controlled tuner, you can profit by using a balun/unun +
> coax. The main objective it to allow a lo z coaxial connection to the
> random wire at the far end of your property. Some designs don't ground
> the balun winding at the antenna feed point, but I think it's probably
> best to do that. So, I need some kind of ground. It seems that just
> laying a 9m 2mm dia wire just below the surface will be better than a 4
> foot 3/8" rod or 0.5m square plate. Probably, for my purposes a 4 foot
> rod + wire would be sufficient to sink the antenna current. (?) Also, a
> 9:1 balun used would be as good as most anything.

The 9:1 balun is really "icing on the cake" though, in my view and
optional. On any random wire of any decent length, fed from the ground
via coax, matching is really not needed on HF, unless you have a dead
radio. You might get lucky on some bands and pump the S meter up a

notch, but the s/n ratio will be the same. Also, as one mentioned, the ratio of transformer needed will vary drastically according to the band used. Just feeding the wire direct to the coax will usually work just as well as long as the coax is not too long or lossy. "IE: Inv L style where you have a ground system under the feedpoint outside." The impedance matching has no relation to common mode currents or their reduction. At all! You can have a perfect match, and have a severe common mode problem, or the other way around. Noise ingress is due to poor decoupling of the feedline from the antenna, which cause common mode currents to flow on the shield. Noise from the shack flows up to the antenna feedpoint on the outside of the shield, and back down to the radio on the inside of the shield in this case. "I believe thats correct anyway.." Usually , just a good ground system and connection under the antenna will decouple the coax feedline fairly well. You can always take other measures if needed. If it were not for my puter and monitor noise, I would have no qualms to feeding direct from the radio. I did it that way years ago with no problems. I could get away with that years ago before all these new fangled shack noise sources, but not really now. MK

332. Re: Random wire systems with transformers [RX only]

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 06:34:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b6tqdu$8pmtg$1@ID-150848.news.dfncis.de>
Source record: 121285

"Mark Keith" <nm5k@wt.net> wrote in message
> Usually , just a good # ground system and connection
> under the antenna will decouple the coax feedline fairly well. You can
> always take other measures if needed. If it were not for my puter and
> monitor noise, I would have no qualms to feeding direct from the
> radio. I did it that way years ago with no problems. I could get away
> with that years ago before all these new fangled shack noise sources,
> but not really now.

Exactly, connecting random wire from near RX is noisy, because of PC
noise etc. Also, for many, a decent ground is not feasable at the shack
position, so one has to rely on a coax feed. Then it seems we are into
baluns/ununs (or cathode follower circuit maybe). Or, the very best way
is to remotely tune the random wire. Just that that it's is more work,
but definitely the technically superior option.

333. 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 08:54:17 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <b6u2nl$8v1dn$1@ID-155271.news.dfncis.de>
Source record: 121286

anyone know where i can find precise details on constructing a 6m loop antenna, my first atempt at antenna construction !

cheers

334. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 09:13:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6u3r5$d0p$1@hercules.btinternet.com>
Source record: 121287

Wes sez,

> Hmmm, 0.3 is 330 times *greater* than 100?
> Must be old English math.

==========

I do little things like that to check how closely readers pay attention to
my stuff. It never fails. ;o)

335. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 10:05:09 UTC
From: rw3gu@qsl.net
Message-ID: <9c80cbf5.0304080205.2baf58a5@posting.google.com>
Source record: 121279

"denton" <denton@oregontrail.net> wrote in message
news:<b6f71k$s3h$1@news.oregontrail.net>...
> Hi all...
> Can anyone give me the approx imput impendence of a 1/4 wave ground plane 20
> meter vertical antenna above 20 meters to 10 meters, including the warc
> bands?
> I want to homebrew a matching network at the base of the antenna, fed with
> 35 feet of Rg-8 213 coax.
> Thanks....

Impedances are:
14.150 36+j0
18.080 90+j200
21.200 214+j436
24.900 920+j800
28.500 1240-j935

73!

336. Balun for receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 11:21:59 UTC
From: cprstn54zz@att.net
Message-ID: <3e92af41.189586593@news-server.optonline.net>
Source record: 121289

I want to use a receiver and a QRP transmitter on the same extended double zepp antenna, fed with twinlead. There will be a 4:1 balun and tuner before the transmitter. The receiver will be scanning across HF bands.

Do I lose anything if I don't use the 4:1 balun in front of the receiver? This way I can use a cheap, light knife switch for RX/TX switching.

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

337. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 11:29:31 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3E92B297.9040100@tampabay.rr.com>
Source record: 121288

check out the antenna project page at www.ac6v.com
should have something there

M3*** wrote:
> anyone know where i can find precise details on constructing a 6m loop
> antenna, my first atempt at antenna construction !
>
> cheers
>
>

338. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:08:16 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <n6acnWl2E5l_eA-jXTWc3A@comcast.com>
Source record: 121290

Do you mean a vertically positioned loop, or a Halo type thing that is
mounted horizontally?

Tam/WB2TT
"M3***" <happyraveruk@yahoo.com> wrote in message
news:b6u2nl$8v1dn$1@ID-155271.news.dfncis.de...
> anyone know where i can find precise details on constructing a 6m loop
> antenna, my first atempt at antenna construction !
>
> cheers
>
>

339. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:11:01 UTC
From: richardharrison@webtv.net
Message-ID: <3508-3E92E685-4@storefull-2311.public.lawson.webtv.net>
Source record: 121298

J. wrote:
"Some relationship to the wavelength it was built to receive, perhaps?"

Optimum height depends on distances to reach. The antenna`s direct radiation combines with radiation reflected from the earth to produce a vertical-plane radiation pattern. This pattern depends on radiator height. A maximum lobe at the best angles to reach the desired stations gets the most from your radio when receiving or transmitting.

How good a reflector the earth makes under and around the antenna affects its pattern. Also, the TTFD may be placed horizontal, sloping, vertical, or Veed. Position affects pattern.

If the TTFD is horizontal above average flat earth, it`s best hung about as high as it is wide (about 1/2-wavelength) above the earth, for distant stations.

The 35-ft, 4-in long dipole will have its second resonance at about 14 MHz, since it is a folded dipole. It has its first rersonance around 7 MHz where it is only 1/4-wave end to end because it is a flattened loop with about 1/2-wave of perimeter.

At its second resonance, where it is about 1/2-wavelength end to end, the drivepoint impedance would be about 300-ohms were it not for the terminating resistor in the folded dipole opposite the drivepoint.

At its first resonance, where it is about 1/4-wavelength end to end, the drivepoint impedance would be about 1000 ohms or more were it not for the resistor.

Contrary to popular belief, the folded dipole`s response is almost as good 1/4-wave long as it is 1/2-wave long. The 1/4-wave antenna problem is its high drivepoint impedance. The termination resistor helps make things almost equally bad or good at first and second resonances for the TTFD by flattening the drivepoint impedance.

So, unless the dipole is over seawater, in which case the antenna should be placed vertically, 1/2-wavelength height is usually hard to beat for sky wave communication with distant places. For communication with closer distances, 1/4-wavelength height is OK.

See Figures on page 3-12 of the 19th edition of the ARRL Antenna Book for the vertical patterns produced with a horizontal dipole at various heights.

Best regards, Richard Harrison, KB5WZI

340. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:15:09 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <b6up1q$94t12$1@ID-155271.news.dfncis.de>
Source record: 121291

a full wave loop

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:n6acnWl2E5l_eA-jXTWc3A@comcast.com...
> Do you mean a vertically positioned loop, or a Halo type thing that is
> mounted horizontally?
>
> Tam/WB2TT
> "M3***" <happyraveruk@yahoo.com> wrote in message
> news:b6u2nl$8v1dn$1@ID-155271.news.dfncis.de...
> > anyone know where i can find precise details on constructing a 6m loop
> > antenna, my first atempt at antenna construction !
> >
> > cheers
> >
> >
>
>

341. Re: Balun for receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:18:15 UTC
From: k0bg@aol.com
Message-ID: <20030408111815.03533.00000338@mb-fm.aol.com>
Source record: 121292

If the tuner has a provision for feeding a balanced line (twin lead or openwire) the 4:1 balun isn't needed. This goes for the receiver too.

Alan, Kï¿½BG

342. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:20:05 UTC
From: k0bg@aol.com
Message-ID: <20030408112005.03533.00000339@mb-fm.aol.com>
Source record: 121293

The ARRL's "Simple and Fun Antennas" is a good place to start.

Alan, Kï¿½BG

343. Re: Need Help Tuning NCG/Comet UHV-4 Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:25:48 UTC
From: k0bg@aol.com
Message-ID: <20030408112548.03533.00000340@mb-fm.aol.com>
Source record: 121294

1.7:1 isn't excessive and I suspect it is closer to 1.5:1 higher in the band.

As for 10 and 6, you will not notice much if any interaction between the adjustments.

The trunk lip mount you used is not ideal, and the added ground losses will lower the VSWR as a result (but for the wrong reasons of course).

Alan, Kï¿½BG

344. Re: Has anyone used a "no ground plane" antenna for 2m?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:27:27 UTC
From: k0bg@aol.com
Message-ID: <20030408112727.03533.00000341@mb-fm.aol.com>
Source record: 121295

I used a loaded 1/2 wave Larsen for several years mounted atop a plastic trunk lid. They are not much better than a 1/4 wave mounted on metal, but they do work.

Alan, Kï¿½BG

345. Re: Balun for receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:30:58 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e92eb33$1_2@news.vo.lu>
Source record: 121296

"Ken" <cprstn54zz@att.net> wrote in message
news:3e92af41.189586593@news-server.optonline.net...
> I want to use a receiver and a QRP transmitter on the same extended
> double zepp antenna, fed with twinlead. There will be a 4:1 balun and
> tuner before the transmitter. The receiver will be scanning across HF
> bands.
>
> Do I lose anything if I don't use the 4:1 balun in front of the
> receiver? This way I can use a cheap, light knife switch for RX/TX
> switching.

Hi,
Not necessary, but in that case you need to balance your impedance... Use a
coax of at least lambda/2 between the ant and RTX.

Thierry
ON1SKY

>
> Ken KC2JDY
>
>
> Ken
> (to reply via email
> remove "zz" from address)

346. New antennas to Hi-Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 15:37:19 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e92ecaf$1_2@news.vo.lu>
Source record: 121297
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment

Hi,

New antennas to Hi-Q, a must !

http://www.hiqantennas.com/antennas.htm

Thierry
ON1SKY
http://www.astrosurf.com/lombry

347. Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 16:10:41 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E92F5D5.9AD3347A@uwe.ac.uk>
Source record: 121299

Does anyone have an expression that gives the impedance
of a short dipole, given the length in lambdas or degrees?
I need an expression not a pointer to a calcultaing program.

vy 73

Andy, M3ABC

348. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 16:39:16 UTC
From: richardharrison@webtv.net
Message-ID: <9286-3E92FB34-1049@storefull-2314.public.lawson.webtv.net>
Source record: 121300

I wrote:
"The termination resistor helps make things almost equally bad or good at first and second resonances for the TTFD by flattening the drivepoint impedance."

That was an assumption based on the way resistance often levels responses. Cebik`s model shows first resonance of the terminated folded dipole to be 12 dB down from its second resonance. Bailey`s 1/4-wave folded dipole without a termination resistor charts only 1/2 dB down response at first versus second resonance. Bailey`s 1/4-wave folded dipole is very sharp and has only 5% bandwidth at 3db down at first resonance.

Maybe the termination resistor makes response of the 1/4-wave folded dipole much worse.

Best regards, Richard Harrison, KB5WZI

349. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 17:01:46 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E93001F.3E30199E@attbi.com>
Source record: 121301

```
R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13

R = Radiation Resistance, ignoring I^2*R losses in antenna
pi = 3.1418
L = Antenna Length in wavelengths
WL = Wavelength.

Deacon Dave, W1MCE
+ + +

Andy Cowley wrote:
>
> Does anyone have an expression that gives the impedance
> of a short dipole, given the length in lambdas or degrees?
> I need an expression not a pointer to a calcultaing program.
>
> vy 73
>
> Andy, M3ABC
```

350. Re: Has anyone used a "no ground plane" antenna for 2m?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 17:03:48 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <b6uvdj$2auj$1@news1.tribune.com>
Source record: 121302

A sleeve dipole will work fine.

Antenna specialists calls theirs a "self grounded" antenna.

Build your own, or just learn the theory at:
http://user.mc.net/~jdewey/sleeve_dipole/

KA9CAR

"Roadie" <roadstar98cc@hotmail.com> wrote in message
news:v93q2dcn49bd0b@corp.supernews.com...
> I drive a Chevy Lumina APV van that has a fiberglass body and need a "no
> ground plane" antenna for the 2m band. Is anyone familier with these
> antennas or used one before? I see that there are a few on the market from
> Lasen and MaxRad but I am not sure which to get. Thanks.
>
> Roadie
> lowrider1@charter.net
>
>
>

351. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 17:22:46 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6v0h6$6tp$1@sparta.btinternet.com>
Source record: 121303

> Does anyone have an expression that gives the impedance
> of a short dipole, given the length in lambdas or degrees?
> I need an expression not a pointer to a calcultaing program.
>
> vy 73
>
> Andy, M3ABC

==========

No such thing unless you have in mind something like a whole chapter in a book of advanced radio engineering.

Graphs and curves can be found in amateur radio annuals but the trouble is finding one which exactly matches your need.

How do you expect to make use of it?

Reg, G4FGQ

352. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 17:44:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b6v1p8$ol7$1@titan.btinternet.com>
Source record: 121304

Z = R + jX.

Kraus doesn't provide an expression for the other half of the information.
Neither does Terman at al.

X is often the more important half for antenna design purposes.

==========

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3E93001F.3E30199E@attbi.com...
> R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
>
> R = Radiation Resistance, ignoring I^2*R losses in antenna
> pi = 3.1418
> L = Antenna Length in wavelengths
> WL = Wavelength.
>
> Deacon Dave, W1MCE
> + + +
>
> Andy Cowley wrote:
> >
> > Does anyone have an expression that gives the impedance
> > of a short dipole, given the length in lambdas or degrees?
> > I need an expression not a pointer to a calcultaing program.
> >
> > vy 73
> >
> > Andy, M3ABC

353. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 18:22:24 UTC
From: tim conway <n9hmg@mailhot.reversethatanddropthis.com>
Message-ID: <ArEka.14336$ey1.1235347@newsread1.prod.itd.earthlink.net>
Source record: 121305
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

This is somewhat off-topic, but when you described the current weather and band conditions, I got a hunch and hunted you up with a callsign search, and sure enough, you're only about 20 miles from me.

tcc

On Sun, 06 Apr 2003 09:36:05 +0000, Eric F. Richards wrote:

> Right now everything is covered with ice crystals and there is ice fog
> in the air, and there is uniform hum/buzz up and down the bands but
> below S1.
>

354. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 18:39:19 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3E9316B9.BA3FD026@gte.net>
Source record: 121306

M3*** wrote:

> a full wave loop
>

Not sure a 1 wavelength loop is what you want IF horizontal polarity and omni coverage is your goal. A 1 wavelength loop has a figure "8" pattern similar to a dipole, with slightly less gain than a dipole, but requires 2X the wire and a matching network. Why not just put up a dipole?

Dale W4OP

355. Re: Antenna for 2 bands

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 18:49:21 UTC
From: tim conway <n9hmg@mailhot.reversethatanddropthis.com>
Message-ID: <RQEka.14365$ey1.1239549@newsread1.prod.itd.earthlink.net>
Source record: 121308

The easiest and most certain way to do that with good results is
http://www.arrowantennas.com/146-437.html
I actually had the opportunity to chat with Allen on Saturday.
Easy-going, sharp thinking old guy.

tcc

On Thu, 03 Apr 2003 13:15:02 +0000, James Cook wrote:

> How do you take measurements for seperate 2m and 70cm yagis and make them
> into one yagi antenna?
>
> Or seperately, how do you use seperate antennas, but use one feedline?
>
>
> KG4YTL

356. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 18:49:41 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Yw6dnUBVPZxahA6jXTWcog@comcast.com>
Source record: 121307

The length of the circomference in feet is 1032/frequency in MHz. If you make it square, the impedance is about 120 Ohms. As you make it wider and less high, the impedance goes up. As you make it narrower and taller, the impedance comes down.. Somewhere around twice as high as wide the impedance is 50 Ohms. I have one cut for 3.8 MHz (271 feet), and these formulas seem to work.

Note that the circomference at resonance is slightly MORE than one free space wavelength.

Tam/WB2TT
"M3***" <happyraveruk@yahoo.com> wrote in message
news:b6up1q$94t12$1@ID-155271.news.dfncis.de...
> a full wave loop
>
> "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
> news:n6acnWl2E5l_eA-jXTWc3A@comcast.com...
> > Do you mean a vertically positioned loop, or a Halo type thing that is
> > mounted horizontally?
> >
> > Tam/WB2TT
> > "M3***" <happyraveruk@yahoo.com> wrote in message
> > news:b6u2nl$8v1dn$1@ID-155271.news.dfncis.de...
> > > anyone know where i can find precise details on constructing a 6m loop
> > > antenna, my first atempt at antenna construction !
> > >
> > > cheers
> > >
> > >
> >
> >
>
>

357. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 19:17:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E932061.8090604@ieee.org>
Source record: 121309

Dave Shrader wrote:
> R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
>
> R = Radiation Resistance, ignoring I^2*R losses in antenna
> pi = 3.1418
> L = Antenna Length in wavelengths
> WL = Wavelength.

That's the formula for an infinitesimal dipole. Use '20' instead
of '80' for dipoles between 0.02WL and 0.1WL.
Balanis, _Antenna Theory_, 1997, equation 4-37
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

358. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 19:24:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v968fd69a4jld6@corp.supernews.com>
Source record: 121310

Of course, X is by far the largest part of the impedance. Unfortunately, X is quite a bit more difficult to calculate, and is a function of the wire diameter.

There are some formulas which do a good job for calculating X, but they're too lengthy to include here. They appear in "Theory of Antennas of Arbitrary Size and Shape", by S. A. Schelkunoff, Proc. of the IRE, September 1941. Shelkunoff also wrote a book or two, and the equations are probably in his books.

They're not quite closed form equations. They require calculation of sine and cosine integrals, which can be calculated by summing an infinite series. I don't know of a practical way to do this without a computer program, unless you can locate or calculate a table and are willing to look up the values.

Roy Lewallen, W7EL

Dave Shrader wrote:
> R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
>
> R = Radiation Resistance, ignoring I^2*R losses in antenna
> pi = 3.1418
> L = Antenna Length in wavelengths
> WL = Wavelength.
>
> Deacon Dave, W1MCE
> + + +
>
> Andy Cowley wrote:
>
>>Does anyone have an expression that gives the impedance
>>of a short dipole, given the length in lambdas or degrees?
>>I need an expression not a pointer to a calcultaing program.
>>
>>vy 73
>>
>>Andy, M3ABC

359. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 19:49:25 UTC
From: richardharrison@webtv.net
Message-ID: <9287-3E9327C5-387@storefull-2314.public.lawson.webtv.net>
Source record: 121313

Andy, M3ABC wrote:
"Does anyone have an expression that gives impedance of a short dipole, given the length in lambdas or degrees?"

Deacon Dave has already responded with the formula for radiation resistance from Kraus. Terman gives the same formula on page 892 of his 1955 edition. It is equation (23-18)

Reg wrote:
"Kraus doesn`t provide an expression for the other half of the information, Neither does Terman et al."

Reg is right. Reactance often changes more rapidly than radiation resistance and depends in value on length to diameter ratio. Reactance is almost infinite in the elemental doublet. Its capacitance is very small and takes few electrons to completely charge. Capacitance increases and capacitive reactance falls until it reaches zero when the elemental doublet has grown to about 1/2-wavelength.

The capacitance of an antenna of a particular number of degrees, as compared with 360 in a wavelength, depends on how fat the antenna is for one thing.

I believe I answered a previous similar question with a reference to available X&R charts for typical antennas versus their lengths. Andy dismisses look-up information as compared with a formula. I too am curious as to what he is up to.

Best regards, Richard Harrison, KB5WZI

360. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 19:59:56 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E9329DC.E131B1A3@attbi.com>
Source record: 121311

G R I N

Gilbert Mouget wrote:
>
> In article <3E93001F.3E30199E@attbi.com>,
> dated Tue, 08 Apr 2003 17:01:46 GMT,
> Dave Shrader, <david.shrader@attbi.com> says...
>
> > pi = 3.1418
> >
> For a fractal dipole : 3,14159265358979323846264338327 95
>
> --
> A laver la ti¿½te d'un i¿½ne, on n'y perd que son temps, sa peine,
> sa brosse et son savon.

361. More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 20:05:26 UTC
From: cprstn54zz@att.net
Message-ID: <3e932acd.15115281@news-server.optonline.net>
Source record: 121312

My MFJ mag mount 144/440 antenna came with a silver plastic sheet on
the bottom that MFJ says is there for protection. It makes the base a
little slippery. How can I increase the grip of the base?

Maybe put a few smears of GE Silicone on it?

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

362. Re: Need Help Tuning NCG/Comet UHV-4 Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 20:56:31 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3E93377F.5F4F1B16@rickfrazier.com>
Source record: 121139

Travis:

First, Congratulations on getting licensed! We need more Hams on the bands, not less. Though it feels like there is a lot to learn, don't be too worried about the small things...

In the reality of actual operation, any SWR under 2 is just fine, and you really won't notice the difference. All of the recent vintage solid state (and not so recent, as it happens) transceivers are all protected so they automatically reduce power if the SWR is higher, so you won't actually damage the transceiver if the SWR does move higher for some reason.

There are a lot of people that obsess about the SWR, but when all is said and done, the difference at the receiving end between a 1.1 SWR and a 1.7 SWR is not noticeable, unless the receiver is on a test range, calibrated, and you are able to switch back and forth between the "lower" and "higher" SWR in a short period of time, in order to actually see the field strength differences. In the real world where we all operate, the typical differences in propagation will mask anything so small as you have mentioned.

Hook it up, and if it has SWR under 2, don't sweat it and enjoy the operating part of the hobby. After all, it is a hobby, and we _should_ be having fun with it, not obsessing about little nits of measured SWR. After years of being a type-A, obsessive, anal-retentive about everything, I finally ran qualified tests of received power levels across short hop (a couple hundred miles) with changing SWR on the HF and 2M bands, and the received signal strength barely moved with antenna SWR changes under 2.5. Over a couple of hours, propagation changed a lot more than the effect of antenna/feedline SWR readings. Since then, I've learned to take more time to enjoy the hobby, and less time stressing about that last bit of power out due to a lower SWR, particularly after I got my butt waxed in a (personal) contest where I was running about 200 watts output and a nearby (neighbor) operator was running 5 watts output, both into nearly identical antennas (though about a mile apart in geographical location). We could hear each other, and were working many of the same contacts, and more often than not, he had a signal report very close to mine, though I was running considerably higher power. In many instances, he got a response from the distant station before I did, and I don't believe it was all because of his technique... (Now, if I'd been running a really serious, high gain beam and a full power amplifier, it may have made some difference (or maybe not...), but running "barefoot" transceivers, he did at least as well as I did on considerably lower power.) Of course, since then, we've both moved to other locations of the country, and now, from where I live, nearly every contact I make is DX....

The point is that you don't have anything to worry about with the numbers you have provided.

Enjoy the Hobby, don't sweat the small stuff, and have a ball!
--Rick AH7H

Travis wrote:

> Hello All,
> Here is a little background so you understand where I am coming from. I'm
> new to the Ham world. I decided to get my ticket while on Christmas/New
> Years vacation, so I bought Gordon West's book and got my ticket from the
> FCC 12-31-02. I bought my radio before I had my call sign from the FCC. I
> bought a Yaesu VX-5R. I really like the little radio but after using it for
> several months I learned I need a mobile radio in my truck.
>
> So last week I bought the following;
> Yaesu FT-8900R quad band radio 10m/6m/2m/70cm
> Comet/NCG UHV-4 quad band antenna 10m/6m/2m/70cm
> Comet/NCG CP-5M trunk mount
> Daiwa CN-101 SWR Meter
>
> This radio is being installed in a '02 Ford SuperCrew 4x4. This is a crew
> cab truck with a large roof for a ground plane. I installed the radio over
> the week-end, and I mounted the antenna as close as I could get to the pivot
> point of the rear door on the passengers side. I grounded my door to the
> chassis to be sure I have a good ground for the antenna.
>
> I was ready to test my system so I drove into an open field next door to
> where I work. I made sure I had nothing in the bed of the truck and all
> doors were closed, so as to test the system the way it will be used 90% of
> the time. I turned on the radio and it receives much better than my HT ever
> did, I tuned it to 146MHz, put it low power, and keyed up the mike
> momentarily to check SWR and found that my 2m SWR is 1.1 to 1.2, the
> reflected needle barely moves... I then checked 70cm; again low power,
> tuned to 440MHz, and keyed up the mike and found an SWR of 1.6 to 1.7.
>
> I read the instructions that came with the antenna, although vague, I have
> the general idea of how to tune my antenna. Comet/NCG say that the 2m/70cm
> portion of the antenna don't need to be tuned, but state that the 10m/6m
> portion need to be tuned before use. There are little rods fully inserted
> into collars with set screws; so I guess I start by pulling out the rods and
> watch the SWR number to see how it changes. If the SWR drops then I should
> keep removing the rod in small increments until my SWR number starts to
> climb again, and then change it back to the position for the optimal SWR
> reading. If the SWR initially climbs, then I need to cut some material off
> the rod and insert the rod further into the collar.
>
> I was told by my dealer to start with the 6m element, then do the 10m
> element. Do any of you know how much, if any, adjusting the 10m element
> will affect the 6m element that has already been tuned?
>
> My real question is, what should I not do, I don't want to harm my new
> transceiver?
> What is an acceptable SWR reading that won't harm the radio after long term

> use; 2, 1.75, or 1.5?
> How long should I key up the transceiver to check the SWR, should key it for
> a second or more to let the needles fully come to a rest?
> What freq do I tune to? I'm guessing that I should tune for optimum SWR at
> the center of the band, then check the band edges and make fine adjustments
> if necessary to equalize the band edges.
>
> If there is something I am missing please let me know. I want to do this
> right the first time, but more importantly I don't want to harm my new
> radio...
>
> Thanks in advance for your help.
>
> Travis

363. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:07:30 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E933A12.5739EFC8@cwis.net>
Source record: 121314

Ken,
The 'silver plastic sheet' is to protect the finish
of your vehicle. I'm sure there's some way of 'ruffing'
up the surface, but do you really want to? Of course,
the best way to keep your antenna from slidding off is
to permanently mount it...
'Doc

364. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:11:10 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E933AEE.E78A8F95@cwis.net>
Source record: 121315

Andy,
The short and sweet answer is no.
'Doc

365. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:13:33 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3E933B7D.5C39EF39@rickfrazier.com>
Source record: 121140
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason:

Though the list you provided was pretty reasonable, it would cost a chunk of change to stock all of the items you mentioned, and you still would be looking for more. Many years ago, when I was in the Army and was sent to Korea, I put together a somewhat similar (but much smaller) list for the year I was to be there. As I found out once I arrived, many of the parts were available there, though I needed to look around a bit and take some additional care in selecting components, as their markets are rather different than the surplus, electronic and ham stores (and online purveyors) we are now typically used to using.

What I finally learned is that I should stock up as I need parts. To explain a bit, I don't actually go looking for parts between projects, but if I encounter a good deal, I'll add to my stocks. Usually, when I start a new project, there is a need to purchase a few parts that I don't have on hand, and I'll look around to see what's available. Often, there are other bits and pieces that I could use for the "junk box" that I don't already have, and I tend to stock some of these items when I purchase items needed for the current project. This helps to take care of any minimum order issues, while at the same time, building a stock of common parts that I can use later. The only problem is that my needs have tended to change over the years, and what I thought was going to be needed (ten years ago) is something rarely used today in my projects... Times change, and so do we. Of course, there have been a few times I really wish I'd stocked up on a particular part when it was really cheap, because now it's like it's made from unobtanium, but that's the problem with some things. However you do stock up on your parts, you should realize that it may be false economy to stock large numbers of electrolytic capacitors, as they tend to "dry up" or otherwise lose capacitance over the years... I'm sure there are other parts that age sitting on the shelf, but none I've been personally bitten by in the past couple of years.

Now, if you are stocking for a doomsday scenario, where you believe that there won't be any parts suppliers any more, and you want to be able to repair the equipment you now have, I'd be stocking just about all of the parts that are currently used in your equipment first, before other general supplies. I'd particularly pay attention to proprietary devices, or components that are likely to become rapidly obsolete, or have not been used in a lot of other radios that might be scavenged for the parts later. Whenever I purchase a relatively antique piece of equipment, I tend to create a stock of replacement parts for at least the more likely failure items, just so I have them on hand. This is more for my own convenience than any worry that society is going to collapse any time

soon. Besides, where I live, if we encountered some large, global
catastrophe, like a really big meteor dropping out of the sky, I would
probably be one of the first washed into oblivion, so I probably wouldn't
have to worry about surviving the following years after civilization
collapses....

Good Luck
--Rick AH7H

Jason Hsu wrote:

> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
>
> What electronic parts do you stock up on? I have noticed in building
> a few projects and especially from looking at the designs of many more
> that any decent homebrewer will use certain parts on a regular basis.
> I believe that any experienced homebrewer has a substantial inventory
> of common parts and makes sure to stock up when either ordering other
> items or when attending hamfests. It's frustrating to lack a certain
> critical part, and many of them are not available at Radio Shack.
> (Come on, try to buy a Germanium diode or SMA connectors at Radio
> Shack.) Every order to Digi-Key or other online/mail-order vendors
> will have shipping charges added on. There are also parts that are
> available at Radio Shack but at exorbitant prices compared to Digi-Key
> and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to
> tell me that these are rarely used and that no homebrewer stocks up on
> these.)
>
> So I am compiling a list of items that any homebrewer should stock up
> on. Please excuse the mis-numbering, as it would take too long to fix
> everything. Yes, I know that you can't have every part possible.
> However, certain items are used on not one project but many, many
> projects. For example,
>
> General items:
> 1. DC jacks
> 2. DC connectors
> 1. LM3914 display driver ICs
> 2. LM3915 display driver ICs
> 3. 1N34A germanium diodes
> 4. Zener diodes
> 5. 1/4" LED holders: available at Radio Shack
> 6. 1/4" LEDs (red, yellow, green): exorbitant prices at Radio Shack
> 7. 9V battery holders: available at Radio Shack
> 8. Nylon binding posts: exorbitant prices at Radio Shack
> 9. Chasses (metal and non-metal): available at Radio Shack, but more
> selection and better prices elsewhere
> 10. LM324/358 IC amplifiers: exorbitant prices at Radio Shack
> 11. LM741 IC amplifiers: exorbitant prices at Radio Shack
> 12. .001uF capacitors: available at Radio Shack, but not at the best

> prices
> 13. .01uF capacitors: ditto
> 14. .1uF capacitors: ditto
> 15. Electrolytic and tantalum capacitors: ditto
> 16. Mica capacitors: ditto
> 17. IC sockets
> 15. LM317 or other voltage regulators: available at Radio Shack at
> high prices
> 16. Switches: available at Radio Shack
> 17. Circuit boards: available at Radio Shack
> 18. 2N2222As: available at Radio Shack at high prices
> 19. 2N3904s: available at Radio Shack at high prices
> 20. 555 timer chips: available at Radio Shack at exorbitant prices
> 21. 2N3906s
> 22. 2N2907s
> 23. Shrink wrap (for soldering wires onto LEDs): also available at
> Radio Shack and Home Depot
> 24. Solder: ditto
> 25. Solder flux: ditto
> 26. #30-gauge wire wrap wire (for wire wrap projects or RF
> transformers if distributed capacitance is an issue and you don't like
> magnet wire): available at Radio Shack
> 27. 1/2-W Resistors: available at Radio Shack
> 28. 1N914/1N4148 diodes: available at Radio Shack
> 29. #6-32 nuts and bolts for mounting circuits: available at Home
> Depot as well as Radio Shack
> 30. Potentiometers
> 31. Knobs
> 32. 2N2219 and 2N2905???
> 33. MPF102/2N3819 or similar FETs???
> 34. 2N3055 or other power transistors???
> 35. LM723 for power supplies???
> 36. Assorted powdered iron cores T- 37/50 - 2/6 ???
> 37. PCB material ???
> 38. BNC connectors/jacks
>
> Audio items:
> 1. LM386 audio amp
> 2. Assorted audio connectors (RCA, 1/8" phone plugs)
> 3. 5532 op amps
> 4. Complementary output transistors that can handle some power
>
> RF items:
> 1. FT50-43 ferrite toroid cores: useful for many, many RF projects
> 2. #73 ferrite beads for connecting RF and DC grounds
> 3. SO-239 jacks: available at Radio Shack at higher prices
> 4. PL-259s (make sure to get the right kind for the cable): ditto
> 5. SMA connectors
> 6. RG-58 coax for jumpers: exorbitant prices at Radio Shack
> 7. Lower loss coax

> 8. Mixers (for homebrewing transmitters and receivers)
> 9. 2N3563/MSP-H10/2N5179/BFR-96 or equivalent (for VHF)
> 10. 2N4427/2N3866 1 watt VHF finals (for homebrewing transmitters and
> receivers)
> 11. 1 - 10pf piston trimmers (vhf) ???
> 12. trim caps about 80pf max (hf) ???
> 13. IF transformers: 455 kHz and 10.7 MHz (can be
> rewound for other frequencies) ???
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

366. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:26:56 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E933E3D.925CFC96@attbi.com>
Source record: 121316

Gilbert, I think you may be missing a few more commas <G>.

Do you mean: 3,141,592,653,589,793,238,462,643,383,279,5.00 ??

Fractals glaze my eyes over anyway <G>

DD, W1MCE
+ + +
>

Gilbert Mouget wrote:
>
> In article <3E93001F.3E30199E@attbi.com>,
> dated Tue, 08 Apr 2003 17:01:46 GMT,
> Dave Shrader, <david.shrader@attbi.com> says...
>
> > pi = 3.1418
> >
> For a fractal dipole : 3,14159265358979323846264338327 95
>
> --
> A laver la ti¿½te d'un ï¿½ne, on n'y perd que son temps, sa peine,
> sa brosse et son savon.

367. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:29:53 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E933EED.4A738D3C@attbi.com>
Source record: 121317

Aha!! Drill holes??

Hope not! It should make a very secure mount with the sheet in place.

Deacon Dave, W1MCE

'Doc wrote:
>
> Ken,
> The 'silver plastic sheet' is to protect the finish
> of your vehicle. I'm sure there's some way of 'ruffing'
> up the surface, but do you really want to? Of course,
> the best way to keep your antenna from slidding off is
> to permanently mount it...
> 'Doc

368. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:29:59 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E933EE2.4CDC98EA@attbi.com>
Source record: 121119

Aha!! Drill holes??

Hope not! It should make a very secure mount with the sheet in place.

Deacon Dave, W1MCE

'Doc wrote:
>
> Ken,
> The 'silver plastic sheet' is to protect the finish
> of your vehicle. I'm sure there's some way of 'ruffing'
> up the surface, but do you really want to? Of course,
> the best way to keep your antenna from slidding off is
> to permanently mount it...
> 'Doc

369. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:29:59 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E933ECA.58AF1FAF@attbi.com>
Source record: 121318

Aha!! Drill holes??

Hope not! It should make a very secure mount with the sheet in place.

Deacon Dave, W1MCE

'Doc wrote:
>
> Ken,
> The 'silver plastic sheet' is to protect the finish
> of your vehicle. I'm sure there's some way of 'ruffing'
> up the surface, but do you really want to? Of course,
> the best way to keep your antenna from slidding off is
> to permanently mount it...
> 'Doc

370. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:40:37 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3E93425B.E694869C@att.net>
Source record: 121120

Andy,

Cecil is correct, of course, but I would add that there is no magic length breakpoint between the two numerical factors in the resistance formulae.

The '80' results from assuming uniform current distribution throughout the short dipole. The factor of '20' results from assuming a current distribution that linearly tapers to zero at the ends of the short dipole. There is an I^2 term in the derivation; thus the factor of 4 difference.

The real current distribution is probably not known analytically, so just go ahead and pick whatever you like.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Dave Shrader wrote:
> > R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
> >
> > R = Radiation Resistance, ignoring I^2*R losses in antenna
> > pi = 3.1418
> > L = Antenna Length in wavelengths
> > WL = Wavelength.
>
> That's the formula for an infinitesimal dipole. Use '20' instead
> of '80' for dipoles between 0.02WL and 0.1WL.
> Balanis, _Antenna Theory_, 1997, equation 4-37
> --
> cheers, CAM http://www.qsl.net/w5dxp

371. Re: TS430S REPAIR HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 21:50:50 UTC
From: Skipp begs to differ <needjavatokeeprunning@yahoo.com>
Message-ID: <b6vg7qdal1@woodrow.ucdavis.edu>
Source record: 121121

Not always the case... I've fixed more than my share of 430's and similar radios. Not one radio I've fixed with the posted issues turned out to be sourced to a pll alignment.

I replied to the original post on another news group which didn't make it over here. I suggested a mild pressure compressed air blowout of the radio and treating all the available connectors with Caig Labs DeOxite. As the other person posted in a followup, he might also check the board screws for being snug enough. If the radio is over a few years old, I auto change the Lithium Battery (coin cell).

Most good repair shops have a basic list of tests and PM tasks that get done.... if they're any good.

Many problems with the 430 are caused by simple connector oxidation. Other reported problems like the final transistor(s) (need) resoldering and cold solder joints are relatively easy to fix, just a headache to find.

Find a repair shop with someone that has real world experience with HF radios.

cheers
skipp
nospam4me@juno.com

(ps: by the way, I'm an Authorized Kenwood LM Radio Dealer & Repair Shop)

been there... done that... coffee mug and tee shirt.

: Crazy George <munschNO@attglobal.net.spam> wrote:
: The phase lock loop needs realignment. The display disappearing is
: Kenwood's way of telling you the loop has lost lock. Very common problem in
: old Kenwoods. See a repair shop familiar with Kenwoods. Describe the
: problem, and if they don't respond: loop lock lost, go to the next repair
: shop until you find one who knows the problem.

372. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 22:11:45 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E9348BA.47F31539@attbi.com>
Source record: 121122

Apologize for the multiple posts. I don't know how, when, where or why.
So a simple SORRY

Deacon Dave

Dave Shrader wrote:
>
> Aha!! Drill holes??
>
> Hope not! It should make a very secure mount with the sheet in place.
>
> Deacon Dave, W1MCE
>
> 'Doc wrote:
> >
> > Ken,
> > The 'silver plastic sheet' is to protect the finish
> > of your vehicle. I'm sure there's some way of 'ruffing'
> > up the surface, but do you really want to? Of course,
> > the best way to keep your antenna from slidding off is
> > to permanently mount it...
> > 'Doc

373. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 22:34:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v96jjmb3t8n236@corp.supernews.com>
Source record: 121123

The two formulas are based on different assumptions. The Kraus analysis (formula quoted by Dave) assumes, as Gene says, a uniform current distribution. This is achieved by assuming large capacitive hats at the ends of the dipole. With this assumption of uniform current distribution, a half wave dipole ends up having a radiation resistance of 168 ohms. The linear or triangular current distribution results when there aren't any end hats, and this is probably the assumption made for the Balanis formula quoted by Cecil. If your antenna has large capacitive hats, use the Kraus formula, otherwise use the Balanis one.

However, the original poster asked about the impedance of a short dipole, not the radiation resistance. In practice, the radiation resistance will be swamped by loss resistance, and even more so by reactance, so it's only a tiny part of the impedance. For any purpose other than determining efficiency, an estimation of zero for radiation resistance would probably be entirely adequate.

Roy Lewallen, W7EL

Gene Fuller wrote:
> Andy,
>
> Cecil is correct, of course, but I would add that there is no magic
> length breakpoint between the two numerical factors in the resistance
> formulae.
>
> The '80' results from assuming uniform current distribution throughout
> the short dipole. The factor of '20' results from assuming a current
> distribution that linearly tapers to zero at the ends of the short
> dipole. There is an I^2 term in the derivation; thus the factor of 4
> difference.
>
> The real current distribution is probably not known analytically, so
> just go ahead and pick whatever you like.
>
> 73,
> Gene
> W4SZ
>
> OC_CAM's Razor wrote:
>
>>Dave Shrader wrote:
>>
>>>R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
>>>

>>>R = Radiation Resistance, ignoring I^2*R losses in antenna
>>>pi = 3.1418
>>>L = Antenna Length in wavelengths
>>>WL = Wavelength.
>>
>>That's the formula for an infinitesimal dipole. Use '20' instead
>>of '80' for dipoles between 0.02WL and 0.1WL.
>>Balanis, _Antenna Theory_, 1997, equation 4-37
>>--
>>cheers, CAM http://www.qsl.net/w5dxp

374. RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 22:56:17 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b6vk2d$9m7bp$1@ID-175933.news.dfncis.de>
Source record: 121124

RE: Below

Impedance matching and (V)SWR issues appear to be immaterial to some of the "gurus" posting here. Is Z-match important, or not?

"Dave Shrader" <david.shrader@attbi.com> wrote in message news:3E93001F.3E30199E@attbi.com...
> R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
>
> R = Radiation Resistance, ignoring I^2*R losses in antenna
> pi = 3.1418
> L = Antenna Length in wavelengths
> WL = Wavelength.
>
> Deacon Dave, W1MCE
> + + +
>
> Andy Cowley wrote:
> >
> > Does anyone have an expression that gives the impedance
> > of a short dipole, given the length in lambdas or degrees?
> > I need an expression not a pointer to a calcultaing program.
> >
> > vy 73
> >
> > Andy, M3ABC

375. Discone

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 22:58:31 UTC
From: Wendy and Matt <mapwam@frontiernet.net>
Message-ID: <rulka.3367$xJ6.3011@news01.roc.ny.frontiernet.net>
Source record: 121125

Does anyone have a good program or design spec for a scanner discone? I'm looking to build a general discone , and then progressing to more specific bandwidths. Also, is it possible to stack discones one on top of another, or will this hurt performance? Thanks.
Matt
KC2KEI

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.467 / Virus Database: 266 - Release Date: 4/1/03

376. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:19:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3vl69vccbicq263lhkips64grlluu8amko@4ax.com>
Source record: 121126

On Tue, 8 Apr 2003 17:56:17 -0500, "Richard Fry" <rfry@adams.net>
wrote:

>RE: Below
>
>Impedance matching and (V)SWR issues appear to be immaterial to some of the
>"gurus" posting here. Is Z-match important, or not?
>_____________

Hmm, addressed to "gurus" is it?

Unless you answer to the call of "grasshoppa" it is wholly a
fictitious pursuit you clamor for. Immaterial be damned, it simply
isn't zen matched.

73's
Richard Clark, KB7QHC

377. Re: SSB brand RF sensed 6M preamps any good? P.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:28:56 UTC
From: John Siegel <JohnASiegel@worldnet.att.net>
Message-ID: <3E935B35.1010808@worldnet.att.net>
Source record: 121127

THeir web site is http://www.advancedreceiver.com
I don't see the KW model listed. I suggest contacting them directly to see if it is still available. I have the 2M Model - MM144VDG. Since I have a 6 and 2M combination antenna, it is passing close to 1KW peak on 6 and about 300 on 2M. I also have their 70CM RF switched model for 100 watts.
John

Jimnn7k@reno.rmci.net wrote:
> John- that GREAT NEWS! What is the web page address for these? Biggest I
> see listed is for 160 WATTS (-10 dB- 2KW). could use one for six and one
> for 2 (someone should show this to N6CA - he has some of the best preamps
> out there, but queried him - no response-- Hmmmmm)
> No , in truth, with the antennas mentioned, EVEN with a KW, would present
> little (if any) advantage (keep in mind this to gain 1-2 dB in the RECIEVE
> direction with a compromise omni-directional antenna) and at what cost! If
> have the bux to throw at the problem (rumor has it a certain 6 meter op's
> contacts run at around 2 Kilobux/each (down from 20 K each, a couple years
> ago) but this ?? think better use for money is a cw filter (more gain for
> the buck if you will)-- Jim
>
>
>
> "John Siegel" <JohnASiegel@worldnet.att.net> wrote in message
> news:3E920D9D.9060500@worldnet.att.net...
>
>>While 100W rating is typical for many preamps using RF sensing to switch
>>in/out, there are versions out there with full KW capability. For
>>example, ARR sells mast mounted preamps with the relays built-in at a KW
>>rating and also sells the sequencer.
>>73
>>John
>>
>>Jimnn7k@reno.rmci.net wrote:
>>
>>>Oh, and BTW, the best inline amps (antenna mounted) as I remember,
>>
> handle a
>
>>>MAX POWER of 50-100 WATTS at the Preamp (antenna)! for a KW, you need
>>
> Tohsu
>
>>>or Dow-key relays, or equivelant, and a SEQUENCER for the relays!

>>>otherwise, the preamp turns to melted silicon real quick! (Question
>>
> what
>
>>>acts faster than a fuse- Answer, a transistor , or diode overdriven!)--
>>
> Jim
>
>>>
>>>"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
>>>news:ynidnQOfCv2-Cw2jXTWcoQ@comcast.com...
>>>
>>>
>>>>Forgot to mention, 9913 has a loss of 0.9 db/100 ' at 50 MHz. So, the
>>>
> loss
>
>>>>in 75 feet would be only 0.7 db.
>>>>
>>>>Tam/WB2TT
>>>>"
>>>>
>>>>
>>>
>>>
>>>
>>>
>
>
>

378. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:32:04 UTC
From: jgboyles@aol.com
Message-ID: <20030408193204.23137.00000389@mb-cu.aol.com>
Source record: 121128

>Impedance matching and (V)SWR issues appear to be immaterial to some of the
>"gurus" posting here. Is Z-match important, or not?

What is your definition of a Z-match? Your modern transciever needs to see a 50 ohm Z. That is a fact. If it does not, the internal tuner kicks in,and tries to match a less than a 3:1 mismatch. I try to provide my rig with a 50 ohm Z so the internal tuner does nothing.
I do that with an external tuner and low loss open wire feed line to my antenna. The tuner and the feedline have no more than .5 db loss over a wide range of frequencies, even though the swr on the line can be quite large, my antenna system efficiency can easily be over 70 %.
So, is a Z-match important ? Yes and No.:-). Roy, W7EL has coined a response to these type questions, they are not binary.
73 Gary N4AST

379. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:35:44 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3E935C34.BA798AA9@gte.net>
Source record: 121129

Ken wrote:

> My MFJ mag mount 144/440 antenna came with a silver plastic sheet on
> the bottom that MFJ says is there for protection. It makes the base a
> little slippery. How can I increase the grip of the base?
>
> Maybe put a few smears of GE Silicone on it?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

That may be part of it- but when I was with Avanti Antennas, we added the sheet so as to develop sufficient capacity coupling from the antenna ground to the car body.

Dale W4OP

380. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:42:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3hn69vo1lm94l38s8mgv3da9mv6tfs1l3c@4ax.com>
Source record: 121130

On Tue, 08 Apr 2003 23:35:44 GMT, Dale Parfitt <parinc@gte.net> wrote:

> we added the
>sheet so as to develop sufficient capacity coupling from the antenna
>ground to the car body.

Hi Dale,

That is the why of it, want to give us the how?

73's
Richard Clark, KB7QHC

381. Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:47:13 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0304081547.6625eea@posting.google.com>
Source record: 121131
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I posted this thread on the eham HomeBrew and Elmers forums. I want the input of all the experienced homebrewers here.

What electronic parts do you stock up on? I have noticed in building a few projects and especially from looking at the designs of many more that any decent homebrewer will use certain parts on a regular basis. I believe that any experienced homebrewer has a substantial inventory of common parts and makes sure to stock up when either ordering other items or when attending hamfests. It's frustrating to lack a certain critical part, and many of them are not available at Radio Shack. (Come on, try to buy a Germanium diode or SMA connectors at Radio Shack.) Every order to Digi-Key or other online/mail-order vendors will have shipping charges added on. There are also parts that are available at Radio Shack but at exorbitant prices compared to Digi-Key and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to tell me that these are rarely used and that no homebrewer stocks up on these.)

So I am compiling a list of items that any homebrewer should stock up on. Please excuse the mis-numbering, as it would take too long to fix everything. Yes, I know that you can't have every part possible. However, certain items are used on not one project but many, many projects. For example,

General items:
1. DC jacks
2. DC connectors
1. LM3914 display driver ICs
2. LM3915 display driver ICs
3. 1N34A germanium diodes
4. Zener diodes
5. 1/4" LED holders: available at Radio Shack
6. 1/4" LEDs (red, yellow, green): exorbitant prices at Radio Shack
7. 9V battery holders: available at Radio Shack
8. Nylon binding posts: exorbitant prices at Radio Shack
9. Chasses (metal and non-metal): available at Radio Shack, but more selection and better prices elsewhere
10. LM324/358 IC amplifiers: exorbitant prices at Radio Shack
11. LM741 IC amplifiers: exorbitant prices at Radio Shack
12. .001uF capacitors: available at Radio Shack, but not at the best prices
13. .01uF capacitors: ditto
14. .1uF capacitors: ditto
15. Electrolytic and tantalum capacitors: ditto

16. Mica capacitors: ditto
17. IC sockets
15. LM317 or other voltage regulators: available at Radio Shack at high prices
16. Switches: available at Radio Shack
17. Circuit boards: available at Radio Shack
18. 2N2222As: available at Radio Shack at high prices
19. 2N3904s: available at Radio Shack at high prices
20. 555 timer chips: available at Radio Shack at exorbitant prices
21. 2N3906s
22. 2N2907s
23. Shrink wrap (for soldering wires onto LEDs): also available at Radio Shack and Home Depot
24. Solder: ditto
25. Solder flux: ditto
26. #30-gauge wire wrap wire (for wire wrap projects or RF transformers if distributed capacitance is an issue and you don't like magnet wire): available at Radio Shack
27. 1/2-W Resistors: available at Radio Shack
28. 1N914/1N4148 diodes: available at Radio Shack
29. #6-32 nuts and bolts for mounting circuits: available at Home Depot as well as Radio Shack
30. Potentiometers
31. Knobs
32. 2N2219 and 2N2905???
33. MPF102/2N3819 or similar FETs???
34. 2N3055 or other power transistors???
35. LM723 for power supplies???
36. Assorted powdered iron cores T- 37/50 - 2/6 ???
37. PCB material ???
38. BNC connectors/jacks

Audio items:
1. LM386 audio amp
2. Assorted audio connectors (RCA, 1/8" phone plugs)
3. 5532 op amps
4. Complementary output transistors that can handle some power

RF items:
1. FT50-43 ferrite toroid cores: useful for many, many RF projects
2. #73 ferrite beads for connecting RF and DC grounds
3. SO-239 jacks: available at Radio Shack at higher prices
4. PL-259s (make sure to get the right kind for the cable): ditto
5. SMA connectors
6. RG-58 coax for jumpers: exorbitant prices at Radio Shack
7. Lower loss coax
8. Mixers (for homebrewing transmitters and receivers)
9. 2N3563/MSP-H10/2N5179/BFR-96 or equivalent (for VHF)
10. 2N4427/2N3866 1 watt VHF finals (for homebrewing transmitters and receivers)
11. 1 - 10pf piston trimmers (vhf) ???

12. trim caps about 80pf max (hf) ???
13. IF transformers: 455 kHz and 10.7 MHz (can be rewound for other frequencies) ???

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

382. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:56:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v96odefvh02d6b@corp.supernews.com>
Source record: 121132

JGBOYLES wrote:
>Richard Fry wrote:
>
>>Impedance matching and (V)SWR issues appear to be immaterial to some of the
>>"gurus" posting here. Is Z-match important, or not?
>
>
> What is your definition of a Z-match? . . .

And, out of curiosity, what's your definition of a "guru"?

Roy Lewallen, W7EL

383. Using MMANA software

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-08 23:59:25 UTC
From: enigma_y_2000@yahoo.com
Message-ID: <3e9361f8.17468167@news.usfamily.net>
Source record: 121133

Hi,

Has anyone found a decent web site with detailed instructions for using MMANA the freeware antenna analyzer?

If so, please email me the link. What I've found so far leaves me guessing on too many things.

Thanks,

Bob

384. Re: More stick for mag mount antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 00:00:02 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E936245.C7F7B971@shaw.ca>
Source record: 121134

Ken wrote:
>
> My MFJ mag mount 144/440 antenna came with a silver plastic sheet on
> the bottom that MFJ says is there for protection. It makes the base a
> little slippery. How can I increase the grip of the base?
>
> Maybe put a few smears of GE Silicone on it?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

Tear it off and put a piece of mactac in its place.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

385. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 00:10:13 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <b-ydnVU0vvp4-Q6jXTWcrg@comcast.com>
Source record: 121135

Dale,

It has slightly more gain than a dipole. 1 - 2 db, depending on geometry.
Other than that, I agree with your dipole suggestion; at least you can make
that rotatable. Probably the best bet for a next step on 6 is a 3 element
beam. I worked Alaska from NJ with one on SSB, running 75W.

Tam/WB2TT
"Dale Parfitt" <parinc@gte.net> wrote in message
news:3E9316B9.BA3FD026@gte.net...
>
>
> M3*** wrote:
>
> > a full wave loop
> >
>
> Not sure a 1 wavelength loop is what you want IF horizontal polarity and
omni
> coverage is your goal. A 1 wavelength loop has a figure "8" pattern
similar to
> a dipole, with slightly less gain than a dipole, but requires 2X the wire
and
> a matching network. Why not just put up a dipole?
>
> Dale W4OP
>

386. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 00:16:20 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3E936654.5030107@bellsouth.net>
Source record: 121136
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason Hsu wrote:
> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
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> What electronic parts do you stock up on? I have noticed in building
> a few projects and especially from looking at the designs of many more
> that any decent homebrewer will use certain parts on a regular basis.
> I believe that any experienced homebrewer has a substantial inventory
> of common parts and makes sure to stock up when either ordering other
> items or when attending hamfests. It's frustrating to lack a certain
> critical part, and many of them are not available at Radio Shack.
> (Come on, try to buy a Germanium diode or SMA connectors at Radio
> Shack.) Every order to Digi-Key or other online/mail-order vendors
> will have shipping charges added on. There are also parts that are
> available at Radio Shack but at exorbitant prices compared to Digi-Key
> and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to
> tell me that these are rarely used and that no homebrewer stocks up on
> these.)
> Assorted NPN and PNP SI transistors some power, mostly small
signal of a few variaties

> So I am compiling a list of items that any homebrewer should stock up
> on. Please excuse the mis-numbering, as it would take too long to fix
> everything. Yes, I know that you can't have every part possible.
> However, certain items are used on not one project but many, many
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> 12. trim caps about 80pf max (hf) ???
> 13. IF transformers: 455 kHz and 10.7 MHz (can be
> rewound for other frequencies) ???
>
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

I keep an eye out at hamfests and fleabay for:
Hammarlund variable caps of the "MC" type (both centerline and
offset types). Dip mica caps when available in bulk cheap.
Filter chokes, small audio transformers and power transformers.
1/4, 1/2 watt resistor assortments. Small signal transistors, linear
IC's both op amps and rf/audio types. Crystals, rf chokes, adjustable
core coil forms (transistor IF size units with mini slug adjustment, can
be rewound to desired inductance).

I've got some un-usual junk in the junkbox that I thought I could use.
Several
old turret 'standard coil' tv tuners. Two of them could be ganged and
fitted
with torriod core coils for a 12 band radio front end. A box filled
with ceramic
and fiber rotorary switch sections plus some used shafts and index
assemblies
(the switch sections are mostly unused, everything else from junked
switchs) for
custom switches. IF cans from old radios, tv's and military junk.
(several from
bc453's @85 khz, the rest from bc454's @1415khz). Old AA5 two and three
section variable caps and some mini's from transistor sets, some AM/FM.

Guess I'm just a pack rat. Anything I can find, especially if in bulk
and cheap
I'll pack away for a rainy day.

I will rarely buy any parts at rat shack EXCEPT for when they have
'special purchases'
of good stuff cheap, or the store manager is dumping surplus stock being
discontinued.
I got a bag full of GI sound generator chips that way at rat shack.

387. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 02:06:08 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <g6Lka.1710$c42.1251@fe01.atl2.webusenet.com>
Source record: 121137

Try: http://www.hamuniverse.com/6mloop.html

"K0bg" <k0bg@aol.com> wrote in message
news:20030408112005.03533.00000339@mb-fm.aol.com...
> The ARRL's "Simple and Fun Antennas" is a good place to start.
>
> Alan, K�BG

388. Re: Discone

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 05:21:20 UTC
From: artie <silli_artie@hotmail.com>
Message-ID: <080420032221130187%silli_artie@hotmail.com>
Source record: 121138

In article <ruIka.3367$xJ6.3011@news01.roc.ny.frontiernet.net>, Wendy
and Matt <mapwam@frontiernet.net> wrote:

> Does anyone have a good program or design spec for a scanner discone? I'm
> looking to build a general discone , and then progressing to more specific
> bandwidths. Also, is it possible to stack discones one on top of another, or
> will this hurt performance? Thanks.
> Matt
> KC2KEI

My favourite reference is still the RSGB "VHF UHF Manual" by G6JP, G R
Jessop. The discone is covered on 8.37 through 8.40.

While a discone CAN operate over a 10:1 frequency range, as the
frequency increases, so does the take-off angle. Above 5:1, the main
lobe is at least 45 degrees above the horizontal. So unless you WANT a
high takeoff angle, you're not going to use the full operating range.

The discone also has a sharp null directly overhead -- Jesspo shows it
as being on the order of -40dB. This makes discones less than useful
for tracking satellites which go directly overhead.

The characteristic impedance of the discone is set by the ratio of the
top of the cone to the distance between the top of the cone and the
disc. For 50 ohms, the distance between the top of the cone and the
disc is 20% of the cone diameter. This is independent of frequency.

The length of the elements are a quarter wavelength for the lowest
frequency. The angle of the elements is 60 degrees.

The diameter of the disc is 70% of a quarter wavelength for the lowesst
frequency.

A discone which starts at 800 MHz is a cute little gadget, and easy to
build.

Have fun!

389. "off subject" 8 Tracks

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 07:45:14 UTC
From: kc5cqa@devtex.net
Message-ID: <3e93cefe.3684395@news.devtex.net>
Source record: 121163

I know this is off subject, but there is a lot of good input here. I am posting for a friend, he has a Cobra 146gtl,SSB that was in storage for several years, and he would like to have a 'ballpart' idea of what to ask for the unit on sale.????? From my point of view apperance wise I would say "8 on a scale of 10'. There is NO mobil mount..
He also has two '8 track' Stereo Recorders, brand name ,,,, CRAIG about a 7 or 8 on 'the scale',,,,, the second 8 track recorder is a JVC, on the 'scale' about a 9.
I had 8 track when I was younger, but didn't know until I saw these units that there WERE 8 track recorders ''''outthere''''. I will relay any and all info about the sale value of these three units.
Thanks in advance. cl.

390. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 10:59:47 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E93FE75.BC25C5B2@uwe.ac.uk>
Source record: 121141

Roy Lewallen wrote:
>
> Of course, X is by far the largest part of the impedance. Unfortunately,
> X is quite a bit more difficult to calculate, and is a function of the
> wire diameter.
>
> There are some formulas which do a good job for calculating X, but
> they're too lengthy to include here. They appear in "Theory of Antennas
> of Arbitrary Size and Shape", by S. A. Schelkunoff, Proc. of the IRE,
> September 1941. Shelkunoff also wrote a book or two, and the equations
> are probably in his books.
>
> They're not quite closed form equations. They require calculation of
> sine and cosine integrals, which can be calculated by summing an
> infinite series. I don't know of a practical way to do this without a
> computer program, unless you can locate or calculate a table and are
> willing to look up the values.
>
> Roy Lewallen, W7EL
>
> Dave Shrader wrote:
> > R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
> >
> > R = Radiation Resistance, ignoring I^2*R losses in antenna
> > pi = 3.1418
> > L = Antenna Length in wavelengths
> > WL = Wavelength.
> >

Dear All,

Thanks for the enlightening replies. My reasons for asking were :-

1. that I'm building an ATU and wanted to do some calculation of
what it might be able to tune.

2. I'd seen the 'snail diagram' in several sources and wondered,
as I always do when I see a graph, what the underlying expression
was. I did get suspicious when Terman failed to give an expression
and my searches in other places had come up blank.

3. I'd generated my own snails using EZNEC plus 'awk' and Excel.
This is just a _little_ laborious and I felt there must be a simpler
way to get there.

Particular thanks to Roy for the Schelkunoff reference, I'll chase that up, but it seems I'm asking for the impossible. I had assumed that there would be an 'ideal' limit case for a dipole with a sensibly infinite length/diameter ratio, but I think you have shown me that this is not so.

Great stuff guys. Many thanks. Maybe one day I'll get a real grip on how aerials work ;-)

vy 73

Andy, M3ABC

391. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 11:25:58 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E940498.117A6168@uwe.ac.uk>
Source record: 121142
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason Hsu wrote:
>
> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
>
> What electronic parts do you stock up on? I have noticed in building
> a few projects and especially from looking at the designs of many more
> that any decent homebrewer will use certain parts on a regular basis.

From Ham Fests :-

All the stuff that is no longer available or very expensive new.
Mostly QRO for linears and ATUs

Ceramic standoffs
Vacuum relays & caps
High voltage paper in oil caps
mica caps.
Ceramic wafer switches
Die cast boxes
19" rack boxes and panels
big HV transformers
feed-through caps, threaded for preference.
ETFE jacketed silver plated copper wire
coil and bar roller coasters
BA nuts and bolts
Turns counting dials
Heliax
FSD <= 100 uA meters

From current suppliers :-

OA47s
Shottky diodes
Ferrite and dust iron toroids
BNC and N type connectors

vy 73

Andy, M3ABC

392. WETB-UHF RIGS

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 12:45:11 UTC
From: n2ion@aol.com
Message-ID: <20030409084511.05633.00000924@mb-fo.aol.com>
Source record: 121143

I'M LOOKING TO BUY A FEW MIDLAND RADIOS
MODEL# 70-565B, OR 70-530A.
THE RADIOS MUST BE CAPABLE OF GOING DOWN TO THE 430 MHz PORTION OF THE BAND.
MUST HAVE MICROPHONE AND MOUNTING BRACKETS.

IF YOU HAVE ANY OF THESE RIGS, EMAIL ME WITH THE CORRESPONDING DETAILS.

393. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 13:07:46 UTC
From: john walton <jdwalton@comcast.net>
Message-ID: <aq2cndyDjP6GgQmjXTWcpw@comcast.com>
Source record: 121145
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

My wife says she is gonna bury me in the stuff. It will take a large
coffin.

OpAmps -- I wouldn't hit a dog in the derriere with a '741
TLC2274, TLC2272
NE5532
AD797 plus a lot of samples from AD
LT1014, LT1013,LT1028, plus a lot of samples from LT.
LM3875 power op amp
LMD18201 Motor Control
UC3843, MC34166, LM3524, LM3525 switcher chips
ULN2803a relay drivers
Binding post connectors
BUZ80's, IRFP240+IRFP9240's
1N, 10N, 100N bypass caps
10uF tantalum's
330uF low ESR electrolytics
CMOS -- probably 100 chips or so -- software in solder as Ciarcia used to
say.

16F84's, 16F873, 16F877 from Microchip

7-segment LED's

I can't go by the dump without hacking out the power supply of a PC! Some
people go to the dump to deposit, others to withdraw.

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> 12. trim caps about 80pf max (hf) ???
> 13. IF transformers: 455 kHz and 10.7 MHz (can be
> rewound for other frequencies) ???
>
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

394. Re: 6m loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 13:11:43 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3E941B72.5D7CE196@gte.net>
Source record: 121144

Tarmo Tammaru wrote:

> Dale,
>
> It has slightly more gain than a dipole. 1 - 2 db, depending on geometry.
> Other than that, I agree with your dipole suggestion; at least you can make
> that rotatable. Probably the best bet for a next step on 6 is a 3 element
> beam. I worked Alaska from NJ with one on SSB, running 75W.
>

Hi Tam,
It has been some time, but I did model the 1 wave horizontal loop, and seem to recall slightly less gain than a dipole. I agree, that a vertically oriented loop has 1-2 dB more gain.

Dale W4OP

395. HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 14:52:06 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns9358A116028AAnewsleighsorg@130.133.1.4>
Source record: 121146

Hello

Can anyone help with information of the SMCHF5V 5-band vertical?

Sold in the UK in the early 1980s, 16ft high and often with 5 radials and
'V' at the top making it very noticeable.

I may be given one that needs repairing and don't feel there is any info
with it - so all help appreciated.

Cheers.

Leigh....M5GWH
email: m5gwh@qsl.net - reply address is spam-trapped.

396. Re: HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 15:22:16 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e943a78$0$130$edfadb0f@dtext02.news.tele.dk>
Source record: 121147

Hello Leigh

> Can anyone help with information of the SMCHF5V 5-band vertical?
>
> Sold in the UK in the early 1980s, 16ft high and often with 5 radials and
> 'V' at the top making it very noticeable.
>
> I may be given one that needs repairing and don't feel there is any info
> with it - so all help appreciated.

You might find a manual for it to download here

http://www.bencher.com/pdf_download.html

Regards Max

397. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 16:18:09 UTC
From: mcalhoun@ksu.edu
Message-ID: <b71h41$msc@unix1.cc.ksu.edu>
Source record: 121148
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

>What electronic parts do you stock up on? ....

Simple answer: EVERYTHING!
And then add some more!

After all, doesn't s/he who dies owning the biggest junque box win? :-)

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

398. FS Tek 490 Series Mixers+Horn

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 16:46:35 UTC
From: tonys2@aol.com
Message-ID: <20030409124635.16855.00000977@mb-fh.aol.com>
Source record: 121149

For Tek 490 Analyzer Extension to 140 gig.
5 mixers in case with cable +book. $900+ups. Like new.
Tony Stein
Alex Va

399. Re: 10 meter mobile questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 16:47:15 UTC
From: Jim@naut.net
Message-ID: <3E944E93.5C7B695A@naut.net>
Source record: 121150

I use a Ranger 2950 in my vehicle with a converted Wilson cb roof magnetic mount antenna. All I had to do was cut the stinger for 10 meters.

It really works very well. I make normal european contacts on 10 when the band is open with 25 watts.

Richard Harrison wrote:

> Greg, KF6ALC wrote:
> "I am just getting into 10 meters, and am looking for a good way to go
> mobile."
>
> My experience includes countless mobiles on 33 MHz. Lots of trucks, but
> the favored antenna location was high on the cab, not the bed or tool
> box. Height helps with local communications and DX too. A nearly
> full-length stainless steel CB whip and spring should be fine.
>
> Best regards, Richard Harrison, KB5WZI

400. *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 16:53:27 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <uij89v0auj9sg1sof5fmu4h6l1r81buupo@4ax.com>
Source record: 121151

Hi,

I have been looking around at antennas that are small. I know it's a reduction in efficiency but I would like to try one out. I am off to university at the end of the year and would like to continue working the bands, albeit qrp!, from my room. I don't know if there would be anywhere for a dipole or other antenna at the moment, and it would prove a good learning exercise to build some small antennas and try them out!

I have seen advertisements for the ATX walkabout antennas for the FT-817 and I wonder if anyone has some information about the coils needed to load a short whip.

I found a whip about 47.5" long in the junk box but can't find any info on the coils needed to make single band antennas like those sold by the retailers.

I am interested also in hearing any experiences and reading some theory on shortened antennas as I hope to be studying RF Engineering at university and it would be a good start to learn a bit more about the nature of the 'beast'!!

Thanks in advance for any help etc...

73, Iain (M0PCB / M1ETJ)
to reply via email replace no.spam with iain ...

401. half square dimensions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:05:49 UTC
From: don bryant <dba@yebo.co.za>
Message-ID: <b71jvc$lu9$1@ctb-nnrp2.saix.net>
Source record: 121152

Hi,
I get different horizontal and vertical dimensions for a half square, from different sources. One article states " Vertical 240/f Horizontal 470/f.

Another article measurements are Vertical 234/f horizontal 468/f

Any comments would be appreciated.

I also need H&V dimension for a Bobtail

Thank you

Don Bryant ZS6BTP

402. Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:21:32 UTC
From: buo <hkl@er.com>
Message-ID: <3E94569C.E1935E94@er.com>
Source record: 121155

,

403. Re: half square dimensions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:21:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9456B1.1090506@ieee.org>
Source record: 121153

don bryant wrote:
> Hi,
> I get different horizontal and vertical dimensions for a half square, from
> different sources. One article states " Vertical 240/f Horizontal
> 470/f.
>
> Another article measurements are Vertical 234/f horizontal 468/f
>
> Any comments would be appreciated.

Either way, it is not going to be resonant on exactly the frequency you
used for the formulas. I would guess that the higher numbers are for
insulated wire and the lower ones for bare wire. As with any wire antenna,
make it a little too long and trim for your favorite resonant frequency.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

404. Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:49:09 UTC
From: Andy <dx90@blueyonder.co.uk>
Message-ID: <l2Zka.428$l31.415@news-binary.blueyonder.co.uk>
Source record: 121154

Hi all

Can any one help me with a copy of the manual for my Cushcraft R4 vertical antenna. I have looked for one but no luck, also been in contact with Cushraft and was told that I should have bought the R4 with the manual, some great help and advice from them. Any help with this would be great

Thanks

Andy

405. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:56:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <24l89v4htdb3lah23npdbhshb98c0h4fml@4ax.com>
Source record: 121156
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On 8 Apr 2003 16:47:13 -0700, jason_hsu@my-deja.com (Jason Hsu) wrote:

>I posted this thread on the eham HomeBrew and Elmers forums. I want
>the input of all the experienced homebrewers here.
>
>What electronic parts do you stock up on?

Hi Jason,

I have a full storeroom, but it did not come through an introspection of building and filling an ark.

No, I observe a simple rule of construction in each of my projects for various customers: buy for three units, build two, deliver one. Odd as it may seem, the extra parts from any previous project rarely find their way to the next. As such the parts on store have grown through accretion. About the only things that I do stock and rotate are of the lowest of low tech: nuts, screws, washers, boxes.... They are closely followed by the next rung in order: knobs, switches, connectors, fuses....

As for your exhaustive list (seems to me I recommended a suite of ferrites for your SWR meter project), that was too long by half being dominated by the high end of tech (you need a wider variety of caps and resistors if you are going to put the linear chips to work).

Another rule while I've got the soapbox: design to the smallest number of connections or try to force those connects into a smaller package. This means fewer parts, and if you haven't smelled the coffee yet, digitize as quickly as you can. Connections are expensive.

My design for the Black Box monitored several dozen parameters through sensors placed throughout the airframe. These sensors each had at least two lines, if not more (there were a lot of synchro/servo lines), and all of those leads arriving at my backplane passed through two 300 pin connectors. Those two connectors alone cost about $2 a pin. These suckers were specified as ZIF (Zero Insertion Force) and yet it took two men and a boy to seat them. Of these 600 leads, few were digital, maybe 2 or 3.

Once inside, you would find little evidence of linear design. I did not have an energy budget for their individual conditioning. I did not have a heat budget to support conditioning if I could. I did not have a volume budget that would allow all that circuitry anyway. No, the only physical evidence of deference to linear signals was found in resistor/capacitor pairs to cut down on HF noise - then the signal was

immediately sampled and the rest is digital history.

Without having taken the fast lane to digitization, I would have had to designed more connections to support what was demonstrably unneeded: signal conditioning. This is not to say I abandoned it totally. There were the snubbers mentioned, but I also had several linear circuits that were multiplexed (again, cut the number of components and connections).

To put icing on the cake, I still have samples of the processor, ADC and DAC's, multiplexors (low "on" resistance cross point) and Op Amps from the crash recorder sitting on the shelf in the storeroom. I've yet to figure out how to put them to work on the "current" project.

73's
Richard Clark, KB7QHC

406. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 17:58:16 UTC
From: tdonaly@aol.com
Message-ID: <20030409135816.14640.00000814@mb-fe.aol.com>
Source record: 121157

Andy Cowley wrote,
>
>Dear All,
>
>Thanks for the enlightening replies. My reasons for asking were :-
>
>1. that I'm building an ATU and wanted to do some calculation of
>what it might be able to tune.
>
>2. I'd seen the 'snail diagram' in several sources and wondered,
>as I always do when I see a graph, what the underlying expression
>was. I did get suspicious when Terman failed to give an expression
>and my searches in other places had come up blank.
>
>3. I'd generated my own snails using EZNEC plus 'awk' and Excel.
>This is just a _little_ laborious and I felt there must be a simpler
>way to get there.
>
>Particular thanks to Roy for the Schelkunoff reference, I'll chase
>that up, but it seems I'm asking for the impossible. I had assumed
>that there would be an 'ideal' limit case for a dipole with a
>sensibly infinite length/diameter ratio, but I think you have shown
>me that this is not so.
>
>Great stuff guys. Many thanks. Maybe one day I'll get a real
>grip on how aerials work ;-)
>
>vy 73
>
>Andy, M3ABC
>

Balanis, in his book _Antenna Theory, Analysis and Design_, gives a
formula for the input reactance of a small dipole as follows;
Xin= -120[ln(l/2a)-1]/tan(kl/2), where l is the length of the antenna,
a is the wire radius, and k is just 2pi/lambda. You might want to read the
rest of the
chapter (chapter 8) before applying this too religiously. Balanis also gives
the
general formulas that require the use of tables -- given in an appendix -- to
use.
Finally, there's a graph on page 411 (of the 2nd edition) giving resistance and

reactance as a function of antenna length for an antenna with a wire radius
of 10^-5 of the wavelength. This may be more helpful than the formulas.

73,
Tom Donaly, KA6RUH

407. Re: Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 18:16:03 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3E94630E.181D64C1@attbi.com>
Source record: 121158

Don't use lead based paint!!!

Some latex based paints can be water soluble!!

Deacon Dave, W1MCE

buo wrote:
>
> ,

408. Re: Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 18:50:47 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e946b58$0$130$edfadb0f@dtext02.news.tele.dk>
Source record: 121159

Hello Buo

> Don't use lead based paint!!!
>
> Some latex based paints can be water soluble!!

I have some from the Army, and they are painted green,
and when I was in the Navy they where painted blue,
so I surpose it is no problem. If you would like a
everlasting dolution, go to a porcelain painting
store and have them painted and burned, then
you will be shure that color stays ther. But caution,
some of the colors for porcelain is based on metal.

Regards Max

409. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 19:02:03 UTC
From: wp20031@aol.com
Message-ID: <20030409150203.26027.00001086@mb-fd.aol.com>
Source record: 121160

>I have been looking around at antennas that are small. I know it's a
>reduction in efficiency but I would like to try one out. I am off to
>university at the end of the year and would like to continue working
>the bands, albeit qrp!, from my room. I don't know if there would be
>anywhere for a dipole or other antenna at the moment, and it would
>prove a good learning exercise to build some small antennas and try
>them out!
>
>I have seen advertisements for the ATX walkabout antennas for the
>FT-817 and I wonder if anyone has some information about the coils
>needed to load a short whip.
>
>I found a whip about 47.5" long in the junk box but can't find any
>info on the coils needed to make single band antennas like those sold
>by the retailers.
>
>I am interested also in hearing any experiences and reading some
>theory on shortened antennas as I hope to be studying RF Engineering
>at university and it would be a good start to learn a bit more about
>the nature of the 'beast'!!
>
>Thanks in advance for any help etc...
>
>73, Iain (M0PCB / M1ETJ)
>to reply via email replace no.spam with iain ...
You might try an indoor horizontal loop, fed with coax and a tuner. Use nails,
string and buttons at the corners of the room to support the wire. Run the
coax to the tuner and give it a try. Your results will be better on higher
bands, but it is a cheap, usable antenna.

--Wayne

410. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 19:09:13 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <6qr89v8l02n32k6adr6kddarkag045t8an@4ax.com>
Source record: 121161

On 09 Apr 2003 19:02:03 GMT, wp20031@aol.com (Wp20031) wrote:

>You might try an indoor horizontal loop, fed with coax and a tuner. Use nails,
>string and buttons at the corners of the room to support the wire. Run the
>coax to the tuner and give it a try. Your results will be better on higher
>bands, but it is a cheap, usable antenna.
>
>--Wayne

Hi Wayne,

I was thinking of things like that but I will be in university
accommodation and I don't think they'd be too happy if I put nails in
the walls. I might be able to get away with it but the rooms are not
very big so even a loop for 10M might be pushing it!!!

I have plenty of time to sort something out but it's going to be an
interesting process...

Thanks for the response,

73, Iain (M0PCB/M1ETJ)

411. Re: HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 19:27:02 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns9358CFB2F38D2newsleighsorg@130.133.1.4>
Source record: 121162

"Max" <Max_Jens@post9.tele.dk> wrote in
news:3e943a78$0$130$edfadb0f@dtext02.news.tele.dk:

> You might find a manual for it to download here
>
> http://www.bencher.com/pdf_download.html

Max - thank you very very much - web searches didn't find this!

Leigh....

412. Re: Grounding: Sheet v Rods

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 20:16:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b71v2h$7ku$1@titan.btinternet.com>
Source record: 121164

Reg Edwards, G4FGQ, previously said -

> Here's a free curious fact - the resistance of a circular disk laid flat
on
> the soil surface is given very simply by Soil/Dia/2 ohms. The resistance
of
> a disk of the same diameter half-buried in the soil in the vertical plane
is
> exactly the same.
>
> ==
>
But this should not be surprising because GREATEST LENGTHs of both
electrodes are identical. It so happens, in this solitary special case, the
areas in contact with the soil are also equal.

Once again, it follows that 'lumps' of electrode material are a waste of
materials and labor. Spread it around and improve your DX !

Reg, G4FGQ

413. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 20:18:29 UTC
From: tkell@blackhole.nyx.net
Message-ID: <1049919509.252975@irys.nyx.net>
Source record: 121165
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

There was a thread on QRP-L about this a few years ago. Chuck Adams put
out a nice list of things to look for. You might hunt for that.

In article <f7d9a152.0304081547.6625eea@posting.google.com>,
Jason Hsu <jason_hsu@my-deja.com> wrote:
>I posted this thread on the eham HomeBrew and Elmers forums. I want
>the input of all the experienced homebrewers here.
>
>What electronic parts do you stock up on? I have noticed in building
>a few projects and especially from looking at the designs of many more
>that any decent homebrewer will use certain parts on a regular basis.
>I believe that any experienced homebrewer has a substantial inventory
>of common parts and makes sure to stock up when either ordering other
>items or when attending hamfests. It's frustrating to lack a certain
>critical part, and many of them are not available at Radio Shack.
>(Come on, try to buy a Germanium diode or SMA connectors at Radio
>Shack.) Every order to Digi-Key or other online/mail-order vendors
>will have shipping charges added on. There are also parts that are
>available at Radio Shack but at exorbitant prices compared to Digi-Key
>and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to
>tell me that these are rarely used and that no homebrewer stocks up on
>these.)
>
>So I am compiling a list of items that any homebrewer should stock up
>on. Please excuse the mis-numbering, as it would take too long to fix
>everything. Yes, I know that you can't have every part possible.
>However, certain items are used on not one project but many, many
>projects. For example,
>
>General items:
>1. DC jacks
>2. DC connectors
>1. LM3914 display driver ICs
>2. LM3915 display driver ICs
>3. 1N34A germanium diodes
>4. Zener diodes
>5. 1/4" LED holders: available at Radio Shack
>6. 1/4" LEDs (red, yellow, green): exorbitant prices at Radio Shack
>7. 9V battery holders: available at Radio Shack
>8. Nylon binding posts: exorbitant prices at Radio Shack
>9. Chasses (metal and non-metal): available at Radio Shack, but more
>selection and better prices elsewhere
>10. LM324/358 IC amplifiers: exorbitant prices at Radio Shack

>11. LM741 IC amplifiers: exorbitant prices at Radio Shack
>12. .001uF capacitors: available at Radio Shack, but not at the best
>prices
>13. .01uF capacitors: ditto
>14. .1uF capacitors: ditto
>15. Electrolytic and tantalum capacitors: ditto
>16. Mica capacitors: ditto
>17. IC sockets
>15. LM317 or other voltage regulators: available at Radio Shack at
>high prices
>16. Switches: available at Radio Shack
>17. Circuit boards: available at Radio Shack
>18. 2N2222As: available at Radio Shack at high prices
>19. 2N3904s: available at Radio Shack at high prices
>20. 555 timer chips: available at Radio Shack at exorbitant prices
>21. 2N3906s
>22. 2N2907s
>23. Shrink wrap (for soldering wires onto LEDs): also available at
>Radio Shack and Home Depot
>24. Solder: ditto
>25. Solder flux: ditto
>26. #30-gauge wire wrap wire (for wire wrap projects or RF
>transformers if distributed capacitance is an issue and you don't like
>magnet wire): available at Radio Shack
>27. 1/2-W Resistors: available at Radio Shack
>28. 1N914/1N4148 diodes: available at Radio Shack
>29. #6-32 nuts and bolts for mounting circuits: available at Home
>Depot as well as Radio Shack
>30. Potentiometers
>31. Knobs
>32. 2N2219 and 2N2905???
>33. MPF102/2N3819 or similar FETs???
>34. 2N3055 or other power transistors???
>35. LM723 for power supplies???
>36. Assorted powdered iron cores T- 37/50 - 2/6 ???
>37. PCB material ???
>38. BNC connectors/jacks
>
>Audio items:
>1. LM386 audio amp
>2. Assorted audio connectors (RCA, 1/8" phone plugs)
>3. 5532 op amps
>4. Complementary output transistors that can handle some power
>
>RF items:
>1. FT50-43 ferrite toroid cores: useful for many, many RF projects
>2. #73 ferrite beads for connecting RF and DC grounds
>3. SO-239 jacks: available at Radio Shack at higher prices
>4. PL-259s (make sure to get the right kind for the cable): ditto
>5. SMA connectors

>6. RG-58 coax for jumpers: exorbitant prices at Radio Shack
>7. Lower loss coax
>8. Mixers (for homebrewing transmitters and receivers)
>9. 2N3563/MSP-H10/2N5179/BFR-96 or equivalent (for VHF)
>10. 2N4427/2N3866 1 watt VHF finals (for homebrewing transmitters and
>receivers)
>11. 1 - 10pf piston trimmers (vhf) ???
>12. trim caps about 80pf max (hf) ???
>13. IF transformers: 455 kHz and 10.7 MHz (can be
>rewound for other frequencies) ???
>
>
>Jason Hsu, AG4DG
>usenet@@@@jasonhsu.com

414. Re: HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 20:30:40 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e9482c0$0$124$edfadb0f@dtext02.news.tele.dk>
Source record: 121166

Hello Leigh

> > You might find a manual for it to download here
> >
> > http://www.bencher.com/pdf_download.html
>
> Max - thank you very very much - web searches didn't find this!

You must use a bad search machine, I just typed HF5V in the
search field in Google, and the above link was the first result shown.

Regards Max

415. Re: WIMO GPM-1500 Antenne Erfahrung

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 20:37:20 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e948454$0$133$edfadb0f@dtext02.news.tele.dk>
Source record: 121167

Hallo Karl

> Ich ☐berlege mir so eine Antenne mir anzuschaffen.
> Hat wer schlecht oder gute Erfahrungen damit gemacht ?

Hast du die aussagen auf dieser seite gelesen ?

http://www.wimo.com/verteiler.htm?s3134d_d.htm

Gruesse

Max

416. Re: HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 21:37:57 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <0TdHrMD1KJI+EAPL@ifwtech.co.uk>
Source record: 121168

Max wrote:
>Hello Leigh
>
>> > You might find a manual for it to download here
>> >
>> > http://www.bencher.com/pdf_download.html
>>
>> Max - thank you very very much - web searches didn't find this!
>
>You must use a bad search machine, I just typed HF5V in the
>search field in Google, and the above link was the first result shown.

But it's not the same HF5V...

I've no idea where to find any details of the one Leigh described, which was quite different from the Bencher/Butternut HF 5-band Vertical of the same name. SMC are long gone from the amateur market in the UK, and probably weren't the original manufacturer anyway.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

417. Need Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 22:10:24 UTC
From: Steve Kallestad <stevek@nospamremedydevelopers.com>
Message-ID: <kT0la.122647$OV.221082@rwcrnsc54>
Source record: 121069

I have a 418 Mhz transmitter and receiver used for sending/receiving infrared codes. As it turns out, the location of these devices is not optimal, and I am having trouble getting the signal.

If I move the transmitter out the door of my office, the signal is received in my living room without a problem. When the transmitter is inside the office, however, I cannot receive a signal in my living room.

There are four drywall walls and approximately 50 linear feet between the transmitter and receiver.

The receiver has a standard collapsable antenna that you might find on any portable FM radio, and I am thinking that if I replace it with a higher quality antenna, I may be able to get the signal. (Unfortunately there are constraints to my project that do not allow me to change the location of the transmitter or receiver)

So far my research leads me to the following conclusions:

1) A directional Antenna might offer me better signal reception
2) I am not allowed to do anything to increase the power of the transmitter per FCC regulations
3) Radios and Antennas are more complex than I ever gave them credit for.

****
Could anyone in this newsgroup either recommend an antenna for me, or recommend an online dealer that would be able to supply me with what I am looking for (and also tell me what I am looking for)?
****

The project that I am trying to accomplish is sending Infrared signals from my PC to my AV equipment through a Radio Shack "PowerMid". It would open up a whole world of possibilities for my home automation system.

Thanks,
Steve

418. Re: Need Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 22:13:33 UTC
From: Steve Kallestad <stevek@nospamremedydevelopers.com>
Message-ID: <hW0la.68476$ug3.137665@rwcrnsc51.ops.asp.att.net>
Source record: 121070

ALSO...

The receiver sits inside a cabinet. (The only acceptable location from my
Wife's perspective :))
The antenna needs to be relatively discreet.

Thanks Again!

"Steve Kallestad" <stevek@nospamremedydevelopers.com> wrote in message
news:kT0la.122647$OV.221082@rwcrnsc54...
> I have a 418 Mhz transmitter and receiver used for sending/receiving
> infrared codes. As it turns out, the location of these devices is not
> optimal, and I am having trouble getting the signal.
>
> If I move the transmitter out the door of my office, the signal is
received
> in my living room without a problem. When the transmitter is inside the
> office, however, I cannot receive a signal in my living room.
>
> There are four drywall walls and approximately 50 linear feet between the
> transmitter and receiver.
>
> The receiver has a standard collapsable antenna that you might find on any
> portable FM radio, and I am thinking that if I replace it with a higher
> quality antenna, I may be able to get the signal. (Unfortunately there
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> constraints to my project that do not allow me to change the location of
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> transmitter or receiver)
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> per FCC regulations
> 3) Radios and Antennas are more complex than I ever gave them credit for.
>
> ***************
> Could anyone in this newsgroup either recommend an antenna for me, or
> recommend an online dealer that would be able to supply me with what I am
> looking for (and also tell me what I am looking for)?
> ***************
>
> The project that I am trying to accomplish is sending Infrared signals

from
> my PC to my AV equipment through a Radio Shack "PowerMid". It would open
up
> a whole world of possibilities for my home automation system.
>
> Thanks,
> Steve
>
>

419. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 23:40:06 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <Wa2la.37953$qC3.28024@fe06.atl2.webusenet.com>
Source record: 121072
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Eric F. Richards <efricha@dim.com> wrote in message
news:mpvu8v4pnh2mp2g07ee1ii0aj0ba09g6vq@4ax.com...
> "J Tabor" <denews@taborsoft.com> wrote:
>
> > Hi,
> >
> > Looks like you already received great suggestions. Just in case it's
been
> > awhile, you may also wish to refresh yourself with the contents of "the
FCC
> > letter". These rules are helpful.
> > http://www.arrl.org/tis/info/fcc_utility_letter.html
> >
> > Good Luck,
> > Jim
>
> Hi, Jim,
>
> Bu-LEEVE me, I'm going to take this slowly, methodically and carefully
> through the system. A phone call with a gentle, courteous complaint
> will be followed by a certified letter with the sample letter included
> as an attachment. I will then contact the ARRL to find out what they
> want to do about it, if anything, and if they have advice.
>
> I will also talk to my neighbors to ask how their AM reception has
> been. :-)
>
> If I don't hear back in a "reasonable" amout of time (TBD), I will
> call the FCC. Again, with some flavor of "signature required"
> involved.
>
> Hopefully the ARRL has a legal beagle in the area willing to help out
> gratis.
>
> (They may help only if I get my "general," however... motivation??
> :-))
>
> Thanks,
>
> Eric
>
> --
> 73, Eric F. Richards, KB0YDN, efricha@dim.com

> "A few old diehards still blazoned 'Spark Forever!' on their QSL cards..."
> - from "200 Meters & Down", copyright 1936, ARRL

Eric,

There have been a number of Amateurs who have run into interference from power companies.
There are examples on the ARRL "special interest topics" section. It won't take too long for you
to find examples of letters received from FCC by utilities--particularly those who think they do not
have to correct the problem. Perhaps a copy of such a letter may "urge" the utility to see that FCC
is serious about assisting Amateurs with interference. Oh, I failed to mention that those letters can
be found under "Enforcement".

73

Jerry
K4KWH

420. Re: half square dimensions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 23:41:44 UTC
From: t_ashland@yahoo.com
Message-ID: <6e6aeba9.0304091541.25d3d218@posting.google.com>
Source record: 121071

I have played around some with half-waves. Here is an excellent resource:
http://www.angelfire.com/md/k3ky/page38.html
73,
Terry, WK0F

"don bryant" <dba@yebo.co.za> wrote in message news:<b71jvc$lu9$1@ctb-nnrp2.saix.net>...
> Hi,
> I get different horizontal and vertical dimensions for a half square, from
> different sources. One article states " Vertical 240/f Horizontal
> 470/f.
>
> Another article measurements are Vertical 234/f horizontal 468/f
>
> Any comments would be appreciated.
>
> I also need H&V dimension for a Bobtail
>
> Thank you
>
>
> Don Bryant ZS6BTP

421. Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-09 23:54:28 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b72brk$j9s$1@sparta.btinternet.com>
Source record: 121073

What use is an operating theatre without clean water, electricity, anaesthetics, antibiotics, disinfectants with the hospital floors already littered with mangled corpses of doctors and nurses?

Should the many thousands of middle eastern doctors, nurses and hospital workers employed by the NHS go home?

422. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 00:14:43 UTC
From: g3pho@blueyonder.co.uk
Message-ID: <3e988485.6184701@news.blueyonder.co.uk>
Source record: 121074
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On Wed, 9 Apr 2003 11:25:58 GMT, Andy Cowley <andy.cowley@uwe.ac.uk>
wrote:

>
>From Ham Fests :-
>
>All the stuff that is no longer available or very expensive new.
>Mostly QRO for linears and ATUs
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

For your M3 (10 watt limit) licence or are you aspiring to a Class in
the near future?

423. Re: Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 00:24:16 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E94B9B0.F773E9E0@cwis.net>
Source record: 121075

Reg,
I would think that's up to them, don't you
think?
'Doc

424. Re: Need Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 01:21:50 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <871y0bjgep.fld@barrow.com>
Source record: 121076

"Steve Kallestad" <stevek@nospamremedydevelopers.com> wrote:
>ALSO...
>
>The receiver sits inside a cabinet. (The only acceptable location from my
>Wife's perspective :))
>The antenna needs to be relatively discreet.
>
>Thanks Again!

One possible way to accomplish what you want is a coaxial cable run from the receiver cabinet to your office. It can take almost any route you are able to use (through conduit, above the ceiling, on the outside wall, whatever). Locate each end near the respective receiver or transmitter antenna, and put an antenna on each end of the coax. The antenna near the transmitter is to pick up the transmitter signal, which is sent down the coax to the antenna at the receiver end where it is re-radiated directly into the receiver's antenna.

At 400 mHz you will need high quality coax, as even good coax is fairly lossy at that frequency. You may or may not need much in the way of an antenna at each end. You might also be able to use a direct connection between the coax and the receiver. At the transmit end you don't want to do that if you have any other receivers (for example, in your office) that also need to see a signal.

It also might work even if the antennas on each end of the coax are not even close to the respective transmitter and receiver. It may be that just getting them in the same room will work. You can probably give that a try for only the cost of the coax. Get a run of coax, on each end fold the braid back about 1/4 wavelength so that you have 1/4 wavelength of center conductor sticking out and 1/4 wavelength of braid rolled back over the outer sheath. Put one end close to the transmitter, and take the other end to the receiver. It should work when they are close, but the trick is to back off and see where they stop working. Put the ends of the coax where you'd most like to locate them and see if it works there. For example, you might find that it is the first wall which is blocking the signal, and all you really need is an antenna located on each side of that wall! (Unlikely, but I've seen exactly that done with a 900 mHz portable telephone that would not work on both floors of a two story building until an antenna was placed near it on one floor and the other end's antenna was located three feet below it, on

the other floor.)

>"Steve Kallestad" <stevek@nospamremedydevelopers.com> wrote in message
>news:kT0la.122647$OV.221082@rwcrnsc54...
>> I have a 418 Mhz transmitter and receiver used for sending/receiving
>> infrared codes. As it turns out, the location of these devices is not
>> optimal, and I am having trouble getting the signal.
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>> If I move the transmitter out the door of my office, the signal is
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>> in my living room without a problem. When the transmitter is inside the
>> office, however, I cannot receive a signal in my living room.
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>> per FCC regulations
>> 3) Radios and Antennas are more complex than I ever gave them credit for.
>>
>> ***************
>> Could anyone in this newsgroup either recommend an antenna for me, or
>> recommend an online dealer that would be able to supply me with what I am
>> looking for (and also tell me what I am looking for)?
>> ****************
>>
>> The project that I am trying to accomplish is sending Infrared signals
>from
>> my PC to my AV equipment through a Radio Shack "PowerMid". It would open
>up
>> a whole world of possibilities for my home automation system.
>>
>> Thanks,
>> Steve
>>
>>
>
>

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

425. Re: Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 01:25:06 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87wui3i1ot.fld@barrow.com>
Source record: 121077

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote:
>What use is an operating theatre without clean water, electricity,
>anaesthetics, antibiotics, disinfectants with the hospital floors already
>littered with mangled corpses of doctors and nurses?
>
>Should the many thousands of middle eastern doctors, nurses and hospital
>workers employed by the NHS go home?

What's the feed point impedance of that nurse? And just how much
reactance do doctors have?

Is a tuner required?

Or did you post this in the wrong newsgroup?

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

426. Re: make money fast and legally!!!!!!!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 01:40:09 UTC
From: cbhoelzel@aol.com
Message-ID: <20030409214009.23067.00000503@mb-cu.aol.com>
Source record: 121078

>Subject: make money fast and legally!!!!!!!!!!
>From: smsiemon@aol.com (Smsiemon)

Welcome to the glorious world of pyramid schemes. A Ponzi schem is a Ponzi scheme, no matter how it is phrased or disguised

427. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 02:14:51 UTC
From: Lars Edwards <larse@hiwaay.net>
Message-ID: <v99km8e52hpj55@corp.supernews.com>
Source record: 121079

Iain,
If you can find two "Hamstick" mobile verticals for the same band at a cheap price at a hamfest they make a pretty decent and short dipole. I put one together for 20 meters to use with my FT-817 and it seems to do very well - worked quite a bit of the US and DX .
Lars
WB2ORD

"Iain Kelly" <no.spam@m0pcb.co.uk> wrote in message
news:uij89v0auj9sg1sof5fmu4h6l1r81buupo@4ax.com...
> Hi,
>
> I have been looking around at antennas that are small. I know it's a
> reduction in efficiency but I would like to try one out. I am off to
> university at the end of the year and would like to continue working
> the bands, albeit qrp!, from my room. I don't know if there would be
> anywhere for a dipole or other antenna at the moment, and it would
> prove a good learning exercise to build some small antennas and try
> them out!
>
> I have seen advertisements for the ATX walkabout antennas for the
> FT-817 and I wonder if anyone has some information about the coils
> needed to load a short whip.
>
> I found a whip about 47.5" long in the junk box but can't find any
> info on the coils needed to make single band antennas like those sold
> by the retailers.
>
> I am interested also in hearing any experiences and reading some
> theory on shortened antennas as I hope to be studying RF Engineering
> at university and it would be a good start to learn a bit more about
> the nature of the 'beast'!!
>
> Thanks in advance for any help etc...
>
> 73, Iain (M0PCB / M1ETJ)
> to reply via email replace no.spam with iain ...

428. Discone file links

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 02:18:11 UTC
From: "wally." <NOEMAIL@anon.com>
Message-ID: <3e94d454@dnews.tpgi.com.au>
Source record: 121080

Discone links:

http://www.qsl.net/ok1rr/files/discone.zip
ftp://ftp.qrz.com/files/antennas/discone1.zip

Cheers,
wally.

"Wendy and Matt" <mapwam@frontiernet.net> wrote in message
news:ruIka.3367$xJ6.3011@news01.roc.ny.frontiernet.net...
> Does anyone have a good program or design spec for a scanner discone? I'm
> looking to build a general discone , and then progressing to more specific
> bandwidths. Also, is it possible to stack discones one on top of another,
or
> will this hurt performance? Thanks.
> Matt
> KC2KEI
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.467 / Virus Database: 266 - Release Date: 4/1/03
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.467 / Virus Database: 266 - Release Date: 1/04/2003

429. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 03:01:09 UTC
From: Nixo Villie <nixo_villie@hotmail.com>
Message-ID: <V75la.35468$lt5.28595@news2.central.cox.net>
Source record: 121081

Hi Andy,
Sure! Contact me by email to work out the details.

--
Nixo Villie
<nixo_villie@hotmail.com>

"Andy" <dx90@blueyonder.co.uk> wrote in message
news:l2Zka.428$l31.415@news-binary.blueyonder.co.uk...
Hi all
Can any one help me with a copy of the manual for
my Cushcraft R4 vertical antenna.
******snip********

430. Re: Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 03:30:55 UTC
From: Seamus <jmcgrath@removeme.nc.rr.com>
Message-ID: <Pz5la.398$Ta7.205586@twister.southeast.rr.com>
Source record: 121082

My VistaPrint Electronic Business Card
"Aphrodite Mirisis" <amirisis@earthlink.net> wrote in message
news:AK3la.17090$4P1.1517879@newsread2.prod.itd.earthlink.net...
Hi... Name is Taso... Call is KC2KSE... just wondering if you could give me
the lengths of antennas for different bands and how you can figure them
out...
73,
Taso, KC2KSE

Taso,

One word of advice...duck and cover...I feel there will be incoming!

Out,

Jim - W2MMR

431. Re: Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 04:48:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b72t23$66j$1@sparta.btinternet.com>
Source record: 121083

> Or did you post this in the wrong newsgroup?
>
Floyd, I posted it in the wrong newsgroup. Sorry if I disturbed you.

But reverse immigration is a matter of economic importance in the UK.

432. Re: Has anyone used a "no ground plane" antenna for 2m?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 05:13:35 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030410011335.00615.00000306@mb-ce.aol.com>
Source record: 121084

A through-the-glass antenna might be a good comprimise, although they aren't super performers. One would work fine if you want to work repeaters that have good coverage

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

433. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:10:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304092210.652c1e30@posting.google.com>
Source record: 121085

"Richard Fry" <rfry@adams.net> wrote in message
news:<b6vk2d$9m7bp$1@ID-175933.news.dfncis.de>...
> RE: Below
>
> Impedance matching and (V)SWR issues appear to be immaterial to some of the
> "gurus" posting here. Is Z-match important, or not?

Being I'm not fat, or sit on the floor holding incense, I don't
qualify as a guru, but matching is and isn't important. There is no
one example that fits all.
It's kind of like horsepower in a car. 120 hp will do 55 mph just as
well as 480 hp.
I worry about the match and loss when I transmit. Always. But I
sometimes accept loss in the system. Being I know it is there, I can
plan for it. Receiving, I only worry about matching if it's really
needed. IE: VHF/UHF. On HF, in 98% of the cases, it's not needed just
to achieve an decent s/n ratio, unless maybe you have a very small
antenna with a high Q. IE: Having enough signal level to overide any
internal noise. A MW small receiving loop is a good example of this.
It's usually tuned by a variable cap, and is quite high Q and is
retuned even with small freq changes. In that case, the tuning, which
is in effect a form of matching, is very important. On the MW and HF
bands, where you likely have 4-8?? times or more the level you need,
taking a small loss in matching systems means very little on any
decent sized antenna. On VHF/UHF this is not the case. If you are
running 100 ft of RG-8 coax, and have a 20:1 mismatch at 450 mhz,
Houston, we have a problem. Even receiving. On 5 mhz, we don't. MK

434. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:15:25 UTC
From: Peter Parker <parkerp@NOSPAMalphalink.com.au>
Message-ID: <3e950c4f@news.alphalink.com.au>
Source record: 121086
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0304081547.6625eea@posting.google.com...
> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
>
> What electronic parts do you stock up on?

Depends on what you build, but this list is good for QRPers

1. NE602
2. LM386/TDA2822
3. Dual gate MOSFETs
4. FETs (eg MPF102)
5. Transistors (eg 2N2222, 2N3053, 2N4427, etc)
6. PA transistors FET and bipolar (eg IRF510)
7. Toroids (ferrite and iron)
8. Polystyrene or NPO capacitors for VFOs
9. Variable capacitors
10. Trimmer capacitors
11. Vernier reduction drives
12.Crystals (any freq, but esp amateur band)
13. 3.58 MHz ceramic resonators
14. Metal boxes
15. Varactor diodes
16. Germanium diodes
17. 74HC4066
18. Small relays
19. Usual supply of resistors and capacitors
20. PC board material

73, Peter VK3YE

435. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:19:04 UTC
From: Peter Parker <parkerp@NOSPAMalphalink.com.au>
Message-ID: <3e950d2a@news.alphalink.com.au>
Source record: 121087
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

"mcalhoun" <mcalhoun@ksu.edu> wrote in message
news:b71h41$msc@unix1.cc.ksu.edu...
> >What electronic parts do you stock up on? ....
>
> Simple answer: EVERYTHING!
> And then add some more!
>
> After all, doesn't s/he who dies owning the biggest junque box win? :-)

Almost. S/he who gives away the most junk wins ;)

And it's not like options trading - you need to actually have the junk to be
able to give it!

Peter

436. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:31:19 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <Xc8la.53475$ja4.3458116@bgtnsc05-news.ops.worldnet.att.net>
Source record: 121088
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Those are definites.....also, the TDA1572 radio chips are good, along with ceramic filters, crystal filters, mixers, LO crystals, synthesizer chips, and as mentioned in the last post, those NE602s. Those chips make great SSB detectors, along with being ok for mixer service in simple receivers.

Pete

Peter Parker <parkerp@NOSPAMalphalink.com.au> wrote in message news:3e950c4f@news.alphalink.com.au...
>
> "Jason Hsu" <jason_hsu@my-deja.com> wrote in message
> news:f7d9a152.0304081547.6625eea@posting.google.com...
> > I posted this thread on the eham HomeBrew and Elmers forums. I want
> > the input of all the experienced homebrewers here.
> >
> > What electronic parts do you stock up on?
>
> Depends on what you build, but this list is good for QRPers
>
> 1. NE602
> 2. LM386/TDA2822
> 3. Dual gate MOSFETs
> 4. FETs (eg MPF102)
> 5. Transistors (eg 2N2222, 2N3053, 2N4427, etc)
> 6. PA transistors FET and bipolar (eg IRF510)
> 7. Toroids (ferrite and iron)
> 8. Polystyrene or NPO capacitors for VFOs
> 9. Variable capacitors
> 10. Trimmer capacitors
> 11. Vernier reduction drives
> 12.Crystals (any freq, but esp amateur band)
> 13. 3.58 MHz ceramic resonators
> 14. Metal boxes
> 15. Varactor diodes
> 16. Germanium diodes
> 17. 74HC4066
> 18. Small relays
> 19. Usual supply of resistors and capacitors
> 20. PC board material
>
> 73, Peter VK3YE
>
>

>

437. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:42:20 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0304092242.73f6f6b2@posting.google.com>
Source record: 121089

Iain Kelly <no.spam@m0pcb.co.uk> wrote in message
news:<uij89v0auj9sg1sof5fmu4h6l1r81buupo@4ax.com>...
> ... I am off to
> university at the end of the year and would like to continue working
> the bands, albeit qrp!, from my room. I don't know if there would be
> anywhere for a dipole or other antenna at the moment, and it would
> prove a good learning exercise to build some small antennas and try
> them out!

Hi Iain,
QRP and small antennas do not go together well. QRP requires very efficient (= full size) antennas to obtain reasonable ERP. Short antennas always have less efficiency, therefore they require a sensitive RX (which should not be a problem) and a quite powerful TX. Among short antennae, short dipoles loaded by capacitive hats on both ends seem to be the most efficient. Short dipoles loaded by coils are worse due to coil losses and due to other current distribution. Short verticals require good groundplanes. Loop antennas ? Give them a try !

73 Ivan OK1SIP

438. Re: Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 06:47:46 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <ms8la.20581$cO3.1594743@bgtnsc04-news.ops.worldnet.att.net>
Source record: 121090

UK, yeah, i talked skip there before..

--

Those who want to be successful, will find a way,
those that don't, will find an excuse!

439. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 07:16:10 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e951a3f$0$30744$626a54ce@news.free.fr>
Source record: 121091

Hello Iain,

You want to try QRP with (very) shortened antennas?
Well, good luck!

I planned to homebrew an EH antenna for 10m. I'm quite skeptical about their efficiency but the theory looks quite interresting and seems right. The problem is the multiple designs I came across over the i-net, there are quite as many designs than authors...

73 de F8BOE Olivier ...-.-

440. Re: HF5V Vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 07:21:13 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns935954A4BDBABnewsleighsorg@130.133.1.4>
Source record: 121092

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in
news:0TdHrMD1KJl+EAPL@ifwtech.co.uk:

> But it's not the same HF5V...

This I noticed after looking at the thing Ian - got to hope that someone, somewhere, has the instructions for theirs wedged under a manual for their FT101E and KW2000 under the bench.

> I've no idea where to find any details of the one Leigh described, which
> was quite different from the Bencher/Butternut HF 5-band Vertical of the
> same name. SMC are long gone from the amateur market in the UK, and
> probably weren't the original manufacturer anyway.

No - I'm reliably told they were just the importer as Lowe also sold this - and it seemed it was renamed by whoever sold it too - just to add to the confusion!

Have got one person who will be measuring the parts of a mates - I might arrange to go and have a look as it's 'sort-of' local to me.

Leigh....M5GWH

441. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 07:25:09 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e951c54$0$30730$626a54ce@news.free.fr>
Source record: 121093

Sorry, I forgot to give you a link to EH and isotron type antennas:

http://f5ixu.waika9.com/accueil.htm

The page is in french but you can access the links to other web sites.

73 de F8BOE Olivier ...-.-

442. Re: Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 11:27:59 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3E9554EA.A5B29458@attbi.com>
Source record: 121094

Hopefully, to avoid verbal abuse, I sent the requested answer in private email.

Hey guys/gals please don't blow up!

W1MCE

Seamus wrote:
>
> My VistaPrint Electronic Business Card
> "Aphrodite Mirisis" <amirisis@earthlink.net> wrote in message
> news:AK3la.17090$4P1.1517879@newsread2.prod.itd.earthlink.net...
> Hi... Name is Taso... Call is KC2KSE... just wondering if you could give me
> the lengths of antennas for different bands and how you can figure them
> out...
> 73,
> Taso, KC2KSE
>
> Taso,
>
> One word of advice...duck and cover...I feel there will be incoming!
>
> Out,
>
> Jim - W2MMR

443. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 12:34:46 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E956638.7ECF4E8B@uwe.ac.uk>
Source record: 121095
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

g3pho@blueyonder.co.uk wrote:
>
> On Wed, 9 Apr 2003 11:25:58 GMT, Andy Cowley <andy.cowley@uwe.ac.uk>
> wrote:
>
> >
> >From Ham Fests :-
> >
> >All the stuff that is no longer available or very expensive new.
> >Mostly QRO for linears and ATUs
> ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
>
> For your M3 (10 watt limit) licence or are you aspiring to a Class in
> the near future?

M1EBV

Andy

444. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 12:53:02 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030410085302.26171.00000915@mb-fd.aol.com>
Source record: 121096

>
>I planned to homebrew an EH antenna for 10m. I'm quite skeptical about their
>efficiency but the theory looks quite interresting and seems right.

It should be called "Sucks EH?" antenna :-)
For 10m just whip would do you fine, or piece of wire will get your QRP signal
out, rather than eat it in "interesting theory".

Yuri K3BU

445. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 13:35:42 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3e9573c6_3@news1.prserv.net>
Source record: 121097
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Simple:

Draw $10,999 out of the bank. Use the first $1K to buy a round trip ticket to Tokyo. Convert $9,999 to Yen. Hop the next flight to Tokyo. From Narita, catch the bus to the downtown air terminal. Then the subway to Akhiabara. Buy 3 or 4 of everything you see until you run out of Yen. Use your credit card to FedEx it all home. Return by the reverse route. Have fun.
--
Crazy George
Remove NO and SPAM from return address

446. Re: Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 14:59:29 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E95868A.C9751F00@shaw.ca>
Source record: 121098

Dave Shrader wrote:
>
> Hopefully, to avoid verbal abuse, I sent the requested answer in private
> email.
>
> Hey guys/gals please don't blow up!
>
> W1MCE
>
Thanks for doing it that way -- that's the 'Ham' way. I was a
bit concerned about what might have happened.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

447. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 16:04:07 UTC
From: Norm Kingston <normclar@Execulink.com>
Message-ID: <v9b5gn29s0q427@corp.supernews.com>
Source record: 121099
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I agree with Crazy George but do it in Singapore. Cost less, the foods
better and everyone speaks English.
Norm
"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:3e9573c6_3@news1.prserv.net...
> Simple:
>
> Draw $10,999 out of the bank. Use the first $1K to buy a round trip
ticket
> to Tokyo. Convert $9,999 to Yen. Hop the next flight to Tokyo. From
> Narita, catch the bus to the downtown air terminal. Then the subway to
> Akhiabara. Buy 3 or 4 of everything you see until you run out of Yen.
Use
> your credit card to FedEx it all home. Return by the reverse route. Have
> fun.
> --
> Crazy George
> Remove NO and SPAM from return address
>
>

448. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 16:09:48 UTC
From: richardharrison@webtv.net
Message-ID: <21579-3E95974C-181@storefull-2318.public.lawson.webtv.net>
Source record: 121101

Iain Kelly wrote:
"I have been looking around for antennas that are small."

Iain also says he wants to learn more about making too small antennas.

Too small antennas have a high capacitive reactance which impedes current into the antenna. This capacitive reactance must be cancelled by inductive reactance for the antenna to take power. Too small antennas also have a very low radiation resistance which is a function of their length. Even a small loss resistance that the necessary tuning coil may have in producing its inductive reactance, may take a high percentage of the power supplied to the antenna system. This is the main problem of the too short antenna.

It is best to make the antenna longer if possible to minimize the need for a coil. This also reduces "Q" of the antenna system which permits larger frequency changes without readjusting the antenna system.

Loading coil inductances required for an 8-ft whip similar to a CB mobile whip are given on page 16-5 of the 19th edition of the ARRL "Antenna Book" to resonate the whip on the various amateur bands.

Iain says he has found a whip about 4-ft long. At 7 MHz, the 4-ft whip looks like an 8-ft whip at 3.5 MHz. The 4-ft whip will take more coil turns for resonance than an 8-ft whip takes in an H-F band. More turns produce more loss. Iain would do better with the CB whip or in using the 4-ft whip above his loading coil and using another 4-ft whip section below the loading coil for improved current distribution. It`s discussed in the "Antenna Book". Since he may not be using a car body for a ground system, he can improvise with a second loaded element to make a dipole or he can use the power ground or something better. Iain can find suggestions in the book.

Wire antennas are often a better option in a fixed location. Iain suggested the whip.

Best regards, Richard Harrison, KB5WZI

449. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 16:10:24 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304100810.45c5101a@posting.google.com>
Source record: 121100

"Richard Fry" <rfry@adams.net> wrote in message
news:<b6vk2d$9m7bp$1@ID-175933.news.dfncis.de>...
> RE: Below
>
> Impedance matching and (V)SWR issues appear to be immaterial to some of the
> "gurus" posting here. Is Z-match important, or not?
> ______________
>
> "Dave Shrader" <david.shrader@attbi.com> wrote in message
> news:3E93001F.3E30199E@attbi.com...
> > R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
> >
> > R = Radiation Resistance, ignoring I^2*R losses in antenna
> > pi = 3.1418
> > L = Antenna Length in wavelengths
> > WL = Wavelength.
> >
> > Deacon Dave, W1MCE
> > + + +
> >
> > Andy Cowley wrote:
> > >
> > > Does anyone have an expression that gives the impedance
> > > of a short dipole, given the length in lambdas or degrees?
> > > I need an expression not a pointer to a calcultaing program.
> > >
> > > vy 73
> > >
> > > Andy, M3ABC

Richard, I see where you are coming from. Especially if you have
followed the
many long posts on conjugate matching e.t.c.which seem to go on
forever
without any real resolution, but it does seem to have an overiding
importance
since everybody wants to insert themselves into the discussion.
Fact is Richard to the general ham SWR is really of no consequence
unless it is so high that you transmitter will not accept it, thus you
are able to get as much enjoyement from the hobby as you want. Frankly
I have found that most inbuilt tuners can handle even the worst
mismatches if you give some effort to removing the reactance portion
of the mismatch. As you delve deeper into the hobby one starts to get
competitive to the point that when getting into a pile up they seek

the smallest improvement just to get over the average noise threshold
so they can make that 'catch'. Most of us are not interested in this
sort of thing so gain and losses take a lesser point of interest.
Have fun with the hobby
Regards
Art

450. Re: Qustions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 16:16:20 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304100816.3775a77c@posting.google.com>
Source record: 121102

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b72t23$66j$1@sparta.btinternet.com>...
> > Or did you post this in the wrong newsgroup?
> >
> Floyd, I posted it in the wrong newsgroup. Sorry if I disturbed you.
>
> But reverse immigration is a matter of economic importance in the UK.

Reg,
Enoch Powell was correct. Actually the U.S. is now in the very
same position as the U.K. was in those years but all are blind to it.
Regards
Art

451. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 16:44:31 UTC
From: G&R <spam@limbo.hell>
Message-ID: <Bbhla.8506$id.507587@news20.bellglobal.com>
Source record: 121103

Search this newsgroup as there are several postings regarding this and references to a web site re R5 and R7.

Also search the the web for these antennas and your should find the site yourself.

73's

Guenther VE3CVS
"Nixo Villie" <nixo_villie@hotmail.com> wrote in message
news:V75la.35468$It5.28595@news2.central.cox.net...
> Hi Andy,
> Sure! Contact me by email to work out the details.
>
> --
> Nixo Villie
> <nixo_villie@hotmail.com>
>
>
> "Andy" <dx90@blueyonder.co.uk> wrote in message
> news:l2Zka.428$l31.415@news-binary.blueyonder.co.uk...
> Hi all
> Can any one help me with a copy of the manual for
> my Cushcraft R4 vertical antenna.
> ******snip********
>
>

452. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 19:13:17 UTC
From: wp20031@aol.com
Message-ID: <20030410151317.08859.00000935@mb-fc.aol.com>
Source record: 121104

>I was thinking of things like that but I will be in university
>accommodation and I don't think they'd be too happy if I put nails in
>the walls. I might be able to get away with it but the rooms are not
>very big so even a loop for 10M might be pushing it!!!
>
>I have plenty of time to sort something out but it's going to be an
>interesting process...
>
>Thanks for the response,
>
>73, Iain (M0PCB/M1ETJ)
>
Well, you can also use small gauge wire (say #36) and use thread, buttons, and
thumbtacks to hold it up. That's what I did back in the stone age when I was
in college.

Good luck
--Wayne

453. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 20:22:04 UTC
From: richardharrison@webtv.net
Message-ID: <13056-3E95D26C-92@storefull-2313.public.lawson.webtv.net>
Source record: 121106

Art, KB9MZ wrote:
"Most of us are not interested in this sort of thing (optimization) so gain and losses take a lesser point of interest."

That was what i thought before reading this newsgroup for a while. Now I think Walter Maxewell is right and most hams want to match for all available power whether they can or not.

Best regards, Richard Harrison, KB5WZI

454. FS:CD antenna programs $5..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 20:32:40 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <lxkla.21794$cO3.1646938@bgtnsc04-news.ops.worldnet.att.net>
Source record: 121105

over 30 programs to build ANY antenna you want..
FULL versions, no passwords, no downloads required..
updated (vol 1)
or with vol 1, now completed vol 2 and 3, all 3 for $12
(vol 1) antennas...everything you need to know about antennas, nice pics too
!!! over 200 files
(vol 2) 10-11 meter radios..everything, mods, mic wiring, schematics, amps,
plans, kits...too much to list. 725 files over 100 megs..over one year
making this section alone..
(vol 3) ref to over 20,000 electronic parts, electronics course, soldering,
free-banding, MORE..
newly added SCANNER section..over 1500 files in this scanner section
alone..
A MUST FOR "DO-IT-YOURSELF"

Those who want to be successful, will find a way,
those that don't, will find an excuse!

455. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 21:32:18 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E95E297.C52C49BF@shaw.ca>
Source record: 121107

If we all went for the exact match and optimum parameters, most of
us would still be waiting to get on the air! :-) I sometimes wonder
if some of the hams who ask a what they think is a simple question
and get bombarded with dissertation and arguments into the finer points
of things technically far beyond their comprehension don't just give up!
What did the run of the mill ham do before we had swr measurement?
He put up a wire, turned on the Tx, and had a great time!
Now many of them cut, measure, and worry!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

456. Re: Impedance of electrically short dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 21:53:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b74p5f$7m2$1@hercules.btinternet.com>
Source record: 121108

Andy Cowley, M3ABC, wrote -

> Does anyone have an expression that gives the impedance
> of a short dipole, given the length in lambdas or degrees?
> I need an expression not a pointer to a calcultaing program.

==========

Andy, M3ABC,

Now I am aware of the purpose of your request you may find the following
sets of equations for Z = R + jX
useful -

Let Lambda = free-space wavelength at your operating frequency in metres.

Let overall length of your dipole = W wavelengths.

Then the overall angular length of dipole -

Theta = 360 * W / Lambda degrees or

Theta = 2 * Pi * W radians.

Required input impedance = R + jX ohms where -

R = 73 * Squared(Tan(Theta / 4)) ohms, and

X = 120 * (Logn (L / d) - 1)) / Tan(Theta / 4) capacitative

reactance ohms, where -

L / d = ratio of dipole length to wire diameter.

Logn = Natural Logarithms.

R and jX are sufficiently accurate up to dipole lengths of about 0.6
wavelengths.

I've never heard of Shekelnikoff but, as with Terman, when you manage to
find him I doubt he can confirm the foregoing.

==========

I understand you need these formulae to calculate input impedance,
over a wide band of frequencies of a centre-fed dipole of given short
length.

You said the utltimate objective is to calculate L and C component values
needed for a "tuner". It will be necessary, of course, to perform an

intermediate set of calculations of the transforming effect of the
transmission
line between antenna and tuner, the line being specified in terms of its
attenuation, phase-shift and impedance characteristics. That's when your
problems will really start. Praps you intend to write a computer program.

You can save time and hard labor by downloading program DIPOLE3 from
website below which includes more accurate versions of the above equations,
exact behaviour of the transmission line, either balanced pair or coax or
both, a
balun if you have one, and L&C component settings of the Z-match network to
a
50-ohm transmitter. All input and output impedances are displayed.

Performance of any line combination+dipole system, such as a G5RV, can be
analysed in detail including various efficiencies. SWRs are included if
you are interested. All done within the time it takes to enter input
data. Educational "What if?" operating procedure.

Download program DIPOLE3 in a few seconds. Run immediately.

There's a one-line description of program-subject alongside each program
name listed.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

457. How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 21:59:31 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86istm10ak.fsf@duchess.twilley.org>
Source record: 121109

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I will have the opportunity to operate from a nice mountainside
location. My rig is a TS-520 and I have an antenna tuner from MFJ,
and I have been able to receive with a sixty-foot wire thrown out into
the backyard at this location. The maximum reasonable wire length I
can run is three hundred feet, but that means crawling through brush
and I'm trying to avoid doing that unless it's necessary. I'm hoping
to operate on 10m and 20m but if one wire can do everything from 10m
to 80m, that's worth crawling. Also, is it okay to wrap the wire
around a tree every few feet to keep it off the ground, or is that
worse than letting it occasionally fall to the ground? Not all the
trees are conveniently forked.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.1 (FreeBSD)

iD8DBQE+lelJGPFSfAB/ezgRAkJlAKCpkDo5asayCU+00tebiJj+CcyBUgCfSh9F
05sWnTA2hai4YHj7cr/zEaY=
=NR2c
-----END PGP SIGNATURE-----
```

458. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 22:24:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b74qvqacg1@titan.btinternet.com>
Source record: 121110

```
> > R = 80*pi^2*(L/WL)^2 | Kraus, Electromagnetics, 1953, Chapter 13
> >
> > R = Radiation Resistance, ignoring I^2*R losses in antenna
> > pi = 3.1418
> > L = Antenna Length in wavelengths
> > WL = Wavelength.
> >
> > Deacon Dave, W1MCE
================================

Kraus, it seems, in 1953, made the radiation resistance of a quarterwave
vertical equal to 50 ohms. Just the right value to match to a coax feedline.
The actual radiation resistance is 36 ohms.

Now we know who it was began the old-wives tale on that subject. It has been
propagating around the bands for the last 50 years.
---
Reg, G4FGQ
```

459. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:00:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E95F78C.5030504@ieee.org>
Source record: 121112

Irv Finkleman wrote:
> What did the run of the mill ham do before we had swr measurement?

Dip & load, dip & load, dip & load, ...
--
73, Cecil, W5DXP

----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

460. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:03:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E95F851.5030203@ieee.org>
Source record: 121113

Reg Edwards wrote:
> Kraus, it seems, in 1953, made the radiation resistance of a quarterwave
> vertical equal to 50 ohms.

With radials drooping at 45 degrees, it is fairly close to 50 ohms.
--
73, Cecil, W5DXP

----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

461. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:05:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9bu5sbmef8eae@corp.supernews.com>
Source record: 121114

Reg Edwards wrote:
>
> Kraus, it seems, in 1953, made the radiation resistance of a quarterwave
> vertical equal to 50 ohms. Just the right value to match to a coax feedline.
> The actual radiation resistance is 36 ohms.
>
> Now we know who it was began the old-wives tale on that subject. It has been
> propagating around the bands for the last 50 years.
> ---
> Reg, G4FGQ

Nice troll, Reg. Things must be getting a bit dull in the village, so I'll bite and provide you with the solicited entertainment.

I'm pleased to see that Kraus has joined me as one of your Old Wives. The company continues to improve. We can all be thankful we have you to save us from the misconceptions propagated by the likes of Old Wife Kraus!

But in what publication did Kraus make this alleged statement, and in what context? In his 1950 classic text _Antennas_, he clearly gives the radiation resistance of a quarter wave vertical as 36.5 ohms (p. 315). This value also appears on p. 473 of the 1988 second edition of that book. In _Electromagnetics_ (1953), he only briefly talks about antenna impedance, but says that "It should be noted that the terminal impedance of a dipole antenna is twice the terminal impedance of the corresponding unipole type." (p. 512)

Actually, the feedpoint resistance of nearly every amateur's quarter wave vertical is likely to be closer to 50 ohms than 36, due to ground system loss. I'll bet that most of the folks "around the bands" aren't really aware of (and probably don't care about) the fact that some of that resistance is loss and some radiation resistance. They just notice that they get a good match to 50 ohm line. I'd wager that this observation, made over and over again, is a more likely cause of the misunderstanding about the value of radiation resistance than some statement Kraus is alleged to have made in 1953.

I can see it now, "Lewallen said in 2003 that the radiation resistance of a quarter wave vertical is 50 ohms. . ." Whee, ain't simplification fun?

Roy Lewallen, W7EL

462. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:30:31 UTC
From: jgboyles@aol.com
Message-ID: <20030410193031.20442.00000830@mb-fu.aol.com>
Source record: 121115

>> What did the run of the mill ham do before we had swr measurement?
>
>Dip & load, dip & load, dip & load

I thought it was peak and dip. Peak the grid current, and dip the plate. That is what I did with my Globe Scout, cause that is what the manual said to do. Be interesting to look at the old tuner section of the Scout to see what I was actually doing back in 1963.
73 Gary N4AST

463. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:36:05 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86fzoq0vtm.fsf@duchess.twilley.org>
Source record: 121116

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Dee" == Dee D Flint <deehays@qix.net> writes:

Dee> 1/2 wavelength at the lowest frequency that you intend to operate
Dee> generally works reasonably well when you have a good tuner.

The aforementioned sixty-foot wire should work well for 40m. I might
be able to lay out a line double that in length without too much trouble.

Thanks!

Dee> Dee Flint, N8UZE

Jack.
(now if I can find out about the trees, I'll be set.)
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.1 (FreeBSD)

iD8DBQE+lf/6GPFSfAB/ezgRAn4eAKDTLTDE6OKQOh3Qn0vxd0Cnizr4+gCgxKP2
MnOIdHGdnWv7669TUoB2BtM=
=gWvg
-----END PGP SIGNATURE-----
```

464. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:43:17 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <pknla.1427$DM5.970315@newssvr28.news.prodigy.com>
Source record: 121111

1/2 wavelength at the lowest frequency that you intend to operate generally
works reasonably well when you have a good tuner.

Dee Flint, N8UZE

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
news:86istm10ak.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I will have the opportunity to operate from a nice mountainside
location. My rig is a TS-520 and I have an antenna tuner from MFJ,
and I have been able to receive with a sixty-foot wire thrown out into
the backyard at this location. The maximum reasonable wire length I
can run is three hundred feet, but that means crawling through brush
and I'm trying to avoid doing that unless it's necessary. I'm hoping
to operate on 10m and 20m but if one wire can do everything from 10m
to 80m, that's worth crawling. Also, is it okay to wrap the wire
around a tree every few feet to keep it off the ground, or is that
worse than letting it occasionally fall to the ground? Not all the
trees are conveniently forked.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.1 (FreeBSD)

iD8DBQE+lelJGPFSfAB/ezgRAkJlAKCpkDo5asayCU+00tebiJj+CcyBUgCfSh9F
05sWnTA2hai4YHj7cr/zEaY=
=NR2c
-----END PGP SIGNATURE-----

465. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:56:28 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3E9604AC.6020209@bellsouth.net>
Source record: 121117
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

> I can't go by the dump without hacking out the power supply of a PC! Some
> people go to the dump to deposit, others to withdraw.

As I kid I used to ride my bicycle around Brooklyn on trash days with a pair
of Dyke and gas plyers plus a few screwdrivers in my pockets looking for
junker
tv's thrown out. I would carry the chassis home, or just yank out the
more valuable
parts. I had to bring along a good shopping bag to carry on the handle
bars, it got
filled with tubes, the rest of the junk in a box strapped to the rear
fender.

466. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-10 23:56:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9c16otikc1944@corp.supernews.com>
Source record: 121118

A lot of us didn't have any indication of grid current or any way to adjust it, and I'm just about certain that was true of the Globe Scout.

There were two variable capacitors in the pi net (often labeled "tune" and "load"), and you adjusted them alternately while watching the plate current. The input (tune) capacitor was adjusted to dip the plate current. Then the output capacitor (load) was adjusted to increase the plate current. The process was repeated until neither capacitor had much effect.

But that was for people who had the luxury of a plate current meter. For the rest of us, it was a matter of touching an NE-2 to the RF output and tuning for brightest glow.

I didn't have any place to hook an SWR meter, even if I had one. My 20 meter antenna was a piece of #32 enameled wire running out the second story window to a clothes line pole in the back yard. It was an end fed half wavelength, with a plastic curtain ring for the end insulator. Worked plenty of stations with that and my homebrew 6AG7/6L6 rig. I've also had plenty of QSOs with a rain gutter, dipoles in the attic and even basement, and yes, even bed springs -- and a few with a light bulb. Tried loading up a tree once, but no luck. But didn't try for very long -- I'm sure I would have scored if I'd kept at it for a while.

Roy Lewallen, W7EL

JGBOYLES wrote:
>>>What did the run of the mill ham do before we had swr measurement?
>>
>>Dip & load, dip & load, dip & load
>
>
> I thought it was peak and dip. Peak the grid current, and dip the plate. That
> is what I did with my Globe Scout, cause that is what the manual said to do.
> Be interesting to look at the old tuner section of the Scout to see what I was
> actually doing back in 1963.
> 73 Gary N4AST

467. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 00:28:55 UTC
From: Rich <rk911@ANTISPAM.yahoo.com>
Message-ID: <3o2c9vknsnifjsegv4s33smrkaoluu5o3e@4ax.com>
Source record: 121019

On Thu, 10 Apr 2003 14:59:31 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>-----BEGIN PGP SIGNED MESSAGE-----
>Hash: SHA1
>
>I will have the opportunity to operate from a nice mountainside
>location. My rig is a TS-520 and I have an antenna tuner from MFJ,
>and I have been able to receive with a sixty-foot wire thrown out into
>the backyard at this location. The maximum reasonable wire length I
>can run is three hundred feet, but that means crawling through brush
>and I'm trying to avoid doing that unless it's necessary. I'm hoping
>to operate on 10m and 20m but if one wire can do everything from 10m
>to 80m, that's worth crawling. Also, is it okay to wrap the wire
>around a tree every few feet to keep it off the ground, or is that
>worse than letting it occasionally fall to the ground? Not all the
>trees are conveniently forked.
>
>Jack.

jack, my first hf radio was a TS-520 and my first antenna was a random
length wire into an MFJ tuner. small world, eh? anyway, the wire was
maybe 75-80 feet long and was not a straight line...it had 3 doglegs
in it. i worked a ton of stations on 40m and 15m all over the states
and some dx. i was a novice and later a tech at the time and so
didn't work any 20m stations. i had zero problems.

i can't tell you what minimum length you should run but generally
speaking the longer the better. as for wrapping around trees i would
probably avoid that but laying the wire through branches to keep it
off the ground will pose minimum problems for you.

73 es gud luck
rich, n9dko

468. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 00:34:29 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b752il$ib7$1@sparta.btinternet.com>
Source record: 121020

Roy, this is not a troll.

Did Kraus, or did he not, in Chapter 13 or any other Chapter of
"Electromagnetics", 1953, provide a formula -

R = 80 * (Pi * Length / Lambda)^2 ohms -

to the effect that rad-res of a 1/4-wave antenna is in the neighborhood of
50 ohms?

According to an earlier posting somewhere on this thread Kraus did just
that.

A simple yes or no will suffice.

If a correction is needed it should be publicised.

Reg, G4FGQ

==========

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:v9bu5sbmef8eae@corp.supernews.com...
> Reg Edwards wrote:
> >
> > Kraus, it seems, in 1953, made the radiation resistance of a quarterwave
> > vertical equal to 50 ohms. Just the right value to match to a coax
feedline.
> > The actual radiation resistance is 36 ohms.
> >
> > Now we know who it was began the old-wives tale on that subject. It has
been
> > propagating around the bands for the last 50 years.
> > ---
> > Reg, G4FGQ
>
> Nice troll, Reg. Things must be getting a bit dull in the village, so
> I'll bite and provide you with the solicited entertainment.
>
> I'm pleased to see that Kraus has joined me as one of your Old Wives.
> The company continues to improve. We can all be thankful we have you to
> save us from the misconceptions propagated by the likes of Old Wife Kraus!
>
> But in what publication did Kraus make this alleged statement, and in
> what context? In his 1950 classic text _Antennas_, he clearly gives the
> radiation resistance of a quarter wave vertical as 36.5 ohms (p. 315).
> This value also appears on p. 473 of the 1988 second edition of that

> book. In _Electromagnetics_ (1953), he only briefly talks about antenna
> impedance, but says that "It should be noted that the terminal impedance
> of a dipole antenna is twice the terminal impedance of the corresponding
> unipole type." (p. 512)
>
> Actually, the feedpoint resistance of nearly every amateur's quarter
> wave vertical is likely to be closer to 50 ohms than 36, due to ground
> system loss. I'll bet that most of the folks "around the bands" aren't
> really aware of (and probably don't care about) the fact that some of
> that resistance is loss and some radiation resistance. They just notice
> that they get a good match to 50 ohm line. I'd wager that this
> observation, made over and over again, is a more likely cause of the
> misunderstanding about the value of radiation resistance than some
> statement Kraus is alleged to have made in 1953.
>
> I can see it now, "Lewallen said in 2003 that the radiation resistance
> of a quarter wave vertical is 50 ohms. . ." Whee, ain't simplification
fun?
>
> Roy Lewallen, W7EL
>

469. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 00:37:35 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304101637.564eeb3@posting.google.com>
Source record: 121021

Iain Kelly <no.spam@m0pcb.co.uk> wrote in message
news:<uij89v0auj9sg1sof5fmu4h6l1r81buupo@4ax.com>...
> Hi,
>
> I have been looking around at antennas that are small. I know it's a
> reduction in efficiency but I would like to try one out. I am off to
> university at the end of the year and would like to continue working
> the bands, albeit qrp!, from my room. I don't know if there would be
> anywhere for a dipole or other antenna at the moment, and it would
> prove a good learning exercise to build some small antennas and try
> them out!
>
> I have seen advertisements for the ATX walkabout antennas for the
> FT-817 and I wonder if anyone has some information about the coils
> needed to load a short whip.
>
> I found a whip about 47.5" long in the junk box but can't find any
> info on the coils needed to make single band antennas like those sold
> by the retailers.
>
> I am interested also in hearing any experiences and reading some
> theory on shortened antennas as I hope to be studying RF Engineering
> at university and it would be a good start to learn a bit more about
> the nature of the 'beast'!!
>
> Thanks in advance for any help etc...

One of your countrymen Reg Edwards G4FGQ has written an excellent
little freeware program for designing loaded vertical antennas which
will provide all the info you'll need and more.

Dial into http://www.btinternet.com/~g4fgq.regp/ and download his
VERTLOAD file. Runs right out of the box (watch the units!).

> 73, Iain (M0PCB / M1ETJ)
> to reply via email replace no.spam with iain ...

Brian W3RV

470. Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 01:10:19 UTC
From: AL KA5JGV <ABurzynski@nojunk.satx.rr.com>
Message-ID: <%Bola.38590$Q27.1980977@twister.austin.rr.com>
Source record: 121022

If I have a large rectangular loop, 20x10x20x10 (feet), made from 14ga of solid copper wire, how can I calculate (or make a reasonable guess) the inductance of such a loop? I want to experiment with making a tuned horizontal (indoor) loop antenna for receive only. Thanks for all input.

Al
KA5JGV

471. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 01:59:48 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b757ikncl1@sparta.btinternet.com>
Source record: 121023

Try program RJELOOP2 for design of rectangular loops and MAGLOOP4 for design
of regular-shaped loops. Although intended for single turn transmitting
loops they will also assist with receiving loops.

For 1 to multi-turn, square receiving loops only, try RJELOOP3.

Using inductance to calculate value of tuning capacitor will give you the
wrong answer when loop perimeter is an appreciable fraction of a wavelength.
You enter loop dimensions not inductance into these programs.

Download programs in a few seconds each from website below.

========================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
========================

"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:%Bola.38590$Q27.1980977@twister.austin.rr.com...
> If I have a large rectangular loop, 20x10x20x10 (feet), made from 14ga of
> solid copper wire, how can I calculate (or make a reasonable guess) the
> inductance of such a loop? I want to experiment with making a tuned
> horizontal (indoor) loop antenna for receive only. Thanks for all input.
>
> Al
> KA5JGV
>
>

472. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 02:10:00 UTC
From: spamtrap <abuse@comcast.com>
Message-ID: <Ytpla.85060$ug3.164659@rwcrnsc51.ops.asp.att.net>
Source record: 121024

Cushcraft does NOT have the R4 antenna's instruction/assembly manual on
their web site.
I believe the R4 did not include the 17 meter trap (but was available as an
"add-on" trap)

BUT, they do have the R5 antenna on the web site:
http://www.cushcraft.com/support/pdf/r5.pdf

Lew McCoy, W1ICP reviewed the Cushcraft R4 Four-Band Vertical in CQ
Magazine - April 1989, page 29

Cushcraft R5 and R7 repair
http://www.iol.ie/~bravo/r7_vertical.htm

I had an experience very interesting. I compared my Cushcraft R4 with a
Brazilian antenna similar to the Cushcraft AV3 (with 6 wire radials) and for
my surprise this second one performed better than the R4. The R4 is
extremely noisy compared to other antennas.

It's interesting because the Cushcraft R4, R5, R7 and R7000 are very similar
(and very expensive also) and the Manufacturer claims outstanding
performance. It's convenient for limited areas but after one year using this
antenna I really gave up. NO RECEPTION!!!! Although, It's good for
transmitting, I have never missed a new one in pile-ups (when I listen to
them, HI!).

73,

Carlos - PY1CAS

Reply to W9GB at ARRL net

"Andy" <dx90@blueyonder.co.uk> wrote in message
news:l2Zka.428$l31.415@news-binary.blueyonder.co.uk...
> Hi all
>
> Can any one help me with a copy of the manual for my Cushcraft R4 vertical
> antenna. I have looked for one but no luck, also been in contact with
> Cushraft and was told that I should have bought the R4 with the manual,
some
> great help and advice from them. Any help with this would be great
>
> Thanks
>

> Andy
>
>

473. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 02:11:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9c9325j4s7m6d@corp.supernews.com>
Source record: 121025

The answer is no. He does provide that formula, but it does not imply in any way that the radiation resistance of a typical quarter wavelength vertical is 50 ohms.

First of all, the formula is for a short dipole, not a monopole. Secondly, it's for short dipoles only. Third, it's not for a plain wire dipole, but a fictitious one having end plates to effect a uniform current in the wire. These conditions are all clearly shown and explained in the accompanying text. A diagram of the antenna, including end plates and accompying description, is at the beginning of the section. The formula is accurate and doesn't require correction. If the formula is misapplied to a half wavelength dipole, it predicts a feedpoint resistance of 197 ohms, not 100.

This formula and accompanying diagram also appear in his book _Antennas_ (1950). In that book (where he covers the topic in more detail) he points out that the formula doesn't do too badly for antennas as long as a half wavelength. It predicts a feedpoint impedance of 197 ohms for a half wavelength dipole, he notes, while the actual radiation resistance of a half wavelength dipole with uniform current distribution is 168 ohms, "which indicates the magnitude of the error introduced by violating the restriction that [lambda] >> L".

So what he really said in 1950 was that a quarter wave vertical has a radiation resistance of 84 ohms, not 50. Which it does, if you construct it according to the diagram he provides.

You'll find this same formula, for the radiation resistance of a "current element" in Jordan & Balmain, _Electromagnetic Waves and Radiating Systems", and many other sources I'm sure.

There are also lots of other equations in Kraus. But I recommend that anyone using them first take at least a cursory look at what they represent. You'll find the correct equation (with appropriate qualifications) for the radiation resistance of a half wavelength wire dipole on p. 146 of _Antennas_ (First Ed., 1950).

Roy Lewallen, W7EL

Reg Edwards wrote:
> Roy, this is not a troll.
>
> Did Kraus, or did he not, in Chapter 13 or any other Chapter of
> "Electromagnetics", 1953, provide a formula -
>
> R = 80 * (Pi * Length / Lambda)^2 ohms -

>
> to the effect that rad-res of a 1/4-wave antenna is in the neighborhood of
> 50 ohms?
>
> According to an earlier posting somewhere on this thread Kraus did just
> that.
>
> A simple yes or no will suffice.
>
> If a correction is needed it should be publicised.
>
> Reg, G4FGQ
>
> ====================================
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:v9bu5sbmef8eae@corp.supernews.com...
>
>>Reg Edwards wrote:
>>
>>>Kraus, it seems, in 1953, made the radiation resistance of a quarterwave
>>>vertical equal to 50 ohms. Just the right value to match to a coax
>
> feedline.
>
>>>The actual radiation resistance is 36 ohms.
>>>
>>>Now we know who it was began the old-wives tale on that subject. It has
>
> been
>
>>>propagating around the bands for the last 50 years.
>>>---
>>>Reg, G4FGQ
>>
>>Nice troll, Reg. Things must be getting a bit dull in the village, so
>>I'll bite and provide you with the solicited entertainment.
>>
>>I'm pleased to see that Kraus has joined me as one of your Old Wives.
>>The company continues to improve. We can all be thankful we have you to
>>save us from the misconceptions propagated by the likes of Old Wife Kraus!
>>
>>But in what publication did Kraus make this alleged statement, and in
>>what context? In his 1950 classic text _Antennas_, he clearly gives the
>>radiation resistance of a quarter wave vertical as 36.5 ohms (p. 315).
>>This value also appears on p. 473 of the 1988 second edition of that
>>book. In _Electromagnetics_ (1953), he only briefly talks about antenna
>>impedance, but says that "It should be noted that the terminal impedance
>>of a dipole antenna is twice the terminal impedance of the corresponding
>>unipole type." (p. 512)

>>
>>Actually, the feedpoint resistance of nearly every amateur's quarter
>>wave vertical is likely to be closer to 50 ohms than 36, due to ground
>>system loss. I'll bet that most of the folks "around the bands" aren't
>>really aware of (and probably don't care about) the fact that some of
>>that resistance is loss and some radiation resistance. They just notice
>>that they get a good match to 50 ohm line. I'd wager that this
>>observation, made over and over again, is a more likely cause of the
>>misunderstanding about the value of radiation resistance than some
>>statement Kraus is alleged to have made in 1953.
>>
>>I can see it now, "Lewallen said in 2003 that the radiation resistance
>>of a quarter wave vertical is 50 ohms. . ." Whee, ain't simplification
>
> fun?
>
>>Roy Lewallen, W7EL
>>
>
>
>

474. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 02:21:23 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <v9c9kr1dbvr147@corp.supernews.com>
Source record: 121026

It would be interesting to know Iain's university and something about his quarters.
At my university, many years ago, I had a room that was on the fourth floor. Late one night, I placed a wire, full-size dipole against the outside wall fed with RG174. The color of the fine wire matched the color of the wall. From below, it was almost impossible to see the antenna even when one knew exactly where to look.
When one puts one's mind to the task, one can find a place for an antenna. Go for it! 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

475. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 02:38:25 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <v9cako7rnf7v08@corp.supernews.com>
Source record: 121027

Mr. Edwards: Fiddlesticks! My mentor and teacher did no such thing.
No person can (as in has the ability to) make the radiation resistance
of a particular antenna an arbitrary value. Libel of one of the
greatest teachers of the art and science of antennas is despicable. For
shame.
Mac N8TT
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

476. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 03:13:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9632C2.8020807@ieee.org>
Source record: 121028

JGBOYLES wrote:
>>>What did the run of the mill ham do before we had swr measurement?
>>
>>Dip & load, dip & load, dip & load
>
> I thought it was peak and dip. Peak the grid current, and dip the plate. That
> is what I did with my Globe Scout, cause that is what the manual said to do.
> Be interesting to look at the old tuner section of the Scout to see what I was
> actually doing back in 1963.

The Globe Scout had a pi-net tuner built in with a tapped coil
and two variable caps.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

477. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 03:18:03 UTC
From: Nixo Villie <nixo_villie@hotmail.com>
Message-ID: <Ltqla.51650$lt5.9419@news2.central.cox.net>
Source record: 121029

Hi All,
I have the R-4 assembly & instruction booklet. If
anyone wants a copy, let me know by email. I will
email it or post it to a mutually acceptable binary NG.
I'll even snail mail it, if you pay for the costs involved.

[8 pages in Windows .bmp format at 300 dpi, total
size is 8 megs]

73 de Nixo
[the reply to address is good]

--
Nixo Villie
<nixo_villie@hotmail.com>

478. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 10:51:25 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E969E2D.6080808@mwci-news>
Source record: 121030

Richard Harrison wrote:
> Art, KB9MZ wrote:
> "Most of us are not interested in this sort of thing (optimization) so
> gain and losses take a lesser point of interest."
>
> That was what i thought before reading this newsgroup for a while. Now I
> think Walter Maxewell is right and most hams want to match for all
> available power whether they can or not.
>
> Best regards, Richard Harrison, KB5WZI

On any Ham phone band you can hear stations that
are adjusted for maximum output. They are the ones
that splatter over 10 to 20 kHz. The operators who
know better use ALC to restrict the PEP output so
that their signals are "clean", in other words
linear. They accept the penalty of reduced power
in order to be better citizens.

Bill W0IYH

479. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 10:59:25 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E96A00D.4070604@mwci-news>
Source record: 121032

J. McLaughlin wrote:
> Mr. Edwards: Fiddlesticks! My mentor and teacher did no such thing.
> No person can (as in has the ability to) make the radiation resistance
> of a particular antenna an arbitrary value. Libel of one of the
> greatest teachers of the art and science of antennas is despicable. For
> shame.
> Mac N8TT
> --
> J. Mc Laughlin - Michigan USA
> Home: JCM@Power-Net.Net
>
>

The feedpoint impedance of a basic dipole can be
changed by changing the location of the
feedpoint. This impedance is often referred to,
perhaps incorrectly, as its "radiation resistance".

The dipole is also a special kind of impedance
transformer along its length in this respect. It
is desirable to specify the feedpoint, to avoid
confusion.

Bill W0IYH

480. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 10:59:31 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304110044.5e5ebad2@posting.google.com>
Source record: 121031

Iain Kelly <no.spam@m0pcb.co.uk> wrote in message
news:<6qr89v8l02n32k6adr6kddarkag045t8an@4ax.com>...
> On 09 Apr 2003 19:02:03 GMT, wp20031@aol.com (Wp20031) wrote:
>
> >You might try an indoor horizontal loop, fed with coax and a tuner. Use nails,
> >string and buttons at the corners of the room to support the wire. Run the
> >coax to the tuner and give it a try. Your results will be better on higher
> >bands, but it is a cheap, usable antenna.
> >
> >--Wayne
>
> Hi Wayne,
>
> I was thinking of things like that but I will be in university
> accommodation and I don't think they'd be too happy if I put nails in
> the walls. I might be able to get away with it but the rooms are not
> very big so even a loop for 10M might be pushing it!!!
>
> I have plenty of time to sort something out but it's going to be an
> interesting process...

I'd go with the thin wire, and thumbtacks. Or thin wire and clear mono fishing line as a leader and insulator if outside. Magnet wire is so thin it's hardly noticable. If I were indoors, I'd use dipoles tacked to the wall/ceiling edges. I wouldn't even bother with "regular" insulators indoors or out. They would just end at the thumbtacks indoors. The dipoles don't have to be straight. IE: For 10m, have the feedpoint at a corner of the room at the wall/ceiling corners. Run a 8 ft leg each way, and you have a 10m dipole which is efficient even being bent 90 degrees. You only have to worry about coupling to wiring in the walls. But, it's usually not strung at the wall/ceiling corners. I wouldn't bother with a probably lossy indoor vertical myself. With the low power 817, you need all the antenna you can get. I'd stay away from anything that needs a ground system to function. You don't need the extra losses. You can't get a decent ground system going indoors unless it's a high band ground plane hung from the ceiling or something along those lines. A loop circling the whole room or apartment could work well also, but you'll need a tuner and ladder line if the length is random. The dipoles could be fed single band with no tuner and using thin coax such as rg-58. MK

481. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 11:35:44 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3E96A835.2E30EA0A@attbi.com>
Source record: 121033

Hey Roy, you are giving up my DXing secrets!!

Deacon Dave, W1MCE
+ + +

Roy Lewallen wrote:

SNIP

>
> But that was for people who had the luxury of a plate current meter. For
> the rest of us, it was a matter of touching an NE-2 to the RF output and
> tuning for brightest glow.
> My 20 meter antenna was a piece of #32 enameled wire running out the second
> story window to a clothes line pole in the back yard. It was an end fed
> half wavelength, with a plastic curtain ring for the end insulator.
> Worked plenty of stations with that and my homebrew 6AG7/6L6 rig. I've
> also had plenty of QSOs with a rain gutter, dipoles in the attic and
> even basement, and yes, even bed springs -- and a few with a light bulb.
> Tried loading up a tree once, but no luck. But didn't try for very long
> -- I'm sure I would have scored if I'd kept at it for a while.
>

482. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 11:39:13 UTC
From: G&R <spam@limbo.hell>
Message-ID: <nPxla.9232$N94.848094@news20.bellglobal.com>
Source record: 121034

Hello again,

I found the site I had suggested earlier.

R7 Vertical...Maintenance and Repair

http://www.qsl.net/ei7ba/r7_vertical.htm

This should help you.

73's Guenther VE3CVS

"Nixo Villie" <nixo_villie@hotmail.com> wrote in message
news:Ltqla.51650$It5.9419@news2.central.cox.net...
> Hi All,
> I have the R-4 assembly & instruction booklet. If
> anyone wants a copy, let me know by email. I will
> email it or post it to a mutually acceptable binary NG.
> I'll even snail mail it, if you pay for the costs involved.
>
> [8 pages in Windows .bmp format at 300 dpi, total
> size is 8 megs]
>
>
> 73 de Nixo
> [the reply to address is good]
>
> --
> Nixo Villie
> <nixo_villie@hotmail.com>
>
>

483. Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 12:26:31 UTC
From: Tom S <t_stenbraaten@hotmail.com>
Message-ID: <63dd9vsns1vdpbg9mlnp68ov0j73i295ba@4ax.com>
Source record: 121035

I'm trying to find a cheap source of wire to make my HF antenna.
Not sure exactly what type yet. I'm wondering if any one has tried
aluminum electric fence wire. It is very inexpensive . Failing this
does any have any other suggestions for inexpensive wire. I love to
hear all comments.

Tom S
VA3TSS

484. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 12:44:03 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E96B846.4D515504@shaw.ca>
Source record: 121036

AL KA5JGV wrote:
>
> If I have a large rectangular loop, 20x10x20x10 (feet), made from 14ga of
> solid copper wire, how can I calculate (or make a reasonable guess) the
> inductance of such a loop? I want to experiment with making a tuned
> horizontal (indoor) loop antenna for receive only. Thanks for all input.
>
> Al
> KA5JGV

I don't know about calculating, but if you place a known value of
capacitor at the feedpoint and dip it out, you should be able to
calculate the inductance once the resonant frequency is known. I
doubt if the layout of the antenna would lend itself to any
pencil & paper calculation.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

485. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 13:25:24 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E96C395.17CE2154@uwe.ac.uk>
Source record: 121037

Tom S wrote:
>
> I'm trying to find a cheap source of wire to make my HF antenna.
> Not sure exactly what type yet. I'm wondering if any one has tried
> aluminum electric fence wire. It is very inexpensive . Failing this
> does any have any other suggestions for inexpensive wire. I love to
> hear all comments.
>
> Tom S
> VA3TSS

Aluminium is OK. Galvanised is very bad. Copper is best. Electric fence wire in the U.K. is galvanised steel and the resistivity of zinc is pretty high and at RF all the current runs in the surface.....
The bigger the guage (gage?) the better.
vy 73

Andy, M3ABC

p.s. I know silver is 7% better, if it is bright and shiny, but not when tarnished, as the tarnish is a conductor, but not a very good one. As you are looking for cheap, I ruled out silver and silver plated.

486. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 13:29:55 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E96C4A4.82AFE61F@uwe.ac.uk>
Source record: 121038

Tom S wrote:
>
> I'm trying to find a cheap source of wire to make my HF antenna.
> Not sure exactly what type yet. I'm wondering if any one has tried
> aluminum electric fence wire. It is very inexpensive . Failing this
> does any have any other suggestions for inexpensive wire. I love to
> hear all comments.
>
> Tom S
> VA3TSS

More on my last.

Aluminium needs to be ~ 1.7 times as big (linear) to give equivalent losses to copper.

vy 73

Andy, M3ABC

487. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 15:55:19 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E96E567.324370EB@cwis.net>
Source record: 121039

Tom,
I've used galvanized steel electric fence wire with
no apparent problems. Need to scrape the galvanization
off before soldering, though.
'Doc

PS - At about $10 per 1/4 mile spool, I don't know
how you can get any cheaper..

488. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 16:18:07 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <3VBla.415216$3D1.223577@sccrnsc01>
Source record: 121040

Don't forget that you need a good connection to ground so that the antenna will work. It has been my experience that just throwing a wire in the air without a ground has not given me good results. On the other hand, a wire in the air with a good counterpoise will let you work a lot more stations.

489. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 16:28:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b76qeupde1@titan.btinternet.com>
Source record: 121041

Suppose you have a square loop with a circumference of 1/2-wavelength at the frequency of interest and you wish to know its inductance so you can calculate the value of the tuning capacitor to resonate it to another frequency.

Zero pF is needed to resonate the 1/2-wave loop. So the loop inductance must be infinite uH - or is it ?

Reg, G4FGQ

490. Re: half square dimensions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 16:32:13 UTC
From: richardharrison@webtv.net
Message-ID: <18671-3E96EE0D-328@storefull-2311.public.lawson.webtv.net>
Source record: 121042

Don Bryant wrote:
"I get different horizontal and vertical dimensions for a half square,
from different sources."

The numbers given may be optimized for the specific application
described in the article.

The ARRL Antenna Book is usually correct because it has huge exposure to
criticism and has been through many editions. The 19th edition shows a
"half-square on page 6-14 and another on page 8-41. Both show 1/4-wave
high vertical legs tied at the top by a 1/2-wave horizontal flat top
wire.

The half-square on page 6-14 is said to be a typical 80-meter
half-square. The half-wave horizontal wire is 130 ft. The vertical
1/4-wave wires are 65 ft. So, the same velocity factor was used for
vertical and horizontal elements. This is interesting because the
bobtail curtain on page 8-42 use the free-space velocity length of a
1/2-wave in feet, 492 / f(MHz) for its flat top. The same bonbtail
curtain uses 468 / f(MHz) divided by two for the lengths of its 1/4-wave
vertical elements. 468 / f(MHz) adjusts the free-space velocity to 95%
to account for velocity and capacitive end effect in a 1/2-wave
open-circuit dipole.

My conclusion is that the author picked the factors that seemed to work
best. The bobtail curtain flat top elements are not open-circuited and
so it is logical they don`t need to be shortened by 5% for end effect.
The vertical elements at the curtain extremes are open-circuited at
their lower ends, so it`s logical to shorten them for end effect. The
1/4-wave element driving the curtain is not open-circuited at either
end, but it is 5% shortened by the author just as the end elements are,
probably only for consistency. A tapped parallel resonant circuit is
used to match this element to the feedline and can be adjusted for any
discrepancies.

If you want to duplicate an author`s claims, the place to start is to
exactly duplicate his form and formula. Then, improve it if you can.

Best regards, Richard Harrison, KB5WZI

491. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:11:32 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304110911.233ee264@posting.google.com>
Source record: 121043

Iain Kelly <no.spam@m0pcb.co.uk> wrote in message
news:<uij89v0auj9sg1sof5fmu4h6l1r81buupo@4ax.com>...
> Hi,
>
> I have been looking around at antennas that are small. I know it's a
> reduction in efficiency but I would like to try one out. I am off to
> university at the end of the year and would like to continue working
> the bands, albeit qrp!, from my room. I don't know if there would be
> anywhere for a dipole or other antenna at the moment, and it would
> prove a good learning exercise to build some small antennas and try
> them out!
>
> I have seen advertisements for the ATX walkabout antennas for the
> FT-817 and I wonder if anyone has some information about the coils
> needed to load a short whip.
>
> I found a whip about 47.5" long in the junk box but can't find any
> info on the coils needed to make single band antennas like those sold
> by the retailers.
>
> I am interested also in hearing any experiences and reading some
> theory on shortened antennas as I hope to be studying RF Engineering
> at university and it would be a good start to learn a bit more about
> the nature of the 'beast'!!
>
> Thanks in advance for any help etc...
>
> 73, Iain (M0PCB / M1ETJ)
> to reply via email replace no.spam with iain ...

Ian,
Don't overlook the aluminium window frames for a loop antenna
or aluminium foil / sticky back tape for a stick on the wall
dipole. Another thought is a telescopic fishing pole
with aluminium foil!
Cheers
Art

492. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:34:55 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns935ABCAE84AD2newsleighsorg@130.133.1.4>
Source record: 121044

Andy Cowley <andy.cowley@uwe.ac.uk> wrote in news:3E96C395.17CE2154
@uwe.ac.uk:

> Aluminium is OK. Galvanised is very bad.

Used galvanised catenary wire used to fly cables between building for HF
with no noticable problems.

Not cheap but soft, strong and very very long.

493. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:41:12 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <FoOdnRlBw_WuYwujXTWcpw@crocker.com>
Source record: 121045

the heavy (15ga) aluminum is pretty good, the lighter 17ga stuff is probably ok for shorter antennas or in areas without ice. i use the 15 ga aluminum for raised radials, they survive lots of ice and wind load up here just fine.

there are galvanized and copper plated versions, both of them are usually poorly plated and quickly start rusting... they also kink easily and since they are cheap steel they loose lots of strength from that.

"Tom S" <t_stenbraaten@hotmail.com> wrote in message news:63dd9vsns1vdpbg9mlnp68ov0j73i295ba@4ax.com...
> I'm trying to find a cheap source of wire to make my HF antenna.
> Not sure exactly what type yet. I'm wondering if any one has tried
> aluminum electric fence wire. It is very inexpensive . Failing this
> does any have any other suggestions for inexpensive wire. I love to
> hear all comments.
>
> Tom S
> VA3TSS

494. SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:42:51 UTC
From: JEB <berndt@berndtmd.REMOVE.ME.com>
Message-ID: <v9dvkukd80q626@corp.supernews.com>
Source record: 121046
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

I know you can damage your CB if the antennae is not tuned to the radio and you use it to transmit, but can you hurt it if you just use it to monitor transmissions and have not set the SWR?

495. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:55:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Ja-cnX0KPYsDnAqjXTWcoA@comcast.com>
Source record: 121047

Al,

It's not inductor at all, but an antenna. In the HF range there is an almost even chance of it being a capacitor as opposed to being an inductor. For instance, the impedance of your loop at 14 MHz is about 42-j580. So, you need an inductor to resonate it. Your loop is self resonant at about 17 MHz.

Tam/WB2TT
"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message news:%Bola.38590$Q27.1980977@twister.austin.rr.com...
> If I have a large rectangular loop, 20x10x20x10 (feet), made from 14ga of
> solid copper wire, how can I calculate (or make a reasonable guess) the
> inductance of such a loop? I want to experiment with making a tuned
> horizontal (indoor) loop antenna for receive only. Thanks for all input.
>
> Al
> KA5JGV
>
>

496. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 17:56:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9701C0.40904@ieee.org>
Source record: 121048

Reg Edwards wrote:
> Suppose you have a square loop with a circumference of 1/2-wavelength at the
> frequency of interest and you wish to know its inductance so you can
> calculate the value of the tuning capacitor to resonate it to another
> frequency.
>
> Zero pF is needed to resonate the 1/2-wave loop. So the loop inductance
> must be infinite uH - or is it ?

Reg, you probably mean a one-wavelength loop? EZNEC sez the feedpoint
impedance of a one WL 20m loop on 40m is about 840-j5700 ohms.
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
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497. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 18:04:59 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <wtSdnft3LLVWngqjXTWcrg@comcast.com>
Source record: 121049

Andy,

The 1.7 ratio refers to the Ohms/foot for two wires of the same diameter. To have Al wire with the same Ohms/foot as Cu, it has to have about 1.7 times the area, or about 1.3 times the diameter as Cu. Neglecting skin effects, #12 Al wire is almost as good as #14 Cu.

Tam/WB2TT
"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3E96C4A4.82AFE61F@uwe.ac.uk...
> .....
> Aluminium needs to be ~ 1.7 times as big (linear) to give equivalent
> losses to copper.
>
> vy 73
>
> Andy, M3ABC

498. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 18:16:53 UTC
From: JEB <berndt@berndtmd.REMOVE.ME.com>
Message-ID: <v9e1kofd0d0hc6@corp.supernews.com>
Source record: 121050
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Thanks, that's what I thought.

Moparholic@hotmailnospam.com wrote:
> "JEB" <berndt@berndtmd.REMOVE.ME.com> wrote:
>> I know you can damage your CB if the antennae is not tuned to the
>> radio and you use it to transmit, but can you hurt it if you just
>> use it to monitor transmissions and have not set the SWR?
>>
> No,you can listen all you want. Just be sure your swr is below 2
> before transmitting.

499. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 18:23:07 UTC
From: Aspiring Elmer <elmer@nowhere.com>
Message-ID: <fKDla.3155$554.3012@fed1read05>
Source record: 121051
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Only a problem on transmit - not receive

--

73 From AC6V
Rod In Oceanside, CA
Home Page http://ac6v.com
DX Book http://ac6v.com/DXSAMPLE.htm
FM Beginners Book http://ac6v.com/FM101.htm
"JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message
news:v9dvkukd80q626@corp.supernews.com...
> I know you can damage your CB if the antennae is not tuned to the radio
and
> you use it to transmit, but can you hurt it if you just use it to monitor
> transmissions and have not set the SWR?
>
>

500. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 18:39:14 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e970b9f$0$134$edfadb0f@dtext02.news.tele.dk>
Source record: 121052

Hello Tom

> > I'm trying to find a cheap source of wire to make my HF antenna.

Stainless stell wire that is used for MIG welding, it is cheap, strong
and will last for ever. You can proberly get it for free if you can find
matal shop that is using it.

Regards Max

501. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 18:44:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b772ei$8mb$1@titan.btinternet.com>
Source record: 121053

Sorry - you're wrong.

Resistance per length of wire is proportional to wire diameter, NOT area of cross-section.

At RF current flows only on the wire surface.

Reg.

502. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 19:07:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b773om$at1$1@titan.btinternet.com>
Source record: 121054

> Reg, you probably mean a one-wavelength loop? EZNEC sez . . . . . .

==========

Cec, I know what I mean. And who's EZNEC ?

;o)

Reg.

503. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 19:17:30 UTC
From: richardharrison@webtv.net
Message-ID: <1691-3E9714CA-176@storefull-2312.public.lawson.webtv.net>
Source record: 121057

Reg, G4FGQ wrote:
"Zero pF is needed to resonate the 1/2-wave loop. So the loop inductance must be infinite uH - or is it?"

The loop is a finite 1/2-wavelength, so it has a finite inductance. The fact that no external capacitance needs to be added to the loop for resonance at the "frequency of interest" only indicates the loop is self-resonant. Its inductance and capacitance are closely matched in opposing reactances.

Radiation resistance which remains when reactance is eliminated may be around 5 ohms for such a loop. My source is Arnold B. Bailey`s "TV and Other Receiving Antennas" chart of "Radiation Resistance for Open and Closed Square Loops" (for circular loops, multiply Rr by 1.62). So, if the loop is round, Rr could be around 8 ohms.

Best regards, Richard Harrison, KB5WZI

504. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 19:18:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9e591cn75ek33@corp.supernews.com>
Source record: 121055

As others have pointed out, aluminum is less conductive than copper. But unless you intend to make a very short antenna (in terms of wavelength), it won't matter -- the loss will still be so low as to be unimportant.

For the record, at DC the resistivity of aluminum is roughly 1.5 - 2 times that of copper, depending on the alloy. But because of skin effect, the RF resistivity ratio is only the square root of the DC ratio, so at RF, the ratio is more like 1.2 - 1.4 times.

There are physical considerations for using aluminum, such as work hardening due to flexing. Those have been discussed on this newsgroup in the past -- you should be able to find the previous discussion with a search at www.groups.google.com.

Galvanized steel wire might be Ok, depending on how much signal strength you're willing to sacrifice. If the zinc plating is heavy (dipped galvanizing), current will be pretty much in the zinc, so loss would be be negligible for moderate wire diameter. However, the fence wire I've seen has very thin, probably electroplated zinc, which disappears after a while in the weather. Current then ends up in the steel, which is very much lossier, largely due to the shallower skin depth resulting from its magnetic permeability. But unless your signal is near the noise level at the receiving station, or you think you need that very last dB to be top dog on the pile, you're not likely to notice the moderate amount of loss you'd get with steel wire. On the plus side, the lossy antenna will be more broadband. I saw an 80 meter antenna in QST years ago that bragged about broadbandedness, and its main trick was steel wire construction.

Depending on what kind of antenna you're trying to build, how strong it has to be, and whether you're willing to replace it from time to time, you could consider buying a spool of enameled wire or salvaging some from a transformer, or using electrical mains wire. I've gotten a large amount of very inexpensive wire from surplus outlets, and ham flea markets are another good source.

Roy Lewallen, W7EL

Andy Cowley wrote:
> Tom S wrote:
>
>> I'm trying to find a cheap source of wire to make my HF antenna.
>>Not sure exactly what type yet. I'm wondering if any one has tried
>>aluminum electric fence wire. It is very inexpensive . Failing this
>>does any have any other suggestions for inexpensive wire. I love to
>>hear all comments.
>>

>>Tom S
>>VA3TSS
>
>
> More on my last.
>
> Aluminium needs to be ~ 1.7 times as big (linear) to give equivalent
> losses to copper.
>
> vy 73
>
> Andy, M3ABC

505. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 19:23:10 UTC
From: Fred Garvin <Garvin@Truss.net>
Message-ID: <3BEla.572$lk.88392@news.uswest.net>
Source record: 121056
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

On Fri, 11 Apr 2003 13:42:51 -0400, JEB wrote:

> I know you can damage your CB if the antennae is not tuned to the radio
> and you use it to transmit, but can you hurt it if you just use it to
> monitor transmissions and have not set the SWR?

No.

506. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 19:45:38 UTC
From: richardharrison@webtv.net
Message-ID: <1690-3E971B62-428@storefull-2312.public.lawson.webtv.net>
Source record: 121058

Reg, G4FGQ wrote:
"Sorry you`re wrong.

Resistance per unit length of wire is proportional to wire diameter, NOT
area of cross-section."

Sorry. Conductance is proportional to wire diameter!

Resistance goes down with increasing wire diameter.

Best regards, Richard Harrison, KB5WZI

507. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 21:15:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E973055.9070607@ieee.org>
Source record: 121059

Reg Edwards wrote:
> Sorry - you're wrong.
>
> Resistance per length of wire is proportional to wire diameter, NOT area of
> cross-section.

Reg, wouldn't it be closer to say resistance is inversely proportional to
wire diameter? Maybe you'd better switch back to California wine and forget
that French stuff?
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

508. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 21:26:42 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <mqGla.150178$OV.234480@rwcrnsc54>
Source record: 121060

Why not? It conducts electricity. For further information, do a search on this group and find the replies to the other hundred times this question has been asked.
"Tom S" <t_stenbraaten@hotmail.com> wrote in message news:63dd9vsns1vdpbg9mlnp68ov0j73i295ba@4ax.com...
> I'm trying to find a cheap source of wire to make my HF antenna.
> Not sure exactly what type yet. I'm wondering if any one has tried
> aluminum electric fence wire. It is very inexpensive . Failing this
> does any have any other suggestions for inexpensive wire. I love to
> hear all comments.
>
> Tom S
> VA3TSS

509. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 21:48:25 UTC
From: jgboyles@aol.com
Message-ID: <a5889e9c.0304111348.1eac6352@posting.google.com>
Source record: 121061

Hi Roy,
Through the magic of the internet, I found a Globe Scout manual. I haven't seen one in 35 years. It did have the capability of metering both the grid current and the cathode (plate) current. It used a 6ag7 driving a 6146b. The driver had a tuned circuit for peaking the 6146 grid current to 3 ma on a dual scale meter. Of course the 6146 had a pi net output that was adjusted the usual way. Plate current was around 135 ma when things were just right. The circuit is very similar to a 6146b transmitter in the ARRL handbook in the 60s.
One of the more unusual things I loaded with the Scout was the fire escape outside my 3rd floor college dorm room. Metal fire escape bolted to a brick building got me on the air.
73 Gary N4AST

Roy Lewallen <w7el@eznec.com> wrote in message news:<v9c16otikc1944@corp.supernews.com>...
> A lot of us didn't have any indication of grid current or any way to
> adjust it, and I'm just about certain that was true of the Globe Scout.
>
> There were two variable capacitors in the pi net (often labeled "tune"
> and "load"), and you adjusted them alternately while watching the plate
> current. The input (tune) capacitor was adjusted to dip the plate
> current. Then the output capacitor (load) was adjusted to increase the
> plate current. The process was repeated until neither capacitor had much
> effect.
>
> But that was for people who had the luxury of a plate current meter. For
> the rest of us, it was a matter of touching an NE-2 to the RF output and
> tuning for brightest glow.
>
> I didn't have any place to hook an SWR meter, even if I had one. My 20
> meter antenna was a piece of #32 enameled wire running out the second
> story window to a clothes line pole in the back yard. It was an end fed
> half wavelength, with a plastic curtain ring for the end insulator.
> Worked plenty of stations with that and my homebrew 6AG7/6L6 rig. I've
> also had plenty of QSOs with a rain gutter, dipoles in the attic and
> even basement, and yes, even bed springs -- and a few with a light bulb.
> Tried loading up a tree once, but no luck. But didn't try for very long
> -- I'm sure I would have scored if I'd kept at it for a while.
>
> Roy Lewallen, W7EL
>
> JGBOYLES wrote:
> >>>What did the run of the mill ham do before we had swr measurement?
> >>

> >>Dip & load, dip & load, dip & load
> >
> >
> > I thought it was peak and dip. Peak the grid current, and dip the plate. That
> > is what I did with my Globe Scout, cause that is what the manual said to do.
> > Be interesting to look at the old tuner section of the Scout to see what I was
> > actually doing back in 1963.
> > 73 Gary N4AST

510. Re: Cushcraft R4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 21:59:25 UTC
From: k1bqt@aol.com
Message-ID: <20030411175925.18614.00000590@mb-fn.aol.com>
Source record: 121062

I have a copy of the R4 manual for the gentleman who wants one. The antenna was produced briefly in 1988 and covered 10, 12, 15, and 20 meters. Very shortly thereafter, the R45K 15/17-meter trap kit came out and the antenna became the R5. Not many R4s were produced before it became the R5--which probably explains why it isn't available on the Cushcraft website. Give me a mailing address, and it's yours.

73

Rick K1BQT

511. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 22:14:26 UTC
From: k1bqt@aol.com
Message-ID: <20030411181426.18614.00000591@mb-fn.aol.com>
Source record: 121063

Hi Bill--

>On any Ham phone band you can hear stations that are adjusted for maximum output.<

You more likely hear stations that are improperly adjusted for maximum output--usually because they're using insufficient loading to handle the peaks.

> They are the ones that splatter over 10 to 20 kHz.<

Right you are!

>The operators who know better use ALC to restrict the PEP output so that their signals are "clean", in other words
>linear.<

It helps, but the ALC loop may fail to attack quickly enough on the leading edge to eliminate "buckshot".

>They accept the penalty of reduced power in order to be better citizens.<

Or, they blithly believe it "couldn't be them" splattering because they're using ALC!

RIck K1BQT

512. Re: Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 23:14:04 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <KSHIa.9915$c42.8809@fe01.atl2.webusenet.com>
Source record: 121064

There are other agents in some paints can cause greif . 2 of them-- Copper,
and Aluminium come to mind. Not the best idea-- jim nn7k

"Max" <Max_Jens@post9.tele.dk> wrote in message
news:3e946b58$0$130$edfadb0f@dtext02.news.tele.dk...
> Hello Buo
>
> > Don't use lead based paint!!!
> >
> > Some latex based paints can be water soluble!!
>
> I have some from the Army, and they are painted green,
> and when I was in the Navy they where painted blue,
> so I surpose it is no problem. If you would like a
> everlasting dolution, go to a porcelain painting
> store and have them painted and burned, then
> you will be shure that color stays ther. But caution,
> some of the colors for porcelain is based on metal.
>
> Regards Max
>
>

513. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 23:20:21 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <EYHla.9962$c42.7282@fe01.atl2.webusenet.com>
Source record: 121065
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Actually, probably not much of a problem with MODERN sets, in xmit, as transistors have been made to compensate for high vswr, or they have a swr sensor that decreases input power to the PA corresponding to the sensed SWR of the antenna! but the older ones (over 10 years old, don't take the risk) . as info jim nn7k

"Fred Garvin" <Garvin@Truss.net> wrote in message news:3BEla.572$lk.88392@news.uswest.net...
> On Fri, 11 Apr 2003 13:42:51 -0400, JEB wrote:
>
> > I know you can damage your CB if the antennae is not tuned to the radio
> > and you use it to transmit, but can you hurt it if you just use it to
> > monitor transmissions and have not set the SWR?
>
>
> No.

514. Re: AAARGH! New interference!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 23:41:37 UTC
From: "Eric F. Richards" <efricha@dim.com>
Message-ID: <djje9vshinfncmbnfebpq8oe260s0dqaci@4ax.com>
Source record: 121066
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

"tim conway" <n9hmg@mailhot.reversethatanddropthis.com> wrote:

> This is somewhat off-topic, but when you described the current weather and
> band conditions, I got a hunch and hunted you up with a callsign search,
> and sure enough, you're only about 20 miles from me.
>

Plus a couple thousand feet altitude... :-)

>
> tcc
>
> On Sun, 06 Apr 2003 09:36:05 +0000, Eric F. Richards wrote:
>
> > Right now everything is covered with ice crystals and there is ice fog
> > in the air, and there is uniform hum/buzz up and down the bands but
> > below S1.
> >

--
Eric F. Richards, efricha@dim.com
"Nature abhors a vacuum tube." -- J. R. Pierce, Bell Labs, c. 1940

515. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-11 23:59:18 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3E9756E3.1EB97528@bellatlantic.net>
Source record: 121067
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason Hsu wrote:
>
> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
>
> What electronic parts do you stock up on? I have noticed in building
> a few projects and especially from looking at the designs of many more
> that any decent homebrewer will use certain parts on a regular basis.
> I believe that any experienced homebrewer has a substantial inventory
> of common parts and makes sure to stock up when either ordering other
> items or when attending hamfests. It's frustrating to lack a certain
> critical part, and many of them are not available at Radio Shack.
> (Come on, try to buy a Germanium diode or SMA connectors at Radio
> Shack.) Every order to Digi-Key or other online/mail-order vendors
> will have shipping charges added on. There are also parts that are
> available at Radio Shack but at exorbitant prices compared to Digi-Key
> and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to
> tell me that these are rarely used and that no homebrewer stocks up on
> these.)
>
> So I am compiling a list of items that any homebrewer should stock up
> on. Please excuse the mis-numbering, as it would take too long to fix
> everything. Yes, I know that you can't have every part possible.
> However, certain items are used on not one project but many, many
> projects. For example,
>
> General items:
> 1. DC jacks
> 2. DC connectors
> 1. LM3914 display driver ICs
> 2. LM3915 display driver ICs
> 3. 1N34A germanium diodes
> 4. Zener diodes
> 5. 1/4" LED holders: available at Radio Shack
> 6. 1/4" LEDs (red, yellow, green): exorbitant prices at Radio Shack
> 7. 9V battery holders: available at Radio Shack
> 8. Nylon binding posts: exorbitant prices at Radio Shack
> 9. Chasses (metal and non-metal): available at Radio Shack, but more
> selection and better prices elsewhere
> 10. LM324/358 IC amplifiers: exorbitant prices at Radio Shack
> 11. LM741 IC amplifiers: exorbitant prices at Radio Shack
> 12. .001uF capacitors: available at Radio Shack, but not at the best
> prices

> 13. .01uF capacitors: ditto
> 14. .1uF capacitors: ditto
> 15. Electrolytic and tantalum capacitors: ditto
> 16. Mica capacitors: ditto
> 17. IC sockets
> 15. LM317 or other voltage regulators: available at Radio Shack at
> high prices
> 16. Switches: available at Radio Shack
> 17. Circuit boards: available at Radio Shack
> 18. 2N2222As: available at Radio Shack at high prices
> 19. 2N3904s: available at Radio Shack at high prices
> 20. 555 timer chips: available at Radio Shack at exorbitant prices
> 21. 2N3906s
> 22. 2N2907s
> 23. Shrink wrap (for soldering wires onto LEDs): also available at
> Radio Shack and Home Depot
> 24. Solder: ditto
> 25. Solder flux: ditto
> 26. #30-gauge wire wrap wire (for wire wrap projects or RF
> transformers if distributed capacitance is an issue and you don't like
> magnet wire): available at Radio Shack
> 27. 1/2-W Resistors: available at Radio Shack
> 28. 1N914/1N4148 diodes: available at Radio Shack
> 29. #6-32 nuts and bolts for mounting circuits: available at Home
> Depot as well as Radio Shack
> 30. Potentiometers
> 31. Knobs
> 32. 2N2219 and 2N2905???
> 33. MPF102/2N3819 or similar FETs???
> 34. 2N3055 or other power transistors???
> 35. LM723 for power supplies???
> 36. Assorted powdered iron cores T- 37/50 - 2/6 ???
> 37. PCB material ???
> 38. BNC connectors/jacks
>
> Audio items:
> 1. LM386 audio amp
> 2. Assorted audio connectors (RCA, 1/8" phone plugs)
> 3. 5532 op amps
> 4. Complementary output transistors that can handle some power
>
> RF items:
> 1. FT50-43 ferrite toroid cores: useful for many, many RF projects
> 2. #73 ferrite beads for connecting RF and DC grounds
> 3. SO-239 jacks: available at Radio Shack at higher prices
> 4. PL-259s (make sure to get the right kind for the cable): ditto
> 5. SMA connectors
> 6. RG-58 coax for jumpers: exorbitant prices at Radio Shack
> 7. Lower loss coax
> 8. Mixers (for homebrewing transmitters and receivers)

> 9. 2N3563/MSP-H10/2N5179/BFR-96 or equivalent (for VHF)
> 10. 2N4427/2N3866 1 watt VHF finals (for homebrewing transmitters and
> receivers)
> 11. 1 - 10pf piston trimmers (vhf) ???
> 12. trim caps about 80pf max (hf) ???
> 13. IF transformers: 455 kHz and 10.7 MHz (can be
> rewound for other frequencies) ???
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

The first stuff you need is more mundane, and more important,
because you'll use it in almost every project. 1) Hook up wire.
2) PC or perf boards. 3) You need to add lockwashers to your
item #29 (6-32 hardware)

Next in order should be the makings of simple powers supplies
for projects - Transformers/wallwarts, bridge rectifiers -
and you already mentioned linear regulator chips.

After that, trash most of the list, until you know where your
interest takes you. Meanwhile scrounge stuff out of electronic
items that get thrown out. People leave TV's, VCR's,
microwave ovens, etc. at the curb. Take the useable parts - line
cords, hardware, switches, components, motors, etc.

516. Broken AEA 220 Isopole?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 00:03:58 UTC
From: sfritchie <sfritchie@cox.net>
Message-ID: <OJIla.681$%A2.105@fed1read06>
Source record: 121068

Hi,
I have a broken 220 isoplole I'd like to fix. I need the plastic piece (
the one that the antenna connector is attached to.) or top antenna
assembly. Thanks in advance.
73
Spencer

517. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 00:06:10 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E975872.3050907@mwci-news>
Source record: 120919

Rick Littlefield wrote:
> Hi Bill--
>
>
>>On any Ham phone band you can hear stations that are adjusted for maximum
>
> output.<
>
> You more likely hear stations that are improperly adjusted for maximum
> output--usually because they're using insufficient loading to handle the peaks.
>
>
>>They are the ones that splatter over 10 to 20 kHz.<
>
>
> Right you are!
>
>
>>The operators who know better use ALC to restrict the PEP output so that their
>
> signals are "clean", in other words
>
>>linear.<
>
>
> It helps, but the ALC loop may fail to attack quickly enough on the leading
> edge to eliminate "buckshot".

ALC that is properly designed does not have that
problem. ALC that is properly designed has a fast
attack on the leading edge. An example is the ALC
in my homebrew SSB/CW xmtr.

>
>
>>They accept the penalty of reduced power in order to be better citizens.<
>
>
> Or, they blithly believe it "couldn't be them" splattering because they're
> using ALC!

I am inclined to believe that high quality store
bought rigs are not guilty of that problem.
However, it is important that ALC generated at the
output of a high power PA is properly coordinated

with the early stages of the exciter. That could be a source of trouble. A lot of the hi-fi SSB folks believe that ALC degrades their audio quality. That is also not difficult to prevent. There is no excuse for not using ALC, and there is no excuse for poorly designed ALC.

Bill W0IYH

518. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 00:16:18 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b77lsi$9pv$1@hercules.btinternet.com>
Source record: 120920

> Reg Edwards wrote:
> > Sorry - you're wrong.
--
========================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
========================
> >
> > Resistance per length of wire is proportional to wire diameter, NOT area
of
> > cross-section.
>
> Reg, wouldn't it be closer to say resistance is inversely proportional to
> wire diameter? Maybe you'd better switch back to California wine and
forget
> that French stuff?
> --
> cheers, CAM

================================

Dear Cec,

Havn't you noticed I deiberately introduce these tiny, perfectly obvious,
inconsequential typos just to see who's still awake?

I notice YOU didn't wake up until wide-awake Richard Harris sounded the
alarm.

You will be pleased to hear I'm on English stuff at present. Very nice.
Cheap too.

But as a world-citizen a switch to a Chinese white variety named "Great
Wall" seems appropriate.

As compensation for your mesage, save some hard labour and help yourself to
a software program. Free to USA citizens. ;o)

Yours, Reg, G4FGQ

========================
For Free Radio Design Software
go to http://www.g4fgq.com
========================

519. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 00:59:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <gX2dnU8kN_eV-AqjXTWcqQ@comcast.com>
Source record: 120921

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b772ei$8mb$1@titan.btinternet.com...
> Sorry - you're wrong.
>
> Resistance per length of wire is proportional to wire diameter, NOT area
of
> cross-section.
>
> At RF current flows only on the wire surface.
> ---
> Reg.
>
I said, neglecting skin effects. I don't have the formulas handy, but the
skin depth for AL will not be the same as Cu. Can't remember which way it
goes.

Tam/WB2TT

520. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 01:48:34 UTC
From: C-J--Jimmie in Iowa <jslaird@trvnet.net>
Message-ID: <b77r7fvcf1@ins22.netins.net>
Source record: 120922
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Jeb As usual it's not the listening that gets you in trouble it's the talking. L. O. L.
Jimmie I have a Drake Tr-3 for sale

"JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message news:v9dvkukd80q626@corp.supernews.com...
> I know you can damage your CB if the antennae is not tuned to the radio and
> you use it to transmit, but can you hurt it if you just use it to monitor
> transmissions and have not set the SWR?
>
>

521. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 01:53:14 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87he94fpmd.fld@barrow.com>
Source record: 120923

"Tarmo Tammaru" <t-tammaru@home.com> wrote:
>"Reg Edwards" <g4fgq.regp@btinternet.com> wrote:
>> Sorry - you're wrong.
>>
>> Resistance per length of wire is proportional to wire diameter, NOT area of
>> cross-section.
>>
>> At RF current flows only on the wire surface.
>> ---
>> Reg.
>>
>I said, neglecting skin effects. I don't have the formulas handy, but the
>skin depth for AL will not be the same as Cu. Can't remember which way it
>goes.
>
>Tam/WB2TT

How can you suggest neglecting skin effect in a forum on
antennas!

Skin effect is significant with 60 Hz power line frequencies,
and at HF it is hugely important.

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

522. IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 02:21:26 UTC
From: W0SZ <zumbruns@evertek.net>
Message-ID: <b77t7rimn1@ins22.netins.net>
Source record: 120924

I'm thinking about putting up Stepper antenna this summer. Anyone care to share their experience with the antenna: i.e. ease of use, strength and durability, comparison with other like antennas etc. Thanks and 73, Steve W0SZ

523. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 02:31:25 UTC
From: k9sqg@aol.com
Message-ID: <20030411223125.24137.00000605@mb-ck.aol.com>
Source record: 120925

No damage will occur on receive.

524. Re: Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 02:34:37 UTC
From: cbhoelzel@aol.com
Message-ID: <20030411223437.08928.00001009@mb-fj.aol.com>
Source record: 120926

>Will painting a white egg insulator cause a problem?

Only if the Easter Bunny finds out and pickets your house.

525. Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:10:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7802b$i54$1@titan.btinternet.com>
Source record: 120927

It seems Terman, some other name I can't presently recall, and Shekelnikoff, et al, can't agree on the feedpoint (radiation) resistance of a ground mounted vertical antenna. For many years this has placed amateur radio handbook editors, and elderly plagiarising old wives, in an awkward position. But don't worry, the problem is more imaginary than real and is easily solved. Just rewrite the books as follows -

The series resistive component of input impedance of a base-fed vertical antenna is given by the simple expression -

Rin = 394 * x^2 + 2340 * x^4 + 180,000 * x^8 . . . . .

where x = (Height) / (Free-space wavelength).

This simple calculation can be done in seconds with a pocket calculator.

Only the first of the 3 terms is needed when height is 0.1 wavelengths or less as with mobile antennas.

Using all three terms accuracy is much better then 1% when height is 1/3rd wavelengths or less. This is much better than necessary.

If any Doubting Thomas should request a reference - sorry, there are none!

As a matter of interest, Rin = 50 ohms when height is 0.275 wavelengths.

Just tune out the base series reactive component Xin with a coil or capacitor and away you go.

Before nitpickers get into the act, 1/2 of the antenna conductor loss resistance should be added to calculated Rin. Also ground loss resistance. For the feedpoint resistance of a centre fed dipole just multiply Rin by 2.

Handbook contributors and editors please note.

To do the above calculation, also calculate the value of loading coil and number of turns on given size former, download in a few seconds program BOTLOAD2 from website below. If a loading capacitor is needed it will calculate its value too.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

526. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:29:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9f20h94n6ur61@corp.supernews.com>
Source record: 120928

Everything else being equal, the ratio of RF resistivity of two wires is the square root of the ratio of their DC resistivities.

Here's why. The skin depth is proportional to the square root of the DC resistivity. If wire B has four times the DC resistivity of wire A, the skin depth in wire B will be twice as great, so the overall RF resistivity of wire B will only be twice the RF resistivity of wire A.

When dealing with magnetic wire, it's important to know that the skin depth is also inversely proportional to the square root of permeability. Therefore, the RF resistivity is proportional to the square root of the permeability. Consequently, magnetic materials like steel are much lossier at RF than comparably conductive non-magnetic materials.

Roy Lewallen, W7EL

Tarmo Tammaru wrote:
>
> I said, neglecting skin effects. I don't have the formulas handy, but the
> skin depth for AL will not be the same as Cu. Can't remember which way it
> goes.
>
> Tam/WB2TT
>
>

527. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:31:35 UTC
From: k1bqt@aol.com
Message-ID: <20030411233135.20747.00000301@mb-cv.aol.com>
Source record: 120929

Some of the worst offenders are every-day rag-chewers using small economy amplifiers that overdrive with 100-Watts of excitation (the 3CX1200 and 8877 crowd have a little headroom to play with) . Perhaps the ham press should step up to the plate and offer a little more technical support in this area?

--Rick K1BQT

528. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:33:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9f292s4frvqf5@corp.supernews.com>
Source record: 120930

Ah, another troll. I'll let somebody else feed him this time.

Bear in mind that Reg doesn't seem to have any books or papers by any of
the people he's attributing statements to.

Roy Lewallen, W7EL

Reg Edwards wrote:
> It seems Terman, some other name I can't presently recall, and Shekelnikoff,
> et al, can't agree on the feedpoint (radiation) resistance of a ground
> mounted vertical antenna. For many years this has placed amateur radio
> handbook editors, and elderly plagiarising old wives, in an awkward
> position. But don't worry, the problem is more imaginary than real and is
> easily solved. Just rewrite the books as follows -
>
> The series resistive component of input impedance of a base-fed vertical
> antenna is given by the simple expression -
>
> Rin = 394 * x^2 + 2340 * x^4 + 180,000 * x^8 . . . . .
>
> where x = (Height) / (Free-space wavelength).
>
> This simple calculation can be done in seconds with a pocket calculator.
>
> Only the first of the 3 terms is needed when height is 0.1 wavelengths or
> less as with mobile antennas.
>
> Using all three terms accuracy is much better then 1% when height is 1/3rd
> wavelengths or less. This is much better than necessary.
>
> If any Doubting Thomas should request a reference - sorry, there are none!
>
> As a matter of interest, Rin = 50 ohms when height is 0.275 wavelengths.
>
> Just tune out the base series reactive component Xin with a coil or
> capacitor and away you go.
>
> Before nitpickers get into the act, 1/2 of the antenna conductor loss
> resistance should be added to calculated Rin. Also ground loss resistance.
> For the feedpoint resistance of a centre fed dipole just multiply Rin by 2.
>
> Handbook contributors and editors please note.
>
> To do the above calculation, also calculate the value of loading coil and
> number of turns on given size former, download in a few seconds program

> BOTLOAD2 from website below. If a loading capacitor is needed it will
> calculate its value too.
> ---
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================
>
>
>

529. Re: IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:51:05 UTC
From: Robert Fanfant <fanfant1@attbi.com>
Message-ID: <J2Mla.448145$S_4.504707@rwcrnsc53>
Source record: 120931

check out http://eham.net , here is the direct link...
http://www.eham.net/reviews/detail/1833

-rob N7QT

"W0SZ" <zumbruns@evertek.net> wrote in message
news:b77t7rimn1@ins22.netins.net...
> I'm thinking about putting up Stepper antenna this summer. Anyone care to
> share their experience with the antenna: i.e. ease of use, strength and
> durability, comparison with other like antennas etc. Thanks and 73, Steve
> W0SZ
>
>

530. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 03:54:28 UTC
From: Lou <Tech@DP.NET>
Message-ID: <b782mb$1ukd$1@news.dp.net>
Source record: 120932
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

I've read reports where the immediate below statement is based on.... there
are protective circuits for the finals....BUT.... I've seen several sets
with those same features fry. So, I wouldn't take it for granted.
Just my opinion, but based on actual case histories. Several..... Same with
2 way and Ham rigs, same sort of so called protection devices, but still,
they fried. I can't begin the tell you how many rigs, cb, etc, I've repaired
for this problem. "I" don't take anything for granted. It is designed and
built by man, it CAN and DOES fail.

Lou/Tech@DP.NET

<Jimnn7k@reno.rmci.net> wrote in message
news:EYHla.9962$c42.7282@fe01.atl2.webusenet.com...
> Actually, probably not much of a problem with MODERN sets, in xmit, as
> transistors have been made to compensate for high vswr, or they have a swr
> sensor that decreases input power to the PA corresponding to the sensed
SWR
> of the antenna! but the older ones (over 10 years old, don't take the
risk)
> . as info jim nn7k
>
>
> "Fred Garvin" <Garvin@Truss.net> wrote in message
> news:3BEla.572$lk.88392@news.uswest.net...
> > On Fri, 11 Apr 2003 13:42:51 -0400, JEB wrote:
> >
> > > I know you can damage your CB if the antennae is not tuned to the
radio
> > > and you use it to transmit, but can you hurt it if you just use it to
> > > monitor transmissions and have not set the SWR?
> >
> >
> > No.
>
>
>

531. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 05:23:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b787rr$q61$1@hercules.btinternet.com>
Source record: 120933

Roy sed,

> Ah, another troll. I'll let somebody else feed him this time.
>
> Bear in mind that Reg doesn't seem to have any books or papers by any of
> the people he's attributing statements to.
>
=======================

Really Roy, why incorrectly attribute comments you appear to be unhappy with
to trolling? (Here a possible reason has been deleted).

I have copies of Terman, 1937 and 1943, and a copy of Everitt, 1937, which I
might refer to for a few seconds once in every couple of years.

As for Brown et.al. of 118.5 fame, Kraus, Shekelnikoff, etc., I may rarely
repeat only what I have gleaned from references made by other contributors
to this newsgroup. Half of them are misquotes removed from context anyway.

But I NEVER refer to anyone begging for support of a technical statement of
mine. I am not a parotting name-dropper.

Reg

532. Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 06:53:55 UTC
From: Louis van Heerden <zs1lvh@absamail.co.za>
Message-ID: <3e97b7f9$0$229@hades.is.co.za>
Source record: 120934

Hi ALL
We are looking for the smallest possible 3 band HF antenna to take on a DXpedition. Part of the trip will be in a small plane so the antenna must break down into short sections to transport. Does anyone know of a commercial antenna that will do this. Even the Mosely TA33Jnr is a bit big.
73 Louis ZS1LVH

533. Re: Discone & IC-R1?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:13:52 UTC
From: Harry <hprice100@hotmail.com>
Message-ID: <25uo6v4uu3pni89j2ehfh6js17kjgsk83q@4ax.com>
Source record: 120941

Many thanks for your advice.

Harry

On Sun, 09 Mar 2003 11:10:44 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>You'll almost certainly get garbage all over the place if you connect
>the R1 to any kind of a decent antenna, unless you live way out in the
>boonies. You'll need to put an attenuator (probably around 20 dB or so)
>between the antenna and the R1 to keep the spurs down to a reasonable
>level, unless you're only interested in a few frequencies and are lucky
>enough to not have intermod products falling on those frequencies, or
>are far from an urban area.
>
>I take my R1 to air shows (fitted with an external bandpass filter), and
>use it as a detector for my impedance bridge. But it's otherwise pretty
>useless anywhere near an urban area due to its terrible intermodulation
>performance, even with its little ducky antenna.
>
>Roy Lewallen, W7EL
>
>Harry wrote:
>> Has anyone ever used the Discone sold by Radio Shack with an Icom
>> IC-R1? I was informed that it might saturate the front end circuitery
>> of the IC-R1, is this true. I know the IC-R1 is old, but it is still
>> serving its purpose!!
>>
>> Thanks
>>
>> Harry

534. Re: Discone & IC-R1?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:13:54 UTC
From: Harry <hprice100@hotmail.com>
Message-ID: <e6uo6vsn3enonolpp7huor306t3t79r91k@4ax.com>
Source record: 120943

Thanks for your advice.

Harry

On Sun, 09 Mar 2003 11:10:44 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>You'll almost certainly get garbage all over the place if you connect
>the R1 to any kind of a decent antenna, unless you live way out in the
>boonies. You'll need to put an attenuator (probably around 20 dB or so)
>between the antenna and the R1 to keep the spurs down to a reasonable
>level, unless you're only interested in a few frequencies and are lucky
>enough to not have intermod products falling on those frequencies, or
>are far from an urban area.
>
>I take my R1 to air shows (fitted with an external bandpass filter), and
>use it as a detector for my impedance bridge. But it's otherwise pretty
>useless anywhere near an urban area due to its terrible intermodulation
>performance, even with its little ducky antenna.
>
>Roy Lewallen, W7EL
>
>Harry wrote:
>> Has anyone ever used the Discone sold by Radio Shack with an Icom
>> IC-R1? I was informed that it might saturate the front end circuitery
>> of the IC-R1, is this true. I know the IC-R1 is old, but it is still
>> serving its purpose!!
>>
>> Thanks
>>
>> Harry

535. Radio Shack Telescopic Whip Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:13:55 UTC
From: Harry <hprice100@hotmail.com>
Message-ID: <7ref9vsb5b63mpnghv1hghtice6t1dfe3p@4ax.com>
Source record: 120942

Has anyone installed the Radio Hack - Telescopic Whip Antenna - cat no. 20-006 as an outside aerial? I wanted to know how weather proof it is?

Thanks

Harry

536. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:21:44 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304112321.581dedbd@posting.google.com>
Source record: 120935

"William E. Sabin" <sabinw@mwci-news> wrote in message
news:<3E975872.3050907@mwci-news>...
> Rick Littlefield wrote:
> > Hi Bill--
> >
> >
> >>On any Ham phone band you can hear stations that are adjusted for maximum
> >
> > output.<
> >
> > You more likely hear stations that are improperly adjusted for maximum
> > output--usually because they're using insufficient loading to handle the peaks.
> >
> >
> >>They are the ones that splatter over 10 to 20 kHz.<
> >
> >
> > Right you are!
> >
> >
> >>The operators who know better use ALC to restrict the PEP output so that their
> >
> > signals are "clean", in other words
> >
> >>linear.<
> >
> >
> > It helps, but the ALC loop may fail to attack quickly enough on the leading
> > edge to eliminate "buckshot".
>
> ALC that is properly designed does not have that
> problem. ALC that is properly designed has a fast
> attack on the leading edge. An example is the ALC
> in my homebrew SSB/CW xmtr.
>
> >
> >
> >>They accept the penalty of reduced power in order to be better citizens.<
> >
> >
> > Or, they blithly believe it "couldn't be them" splattering because they're
> > using ALC!
>
> I am inclined to believe that high quality store

> bought rigs are not guilty of that problem.
> However, it is important that ALC generated at the
> output of a high power PA is properly coordinated
> with the early stages of the exciter. That could
> be a source of trouble. A lot of the hi-fi SSB
> folks believe that ALC degrades their audio
> quality. That is also not difficult to prevent.
> There is no excuse for not using ALC, and there is
> no excuse for poorly designed ALC.
>
> Bill W0IYH

I've never seen any problems with a storebought rig as long as they were adjusted properly. What gets them in the nasty mode is when people with their golden screwdrivers go in and try to turn up the output of the rigs. IE: defeating the ALC action. I once tested this on my IC-730 just to see what would happen. My output was a tad on the low side, and I thought maybe it was adjusted too low. But it wasn't. On that particular rig, if you defeat the ALC, you lose your ALC deflection on the meter. I found as long as you get a deflection, no matter how low, you are ok, and the ALC is functioning. The radio will remain fairly clean. But when you lose all deflection, and the ALC is disabled for all purposes, it's like day and night. All of a sudden you have much more distortion, which as actually audible to the naked ear. Or mine anyway.. Nasty...But once you adjust it to get a deflection, it will clear up. I imagine this could cause spurs to nearby frequencies, but I agree with Rick, underloading an amplifier is usually worse as far as splatter. I always load an amp to full power even if I reduce drive. I'd rather be overcoupled than under any day. Heck, I hear some stations that must do all the above...I can think of one in particular that runs a net on 75 meters. I'll spare you the freq...He's nasty...He must overdrive, underload, and eat the mike all at the same time..:(

BTW, As far as driving my amp, I use no ALC to the amp. Don't need it, as my rigs can't overdrive my henry even at full power. I've never used ALC to an amp in fact. I just don't overdrive them in the first place. I guess it's handy to adjust power, etc, and I'm sure does help reduce splattering, but to me, using ALC to keep from overdriving an amp is like trying to flag down a car after it's already run you over. By then, it's a tad bit too late, the way I see it. MK

537. Re: Hombrewers: What parts do you stock up on?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:42:11 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304112342.2ed378d1@posting.google.com>
Source record: 120936
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

jason_hsu@my-deja.com (Jason Hsu) wrote in message
news:<f7d9a152.0304081547.6625eea@posting.google.com>...
> I posted this thread on the eham HomeBrew and Elmers forums. I want
> the input of all the experienced homebrewers here.
>
> What electronic parts do you stock up on? I have noticed in building
> a few projects and especially from looking at the designs of many more
> that any decent homebrewer will use certain parts on a regular basis.
> I believe that any experienced homebrewer has a substantial inventory
> of common parts and makes sure to stock up when either ordering other
> items or when attending hamfests. It's frustrating to lack a certain
> critical part, and many of them are not available at Radio Shack.
> (Come on, try to buy a Germanium diode or SMA connectors at Radio
> Shack.) Every order to Digi-Key or other online/mail-order vendors
> will have shipping charges added on. There are also parts that are
> available at Radio Shack but at exorbitant prices compared to Digi-Key
> and others. (LM741s, LM324s, and SO-239s come to mind. Don't try to
> tell me that these are rarely used and that no homebrewer stocks up on
> these.)
>
> So I am compiling a list of items that any homebrewer should stock up
> on. Please excuse the mis-numbering, as it would take too long to fix
> everything. Yes, I know that you can't have every part possible.
> However, certain items are used on not one project but many, many
> projects. For example,
>
> General items:
> 1. DC jacks
> 2. DC connectors
> 1. LM3914 display driver ICs
> 2. LM3915 display driver ICs
> 3. 1N34A germanium diodes
> 4. Zener diodes
> 5. 1/4" LED holders: available at Radio Shack
> 6. 1/4" LEDs (red, yellow, green): exorbitant prices at Radio Shack
> 7. 9V battery holders: available at Radio Shack
> 8. Nylon binding posts: exorbitant prices at Radio Shack
> 9. Chasses (metal and non-metal): available at Radio Shack, but more
> selection and better prices elsewhere
> 10. LM324/358 IC amplifiers: exorbitant prices at Radio Shack
> 11. LM741 IC amplifiers: exorbitant prices at Radio Shack
> 12. .001uF capacitors: available at Radio Shack, but not at the best
>============

I don't buy anything unless it's something specific I need. I butcher parts from broken down old junk. I have loads and loads of broken down junk. I have loads of much stuff that works, but I never used. About the only parts I ever buy are semiconductors that I can't find in my vast collection of junk. And I only buy what I need at the time. We have local stores here that stock all that stuff, so there is no need for me to. Most all resisters, caps, etc, I pull off circuit boards from broken junk. IE: As an example, I had to dig up a small electrolytic to fix a monitor a while back. Where did I get it? From another broken monitor...I'll throw all these boards in a box, and when I need a part, I just pull them out and look for it. When I find it, I unsolder it and use it. I guess I could unsolder them all ahead of time and organize them, but I don't have time for such time consuming organized sillyness.. :/ I do have a bunch of plastic cabinets with lots of the parts you mention, but I aquired them from someone else who was more organized than I. They were already pre-stocked when I got them. MK

538. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 07:43:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9fgtpkd558v86@corp.supernews.com>
Source record: 120937

I stand corrected about your having Terman.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Roy sed,
>
>
>>Ah, another troll. I'll let somebody else feed him this time.
>>
>>Bear in mind that Reg doesn't seem to have any books or papers by any of
>>the people he's attributing statements to.
>>
>
> ========================
>
> Really Roy, why incorrectly attribute comments you appear to be unhappy with
> to trolling? (Here a possible reason has been deleted).
>
> I have copies of Terman, 1937 and 1943, and a copy of Everitt, 1937, which I
> might refer to for a few seconds once in every couple of years.
>
> As for Brown et.al. of 118.5 fame, Kraus, Shekelnikoff, etc., I may rarely
> repeat only what I have gleaned from references made by other contributors
> to this newsgroup. Half of them are misquotes removed from context anyway.
>
> But I NEVER refer to anyone begging for support of a technical statement of
> mine. I am not a parotting name-dropper.
> ---
> Reg
>
>

539. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 08:03:00 UTC
From: g3tmh@gb7abc.net
Message-ID: <g3tmh000386@hamradio>
Source record: 120999

Electric fence wire has a high resistance, it's usually very thin.

Electric fences = High volts low Amps

Amateur radio Antenna = Low volts high Amps

Stick to copper, although I am told solid gold is even better
get your gold prospector gear on and go searching HI

Ken

>
>
>Tom,
> I've used galvanized steel electric fence wire with
>no apparent problems. Need to scrape the galvanization
>off before soldering, though.
> 'Doc
>
>PS - At about $10 per 1/4 mile spool, I don't know
> how you can get any cheaper..

--

(Sent using HamServ)
email: g3tmh@gb7abc.net
ax25 : g3tmh@gb7yks.#19.gbr.eu
Web site. http://www.gb7abc.net

External servers are on line...
send a message to me with the subject /HELP
for a list of servers that are running on this system.

540. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 08:54:30 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E97D446.20801@mwci-news>
Source record: 120938

Mark Keith wrote:
>
>
> BTW, As far as driving my amp, I use no ALC to the amp. Don't need it,
> as my rigs can't overdrive my henry even at full power. I've never
> used ALC to an amp in fact. I just don't overdrive them in the first
> place. I guess it's handy to adjust power, etc, and I'm sure does help
> reduce splattering, but to me, using ALC to keep from overdriving an
> amp is like trying to flag down a car after it's already run you over.
> By then, it's a tad bit too late, the way I see it.

I would disagree a little with this. I tune my 30L-1 to max output, key down, but in SSB mode a directional coupler at the 30L-1 output sends an ALC voltage back to a 455 kHz IF amplifier. The ALC level is set, using a two-tone test signal and observing the spectrum on my Tek 2712 spectrum analyzer. I find that with a measured PEP output of 600 W my signal is very clean. If I try to run 700 W output I can see a little degradation of high-order out-of-band products. I do get unsolicited favorable comments about my signal quality. I use a matched quad of 572B tubes that are just loafing along. I also use an IF-clipper speech processor to increase average talk-power 3 dB for the same PEP (measured). This approach guarantees a "hands-off" high quality signal. The 30L-1 is power-supply limited, so I have to be careful about that.

I do not go agree with the "no ALC" approach. Some stations that I hear often are fairly clean one day and splattering the next day. They are not using ALC properly and this is not acceptable, in my opinion.

In CW mode I manually reduce power a little to get a nice clean wave shape of the Morse characters. I do not use ALC in CW mode.

Bill W0IYH

541. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 10:11:24 UTC
From: Bill <n4wc@arrl.org>
Message-ID: <cepf9vo20209pvj5jvk0kjgeir7bf7s9m2@4ax.com>
Source record: 120939

IOn Sat, 12 Apr 2003 08:53:55 +0200, "Louis van Heerden"
<zs1lvh@absamail.co.za> wrote:

>Hi ALL
>We are looking for the smallest possible 3 band HF antenna to take on a
>DXpedition. Part of the trip will be in a small plane so the antenna must
>break down into short sections to transport. Does anyone know of a
>commercial antenna that will do this. Even the Mosely TA33Jnr is a bit big.
>73 Louis ZS1LVH
>
If money is no object; Traffie Technology has a special portable
version of the HEX Beam. These have been used by DXepeditions
in the past. For a small antenna they do a reasonable job.

73 Bill N4WC

542. Moseley

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 10:32:38 UTC
From: Jayne Medley <kjm52@blomand.net>
Message-ID: <b78q01$779r$1@news3.infoave.net>
Source record: 120940

Thinking about putting up a Classic 33 with 40 meter add on kit anyone use one of them or have info like manual .

Is the 40 add on any good ?

Any info will help no info just the 33 and a ex tower to install Thanks

543. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 12:09:34 UTC
From: AL KA5JGV <ABurzynski@nojunk.satx.rr.com>
Message-ID: <2mTla.48523$Q27.2437460@twister.austin.rr.com>
Source record: 120944

Thanks for the info to all. I think I'll give it a quick put-up and experiment. After all that's part of what ham radio is about isn't it?

Reg, nice programs on your site. Thanks for making them available to the community.

Al
KA5JGV

544. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 12:12:02 UTC
From: k9sqg@aol.com
Message-ID: <20030412081202.25966.00000581@mb-fg.aol.com>
Source record: 120945

Louis,

This is an impossible question to answer unless one knows the bands you want to operate.

73s,

Evan

545. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 12:56:59 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304120456.38d89cc@posting.google.com>
Source record: 120946

Roy Lewallen <w7el@eznec.com> wrote in message news:<v9f292s4frvqf5@corp.supernews.com>...
> Ah, another troll. I'll let somebody else feed him this time.
>
> Bear in mind that Reg doesn't seem to have any books or papers by any of
> the people he's attributing statements to.
>
> Roy Lewallen, W7EL

Roy
Why mock somebody because he has come up with
something new? Reg has a good record and apears
to usually work from first principles
rather than just regurgitating from books.
Wouldn't it be better to ask for clarification
or insights on the paramaters used to confirm
validity than to retard progress or denigrate
fresh aproaches ? Remember his programs are FREE
as a service to ham radio.
Art

Snip
> > The series resistive component of input impedance of a base-fed vertical
> > antenna is given by the simple expression -
> >
> > Rin = 394 * x^2 + 2340 * x^4 + 180,000 * x^8 . . . . .
> >
> > where x = (Height) / (Free-space wavelength).
> >
snip> ---
> > ========================
> > Regards from Reg, G4FGQ
> > For Free Radio Design Software
> > go to http://www.g4fgq.com
> > ========================
> >
> >
> >

546. Re: IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 13:02:33 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304120502.36b21221@posting.google.com>
Source record: 120947

"Robert Fanfant" <fanfant1@attbi.com> wrote in message
news:<J2Mla.448145$S_4.504707@rwcrnsc53>...
> check out http://eham.net , here is the direct link...
> http://www.eham.net/reviews/detail/1833
>
> -rob N7QT
>
> "W0SZ" <zumbruns@evertek.net> wrote in message
> news:b77t7rimn1@ins22.netins.net...
> > I'm thinking about putting up Stepper antenna this summer. Anyone care to
> > share their experience with the antenna: i.e. ease of use, strength and
> > durability, comparison with other like antennas etc. Thanks and 73, Steve
> > W0SZ
> >
> >

Rob,
Remember we are on the downswing of the sun cycle so you may not
be using some of the bands as much as you may like to.
Food for thought.
Art

547. Re: Broken AEA 220 Isopole?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 13:30:21 UTC
From: spamtrap <abuse@comcast.com>
Message-ID: <NxUla.102242$ug3.190533@rwcrnsc51.ops.asp.att.net>
Source record: 120949

AEA was founded in 1977 to bring New, Innovative, High Quality products to the Amateur Radio market. Since then, AEA has gained a reputation for being one of the finest American producers of Amateur Radio products of all types including Antennas, Antenna Analyzers, Time Domain Reflectometers, and Data products including the famous PK-232.

In February of 1997, AEA's Antenna, Antenna Analyzer, and TDR Product lines, (as well as the AEA Name and Logo) were taken over by Tempo Research of Vista, CA (Not related to the TEMPO brand of Radio equipment manufactured by Henry Radio during the 1970's). The DSP and Data Product lines were assumed by TimeWave Technologies of St. Paul, MN.

In 2000, Wayne Dewey, WD6AHX, product manager of the AEA product line, purchased the Antenna and Antenna Analyzers line from Tempo Research. Joined by Ray Schultz (KF6RWR) in Technical Services, Wayne operated a successful Business.

In November 2001, George Naber Joined AEA Wireless As president And CEO.

Today AEA enjoys a big domestic and international (world wide) market share in supplying high quality Antenna Analyzers to the Amateur Radio, Commercial Wireless, Medical and Avionics RF Testing world.

I would inquire with AEA wireless and see if they even have the parts ....
or may have.

http://www.aea-wireless.com/index.htm

W9GB

Reply only to my callsign at ARRL dot net.

"sfritchie" <sfritchie@cox.net> wrote in message
news:OJIla.681$%A2.105@fed1read06...
> Hi,
> I have a broken 220 isoplole I'd like to fix. I need the plastic piece (
> the one that the antenna connector is attached to.) or top antenna
> assembly. Thanks in advance.
> 73
> Spencer
>
>

548. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 14:10:20 UTC
From: k1bqt@aol.com
Message-ID: <20030412101020.24034.00000585@mb-ck.aol.com>
Source record: 120950

Many operators simply tune for maximum output with carrier, then switch to SSB without increasing loading to accomodate voice peaks. That practice can turn a signal ugly quite quickly. Wouldn't it be wiser to lock down the key on a rapid sequence of dits and tune for maximum output?

What amazes me most are the ham magazine photo spreads of beautifully equipped megabuck contest stations--without anything resembling a scope in the frame. I've always believed that even a cheapo 15-MHz bench scope with a clip lead dangling off the input can tell you far more than the meters on the amplifier. Am I wrong?

Rick K1BQT

549. Re: IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 14:20:40 UTC
From: "Larry D. Clark" <buddycl@swbell.net>
Message-ID: <YgVla.197$7F2.300198@newssvr28.news.prodigy.com>
Source record: 120948

try this url:
http://www.eham.net/reviews/detail/1833

i've had one of their 3 elements up for abt
a year. they are very easy to assemble,
light, the 180 degree quick flip is a great
feature. mine just survived in good shape,
a hail storm here in dallas that had 2 + inch
hail stones. mike and company are nice
guys to deal with. kinda expensive but i would
buy one again. if i only could convince the xyl
that i should have their new 4 element monster:-)

larry
kd5foy

"W0SZ" <zumbruns@evertek.net> wrote in message
news:b77t7rimn1@ins22.netins.net...
> I'm thinking about putting up Stepper antenna this summer. Anyone care to
> share their experience with the antenna: i.e. ease of use, strength and
> durability, comparison with other like antennas etc. Thanks and 73, Steve
> W0SZ
>
>

550. Re: IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 14:52:33 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <v9ga1hnnf61o92@corp.supernews.com>
Source record: 120951

I have the 3 element yagi and the big vertical.
Good product and good folks.
H.
NQ5H

"Larry D. Clark" <buddycl@swbell.net> wrote in message
news:YgVla.197$7F2.300198@newssvr28.news.prodigy.com...
> try this url:
> http://www.eham.net/reviews/detail/1833
>
> i've had one of their 3 elements up for abt
> a year. they are very easy to assemble,
> light, the 180 degree quick flip is a great
> feature. mine just survived in good shape,
> a hail storm here in dallas that had 2 + inch
> hail stones. mike and company are nice
> guys to deal with. kinda expensive but i would
> buy one again. if i only could convince the xyl
> that i should have their new 4 element monster:-)
>
> larry
> kd5foy
>
>
> "W0SZ" <zumbruns@evertek.net> wrote in message
> news:b77t7rimn1@ins22.netins.net...
> > I'm thinking about putting up Stepper antenna this summer. Anyone care
to
> > share their experience with the antenna: i.e. ease of use, strength and
> > durability, comparison with other like antennas etc. Thanks and 73,
Steve
> > W0SZ
> >
> >
>
>

551. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 16:20:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <eoeg9voe08danslqa5mr5cdnrrm0en038g@4ax.com>
Source record: 120952

On Sat, 12 Apr 2003 05:23:08 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:
>Terman
>Everitt
>Brown
>Kraus
>Shekelnikoff
>I am not a parotting name-dropper.
>---
>Reg
>
Ah Punchinello (who is she?)!

Must be Spring for you to have come up with that last Nixon
mis-quote.

However, you do have a point, a parrot is more entertaining and parrot
may even know how to spell the names (he designed antennas not the
AK-47) - it only takes cut and paste - can be done with one hand
immediately with no unzipping required.

73's
Richard Clark, KB7QHC

552. Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 16:37:30 UTC
From: Tian Li <look@life.org>
Message-ID: <v9gg9jcol53ua9@corp.supernews.com>
Source record: 120953

I am pre-wiring a new house for a 260ft horizontal loop around the roof-line eves fed with 450 Ohm ladder-line down to the basement shack (vinyl gutters, soffits and fascia).

Since this is my first experiment with ladder-line I am concerned regarding the feed point configuration. In order to route the ladder-line and to avoid as much metal as possible I have had to zig and zag the ladder-line to get it up to the roof line. Not much but a bit.

I was determined to feed the loop at the roof eves peak in an attempt to feed it at the most symmetrical point as possible. However, to feed it there I have about 6 feet dropping down at 90 degrees from the feed-point, then the ladder-line takes about a 45 degree turn and is roughly parallel to one side of the loop for about 5 feet (with about 6 feet of separation from the loop). At that point it turns 45 degrees once again and resumes its 90 degree angled path to the shack.

I don't have a better choice of routing unless I allow the ladder-line to come as close as 6 inches to a perpendicular vent and as close as 16 inches to a bundle of parallel electrical wiring.

Keep in mind the ladder-line is routed vertically inside a 2X6 studded wall via one inch gray electrical conduit for safety.

To summarize my concerns:

Should I reroute the ladder-line to obtain as close a 90 degree feed for as long as possible while routing "closer" (6 inches) to metal objects and electrical wiring (but maintaining safe distance).

OR

Should I keep the present bit of zig-zag maintaining the 18+ inch clearance of all metal objects?

Feed back ASAP appreciated (sheetrock is due this coming week!).

Thanks,
Paul

553. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 17:05:46 UTC
From: richardharrison@webtv.net
Message-ID: <13055-3E98476A-602@storefull-2313.public.lawson.webtv.net>
Source record: 120969

Reg, G4FGQ wrote:
"As a matter of interest, Rin = 50 ohms when height is 0.275 wavelengths."

Ed Laport tends to agree in Fig 215 on page 112 of "Radio Antenna Engineering", provided the height to diameter ratio is very large, more than 1000. That would be more like a wire than a tower.

Laport`s charts are plots of controlled measurements in the experiments of Brown and Woodward.

Laport says J.D. Kraus gives a formula, but "For practical use it is more convenient to refer to Fig. 215 for resistance and to Fig. 216 for reactance for cylindrical antennas of height-to-diameter ratio of G/D."

Best regards, Richard Harrison, KB5WZI

554. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 17:24:07 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <RIudnd-JOqUI1gWjXTWcog@comcast.com>
Source record: 120954

Roy,

I am not trying to weasel out of my original statement, but in your example, if you wanted wire B to have the same RF resistance as wire A, wouldn't you have to increase its area by 4X?

Is this a true statement: if an Al wire and Cu wire of different gages had the same DC reistance, they would have the same RF resistance?

Tam/WB2TT
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:v9f20h94n6ur61@corp.supernews.com...
> Everything else being equal, the ratio of RF resistivity of two wires is
> the square root of the ratio of their DC resistivities.
>
> Here's why. The skin depth is proportional to the square root of the DC
> resistivity. If wire B has four times the DC resistivity of wire A, the
> skin depth in wire B will be twice as great, so the overall RF
> resistivity of wire B will only be twice the RF resistivity of wire A.
>
> When dealing with magnetic wire, it's important to know that the skin
> depth is also inversely proportional to the square root of permeability.
> Therefore, the RF resistivity is proportional to the square root of the
> permeability. Consequently, magnetic materials like steel are much
> lossier at RF than comparably conductive non-magnetic materials.
>
> Roy Lewallen, W7EL
>
> Tarmo Tammaru wrote:
> >
> > I said, neglecting skin effects. I don't have the formulas handy, but
the
> > skin depth for AL will not be the same as Cu. Can't remember which way
it
> > goes.
> >
> > Tam/WB2TT
> >
> >
>

555. Re: Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 17:46:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9850F3.9020506@ieee.org>
Source record: 120955

Tian Li wrote:
> Should I reroute the ladder-line to obtain as close a 90 degree feed for as
> long as possible while routing "closer" (6 inches) to metal objects and
> electrical wiring (but maintaining safe distance).

6 inch spacing is acceptable. 90 degree feed will tend to keep the
common mode currents at a minimum.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

556. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 17:48:51 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <q9kg9vg3m5vg5nrekcc0ds6s3j9di134p9@4ax.com>
Source record: 120956

On 10 Apr 2003 17:37:35 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
>One of your countrymen Reg Edwards G4FGQ has written an excellent
>little freeware program for designing loaded vertical antennas which
>will provide all the info you'll need and more.
>
>Dial into http://www.btinternet.com/~g4fgq.regp/ and download his
>VERTLOAD file. Runs right out of the box (watch the units!).
>
>> 73, Iain (M0PCB / M1ETJ)
>> to reply via email replace no.spam with iain ...
>
>Brian W3RV

Hi Brian,

Thank you for pointing this out. I will have a look at the site, it
may be exactly what I am looking for!

Cheers,

Iain (M0PCB)

557. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 18:31:21 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <4dmg9vc7udd33bs1mt3mn0di9qmeuaqp9b@4ax.com>
Source record: 120957

On Thu, 10 Apr 2003 22:21:23 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:

>It would be interesting to know Iain's university and something about
>his quarters.
> At my university, many years ago, I had a room that was on the
>fourth floor. Late one night, I placed a wire, full-size dipole against
>the outside wall fed with RG174. The color of the fine wire matched the
>color of the wall. From below, it was almost impossible to see the
>antenna even when one knew exactly where to look.
> When one puts one's mind to the task, one can find a place for an
>antenna. Go for it! 73 Mac N8TT

Hi Mac,

Well I am not there yet and as such have no idea what my room will be like or where it will be. I don't know the policy for things like antennas, I don't think there are too many students active on ham radio there. I do however think that I could convince them to let me have some wire up if there are trees near the room I am given.

I will have to try an few types of antenna when I get there but I just wondered about the short verticals because I have seen them advertised for use with the 817 rig. The radio I'll be on is an Icom 706 but most likely QRP with the antenna/position I will have.

I will definitely not be beaten and will stay on the air whatever the antenna, be it wire around the room or what!!!

I can't plan tat far into the future but I thought it was worth trying some things out and get an idea of what I will be able to achieve in such a small place!

Cheers,

73, Iain M0PCB

558. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 18:34:33 UTC
From: G&R <spam@limbo.hell>
Message-ID: <J_Yla.7275$1b1.557709@news20.bellglobal.com>
Source record: 120959

Hi,

An antenna you may want to consider is the Baby Boomer Quad from Degen Designs. It may meet your requirements.

Check us out at www.degendesigns.com

or read the review from TeamZone 2, Fall of 2002 at

http://www.degendesigns.com/TeamZone2.PDF

Note: The antenna used at TeamZone2 was a dedicated 10m Baby Boomer Quad, but this should give you an idea of what we do.

If you have any questions, please contact me at the address listed below.

73 Guenther VE3CVS
info@degendesigns.com
www.degendesigns.com

"Louis van Heerden" <zs1lvh@absamail.co.za> wrote in message news:3e97b7f9$0$229@hades.is.co.za...
> Hi ALL
> We are looking for the smallest possible 3 band HF antenna to take on a
> DXpedition. Part of the trip will be in a small plane so the antenna must
> break down into short sections to transport. Does anyone know of a
> commercial antenna that will do this. Even the Mosely TA33Jnr is a bit big.
> 73 Louis ZS1LVH
>
>

559. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 18:46:41 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <8vmg9vka0d6pj7pk4o00docmis415aukhu@4ax.com>
Source record: 120958

Hi All,

Instead of replying to each and every post and repeat myself I will say it all here!! :-)

Thanks for all the response. It is good to hear the views of others and indeed the facts about the nature of antennas in general. My original question was regarding the construction of what is called the "ATX Walkabout" antennas as sold by Waters and Stanton in the UK (www.wsplc.co.uk) and to see if they are any good. I seriously doubt that they are any good really but it would be worth a try in certain circumstances, and they can't be hard to make!

I've seen a B and W antenna that clamps onto a window frame for around ï¿½100. I wonder if anyone has used one and can comment? There is an MFJ I think as well? Both will be far too expensive for me but I was looking at making one myself to see how well they work.

Maybe with sufficient grounding my 40M mobile whip will work for me, it does a very good job when mobile for me.

It's a new area for me this portable operation, even though I'll be permanent the set-up will be quite like a portable one with limited space for antennas etc. It should be fun to see what works and what doesn't.

I don't expect to be able to work the DX as if I had a beam, I just want to stay active on the air, mainly CW I would think, and given my present success with indoor antennas, albeit full size (Full wave loop for 40M and a CobWebb, 20-10 dipoles in a square frame) in the attic!.

The thought of going to Uni and keeping active on the air has opened up a new range of thoughts for me and I am sure I will manage to arrange something at the time. I think the most important thing is that I try some antennas and see what works and maybe even use the knowledge of the staff and maybe even other students to come up with something that is maybe better than other things I've tried.

One advantage of the university I will be studying at (University of York) is that the electronics dept specialise in RF engineering and there are many folk in this dept that design antennas for a living and so I am sure I can hassle them for information and help!!

Anyway thanks again for the replies to my original post, the replies have provided some great food for thought!

Cheers,

73, Iain M0PCB
North East England
18yrs BTW!

73, Iain
(the operator of M0PCB)

560. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 19:40:16 UTC
From: mike <n5ipj@netdoor.com>
Message-ID: <GiydnQdT0vEs9gWjXTWcoA@netdoor.com>
Source record: 120960

I have to agree with Doc. I have used galvanized electric fence wire ,
Barbed wire, metal roof . It may not be perfect but it works and is cheap.
Have fun,Mike N5IPJ

"'Doc" <w5lz@cwis.net> wrote in message news:3E96E567.324370EB@cwis.net...
>
>
> Tom,
> I've used galvanized steel electric fence wire with
> no apparent problems. Need to scrape the galvanization
> off before soldering, though.
> 'Doc
>
> PS - At about $10 per 1/4 mile spool, I don't know
> how you can get any cheaper..

561. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 19:46:47 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e986cf4$0$138$edfadb0f@dtext02.news.tele.dk>
Source record: 120961

Hello

> I have to agree with Doc. I have used galvanized electric fence wire ,
> Barbed wire, metal roof . It may not be perfect but it works and is cheap.
> Have fun,Mike N5IPJ

Here in OZ there is a lot of 330 m. high mast used for UHF transmission,
the mast itself is part of the antenna and is made of galvanized steel.

Regards Max

562. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 19:49:35 UTC
From: * RADIOSERVICE 39 * <cbradioservice@poczta.gazeta.pl>
Message-ID: <b79qkn$lu6$1@inews.gazeta.pl>
Source record: 120962
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

<Jimnn7k@reno.rmci.net> napisa&#65533;
> Actually, probably not much of a problem with MODERN sets, in
xmit, as
> transistors have been made to compensate for high vswr, or they
have a swr
> sensor that decreases input power to the PA corresponding to the
sensed SWR
> of the antenna! but the older ones (over 10 years old, don't take
the risk)

```
# wrong !
older, like Jackson, Lincoln, Super Stars (models 360 and similar)
was much better protected, than present rigs, but ...
under condition_right_adjusted_ALC
and power output settings, like: dead key (AM) must be
approximately 1/4 PEP power
but it was never set in a factory...
maybe, the reason was : damage and buy a new one
Rgds,
Chris

--
Serwis Usenet w portalu Gazeta.pl -> http://www.gazeta.pl/usenet/
```

563. Re: Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 20:01:23 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <a1sg9vk72qo5ph0p0j0f5f9sif4ftd74i6@4ax.com>
Source record: 120964

On Sat, 12 Apr 2003 11:37:30 -0500, "Tian Li" <look@life.org> wrote:

>
>Keep in mind the ladder-line is routed vertically inside a 2X6 studded wall
>via one inch gray electrical conduit for safety.

Hopefully, the wall contains no metal foil or foil-backed
insulation...

Bob
k5qwg

>Feed back ASAP appreciated (sheetrock is due this coming week!).
>
>Thanks,
>Paul
>

564. Free antennas !

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 20:06:36 UTC
From: Andrew J O'Brien <obrienaj@netsync.net>
Message-ID: <v9gsela64pqkd8@corp.supernews.com>
Source record: 120963

I have two antennas that are free to the person that takes them down. One is a Cushcraft 3 element 10 meter monobander antenna, in good condition. The other is an eleven element Cushcraft 2M antenna, with rotor.

The 10 meter antenna is atop a 30ft telescoping mast and about 10 foot above the apex of the roof. The 2M antenna is on top of the roof mounted inside a tripod.. The roof is about 20 feet off the ground with a "moderate" slope angle.

I am looking to get rid of them since I down use them anymore and am getting to old (or just less crazy) to go up on the roof as much as I used to.

The 10 meter monbander has worked over 200 countries on 10 M. The two meter antenna is overkill for my high vantage point. I can work downtown Detroit with it !

Location is Fredonia, NY (Western New York) 1 hour from Buffalo, 1 hour from Erie, PA, 2.5 hours from Cleveland)

Email me directly if interested. I can send digital picture of antennas and roof if needed.

Andy KB2EOQ

565. Re: Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 20:50:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E987C0E.1AD703C0@cwis.net>
Source record: 120965

Paul,
I really don't think it will make much
difference.
'Doc

566. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 21:01:19 UTC
From: tdonaly@aol.com
Message-ID: <20030412170119.28199.00000596@mb-cj.aol.com>
Source record: 120966

>
>On Sat, 12 Apr 2003 05:23:08 +0000 (UTC), "Reg Edwards"
><g4fgq.regp@btinternet.com> wrote:
>>Terman
>>Everitt
>>Brown
>>Kraus
>>Shekelnikoff
>>I am not a parotting name-dropper.
>>---
>>Reg
>>
>Ah Punchinello (who is she?)!
>
>Must be Spring for you to have come up with that last Nixon
>mis-quote.
>
>However, you do have a point, a parrot is more entertaining and parrot
>may even know how to spell the names (he designed antennas not the
>AK-47) - it only takes cut and paste - can be done with one hand
>immediately with no unzipping required.
>
>73's
>Richard Clark, KB7QHC
>

Hi Richard,
my problem upon seeing these formulae springing
fully formed from the brow of Zeus.. er, Reg, is that when I see the
same thing in a book, somewhere, I don't know whether I've come
across a case of convergent evolution, or simple plagiarism.
73,
Tom Donaly, KA6RUH

567. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 21:13:42 UTC
From: richardharrison@webtv.net
Message-ID: <21413-3E988186-221@storefull-2314.public.lawson.webtv.net>
Source record: 120967

Reg, G4FGQ wrote:
"As a matter of interest, Rin = 50 ohms when height is 0.275 wavelengths."

Ed Laport tends to agree in Fig. 215 on page 112 of "Radio Antenna Engineering", provided the antenna height to diameter ratio is very large, more than 1000. That would be more like a wire than a tower.

Laport says J.D. Kraus gives a formula in the 1950 book "Antennas" but, "For practical use it is more convenient to refer to Fig. 215 for resistance and to Fig. 216 for reactance for cylindrical antennas of height and height-to-diameter ratio of G/D."

Laport`s charts are plots of the experimental work of Brown and Woodward. These were done with scaled down models at high frequencies in the lab under carefully controlled conditions. These guys are famous for their pioneering broadcast antenna work.

Best regards, Richard Harrison, KB5WZI

568. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 21:18:07 UTC
From: richardharrison@webtv.net
Message-ID: <4416-3E98828F-597@storefull-2315.public.lawson.webtv.net>
Source record: 120968

Reg, G4FGQ wrote:
"As a matter of interest, Rin = 50 ohms when height is 0.275 wavelengths."

Ed Laport tends to agree in Fig. 215 on page 112 of "Radio Antenna Engineering", provided the antenna height to diameter ratio is very large, more than 1000. That would be more like a wire than a tower.

Laport says J.D. Kraus gives a formula in the 1950 book "Antennas" but, "For practical use it is more convenient to refer to Fig. 215 for resistance and to Fig. 216 for reactance for cylindrical antennas of height and height-to-diameter ratio of G/D."

Laport`s charts are plots of the experimental work of Brown and Woodward. These were done with scaled down models at high frequencies in the lab under carefully controlled conditions. These guys are famous for their pioneering broadcast antenna work.

Best regards, Richard Harrison, KB5WZI

569. Help? Bonding exterior tower ground to AC interior ground

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 22:24:27 UTC
From: homac@telusplanet.net
Message-ID: <417d17a8.0304121424.3fa3e772@posting.google.com>
Source record: 120970

I am setting up a tower just outside my house. I have grounded each tower leg and these grounds are all connected together via a #6 copper wire. The equipment ground also comes outside and is bonded to this point.

The AC (house electrical ground) is a cold water pipe inside the basement of the house. The cold water feed comes up throught the basement and is copper pipe throughout.

My question is: Should I run a wire from the cold water AC ground to the antenna ground, bonding them together. My fear is if lightning strikes it may bring current inside the house. Leaving them separate means a difference between two grounds with my equipment in the middle, also not good.

A diagram can be viewed here:
http://www.telusplanet.net/~homac/radiosetup.jpg

I appreciate any help....

Thanks

Homac

570. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 23:01:56 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304121501.3986d84b@posting.google.com>
Source record: 120971

"William E. Sabin" <sabinw@mwci-news> wrote in message news:<3E97D446.20801@mwci-news>...
> Mark Keith wrote:
> >
> >
> > BTW, As far as driving my amp, I use no ALC to the amp. Don't need it,
> > as my rigs can't overdrive my henry even at full power. I've never
> > used ALC to an amp in fact. I just don't overdrive them in the first
> > place. I guess it's handy to adjust power, etc, and I'm sure does help
> > reduce splattering, but to me, using ALC to keep from overdriving an
> > amp is like trying to flag down a car after it's already run you over.
> > By then, it's a tad bit too late, the way I see it.
>
> I would disagree a little with this. I tune my
> 30L-1 to max output, key down, but in SSB mode a
> directional coupler at the 30L-1 output sends an
> ALC voltage back to a 455 kHz IF amplifier. The
> ALC level is set, using a two-tone test signal and
> observing the spectrum on my Tek 2712 spectrum
> analyzer. I find that with a measured PEP output
> of 600 W my signal is very clean. If I try to run
> 700 W output I can see a little degradation of
> high-order out-of-band products. I do get
> unsolicited favorable comments about my signal
> quality. I use a matched quad of 572B tubes that
> are just loafing along. I also use an IF-clipper
> speech processor to increase average talk-power 3
> dB for the same PEP (measured). This approach
> guarantees a "hands-off" high quality signal. The
> 30L-1 is power-supply limited, so I have to be
> careful about that.
>
> I do not go agree with the "no ALC" approach. Some
> stations that I hear often are fairly clean one
> day and splattering the next day. They are not
> using ALC properly and this is not acceptable, in
> my opinion.

But that would be due to improper usage of the ALC circuit rather than
not using ALC at all. I don't use ALC at all, and I've never
splattered. Not once. Ever. The way I see it, if your rig is capable
of overdriving the amp, IE: excess grid current at full loading is a
good indicator", then it would be a good idea to use ALC , or reduce
the drive in some way. IE: swamping resisters, etc. But, if the radio
is not capable of overdriving the amp, as in my case, then I see no

need to use it at all. The only way I can splatter with my current setup is to be underloaded. None of my rigs are capable of overdriving my amp. "Henry 2k classic" which can handle up to 120 w input." I never actually drive it that hard. 100w is about the most I ever use. That equals 1300-1400 watts out. Actually, I haven't run an amp at all in a couple of years. I've got my henry dismantled to replace some caps, etc, and still haven't gotten around to putting it back together. I need to do that pretty soon. I don't like the tubes to sit too long without being used. But in the real world, I hardly ever really need an amp. Only in the summer on 160 and 80m does it really come in handy. Also long haul dx at night on 40m is much more pleasant with a little extra horsepower. I want to buy or build a solid state amp for my IC-706. About 500w worth. Once I get that going, I'll probably use it 80% of the time. plug-n-play....No tuning at all. I'll still keep the henry though. It's a good match to my TS-830. MK

571. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 23:16:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9h7iskupqsu18@corp.supernews.com>
Source record: 120972

Yes, both your statements are true, for solid wire made of a single type of metal, at least several skin depths in diameter. (These are assumptions I made also.)

When wires A and B have the same diameter, wire B has twice the RF resistivity of wire A. To cut the RF resistivity of wire B by a factor of two, making it equal to A, you have to double its diameter, making its cross sectional area four times as large. At DC, wire B has four times the resistivity of wire A, and quadrupling its diameter decreases the resistivity by a factor of four. Although the result is the same for DC and RF, the reasons are different due to skin effect.

The second statement is true for the same reason.

You have to be careful about cause and effect, though. The statements are NOT true because the RF resistance is proportional to the cross sectional area. It's simply a coincidence of the way diameter, area, conductivity, and skin depth are related. The fallacy of assuming that RF resistance is proportional to the cross sectional area is illustrated by the properties of tubing. You can hollow out a wire, greatly increasing its DC resistivity, without having an appreciable effect on the RF resistivity. Also, note that when you double the diameter of a wire, quadrupling its cross sectional area, you reduce the RF resistance only by half.

Roy Lewallen, W7EL

Tarmo Tammaru wrote:
> Roy,
>
> I am not trying to weasel out of my original statement, but in your example,
> if you wanted wire B to have the same RF resistance as wire A, wouldn't you
> have to increase its area by 4X?
>
> Is this a true statement: if an Al wire and Cu wire of different gages had
> the same DC reistance, they would have the same RF resistance?
>
>
>
> Tam/WB2TT
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:v9f20h94n6ur61@corp.supernews.com...
>
>>Everything else being equal, the ratio of RF resistivity of two wires is
>>the square root of the ratio of their DC resistivities.
>>

>>Here's why. The skin depth is proportional to the square root of the DC
>>resistivity. If wire B has four times the DC resistivity of wire A, the
>>skin depth in wire B will be twice as great, so the overall RF
>>resistivity of wire B will only be twice the RF resistivity of wire A.
>>
>>When dealing with magnetic wire, it's important to know that the skin
>>depth is also inversely proportional to the square root of permeability.
>>Therefore, the RF resistivity is proportional to the square root of the
>>permeability. Consequently, magnetic materials like steel are much
>>lossier at RF than comparably conductive non-magnetic materials.
>>
>>Roy Lewallen, W7EL
>>
>>Tarmo Tammaru wrote:
>>
>>>I said, neglecting skin effects. I don't have the formulas handy, but
>
> the
>
>>>skin depth for AL will not be the same as Cu. Can't remember which way
>
> it
>
>>>goes.
>>>
>>>Tam/WB2TT
>>>
>>>
>>
>
>

572. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 23:17:55 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304121517.282e66e9@posting.google.com>
Source record: 120973

k1bqt@aol.com (Rick Littlefield) wrote in message
news:<20030412101020.24034.00000585@mb-ck.aol.com>...
> Many operators simply tune for maximum output with carrier, then switch to SSB
> without increasing loading to accomodate voice peaks. That practice can turn a
> signal ugly quite quickly. Wouldn't it be wiser to lock down the key on a rapid
> sequence of dits and tune for maximum output?

I've found tuning to full power using a carrier will leave you in
pretty good shape as long as you use the same plate voltage, etc that
you will use when operating. You can always add a bit more loading if
you really want to feel safe. With a fully carrier loaded amp, you
would have to really drive the snot out of the audio to cause a
noticable problem.
>
> What amazes me most are the ham magazine photo spreads of beautifully equipped
> megabuck contest stations--without anything resembling a scope in the frame.
> I've always believed that even a cheapo 15-MHz bench scope with a clip lead
> dangling off the input can tell you far more than the meters on the amplifier.
> Am I wrong?

No, not really, but I can tell enough just from the meters to have a
real good idea if all is ok or not. The grid current tells the most
about the loading and driving levels. IE: My henry will tell me if I'm
underloaded by showing excess grid current. If I then adjust the
loading to maximum output, and my grid is still too high, then I know
I am overdriving the amp. As long as those two parameters are ok and
within specs, it's gonna be hard to be trashy with that amp. In fact,
dang near impossible, being my rig is not capable of overdriving the
amp. Only being underloaded can ruin my day. But I never am. BTW, I
do have a scope. Don't need to use it though for everyday use. If I
got a new amp/rig etc, then I would break out the scope to check the
initial setup. Once I'm assured all is ok, I can put it back on the
shelf. MK

573. FS: Antennas 40 meters to 440 mhz

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 23:34:58 UTC
From: Amateur Radio Station W5CIA <w5cia@nospam.arrl.net>
Message-ID: <b7a7r4$46f$1@news.datasync.com>
Source record: 120975
Cross-posted to: alt.ham-radio.marketplace,rec.radio.amateur.antenna,rec.radio.swap

Hello All,
Spring time = antenna time. I'm reworking my HF tower and letting go a bunch of antennas I have been holding on to.

All antennas at this point are pick up only. I will keep a list of interested parties that require shipping. Please email me.

Some of the antennas are still on the tower however I will have all down by 5-31-2003.

Hy-Gain Explorer 14 Tribander with 40 meter kit 10-15-20 and 40 meters. $350.00
I worked 306 countries on 10 SSB, 302 on 15 SSB, 316 on 20 SSB and 225 on 40 SSB.

Cushcraft VHF Twist A144-20T 20 element vertical and horizontal circular polarization 2 meter. $75.00
Great for repeaters and SSB with the dual polarization.

Cushcraft 215WB Boomer 2 meter Yagi 144-148 mhz $75.00
TENTATIVELY SOLD

KLM 432-20LBX 425 - 440 mhz 16 element UHF Yagi $85.00

DB205-L 6 meter repeater Vertical. $150.00
New in the carton and heavy duty!!!!!

3 Element end mount 2 meter beam NEW. Resembles a Cushcraft A1483S. $40.00

I have various short lengths of Andrew 1/2" hardline approx 30 - 100ft for 40 cents a foot.

I'm located 50 miles north of New Orleans.

--
Thanks
Steve
W5CIA
remove nospam to email
w5cia@nospam.arrl.net

574. Re: Moseley

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-12 23:36:18 UTC
From: Neil <DontDoIt@ImNotHere.com>
Message-ID: <hi8h9vsfmcllqbno1m0o225j1g85hioa90@4ax.com>
Source record: 120974

Been there, done that. Get a Force12 C4S instead. No traps, much
better reliability. Also, no rinky-dink ropes.

Neil, K1VY

On Sat, 12 Apr 2003 05:32:38 -0500, "Jayne Medley" <kjm52@blomand.net>
wrote:

>Thinking about putting up a Classic 33 with 40 meter add on kit anyone use
>one of them or have info like manual .
>
>Is the 40 add on any good ?
>
>Any info will help no info just the 33 and a ex tower to install Thanks
>

575. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 00:44:21 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030412204421.20477.00001027@mb-fu.aol.com>
Source record: 120976

>Am I wrong?
>
>Rick K1BQT
>

No O'Reily, you are absolutely right (wing conspiracy? :-)

73 BUm

576. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 00:57:14 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E98B5EA.4000001@mwci-news>
Source record: 120977

Mark Keith wrote:
> "William E. Sabin" <sabinw@mwci-news> wrote in message
news:<3E97D446.20801@mwci-news>...
>
>>Mark Keith wrote:
>>
>>>
>>>BTW, As far as driving my amp, I use no ALC to the amp. Don't need it,
>>>as my rigs can't overdrive my henry even at full power. I've never
>>>used ALC to an amp in fact. I just don't overdrive them in the first
>>>place. I guess it's handy to adjust power, etc, and I'm sure does help
>>>reduce splattering, but to me, using ALC to keep from overdriving an
>>>amp is like trying to flag down a car after it's already run you over.
>>>By then, it's a tad bit too late, the way I see it.
>>
>>I would disagree a little with this. I tune my
>>30L-1 to max output, key down, but in SSB mode a
>>directional coupler at the 30L-1 output sends an
>>ALC voltage back to a 455 kHz IF amplifier. The
>>ALC level is set, using a two-tone test signal and
>>observing the spectrum on my Tek 2712 spectrum
>>analyzer. I find that with a measured PEP output
>>of 600 W my signal is very clean. If I try to run
>>700 W output I can see a little degradation of
>>high-order out-of-band products. I do get
>>unsolicited favorable comments about my signal
>>quality. I use a matched quad of 572B tubes that
>>are just loafing along. I also use an IF-clipper
>>speech processor to increase average talk-power 3
>>dB for the same PEP (measured). This approach
>>guarantees a "hands-off" high quality signal. The
>>30L-1 is power-supply limited, so I have to be
>>careful about that.
>>
>>I do not go agree with the "no ALC" approach. Some
>>stations that I hear often are fairly clean one
>>day and splattering the next day. They are not
>>using ALC properly and this is not acceptable, in
>>my opinion.
>
>
> But that would be due to improper usage of the ALC circuit rather than
> not using ALC at all.

If the PA is tuned and loaded correctly and ALC is set up properly, there is no reason to worry about "improper usage". There is a tendency among certain folks to be apprehensive about ALC. After many years of experience with ALC (and TGC) circuits, I see no reason for this. I certainly do not have any trouble with ALC that is designed properly in my own equipment or any Collins equipment that I have been involved with over the past 40 years.

Very strange.

Bill W0IYH

577. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:03:55 UTC
From: k1bqt@aol.com
Message-ID: <20030412210355.24212.00000448@mb-fr.aol.com>
Source record: 120978

>No O'Reily, you are absolutely right (wing conspiracy? :-)<

No spin is no sin!

578. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:04:03 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E98B783.8090800@mwci-news>
Source record: 120979

Yuri Blanarovich wrote:
>>Am I wrong?
>>
>>Rick K1BQT
>>
>
>
> No O'Reily, you are absolutely right (wing conspiracy? :-)
>
> 73 BUm

What is the secret meaning of "wing conspiracy"?

Bill W0IYH

579. Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:06:22 UTC
From: Bill East <beast@pcs.mb.ca>
Message-ID: <TA3ma.5661$qn.529433@localhost>
Source record: 120983

I want to connect my FT- 897 directly to the battery posts .I`m hoping
someone here has done this before and has a solution.
If I disconnect the battery from my 01 Chev truck battery for an hour will
the truck electronics loose any programming ? I really don`t want to drive
back to a GM dealer for a download .
Could I take a 9 volt battery and plug it into the truck cigrerette lighter
. Could this work by keeping the truck electronics programmed settings
while the battery cables are disconnected?
Or am i worring for nothing ..

thanks,
Bill

580. ATAS120.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:11:21 UTC
From: Bill East <beast@pcs.mb.ca>
Message-ID: <yF3ma.5662$qn.529459@localhost>
Source record: 120984

Anyone here use the ATAS 120 on VHF and UHF bands? Probably mostly on FM but what are your thoughts good or bad for local repeater access. Anyone done the mod by extending the whip ? What SS whip length are you using.

thanks,
Bill

581. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:12:00 UTC
From: k1bqt@aol.com
Message-ID: <20030412211200.24212.00000449@mb-fr.aol.com>
Source record: 120980

Hi Bill--

> I certainly do not have any trouble with ALC that is designed properly in my own equipment or any Collins equipment that I have been involved with over the past 40 years. Very strange.<

If the only transceivers and amplifiers available were Collins built, I doubt we'd be having this conversation.

Rick K1BQT

582. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 01:25:29 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E98BC89.4090000@mwci-news>
Source record: 120981

Rick Littlefield wrote:
> Hi Bill--
>
>
>>I certainly do not have any trouble with ALC that is designed properly in my
>
> own equipment or any Collins equipment that I have been involved with over the
> past 40 years. Very strange.<
>
> If the only transceivers and amplifiers available were Collins built, I doubt
> we'd be having this conversation.
>
> Rick K1BQT

I guess I am pretty stupid after all, but I don't
have the slightest idea what you mean.

Bill W0IYH

583. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 02:02:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9hha4nh341n98@corp.supernews.com>
Source record: 120982

I don't think there's much hope for your situation, ferrite cores or not. You might be able to reduce the interference by rotating your radio. But probably the only cure is to move your AM receiver farther away from the computer.

Roy Lewallen, W7EL

Just Bob wrote:
> I have terrible am receptiion. My am reciver is located
> about 2 feet to the left of my PC. Someone , somewhere
> mentioned something about ferrite cores and looping?
>
> Could someone explain this to me or point me in the right
> direction?
>
> thanks

584. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 02:37:00 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <g34ma.435471$F1.64047@sccrnsc04>
Source record: 120985

That's the test. Turn off the computer and see what happens.
"Just Bob" <Pills4ills@yahoo.com> wrote in message
news:3e98c8fd.28799890@news-central.giganews.com...
> So you believe it is all the 'stuff' inside the computer
> causing the interference?
>
>
> If I cut-off the computer[monitor and all] and the signal
> for the am station improves would this make what you say
> truer??
>
>
> thanks again
>
>
> On The Date Of Sat, 12 Apr 2003 19:02:33 -0700, Roy Lewallen
> <w7el@eznec.com> Wrote The Followng:
>
> ->I don't think there's much hope for your situation,
> ferrite cores or
> ->not. You might be able to reduce the interference by
> rotating your
> ->radio. But probably the only cure is to move your AM
> receiver farther
> ->away from the computer.
> ->
> ->Roy Lewallen, W7EL
> ->
> ->Just Bob wrote:
> ->> I have terrible am receptiion. My am reciver is located
> ->> about 2 feet to the left of my PC. Someone , somewhere
> ->> mentioned something about ferrite cores and looping?
> ->>
> ->> Could someone explain this to me or point me in the
> right
> ->> direction?
> ->>
> ->> thanks
>
> ----------
> (360/333/180) Started (12/9/2002)
> FOR tornadoes or thunderstorms Phobia,Fear,Panic,or OCD Disorders
> --> http://www.geocities.com/weatherphobia/

> --> http://www.tornadoes.tk/
> --> http://www.thunderstorms.tk/

585. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 03:44:33 UTC
From: k1bqt@aol.com
Message-ID: <20030412234433.16265.00000431@mb-ck.aol.com>
Source record: 120986

>I guess I am pretty stupid after all, but I don't have the slightest idea what you mean.<

It was meant as a compliment, Bill. I have considerable respect for your acomplishments over the years--and for the writing you've contributed. I also have considerable respect for the quality standards established by Collins and Rockewell products.

Having said that, I've had expereinces with more than one imported transceiver exhibiting ALC anomolies that required attention. For example, one popular model radio I owned used to throw a huge transient that overshot the ALC and saturated the PA everytime I keyed the mike. Another popular rig never worked well with my AL-80B's ALC circuit because of a time constant issue. I certainly agree that utilizing the ALC detector built into today's amplifiers constitutes good operating practice. For amps with limited headroom, the loop can prevent splatter, and for amps with greater headroom, the loop can help ensure compliance with the 1500-Watt PEP amateur radio service power limit. However, some rig/amp combinations may not do exactly what they proport to do.

Rick K1BQT

586. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 03:45:13 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030412234513.05560.00001173@mb-fo.aol.com>
Source record: 120987

>
>> No O'Reily, you are absolutely right (wing conspiracy? :-)
>>
>> 73 BUm
>
>What is the secret meaning of "wing conspiracy"?
>
>Bill W0IYH
>

hint:
(right wing conspiracy? :-)
If you watch FOX News Channel and Bill O'Reilly you would getit.

Yuri

587. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 03:50:23 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <L%4ma.14072$c42.6028@fe01.atl2.webusenet.com>
Source record: 120988

Actually, from what I have noticed, ('corse, this is at vhf), is that most
of the noise generated is comming from my monitor! (tho older computers
(antiques, realy, like the pet, and trash 80) were extremely noisy. but,
again, try just turning off the monitor (leave the rest of it on). and
makes one think about the LCD displays! Jim nn7k
"CW" <clinton.magers@attbi.com> wrote in message
news:g34ma.435471$F1.64047@sccrnsc04...
> That's the test. Turn off the computer and see what happens.
> "Just Bob" <Pills4ills@yahoo.com> wrote in message
> news:3e98c8fd.28799890@news-central.giganews.com...
> > So you believe it is all the 'stuff' inside the computer
> > causing the interference?
> >
> >
> > If I cut-off the computer[monitor and all] and the signal
> > for the am station improves would this make what you say
> > truer??
> >
> >
> > thanks again
> >
> >
> > On The Date Of Sat, 12 Apr 2003 19:02:33 -0700, Roy Lewallen
> > <w7el@eznec.com> Wrote The Followng:
> >
> > ->I don't think there's much hope for your situation,
> > ferrite cores or
> > ->not. You might be able to reduce the interference by
> > rotating your
> > ->radio. But probably the only cure is to move your AM
> > receiver farther
> > ->away from the computer.
> > ->
> > ->Roy Lewallen, W7EL
> > ->
> > ->Just Bob wrote:
> > ->> I have terrible am receptiion. My am reciver is located
> > ->> about 2 feet to the left of my PC. Someone , somewhere
> > ->> mentioned something about ferrite cores and looping?
> > ->>
> > ->> Could someone explain this to me or point me in the
> > right
> > ->> direction?
> > ->>

> > ->> thanks
> >
>
> ---
> ----------
> > (360/333/180) Started (12/9/2002)
> > FOR tornadoes or thunderstorms Phobia,Fear,Panic,or OCD Disorders
> > --> http://www.geocities.com/weatherphobia/
> > --> http://www.tornadoes.tk/
> > --> http://www.thunderstorms.tk/
>
>

588. Re: Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 03:54:32 UTC
From: Tian Li <look@life.org>
Message-ID: <v9ho2jl7entuca@corp.supernews.com>
Source record: 120989

Thanks Doc and all.

Just sweating the details as the construction process wrecks my nerves while
I suffer from dxing withdrawal.

"'Doc" <w5lz@cwis.net> wrote in message news:3E987C0E.1AD703C0@cwis.net...
> Paul,
> I really don't think it will make much
> difference.
> 'Doc

589. Re: Ladder-line, feed point angle and metal objects?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 03:56:25 UTC
From: Tian Li <look@life.org>
Message-ID: <v9ho2ki2b5k3cc@corp.supernews.com>
Source record: 120990

> Hopefully, the wall contains no metal foil or foil-backed
> insulation...

Nope! Took care of that on the specs.
Details details :-)

590. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 04:21:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E98E5B4.9080409@ieee.org>
Source record: 120991

Bill East wrote:
> I want to connect my FT- 897 directly to the battery posts .I`m hoping
> someone here has done this before and has a solution.
> If I disconnect the battery from my 01 Chev truck battery for an hour will
> the truck electronics loose any programming ? I really don`t want to drive
> back to a GM dealer for a download .
> Could I take a 9 volt battery and plug it into the truck cigrerette lighter
> . Could this work by keeping the truck electronics programmed settings
> while the battery cables are disconnected?
> Or am i worring for nothing ..

The battery failed on my GMC truck and I put in a new one. All I lost was
the time on the clock and the PB settings on the radio.
--
cheers, CAM http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

591. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 07:31:14 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E991242.5070502@mwci-news>
Source record: 120992

Rick Littlefield wrote:
>
>
> Having said that, I've had experiences with more than one imported transceiver
> exhibiting ALC anomolies that required attention. For example, one popular
> model radio I owned used to throw a huge transient that overshot the ALC and
> saturated the PA everytime I keyed the mike. Another popular rig never worked
> well with my AL-80B's ALC circuit because of a time constant issue. I certainly
> agree that utilizing the ALC detector built into today's amplifiers constitutes
> good operating practice. For amps with limited headroom, the loop can prevent
> splatter, and for amps with greater headroom, the loop can help ensure
> compliance with the 1500-Watt PEP amateur radio service power limit. However,
> some rig/amp combinations may not do exactly what they proport to do.

Thanks.

I use a directional coupler at the output of my
30L-1. I rectify the forward-power port output and
adjust the value of ALC volts with a pot. This
voltage goes back to a 455 kHz IF amp in my
homebrew 100 W solid-state exciter. The 30L-1
output, observed on a scope, does not exhibit any
transient problems. The leading edge response is
fast enough to prevent a spike on the output, and
the ALC loop time response has a first-order
response that does not have damped oscillations.
My exciter will drive the 30L-1 into considerable
nonlinearity if I am not careful. With ALC the
exciter and PA play well together.

I use a processor module (BASIC Stamp) to control
R-to-T and T-to-R timing sequences. For example,
the 30L-1 needs 10 milliseconds to close its T/R
relay.

As Mark says, if the PA is linear at maximum
exciter output, ALC from the PA may not be needed.
Then, exciter ALC alone can be used to keep the
exciter, therefore the entire system, linear.

It is unfortunate to hear some sigs not as clean
as they should be.

Bill W0IYH

592. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 07:53:31 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3e991746$0$146$edfadb0f@dtext02.news.tele.dk>
Source record: 120993

Hello

> Actually, from what I have noticed, ('corse, this is at vhf), is that most
> of the noise generated is comming from my monitor! (tho older computers
> (antiques, realy, like the pet, and trash 80) were extremely noisy. but,
> again, try just turning off the monitor (leave the rest of it on). and
> makes one think about the LCD displays! Jim nn7k

I have the problem with the monitor, a Hansol 701P, it is making a lot
of noise on the 20 m. band. I am also thinking about a TFT display.

Regards Max

593. Re: Help? Bonding exterior tower ground to AC interior ground - TowerGRD.gif (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 08:48:08 UTC
From: Peter Ackermann <w4sfd@ispwest.com>
Message-ID: <5l7i9v058fm9lieer5fh262k1nged16541@4ax.com>
Source record: 120995

YES, you need to bond house and tower grd systems. What we do at
Broadcast towers is to sink a Grd Rod Between the two Grd point as the
Common Grd. We never direct connect the two Grd points. We service 3
different FM stations all on one thousand feet tower. Each transmitter
has its own grd system.

I guess I will have to write that article on HALO Ground Systems.

W4SFD

On 12 Apr 2003 15:24:27 -0700, homac@telusplanet.net (Homac) wrote:

>I am setting up a tower just outside my house. I have grounded each
>tower leg and these grounds are all connected together via a #6 copper
>wire. The equipment ground also comes outside and is bonded to this
>point.
>
>The AC (house electrical ground) is a cold water pipe inside the
>basement of the house. The cold water feed comes up throught the
>basement and is copper pipe throughout.
>
>My question is: Should I run a wire from the cold water AC ground to
>the antenna ground, bonding them together. My fear is if lightning
>strikes it may bring current inside the house. Leaving them separate
>means a difference between two grounds with my equipment in the
>middle, also not good.
>
>A diagram can be viewed here:
>http://www.telusplanet.net/~homac/radiosetup.jpg
>
>I appreciate any help....
>
>Thanks
>
>Homac

594. Looking for a ladder-line-Balun that tolerates SWR 1:20

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 09:01:11 UTC
From: Peter Thoms <P.Thoms@T-Online.de>
Message-ID: <b7b935$t9u$03$1@news.t-online.com>
Source record: 120994

Hi NG,

Iï¿½m looking for a ladderline-balun.
I want to hook it up into a 13m Dipol (lazy-H). The Dipol will be loaded
from 10 to 40m with 100W via an automatiktuner SG 237.

On the Bandedges Nec2 shows relative to 350Ohm a max. SWR of 1:20.

What ist the strategy to design an effective Balun?

vy 73 de Peter, DL6LAT

595. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 09:49:37 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304130149.41db003b@posting.google.com>
Source record: 120996

"William E. Sabin" <sabinw@mwci-news> wrote in message
>
> If the PA is tuned and loaded correctly and ALC is
> set up properly, there is no reason to worry about
> "improper usage". There is a tendency among
> certain folks to be apprehensive about ALC. After
> many years of experience with ALC (and TGC)
> circuits, I see no reason for this. I certainly do
> not have any trouble with ALC that is designed
> properly in my own equipment or any Collins
> equipment that I have been involved with over the
> past 40 years.
>
> Very strange.
>
> Bill W0IYH
If the PA is tuned and loaded correctly, and can not be overdriven,
there is no need for ALC.
I don't have any apprehension about ALC to an amp. I just don't need
it. There is no need for an ALC hookup if you can't overdrive your amp
without it. If I could overdrive my amp, I would use it. But even
then, I would usually prefer a swamping resister approach rather than
ALC. Particularly with many of the newer rigs that "spike" on key up
when run at reduced power. IE: running a IC-706 at 50% power into a
ceramic tube amp that requires the lower drive. The rig will spike at
a higher level than 50w, and it's no good, being the amp is not
properly loaded for the increased drive level of the spike. In a case
like that, I'd rather run the rig at full power to keep the spike and
actual power output the same. "at least for the 706mk2g" The earlier
2 models spike at higher than 100%. :(I'd then swamp it down to the
desired level. I just don't want to have to depend on an ALC circuit
to keep me from overdriving. I'd rather not be able to overdrive the
amp in the first place. I haven't had any real trouble with ALC
circuits either. It's just a personal choice to avoid the use of it
to an amp if possible. I personally think it's better not to have to
rely on it to an outboard PA. But to each his own... MK

596. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 10:09:31 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Wo1$IaEbdTm+EARO@ifwtech.co.uk>
Source record: 120998

Rick Littlefield wrote:
>>I guess I am pretty stupid after all, but I don't have the slightest idea what
>you mean.<
>
>It was meant as a compliment, Bill. I have considerable respect for your
>acomplishments over the years--and for the writing you've contributed. I also
>have considerable respect for the quality standards established by Collins and
>Rockewell products.
>
>Having said that, I've had expereinces with more than one imported transceiver
>exhibiting ALC anomolies that required attention. For example, one popular
>model radio I owned used to throw a huge transient that overshot the ALC and
>saturated the PA everytime I keyed the mike. Another popular rig never worked
>well with my AL-80B's ALC circuit because of a time constant issue. I certainly
>agree that utilizing the ALC detector built into today's amplifiers constitutes
>good operating practice. For amps with limited headroom, the loop can prevent
>splatter, and for amps with greater headroom, the loop can help ensure
>compliance with the 1500-Watt PEP amateur radio service power limit. However,
>some rig/amp combinations may not do exactly what they proport to do.

There is no "industry standard" for the ALC interface between amplifiers
and transceivers. The ALC voltage is "a few volts negative", but there
are no real standards about the way the external ALC input affects the
transceiver's RF output level.

This means that ALC feedback from the amplifier has to be set up very
carefully by the owner... and there's no advice on how to do it. A
transceiver manual can't possibly cover all third-party amplifiers, and
the amplifier manual can't cover all third-party transceivers.

I think that's what Rick meant about Collins gear, where the same
manufacturer has designed the transceiver and the amplifier to work
together, and (being Collins) could be trusted to do it well.

Another complication is that in most commercial "100W" transceivers the
internal ALC loop is always active. It is used for many purposes: to
throttle-back the internal power amplifier into its more linear range;
to give dynamic control over variations in audio input levels; to adjust
the power output from the front-panel control; and to equalize the
output level between bands.

Because the transceiver's internal ALC loop is always active, there are
new problems when ALC is also fed back from an external amplifier. You
now have two nested servo loops - with different loop gains and probably
different time constants - fighting for dominance. At the very best,
it's quite difficult to set this up correctly using the controls

provided by the transceiver and the amplifier; and at worst, it's impossible.

The British power output limit of 400W PEP at the antenna favors the use of Mark's method: a big amplifier (which for us means 1kW-class) operating well within its linear range, and no external ALC. By using the transceiver's RF power control to hold down the drive level, you are in fact using ALC - the internal loop in the transceiver - but the external amplifier operates 'open-loop'. Obviously this relies on having a linear amplifier, but it is certainly a workable strategy.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

597. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 10:10:59 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304130210.7def8903@posting.google.com>
Source record: 120997

k1bqt@aol.com (Rick Littlefield) wrote in message
> Having said that, I've had expereinces with more than one imported transceiver
> exhibiting ALC anomolies that required attention. For example, one popular
> model radio I owned used to throw a huge transient that overshot the ALC and
> saturated the PA everytime I keyed the mike.

Exactly what I was talking about with the 706 as one example. I wrote
that post before I read this. The original two versions of 706 spiked
to 140-160 % of the normal 100w full power. That can really cause some
problems. Luckily, with the 706mk2g, the spike is only a maximum of
100w. So if you run the rig at full power , you are ok. But you still
have a higher than set power level spike if you run at a reduced power
even with the mk2g. So if I fed an amp that required only 50w drive
with the 706, I'd prefer to run the rig at full power, and swamp the
power down to the amp. Of course, with the henry, I can run the 706
full power into it, and have a good ways to go before I would be
overdriving. That rig never does more than 100w. Usually a tad less. I
do run it on battery power though. I'd probably get a bit more on a
stiff power supply. Not too much though. Maybe 10 w.

I certainly
> agree that utilizing the ALC detector built into today's amplifiers constitutes
> good operating practice. For amps with limited headroom, the loop can prevent
> splatter,

IF the rig is capable of overdriving the amp. If not, it won't do
anything. Would be the same if it were not hooked up, unless you use
it to roll the power back as in your next example.

and for amps with greater headroom, the loop can help ensure
> compliance with the 1500-Watt PEP amateur radio service power limit.

Yes, that can work. But in my case, I can't do any more than 1400w or
so, pedal to the metal. So I don't need it for that purpose. I'm lucky
in my combo of rigs and amp, I can't overdrive the amp, and I can't do
more than legal limit either.
There is no need at all for me to use the ALC connection to the amp.
If there were, I would use it. I would recommend that people that do
need to use it, use it. MK

598. Re: Looking for a ladder-line-Balun that tolerates SWR 1:20

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 12:27:03 UTC
From: k9sqg@aol.com
Message-ID: <20030413082703.16265.00000436@mb-ck.aol.com>
Source record: 121000

If it were me, I'd feed it with open wire or window line and use a link coupled tuner in the shack. I've had very good luck with such an arrangement.

73s,

Evan

599. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 13:00:02 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e995f52$1_1@news.vo.lu>
Source record: 121001

"Just Bob" <Pills4ills@yahoo.com> wrote in message
news:3e9ebb55.25303875@news-central.giganews.com...
> I have terrible am receptiion. My am reciver is located
> about 2 feet to the left of my PC. Someone , somewhere
> mentioned something about ferrite cores and looping?

Hi,
Many QRM (RFI) are emitted by your Monitor. My Compaq 17" S710 emits a loud signal in some frequencies on the 15m band and elsewhere too, but not regularly and the signal is not permanent.

I have also observed than the keyboard LED (numeric or case on) produces also QRM on my TS570D that is placed just near the screen and keyb. See an old pic on
http://www.radioamateur.org/galerie/view_photo.php?set_albumName=stations&id=ONL5183

At last power supplies (&#65533; decoupage) that come with most protable computer also create a huge QRM. In this other installation, see first image on http://www.astrosurf.com/lombry/qsl-introduction.htm, I have to remove the external power supply from the mains (and work on the internal battery) in order to hear something on my RTX.
In these cases a ferrite cannot really help solving this problem.

Some solutions exists, see my article, like the noise canceller MFJ-1026 on http://www.astrosurf.com/lombry/qsl-mfj1026.htm

But personally, as some OM, in such conditions and when the weather is warm enough or in the eve, I prefer still to go outside and work in the field, operating in portable.

Hope this helps.

Thierry
ON1SKY

>
> Could someone explain this to me or point me in the right
> direction?
>
> thanks
>
>
>
> ----------

> (360/333/180) Started (12/9/2002)
> FOR tornadoes or thunderstorms Phobia,Fear,Panic,or OCD Disorders
> --> http://www.geocities.com/weatherphobia/
> --> http://www.tornadoes.tk/
> --> http://www.thunderstorms.tk/

600. Re: Radio Shack Telescopic Whip Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 13:07:38 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e99611b$1_2@news.vo.lu>
Source record: 121002

"Harry" <hprice100@hotmail.com> wrote in message
news:7ref9vsb5b63mpnghv1hghtice6t1dfe3p@4ax.com...
> Has anyone installed the Radio Hack - Telescopic Whip Antenna - cat
> no. 20-006 as an outside aerial? I wanted to know how weather proof it
> is?

Hi,

No really, but rather the model 21-974, a simple whip,
http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CT
LG%5F001%5F002%5F004%5F001&product%5Fid=21%2D974
very well suited for all Hi-Q mobile antenna (screwed on top with optionnal
quick disconnect and caphat).

At such a low price ($13) and without "accessories", I am not sure you can
get farer than a few dozen km around your QTH (as using a CB whip). Even my
longwire 20 or 40m long should give a better result (+240 DX in 9 months).
Look at Hi-Q models (www.hiqantennas.com) and compare them with its
competitors.

Hi-Q + your whip model 20 or 21-974 can be a better solution (more
expensive, I agree).

Thierry
ON1SKY
http://www.astrosurf.com/lombry

>
> Thanks
>
> Harry

601. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 13:31:35 UTC
From: "Bob M." <xxxxx@yyyy.zzz>
Message-ID: <0A2dnfOl0asp-wSjXTWcpA@comcast.com>
Source record: 121003

I think you're worring just a bit too much.

You'll lose the settings in your clock and radio channel buttons.

You _MIGHT_ lose some trouble codes, if any, that are stored in the vehicle's computers. You _MIGHT_ lost some driveability adjustments that it learned since being built. The main programs are in non-volatile memory (usually a PROM or ROM chip) that won't be lost if there's no power applied. Replacement computers sit on shelves in warehouses for years, and in some cases, they just plug in and work without even swapping chips from the old one to the new one.

If you use the 9v battery trick, this should maintain the clock and radio.

Otherwise, don't short the battery wires, because that will kill your 9v battery.

Why will you need the battery disconnected for so long? You only need to remove the terminal screws at the end when you connect the crimp lugs to the FT-897's cable. That shouldn't take more than a minute for both.

Bob M.
======
"Bill East" <beast@pcs.mb.ca> wrote in message
news:TA3ma.5661$qn.529433@localhost...
> I want to connect my FT- 897 directly to the battery posts .I`m hoping
> someone here has done this before and has a solution.
> If I disconnect the battery from my 01 Chev truck battery for an hour
will
> the truck electronics loose any programming ? I really don`t want to drive
> back to a GM dealer for a download .
> Could I take a 9 volt battery and plug it into the truck cigrerette
lighter
> . Could this work by keeping the truck electronics programmed settings
> while the battery cables are disconnected?
> Or am i worring for nothing ..
>
> thanks,
> Bill
>
>

602. HXP beam experience in /P with pics ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 13:58:53 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e996d1e_1@news.vo.lu>
Source record: 121004

Hi,

Very impressed by the HEX BEAM HF antenna (http://www.hexbeam.com/) that display a gain over 4.5 dBi, VSWR <=1.5, and its ease to erect in the field (30 min, for 7-13 lbs), I would like to contact the manufacturer, but I cannot find any email excepting his full address.
Can you help ?

Better, are you using it for DXing in portable operation, in the field ? and what are your conclusions (mainly the minus sides) ?

How do you attach the mast ? Have you tried to attach it below your car tire (i.e with a KFZ-mast or similar, http://www.ukw-berichte.de/ukw-docs/masten/zub-mast.html) or what other solution have you find to quickly install it ?

Do you have some pictures of your installation in order that I appreciate the installation ?

Thanks in advance.

Thierry
ON1SKY
http://www.astrosurf.com/lombry

603. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 14:06:13 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <0jri9volgi2flebjikom0m8l4iluiiocjf@4ax.com>
Source record: 121007

On Sun, 13 Apr 2003 02:06:22 +0100, "Bill East" <beast@pcs.mb.ca>
wrote:

>Or am i worring for nothing ..

I think so. We've replaced a lot of batteries in our Chevy vans, and
never lost anything, other than radio station settings.

Bob
k5qwg

>
>thanks,
>Bill
>

604. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 14:07:26 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns935C998006B7Enewsleighsorg@130.133.1.4>
Source record: 121005

Pills4ills@yahoo.com (Just Bob) wrote in
news:3e9ebb55.25303875@news-central.giganews.com:

> I have terrible am receptiion. My am reciver is located
> about 2 feet to the left of my PC. Someone , somewhere
> mentioned something about ferrite cores and looping?

Try turning off your monitor before spending money. If that stops the
interference..... you need to plan your next move.

605. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 14:09:10 UTC
From: k1bqt@aol.com
Message-ID: <20030413100910.16265.00000439@mb-ck.aol.com>
Source record: 121006

ALC is, by definition, a form of distortion generator in that it compresses the dynamic range of the waveform. When I'm playing in "audio nut" mode on 75 meters, I usually set the audio input level below the radio's ALC threshold and let the Heil Goldline Pro do its thing without any compression. Under those conditions, my audio is natural sounding, the average power is quite low, and the amplifier loafs along below its PEP limit. When QRM gets rough, though, I'm pretty likely to invoke the radio's "enhancement features" (PC speak for "crank it up").

I recall, when MFJ started making their little 600-W FET amp, there were a couple specific rigs that became famous for punching out MRF150 gates on key-up. I suspect more than one early 706 may have punched out its own MRF255s for the same reason.

Rick K1BQT

606. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 14:15:07 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <b3si9vc39b64iivvbb06c43u7v3h0j6h4j@4ax.com>
Source record: 121008

On Sun, 13 Apr 2003 09:31:35 -0400, "Bob M." <xxxxx@yyyy.zzz> wrote
some good stuff:

|I think you're worring just a bit too much.

Agreed.
|
|You'll lose the settings in your clock and radio channel buttons.

Yes and one caveat. If you have set a "combination" into the
anti-theft radio be sure you remember the code.

607. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 14:54:00 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3E997A08.1090407@mwci-news>
Source record: 121009

Rick Littlefield wrote:
> ALC is, by definition, a form of distortion generator in that it compresses the
> dynamic range of the waveform.

ALC can be (and is often) used as a form of speech compression that increases slightly the "talk power". But it does not have to be that way. A better way is to design the ALC so that it behaves more like a TGC. That is, it seeks, and then holds, the gain at the PEP level for a period of several seconds. As you talk, it gently restores this gain setting. It is done with negligible effect on speech quality. In other words the "compression" of the waveform is negligible. Speech processing, when desired, is then done separately using much better methods. Collins Radio (and also Sabin) has used this approach for many years. It is what my homebrew 100 W solid-state exciter does. It is true, as you say, that a fluctuating ALC produces some (usually small) distortion.

This ALC topic and also TGC are discussed in Single-Sideband Systems & Circuits, HF Radio Systems & Circuits and also Ch 17, ARRL Handbook (1995-2004). A TGC-like circuit would be an excellent approach for Hi-Fi SSB.

It would be very desirable not to have to touch, or monitor, the controls when using SSB equipment.

Bill W0IYH

608. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 15:15:03 UTC
From: Bob Nielsen <nielsen@remove_this.oz.net>
Message-ID: <b7butnddh0@216.39.144.81>
Source record: 121010

On Sun, 13 Apr 2003 07:15:07 -0700, Wes Stewart wrote:
> On Sun, 13 Apr 2003 09:31:35 -0400, "Bob M." <xxxxx@yyyy.zzz> wrote
> some good stuff:
>
>|I think you're worring just a bit too much.
>
> Agreed.
>|
>|You'll lose the settings in your clock and radio channel buttons.
>
> Yes and one caveat. If you have set a "combination" into the
> anti-theft radio be sure you remember the code.
>

Dealers have a master code to turn the feature off, after which you can re-enable it (guess how I found that out!)

On the other hand, a few weeks ago I noticed that there was a bit of corrosion on the positive battery terminal of my 1997 Buick. In cleaning it up, I had the lead removed for nearly a minute and was surprised that the radio did not lose its channel settings, although the clock reset.

Bob, N7XY

609. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 15:40:37 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3E99849C.2646977C@attbi.com>
Source record: 121011

Why does it take an hour? Run all cables from the radio, through the
firewall, dress them in the engine compartment, loosen the battery
clamps then connect at the battery clamp.

Never remove power!!!

Deacon Dave, W1MCE

Bill East wrote:
>
> I want to connect my FT- 897 directly to the battery posts .I`m hoping
> someone here has done this before and has a solution.
> If I disconnect the battery from my 01 Chev truck battery for an hour will
> the truck electronics loose any programming ? I really don`t want to drive
> back to a GM dealer for a download .
> Could I take a 9 volt battery and plug it into the truck cigrerette lighter
> . Could this work by keeping the truck electronics programmed settings
> while the battery cables are disconnected?
> Or am i worring for nothing ..
>
> thanks,
> Bill

610. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 15:41:31 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3E9984D1.FF8D46CD@attbi.com>
Source record: 121012

A Hillary lover???

"William E. Sabin" wrote:
>
> Yuri Blanarovich wrote:
> >>Am I wrong?
> >>
> >>Rick K1BQT
> >>
> >
> >
> > > No O'Reily, you are absolutely right (wing conspiracy? :-)
> > >
> > > 73 BUm
>
> What is the secret meaning of "wing conspiracy"?
>
> Bill W0IYH

611. Re: Radio Shack Telescopic Whip Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 16:11:59 UTC
From: Harry <hprice100@hotmail.com>
Message-ID: <ju2j9v0r164b0llmlr2v60c7af8uhav4jp@4ax.com>
Source record: 121014

Thierry,
Thanks for your help

On Sun, 13 Apr 2003 15:07:38 +0200, "Thierry - ON1SKY"
<lombrytNOSPAM@hotmail.com> wrote:

>
>"Harry" <hprice100@hotmail.com> wrote in message
>news:7ref9vsb5b63mpnghv1hghtice6t1dfe3p@4ax.com...
>> Has anyone installed the Radio Hack - Telescopic Whip Antenna - cat
>> no. 20-006 as an outside aerial? I wanted to know how weather proof it
>> is?
>
>Hi,
>
>No really, but rather the model 21-974, a simple whip,
>http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CT
>LG%5F001%5F002%5F004%5F001&product%5Fid=21%2D974
>very well suited for all Hi-Q mobile antenna (screwed on top with optionnal
>quick disconnect and caphat).
>
>At such a low price ($13) and without "accessories", I am not sure you can
>get farer than a few dozen km around your QTH (as using a CB whip). Even my
>longwire 20 or 40m long should give a better result (+240 DX in 9 months).
>Look at Hi-Q models (www.hiqantennas.com) and compare them with its
>competitors.
>
>Hi-Q + your whip model 20 or 21-974 can be a better solution (more
>expensive, I agree).
>
>Thierry
>ON1SKY
>http://www.astrosurf.com/lombry
>
>>
>> Thanks
>>
>> Harry
>

612. Good Stealth Scanner Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 16:12:01 UTC
From: Harry <hprice100@hotmail.com>
Message-ID: <gv2j9v0574fn5dh70eebfhb89e0212nksk@4ax.com>
Source record: 121013

Can someone point me to a good scanner antenna website where there are stealth antennas or camouflaged antennas.

Thanks

Harry

613. Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 16:24:39 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304130824.abb5588@posting.google.com>
Source record: 121015

Gentlemen,
We have so much discussion about SWR on this
antenna group as well as attempts to broadbanding
of antennas, yet those who are supposed to 'know'
about antennas refuse to tackle the basics and
in some cases do everything in their power to
thwart the new.
You do not have to be a rocket scientist to realise
that with any antenna it is the reactance change with
frequency that is the largest reason for escalating SWR
and minimising band width of any antenna.
Even the so called 'gurus' will agree to that tho
they may well interject Shakesperian prose to dilute
its significance.
So why are we not attaching a magnetic loop antenna
to our dipoles ?
The magnetic loop is small so it cannot be because
of its apearence value. It uses only a capacitor
in rotary form to remove reactance from the dipole so it
cannot be mechanical complexity that is holding its use back.
We still feed the dipole in the normal fashion thus avoiding
the magnetic loop feeding problems, so it cannot be that.
By removing reactance from an antenna where the capacitor
is part of the antenna and not a system tuner it helps
efficiency so it can't be that! Yet without reactance to
deal with even the small inbuilt tuner of any transmitter
can handle the small swings in resistive impedance.
So why pay a $1000 dollars plus for the 'NEW' antenna that
has plenty of publicity in the ham magazines when you can
homebrew your own antenna for a few dollars that does the
same thing?
Think about it for yourselves, stick a loop to your dipole
and try it.Don't wait for the 'gurus' to give a stamp of
approval because they have a "reputation'" to protect and
will not risk review of the 'new'. If one expert wants to
dismiss it then fine,get another expert to ask to determine
if the first 'expert'was just a 'talker' since we appear to
have a lot of those who just quote books without reference
to first principles data to support their utterences.
Time to get back to first principles and stop the mocking
attitude to those who dare to do the same.
Stick to your guns Reg, first principles will win over
'old wives tales' anyday and hams are greatfull for your
inputs. (Reg is not endorsing the loop subject above by

the way, but he does endorse sticking to facts and first
principles regardless of harassment)
Best regards
to all
Art Unwin KB9MZ...XG

614. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 16:44:18 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9993E2.92807A7A@cwis.net>
Source record: 121016

Art
"(Reg is not endorsing the loop subject above by
the way, but he does endorse sticking to facts and first
principles regardless of harassment)". You might do well
to follow his example...
'Doc

615. 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 17:43:28 UTC
From: GregEMT1@netzero.com
Message-ID: <3e9a9e17.770031454@news.earthlink.net>
Source record: 121018

I want to install a 40m dipole (80m dipole with balun from hamfest junk pile I cut to 33' each side) on my roof, using an existing 10' mast with a 1/2 wave 10m vertical on top. I would like to mount the balun just below the mount for the 10m vertical, and run the legs to the roof edges, creating a medium inverted V (dipole ends about 15' below center feed), and feed this with rg8 (~40' coax run). Right now, this will only be used for a 2 watt QRP (Norcal 40a), but would like to use on a higher power hf rig when I can afford one.

Questions-

First, will all this work?

Any problems with it being so close to the 10m vert? (10m output is about 30 watts)

One leg of the dipole will come very close (~1') to a guy wire, is this bad?

I have SWR meter, but do I need a tuner?

I have heard about coiling the coax 6-8 times at feed point, but I am not sure why or do I need to?

What impact will there be if the legs are not 180 degrees end to end? (I may not be able to get it straight due to roof configuration)

Thank you all in advance for your help!

Greg KF6ALC

616. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 17:44:56 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E99A238.4050503@adelphia.net>
Source record: 121017

Art Unwin KB9MZ wrote:
> Gentlemen,

> So why are we not attaching a magnetic loop antenna
> to our dipoles ?
> The magnetic loop is small so it cannot be because
> of its apearence value. It uses only a capacitor
> in rotary form to remove reactance from the dipole so it
> cannot be mechanical complexity that is holding its use back.
> We still feed the dipole in the normal fashion thus avoiding
> the magnetic loop feeding problems, so it cannot be that.
> By removing reactance from an antenna where the capacitor
> is part of the antenna and not a system tuner it helps
> efficiency so it can't be that! Yet without reactance to
> deal with even the small inbuilt tuner of any transmitter
> can handle the small swings in resistive impedance.
> So why pay a $1000 dollars plus for the 'NEW' antenna that
> has plenty of publicity in the ham magazines when you can
> homebrew your own antenna for a few dollars that does the
> same thing?

Art, I'm having some trouble visualizing the situation here. Is the magloop in the center of the antenna? and what are the effects upon the loop and dipole? That is to ask are the length of the dipole and the diameter of the loop the same as if you were designing each for "standard" service?

You mention feeding the antenna as you would the dipole, not the loop. This means no coupling loop?

Another thought is how the mechanical functions would work. In my own case, I have a loop that is around 20 feet in circumference. If this sits in the middle of the dipole, I'm assuming that it would almost have to be in a "V" pattern, as I think the XYL might balk at the idea of a big loop 55 feet in the air.

What would be the likely radiation pattern from such a beast?

I ask these things because I'm intrigued, and I'm finishing a magloop right now. It might be an interesting experiment. If it works, fine, if not, I'm not out anything.

- Mike KB3EIA -

617. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 18:05:58 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7c8t0$ke8$1@slb6.atl.mindspring.net>
Source record: 120869
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Yes indeed you can damage not only your radio, but your self. Quick.
Disconnect it and throw it in a bucket of water.

Dan/W4NTI

"JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message
news:v9dvkukd80q626@corp.supernews.com...
> I know you can damage your CB if the antennae is not tuned to the radio
and
> you use it to transmit, but can you hurt it if you just use it to monitor
> transmissions and have not set the SWR?
>
>

618. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 18:28:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9jb2lj189ttb1@corp.supernews.com>
Source record: 120870

At least two posters have interpreted my comment as a criticism of Reg's contributions to amateurs and this newsgroup. I suppose that's to be expected considering the prevalence of binary thinking, that is, either someone is always right or always wrong, so to criticize anything one says is to declare him to be always wrong. Or perhaps there's some kind of rule that if you do enough useful things, then anything you say or do isn't subject to question.

Reg has made many contributions, not the least of which is his series of free programs. He deserves thanks and credit for the contributions.

On refelection, my comment was rude and not productive. I apologize.

What I should have done was to humbly place myself at the foot of the master in order to learn from his insight. I'll take Art's advice and do that now.

Reg, you say that "It seems Terman, some other name I can't presently recall, and Shekelnikoff[sic], et al, can't agree on the feedpoint (radiation) resistance of a ground mounted vertical antenna." What equations do these gentlement present which disagree, and by how much do they disagree?

You also state of your equation that "Using all three terms accuracy is much better then 1% when height is 1/3rd wavelengths or less. This is much better than necessary." How did you determine the accuracy? Did you compare it with the equation from Terman, Schelkunoff, the "other name", or another equation you've developed? How did you decide that equation was correct? Or perhaps you've measured verticals of various lengths to greater than 1% accuracy?

You don't qualify the range of heights your equation applies to. How good is its accuracy at a half wavelength? 5/8?

To answer Art's comments about derivation, it appears that the "first principles" used for the equation in Reg's posting was simple curve fitting to measured data or another equation. There's nothing wrong with doing this, but it hardly represents original work. And at best it's no more accurate than the curve to which it's fit. But perhaps I'm mistaken, and it's actually derived from first principles.

Thanks in advance for the clarification.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message

news:<v9f292s4frvqf5@corp.supernews.com>...
>
>>Ah, another troll. I'll let somebody else feed him this time.
>>
>>Bear in mind that Reg doesn't seem to have any books or papers by any of
>>the people he's attributing statements to.
>>
>>Roy Lewallen, W7EL
>
>
>
>
> Roy
> Why mock somebody because he has come up with
> something new? Reg has a good record and apears
> to usually work from first principles
> rather than just regurgitating from books.
> Wouldn't it be better to ask for clarification
> or insights on the paramaters used to confirm
> validity than to retard progress or denigrate
> fresh aproaches ? Remember his programs are FREE
> as a service to ham radio.
> Art
>
>
> Snip
>
>>>The series resistive component of input impedance of a base-fed vertical
>>>antenna is given by the simple expression -
>>>
>>>Rin = 394 * x^2 + 2340 * x^4 + 180,000 * x^8 . . . . .
>>>
>>>where x = (Height) / (Free-space wavelength).
>>>
>
> snip> ---
>
>>>=======================
>>>Regards from Reg, G4FGQ
>>>For Free Radio Design Software
>>>go to http://www.g4fgq.com
>>>=======================
>>>
>>>
>>>

619. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 18:33:25 UTC
From: KC7ZRU - Tate <73kc7zru73@arrl.net>
Message-ID: <V3ima.442837$L1.126137@sccrnsc02>
Source record: 120871

Bill East wrote:
> I want to connect my FT- 897 directly to the battery posts .I`m hoping
> someone here has done this before and has a solution.
> If I disconnect the battery from my 01 Chev truck battery for an hour will
> the truck electronics loose any programming ? I really don`t want to drive
> back to a GM dealer for a download .
> Could I take a 9 volt battery and plug it into the truck cigrerette lighter
> . Could this work by keeping the truck electronics programmed settings
> while the battery cables are disconnected?
> Or am i worring for nothing ..
>
> thanks,
> Bill
>
>

Not knowing that specific vehicle, but having worked on a LOT of late model installs recently, check to be sure there isn't a high current 'tap' available near the battery, but not actually on the battery terminals. Usually next to an under-hood distribution/fuse panel. You'll notice a largish (4ga or similar) short cable going from the battery's positive to a largeish 'black box'. Where the cable connects to the box will likely have a slide off cover. Under that, you'll find a typical nut and eye terminal arrangement. Just loosen the nut, leave the existing cable in place, put your radio's eye terminal cable over the post and re-apply and tighten the nut. No need to loose power the vehicle at all.

Same current, but minus the corrosion potential and associated problems down the road. Also, when the time comes to swap out the battery for a new one - fewer 'things' to keep track of.

If your vehicle is so equiped, it's more than worth it to use that tap.

This has been an accepted method of connection for 100+w commercial VHF/UHF rigs since the auto manufactures started installing such things.

73

--
"The Dungeon" online at http://go.to/kc7zru
Casper, WY | CARC Repeater
DN62tt | 146.940-
http://www.trib.com/~carc

620. Re: Good Stealth Scanner Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 18:40:14 UTC
From: KC7ZRU - Tate <73kc7zru73@arrl.net>
Message-ID: <iaima.442888$L1.125928@sccrnsc02>
Source record: 120872

Harry wrote:
> Can someone point me to a good scanner antenna website where there are
> stealth antennas or camouflaged antennas.
>
> Thanks
>
> Harry
>

Uh, can ya share a bit more 'bout what - exactly - you're trying to do
and/or 'hide' from?

This could be as simply as sticking a chunk of random length wire into
your scanner and duct taping it to a wall, to placing wire inside
molding strips around the perimiter of a room, to using your buildings
rain-gutter system, pipes, etc.

What kind of building?

What bands are you interested in?

How sensitive does the antenna need to be?

TX stations high power close in? Low power far away?

What's the 'situation'?

Lots of potential!

73

--
"The Dungeon" online at http://go.to/kc7zru
Casper, WY | CARC Repeater
DN62tt | 146.940-
http://www.trib.com/~carc

621. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 19:05:04 UTC
From: Randy <rchapman8@houston.rr.REMOVEcom>
Message-ID: <Axima.63641$vl3.2254014@twister.austin.rr.com>
Source record: 120873
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Top posting idiot "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:b7c8t0$ke8$1@slb6.atl.mindspring.net...
> Yes indeed you can damage not only your radio, but your self. Quick.
> Disconnect it and throw it in a bucket of water.
>
> Dan/W4NTI
>
> "JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message
> news:v9dvkukd80q626@corp.supernews.com...
> > I know you can damage your CB if the antennae is not tuned to the radio
> and
> > you use it to transmit, but can you hurt it if you just use it to
monitor
> > transmissions and have not set the SWR?

Some would say you should try that with your HF rig, since you are obviously
an oxygen wasting useless pile of DNA.

622. Re: Help? Bonding exterior tower ground to AC interior ground - Tow...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 20:01:41 UTC
From: richardharrison@webtv.net
Message-ID: <21580-3E99C225-297@storefull-2318.public.lawson.webtv.net>
Source record: 120874

Homac wrote:
"My fear is if lightning strikes it may bring current inside the house."

From the jpg, the radio tower is grounded to an external ground bed. That`s good. There is a wire connecting radio equipment in the house to the external ground bed. That`s good. There`s a wire connecting house water piping to the external ground bed. That`s good.

There`s a connection between the electrical service ground to the house water piping. That`s good and required by most codes.

Danger to powerline connected equipment comes from wires other than the powerline connected with the equipment. Surge voltage on the extra wires can have a vastly different magnitude from that of the powerline. This can be a potential disaster.

In the jpg, the obvious extra wire is the exterior of the coax. It is not shown connected to the external ground bed.

Grounding the exterior of the coax to the external ground bed at the tower can dump much of a surge outside the house.

Best regards, Richard Harrison, KB5WZI

623. your opinion about portable HF antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 21:07:56 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3e99d1ae_1@news.vo.lu>
Source record: 120875

Hi,

If you have some time left, I would like to know your opinion about this article (of 1 page) about portable antennas, and more, do you have some idea to complete this article (other brands offering performing portable antennas, more unusual systems, etc),
http://www.astrosurf.com/lombry/qsl-portable.htm

You can answer me directly through the website email page.

NB. Searching data for this article, it permitted me to reduce the scope of my potential HF portable antennas : now it seems this is a battle between Hi-Q (40%) and Hex-beam (60%), excepting if you find me some new great performer (in HF, mainly for DXing in bands 20-10m, at a little bit for ragcheming on 40m or so).

Thierry
ON1SKY

624. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:07:29 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <c4lma.17507$c42.7218@fe01.atl2.webusenet.com>
Source record: 120876

Make a 3 band dipole antenna with a single feed point out of 12 gauge wire, then roll it up into a tight bundle. This meets the requirments you gave in your post and is quite compact.

Jim
N8EE

625. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:18:21 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304131418.29a2daf3@posting.google.com>
Source record: 120877

'Doc <w5lz@cwis.net> wrote in message news:<3E9993E2.92807A7A@cwis.net>...
> Art
> "(Reg is not endorsing the loop subject above by
> the way, but he does endorse sticking to facts and first
> principles regardless of harassment)". You might do well
> to follow his example...
> 'Doc

Doctor
You are just talking again but without any contribution.
If it is out of your league then just be silent for once and
learn from the postings, that way some day you may be
legitimate in deserving a doctors honours.
And don't give me that bull that is just a nickname that
you picked up by chance, that only fools newcomers for
just a short time where others continue to snicker.
If you got off my back you wouldn't be getting these home truths
but you make the choices
Art

626. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:29:42 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E99E4D6.9921AF3@cwis.net>
Source record: 120878

Art,
"Home truths"? Some may be snickering, but I
wonder who they're snickering at...
'Doc

PS - It's still a nickname. I'm not, and have
never claimed to be a 'doctor' of any kind.
I'm also not a "guru", so I don't expect
you to believe anything I say. Too bad.

627. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:34:25 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304131434.dbb165d@posting.google.com>
Source record: 120879

Mike Coslo <mcoslo@adelphia.net> wrote in message news:<3E99A238.4050503@adelphia.net>...
> Art Unwin KB9MZ wrote:
> > Gentlemen,
>
> > So why are we not attaching a magnetic loop antenna
> > to our dipoles ?
> > The magnetic loop is small so it cannot be because
> > of its apearence value. It uses only a capacitor
> > in rotary form to remove reactance from the dipole so it
> > cannot be mechanical complexity that is holding its use back.
> > We still feed the dipole in the normal fashion thus avoiding
> > the magnetic loop feeding problems, so it cannot be that.
> > By removing reactance from an antenna where the capacitor
> > is part of the antenna and not a system tuner it helps
> > efficiency so it can't be that! Yet without reactance to
> > deal with even the small inbuilt tuner of any transmitter
> > can handle the small swings in resistive impedance.
> > So why pay a $1000 dollars plus for the 'NEW' antenna that
> > has plenty of publicity in the ham magazines when you can
> > homebrew your own antenna for a few dollars that does the
> > same thing?
>
> Art, I'm having some trouble visualizing the situation here. Is the
> magloop in the center of the antenna? and what are the effects upon the
> loop and dipole?

Hi ust place the loop on top of the dipole with at least
a third of the periphary in contact with the dipole.
No need to drive the loop as it gets its energy from the driven
dipole.
the patern will be juswt what you would expect from a dipole but it
would be best to feed the dipole just outside where the loop and
dipole are in contact.

\That is to ask are the length of the dipole and the
> diameter of the loop the same as if you were designing each for
> "standard" service?
>
> You mention feeding the antenna as you would the dipole, not the loop.
> This means no coupling loop?
Well the loop is definitely coupled to the dipole as it is in contact
>
> Another thought is how the mechanical functions would work. In my own
> case, I have a loop that is around 20 feet in circumference. If this
> sits in the middle of the dipole, I'm assuming that it would almost have

> to be in a "V" pattern, as I think the XYL might balk at the idea of a
> big loop 55 feet in the air.
Well I squash the loop so it becomes more a rectangular form so a good
stretch of it is in contact with the dipole(looks like a parallel
circuit at the center of the dipole)
>
> What would be the likely radiation pattern from such a beast?
Bidirectional as per a normal dipole but with a lot larger band
spread.
>
>
> I ask these things because I'm intrigued, and I'm finishing a magloop
> right now. It might be an interesting experiment. If it works, fine, if
> not, I'm not out anything.

Oh Mike, it will work sure enough and then all will follow. I believe
the main problem is the computor programing path that we all take now
is the problem.
I do not use the EZNEC program and thus have no problem. Many others
who apparently use EZNEC have not been able to duplicate other
computor programs and thus hams do not proceed with the idea. I
believe that it is the EZNEC program thatis at fault since those that
used it certainly were not dummies.
Keep in touch with the group on the experiment.
Best regards
Art
>
> - Mike KB3EIA -

628. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:38:13 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <8xlma.17521$c42.14632@fe01.atl2.webusenet.com>
Source record: 120880

Dont worry about it loseing its programming! its not in "volatile memory", but a PROM based unit. But katy barr the door when that modual fails, as the vehicle no longer runs-- and you dont reprogram it, you REPLACE IT! have one in driveway, mechanic convinced me need engine rebuilt, was computer modual, , and that unit was 1/4 what that ass charged me for the non fix- fix (sob)! jim nn7k (Im electronic Technician, not a mechanic!)

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3E98E5B4.9080409@ieee.org...
> Bill East wrote:
> > I want to connect my FT- 897 directly to the battery posts .I`m hoping
> > someone here has done this before and has a solution.
> > If I disconnect the battery from my 01 Chev truck battery for an hour
will
> > the truck electronics loose any programming ? I really don`t want to
drive
> > back to a GM dealer for a download .
> > Could I take a 9 volt battery and plug it into the truck cigrerette
lighter
> > . Could this work by keeping the truck electronics programmed settings
> > while the battery cables are disconnected?
> > Or am i worring for nothing ..
>
> The battery failed on my GMC truck and I put in a new one. All I lost was
> the time on the clock and the PB settings on the radio.
> --
> cheers, CAM http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

629. Re: RF Impedance Matching

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:38:42 UTC
From: k1bqt@aol.com
Message-ID: <20030413183842.12108.00000267@mb-fx.aol.com>
Source record: 120881

>A Hillary lover???<

Sir Edmund, perhaps :)

Rick K1BQT

630. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:49:42 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E99E986.64F5D2C@cwis.net>
Source record: 120882

Greg,

1. There will be some interaction between antennas. How
much? No idea.
2. Yes, it is bad. Same as above, it will interact. Same
for how much, no idea.
3. Do you need a tuner? Not if your antenna's impedance is
somewhere close to 50 ohms. The trick will be getting it
close to 50 ohms. (see #5 too)
4. A 'choke' helps keep common mode currents off of the outside
of the feed line (common mode currents = RFI).
5. Decreasing the angle betweeen the legs of a dipole tends to
lower the input impedance. (see #3) Being able to vary that
angle comes in handy.

For what it's worth, getting the antenna further away from
the roof, other antennas, and other 'stuff' can't do anything
but help you. Of course that depends on what you have to work
with (including the 'significant other's permission).
'Doc

631. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 22:55:46 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7cpsb$1k8$1@slb6.atl.mindspring.net>
Source record: 120883
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"Randy" <rchapman8@houston.rr.REMOVEcom> wrote in message
news:Axima.63641$vI3.2254014@twister.austin.rr.com...
>
> Top posting idiot "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
message
> news:b7c8t0$ke8$1@slb6.atl.mindspring.net...
> > Yes indeed you can damage not only your radio, but your self. Quick.
> > Disconnect it and throw it in a bucket of water.
> >
> > Dan/W4NTI
> >
> > "JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message
> > news:v9dvkukd80q626@corp.supernews.com...
> > > I know you can damage your CB if the antennae is not tuned to the
radio
> > and
> > > you use it to transmit, but can you hurt it if you just use it to
> monitor
> > > transmissions and have not set the SWR?
>
> Some would say you should try that with your HF rig, since you are
obviously
> an oxygen wasting useless pile of DNA.
>
>
Thank you so much for your opinion....you know something? At one time I
thought there was no such thing as a dumb question. I was wrong.

Dan/W4NTI

632. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:12:33 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3E99EF03.3020804@adelphia.net>
Source record: 120884

Art Unwin KB9MZ wrote:

> Oh Mike, it will work sure enough and then all will follow. I believe
> the main problem is the computor programing path that we all take now
> is the problem.
> I do not use the EZNEC program and thus have no problem. Many others
> who apparently use EZNEC have not been able to duplicate other
> computor programs and thus hams do not proceed with the idea. I
> believe that it is the EZNEC program thatis at fault since those that
> used it certainly were not dummies.
> Keep in touch with the group on the experiment.
> Best regards

Thanks, Art.

- Mike KB3EIA -

633. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:18:30 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E99F046.6BCE7B80@yahoo.bomb>
Source record: 120885
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

> At one time I
> thought there was no such thing as a dumb question.

There are only stupid answers. You demonstrated first.

634. Re: Good Stealth Scanner Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:31:30 UTC
From: Tian Li <look@life.org>
Message-ID: <v9jstrf74p551@corp.supernews.com>
Source record: 120886

> Can someone point me to...

The Mother Of All Stealth Scanner Antennas
http://www.universal-radio.com/catalog/scanants/4045.html

If Price Is No Object
http://www.dressler.com/products/antenna
http://www.universal-radio.com/catalog/scanants/1161.html
http://www.rigpix.com/antennas/dressler_ara2000.htm

For Something Completely Different
http://www.durhamradio.ca/winradio-ax-31b-log-periodic-antenna.html

Less Bandwidth Than Above Antennas But Truly Stealth
http://www.ventenna.com/
http://www.eham.net/reviews/detail/1089?ehamsid=8f0a939fbc22f7f6773f219dcbaf7580

635. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:42:49 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <0srj9vgnabafbj7rakk79kt01lotfdvvl4@4ax.com>
Source record: 120887

On 13 Apr 2003 15:34:25 -0700, aunwin@insightbb.com (Art Unwin KB9MZ) wrote:

[snip]
|I do not use the EZNEC program and thus have no problem. Many others
|who apparently use EZNEC have not been able to duplicate other
|computor programs and thus hams do not proceed with the idea. I
|believe that it is the EZNEC program thatis at fault since those that
|used it certainly were not dummies.

Art, I believe that I gave your design more than a fair shake when I tried to model it. Nevertheless, I could not duplicate anything near your claims.

I don't know why you try and fault EZNEC (actually, I have the opinion that it is nothing technical), it is a fine program and the basic computing engine is used in many other programs that you seem to feel give different results. I can assure that they don't.

Many on this group, myself included, have cut you a lot of slack, likely because of your self-professed "problems", only to be met with your derisive rants about "gurus", etc.

The patent office notwithstanding, no one else either understands your design or can prove the operation that you claim. Thus, it is incumbent upon you to stop trying to recruit unsuspecting surrogates to do your work and prove your claim yourself.

If you can't do that, then cut out the crap and in your words, "just be silent for once."

636. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:46:17 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7csr1$ap2$1@slb4.atl.mindspring.net>
Source record: 120888
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

What happened? Did you take my adivice? I'll bet your not even a ham are
you? Most hams I know are proud of their call. Whats your?

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E99F046.6BCE7B80@yahoo.bomb...
>
> > At one time I
> > thought there was no such thing as a dumb question.
>
>
> There are only stupid answers. You demonstrated first.

637. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-13 23:46:50 UTC
From: Rich <rk911@ANTISPAM.yahoo.com>
Message-ID: <lptj9vo0ogrnkg74828l4kenrgu69a1365@4ax.com>
Source record: 120889
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

On Fri, 11 Apr 2003 13:42:51 -0400, "JEB"
<berndt@berndtmd.REMOVE.ME.com> wrote:

>I know you can damage your CB if the antennae is not tuned to the radio and
>you use it to transmit, but can you hurt it if you just use it to monitor
>transmissions and have not set the SWR?
>

no. no damage can or will occur in receive mode.

73,

rich, n9dko

638. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 00:17:50 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030413201750.28437.00000954@mb-fv.aol.com>
Source record: 120890

crab snipped :-)

>You do not have to be a rocket scientist to realise
>that with any antenna it is the reactance change with
>frequency that is the largest reason for escalating SWR
>and minimising band width of any antenna.

more crab snipped....

Sir Art of mysterious antennas:

Have you heard about Bazooka Balun?
It does precisely that, reactance of the quarter wave shorted coaxial stub attached at the feedpoint of the antenna change in the opposite direction of the reactance change of the typical antenna, therefore making it appear more broadband. It also serves as a balun, removing radiation from the coax. Have you compared those two and what is the advantage or breakthrough of your magick?

> The magnetic loop is small so it cannot be because
>of its apearence value. It uses only a capacitor
>in rotary form to remove reactance from the dipole so it
>cannot be mechanical complexity that is holding its use back.

I am not the guru, nor play one on TV, and I am stupid enough to comprende this one.

BTW I am still waiting for explanation of your patent, how can one make parasitic reflector to be tuned higher on frequency from the driver.

Yuri, K3BU
humble zero reactance dummy

639. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 00:24:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7cv4f$t00$1@hercules.btinternet.com>
Source record: 120891

It should be bleeding obvious (as John Cleese says) to any engineer worth his salt, the ONLY way of determining the accuracy of any short, approximate 'formula' is to compare it with the 'exact' fundamental standard of calculating the parameter in question.

It is futile to make measurements or to compare with a variety of suspect, second-hand, approximations to be found in the few fashionable 'bibles'.

Bibles of course serve a useful purpose but need occasional revision by heritics. But as everybody knows, when it comes to radio, any bloody thing will work which is why some books (you know which they are) remain so popular. Great fun!

Assuming a current distribution the 'exact' value of radiation resistance of a vertical antenna above a perfect earth involves integrating the power radiated from each elemental length of the antenna wire over its whole length. Using 'exact' classical transmission line calculations the radiation resistance can be transformed to any feedpoint such as the antenna base.

Having obtained a function of feedpoint resistance versus length or frequency (and in the process, reactance) there are a variety of mathematical methods, nothing to do with radio, of producing simple little formulae which provide estimates of input resistance over a limited range of wire lengths or frequencies.

Rin due to radiation = Square(19.85 * Height / Lambda) ohms is very accurate up to a height of about 0.1 wavelengths. But it's absolutely useless until wild guesses are made of loading coil Q and soil 'constants'. What's the R and K in YOUR backyard?

What on earth are we all haggling about ? Let's not set the World on fire. There are already too many successful lunatics employed in that full time occupation.

Cec, I'm back on French plonk tonight - red, Pays de Vacluse, it's good for the arteries. Cheers!

Reg, G4FGQ

640. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 00:35:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7cvofoca1@titan.btinternet.com>
Source record: 120892

```
> 5. Decreasing the angle betweeen the legs of a dipole tends to
> lower the input impedance. (see #3) Being able to vary that
> angle comes in handy.

================================

Wrong ! It's not like you Doc. Decreasing the dipole angle loses more in
radiating efficiency (radiation resistance) than the trivial improvement due
to matching the antenna to the transmission line.
---
Reg.
```

641. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 00:36:27 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304131636.1269ac13@posting.google.com>
Source record: 120893

GregEMT1(nospam)@netzero.com (KF6ALC) wrote in message
news:<3e9a9e17.770031454@news.earthlink.net>...
> I want to install a 40m dipole (80m dipole with balun from hamfest
> junk pile I cut to 33' each side) on my roof, using an existing 10'
> mast with a 1/2 wave 10m vertical on top. I would like to mount the
> balun just below the mount for the 10m vertical, and run the legs to
> the roof edges, creating a medium inverted V (dipole ends about 15'
> below center feed), and feed this with rg8 (~40' coax run). Right
> now, this will only be used for a 2 watt QRP (Norcal 40a), but would
> like to use on a higher power hf rig when I can afford one.
>
> Questions-
>
> First, will all this work?
Yes.
>
> Any problems with it being so close to the 10m vert? (10m output is
> about 30 watts)
No. But to be on the safe side, I would not hook two seperate rigs to
each antenna at the same time. You might blow out the front end of one
of them if not protected for such high levels.
>
> One leg of the dipole will come very close (~1') to a guy wire, is
> this bad?

Not if it's at a right angle. You just don't want them running in the
same direction right next to each other. Will cause strange tuning
problems...
>
> I have SWR meter, but do I need a tuner?

No.
>
> I have heard about coiling the coax 6-8 times at feed point, but I am
> not sure why or do I need to?
Act as a choke to decouple the coax from the antenna. Is not a bad
idea, but not required to operate. A 1:1 voltage or current balun
would do the same job. If you use a normal balun, you don't need the
choke, unless you just want overkill. And visa versa. You really
don't need the balun if you use the choke, as long as it's within it's
operating range. Most coax chokes are fairly broadbanded. IE: one can
cover all three bands for a tri band beam.

>
> What impact will there be if the legs are not 180 degrees end to end?

> (I may not be able to get it straight due to roof configuration)

Very little to speak of for general use. It will work fine.

MK

642. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 00:53:12 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304131653.6ea01389@posting.google.com>
Source record: 120894

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304130824.abb5588@posting.google.com>...
> Gentlemen,
> We have so much discussion about SWR on this
> antenna group as well as attempts to broadbanding
> of antennas, yet those who are supposed to 'know'
> about antennas refuse to tackle the basics and
> in some cases do everything in their power to
> thwart the new.
> You do not have to be a rocket scientist to realise
> that with any antenna it is the reactance change with
> frequency that is the largest reason for escalating SWR
> and minimising band width of any antenna.
> Even the so called 'gurus' will agree to that tho
> they may well interject Shakesperian prose to dilute
> its significance.
> So why are we not attaching a magnetic loop antenna
> to our dipoles ?

It's very simple. I'll assume for now you mean as a separate antenna
fed with it own feedline connected in or out of phase with the dipole.
This is the only way it would still act as a magnetic loop. Answer me
this question. Why on earth would anyone want to hook a "dummy load"
into the circuit with a dipole? Or a "resister" of any type for that
matter? Your overall efficiency will drop. A mag loop is not an
efficient antenna compared to a 1/2 wave dipole. If all you want to do
is tune out reactance, just make the elements slightly longer than a
1/4 wave for the band in use, and use a variable cap at the feedpoint
to tune out the reactance at whatever freq. Seems more elegant to me
than introducing a 2nd fairly lossy antenna into the picture. MK

643. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:05:20 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304131705.695599e5@posting.google.com>
Source record: 120895

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
>
> Hi ust place the loop on top of the dipole with at least
> a third of the periphary in contact with the dipole.
> No need to drive the loop as it gets its energy from the driven
> dipole.
> the patern will be juswt what you would expect from a dipole but it
> would be best to feed the dipole just outside where the loop and
> dipole are in contact.

This is no longer acting as a magnetic loop.
>
> \That is to ask are the length of the dipole and the
> > diameter of the loop the same as if you were designing each for
> > "standard" service?
> >
> > You mention feeding the antenna as you would the dipole, not the loop.
> > This means no coupling loop?
> Well the loop is definitely coupled to the dipole as it is in contact
> >
>
> >
> > I ask these things because I'm intrigued, and I'm finishing a magloop
> > right now. It might be an interesting experiment. If it works, fine, if
> > not, I'm not out anything.
>
> Oh Mike, it will work sure enough and then all will follow. I believe
> the main problem is the computor programing path that we all take now
> is the problem.
> I do not use the EZNEC program and thus have no problem. Many others
> who apparently use EZNEC have not been able to duplicate other
> computor programs and thus hams do not proceed with the idea. I
> believe that it is the EZNEC program thatis at fault since those that
> used it certainly were not dummies.

No. Eznec did indeed find that you could use your above stated device
and tune out the reactance. No one ever said you couldn't. But this
device is in no way acting as a magnetic loop so the title of the
thread is a misnomer. It is acting as a matching device. What eznec or
any other program that I have seen has said, is that you can't STEER
the pattern by changing the value of the cap. You seem to be confused
by the results of the models. But heck, you don't need the loop at
all. Just a variable cap at the feedpoint will do the same thing. This
is nothing new. People were doing this years before I were born. MK

644. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:05:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9k2atams9ch6a@corp.supernews.com>
Source record: 120896

Here's the answer to your question, Art,

"Wouldn't it be better to ask for clarification
or insights on the paramaters used to confirm
validity than to retard progress or denigrate
fresh aproaches ?"

The answer, regrettably, is no.

Roy Lewallen, W7EL

Reg Edwards wrote:
> It should be bleeding obvious (as John Cleese says) to any engineer worth
> his salt, the ONLY way of determining the accuracy of any short, approximate
> 'formula' is to compare it with the 'exact' fundamental standard of
> calculating the parameter in question.
>
> It is futile to make measurements or to compare with a variety of suspect,
> second-hand, approximations to be found in the few fashionable 'bibles'.
> . . .

645. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:20:28 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304131720.308f4102@posting.google.com>
Source record: 120897

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304131434.dbb165d@posting.google.com>...
> Mike Coslo <mcoslo@adelphia.net> wrote in message
news:<3E99A238.4050503@adelphia.net>...
> > Art Unwin KB9MZ wrote:
> > > Gentlemen,
>
> > > So why are we not attaching a magnetic loop antenna
> > > to our dipoles ?
> > > The magnetic loop is small so it cannot be because
> > > of its apearence value. It uses only a capacitor
> > > in rotary form to remove reactance from the dipole so it
> > > cannot be mechanical complexity that is holding its use back.
> > > We still feed the dipole in the normal fashion thus avoiding
> > > the magnetic loop feeding problems, so it cannot be that.
> > > By removing reactance from an antenna where the capacitor
> > > is part of the antenna and not a system tuner it helps
> > > efficiency so it can't be that! Yet without reactance to
> > > deal with even the small inbuilt tuner of any transmitter
> > > can handle the small swings in resistive impedance.
> > > So why pay a $1000 dollars plus for the 'NEW' antenna that
> > > has plenty of publicity in the ham magazines when you can
> > > homebrew your own antenna for a few dollars that does the
> > > same thing?
> >
> > Art, I'm having some trouble visualizing the situation here. Is the
> > magloop in the center of the antenna? and what are the effects upon the
> > loop and dipole?
>
> Hi ust place the loop on top of the dipole with at least
> a third of the periphary in contact with the dipole.
> No need to drive the loop as it gets its energy from the driven
> dipole.
> the patern will be juswt what you would expect from a dipole but it
> would be best to feed the dipole just outside where the loop and
> dipole are in contact.
>
> \That is to ask are the length of the dipole and the
> > diameter of the loop the same as if you were designing each for
> > "standard" service?
> >
> > You mention feeding the antenna as you would the dipole, not the loop.
> > This means no coupling loop?
> Well the loop is definitely coupled to the dipole as it is in contact

> >
> > Another thought is how the mechanical functions would work. In my own
> > case, I have a loop that is around 20 feet in circumference. If this
> > sits in the middle of the dipole, I'm assuming that it would almost have
> > to be in a "V" pattern, as I think the XYL might balk at the idea of a
> > big loop 55 feet in the air.
> Well I squash the loop so it becomes more a rectangular form so a good
> stretch of it is in contact with the dipole(looks like a parallel
> circuit at the center of the dipole)
> >
> > What would be the likely radiation pattern from such a beast?
> Bidirectional as per a normal dipole but with a lot larger band
> spread.
> >
> >
> > I ask these things because I'm intrigued, and I'm finishing a magloop
> > right now. It might be an interesting experiment. If it works, fine, if
> > not, I'm not out anything.
>
> Oh Mike, it will work sure enough and then all will follow. I believe
> the main problem is the computor programing path that we all take now
> is the problem.
> I do not use the EZNEC program and thus have no problem. Many others
> who apparently use EZNEC have not been able to duplicate other
> computor programs and thus hams do not proceed with the idea. I
> believe that it is the EZNEC program thatis at fault since those that
> used it certainly were not dummies.
> Keep in touch with the group on the experiment.
> Best regards
> Art
> >
> > - Mike KB3EIA -

Mike , I just saw that I didn't answer the dipole length question.
It looks like the magloop antenna that you made was for 10 thru 30
so any length dipole will do, say between a 10 metre dipole and a 15
metre dipole.
You could go longer ofcourse but that depends what spread you have on
your variable capacitor. Usually for a magloop the capacitor is
usually around 100 pF max but if you have more available then your
frequency spread will increase!
Since I suggested that you feed the dipole with connections OUTSIDE
the loop/dipole joint section I suggest you use a 4:1 balun which
should get you in the ball park. Note you are feeding the dipole so
you will not be beleagured
with the impeadance /efficiency problems encountered by loop antennas
alone
as well as the high voltage capacitor requirements, fortunately you do
retain all the good things that the loop antenna alone supplies.You
might want to try the antenna in the vertical position also, I think

you will be surprised
Keep in touch
Art KB9MZ.....XG

646. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:26:50 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7d2nl$ja3$1@slb2.atl.mindspring.net>
Source record: 120898
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

DIPSHIT? Damn...you must be a military type (ex of course). How cum your still on CB? Too damn dumb to get a ham license? Or do you just come on ham anyway and jam the legit types?

Dan/W4NTI

<Moparholic@hotmailnospam.com> wrote in message news:20030413194801.731$aK@newsreader.com...
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote:
> > What happened? Did you take my adivice? I'll bet your not even a ham
> > are you? Most hams I know are proud of their call. Whats your?
> >
> > Dan/W4NTI
> >
> This is cross-posted to two CB groups,dipshit.
>
> --
> There was another war-related casualty today. The French were injured when
> they tried to jump on our bandwagon." -Jay Leno
> --
> http://NewsReader.Com/
> 50 GB/Month

647. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:28:05 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9A0EA5.431F3195@cwis.net>
Source record: 120899

Reg,
He said that all he had was an SWR meter, so about
all he has to go by is SWR to tell if 'things' are
working well or not. Like it or not, what else has
he to go by? Varying the angle between the dipole's
legs does change the antenna's input impedance, doesn't
it, and in most cases, lowers it? So as long as he has
that option, why not use it if it helps?
As far as, "loses more in radiating efficiency
(radiation resistance) than the trivial improvement
due to matching the antenna to the transmission line.",
does the difference in radiation resistance account for
as much loss as may be encountered because of the protection
circuits which cause a reduction in output power because
high SWR? Beats me, especially since we don't know what
radio is going to be used and how it reacts to high SWR.
"What if's", "should have's", etc, don't do much good if
you're blessed with an abundance of "ain't got one of
those"...
'Doc

648. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:40:46 UTC
From: richardharrison@webtv.net
Message-ID: <4420-3E9A119E-95@storefull-2315.public.lawson.webtv.net>
Source record: 120901

Art, KB9MZ wrote:
"Well I squash the loop so it becomes more a rectangular form so a good stretch of it is in contact with the dipole (looks like a parallel circuit at the center of the dipole)."

Art, please look at Fig 10 on page 26-9 of the 19th edition of the ARRL "Antenna Book" and say how your antenna differs from either (A) or (B). Thank you.

Best regards, Richard Harrison, KB5WZI

649. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 01:44:24 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304131744.162035f6@posting.google.com>
Source record: 120900

'Doc <w5lz@cwis.net> wrote in message news:<3E99E4D6.9921AF3@cwis.net>...
> Art,
> "Home truths"? Some may be snickering, but I
> wonder who they're snickering at...
> 'Doc
>
> PS - It's still a nickname. I'm not, and have
> never claimed to be a 'doctor' of any kind.
> I'm also not a "guru", so I don't expect
> you to believe anything I say. Too bad.

Doc, I am still smiling to myself at the response you gave a
few weeks back. Remember when that gentleman finally asked you to
give some sort of reasoning to back up some of your antenna statements ?
The answer that you gave, how did it go now....
"that would be telling....." was your response,
(reminded me of that movie trailer on T.V. where a girl stated musically
" I'LL never tellllll...")
which I thought was hillarious and pretty much sums up
who you are and what you are........Doctor......
By the way it was only a couple of weeks ago you said
that you would cease harrasment tactics, what a short
memory you have!!!
If you have nothing constructive to say then why post,
harrassing me will AGAIN prove to be a poor choice as
I will stand up for myself,
with plain language,
no Shakespeare!

Art KB9MZ....XG

650. Antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 02:29:24 UTC
From: Wendy and Matt <mapwam@frontiernet.net>
Message-ID: <82pma.1864$uP.1569@news02.roc.ny.frontiernet.net>
Source record: 120902

I saw a new antenna design in use, and couldn't figure how it worked. A Shakespeare 8' marine antenna was vertically mounted about 6" in font of what looked like a 440, 4 element yagi that was pointed straight up in the air. All of this was mounted about three feet above the roof of the buildings. the "Driven element on the straight up 440 yagi had a line coming off it. I saw two of these antenna, at two different sites. Has anyone any idea of how this antenna works, and why they would use it. Thanks.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.470 / Virus Database: 268 - Release Date: 4/8/03

651. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 03:11:33 UTC
From: Jules <k8jk@attb.com>
Message-ID: <FFpma.122353$ug3.244502@rwcrnsc51.ops.asp.att.net>
Source record: 120903

Used to use copper-clad electric fence wire for longwires successfully but have not seen any in a long time. Disadvantages - kinks easily and will break at that spot, copper wears off quickly especially in a salt air atmosphere. Advantage - cheap, makes for an almost invisible antenna, strong.
GL - Jules

<g3tmh@gb7abc.net> wrote in message news:g3tmh000386@hamradio...
> Electric fence wire has a high resistance, it's usually very thin.
>
> Electric fences = High volts low Amps
>
> Amateur radio Antenna = Low volts high Amps
>
> Stick to copper, although I am told solid gold is even better
> get your gold prospector gear on and go searching HI
>
> Ken
>
> >
> >
> >Tom,
> > I've used galvanized steel electric fence wire with
> >no apparent problems. Need to scrape the galvanization
> >off before soldering, though.
> > 'Doc
> >
> >PS - At about $10 per 1/4 mile spool, I don't know
> > how you can get any cheaper..
>
>
> --
>
> (Sent using HamServ)
> email: g3tmh@gb7abc.net
> ax25 : g3tmh@gb7yks.#19.gbr.eu
> Web site. http://www.gb7abc.net
>
> External servers are on line...
> send a message to me with the subject /HELP
> for a list of servers that are running on this system.
>

652. @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 03:22:43 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304131922.78ff8123@posting.google.com>
Source record: 120904

Hello,

I'm not a Yagi specialist, but i feel that the Yagi optimizer programs will get you in the ballpark, but you still must do additional empirical tuning for best results. This is because the program cannot model all the parasitics and mutual couplings in the system.

I would say the higher the "Q" of the yagi (thinner diameter elements and greater # of bays), the more sensitive it will be to variations in the parasitics, and the less the measured results will match your computer simulated data.

I would design a yagi antenna with sliding, variable, and adjustable parameters (tube-in-a-tube with pipe clamps), so that you can adjust the element lengths and their spacings to each other, so that you can empirically tune the antenna. I would use the MFJ antenna tuner for this, or an acurrate SWR meter like the Diawa, with 1-5 watts driving it. Problem is, a good SWR doesn't mean the polar pattern is what you want, and not too many people have access to an anechoic chamber.

All of the sources i have read on Yagis indicate that they are not well understood and still involve a little trial-and-error. This is why even programs like the Yagi optimizer are genetic algorithms (the computer equivalent of brute force "try this" empirical tuning anyways!), and NOT fixed plug-and-play formulas. I'll bet that Yagi companies first use a computer to get in the ballpark, but then continue to adjust the parameters (while measuring with an anechoic chamber) to find a tuning that suits their particular materials and such.

And i'll bet the polar plots they give are REAL, measured data from the chamber, and NOT simply a plot from their computer simulation! (assuming this is a reputable company!)

Any comments from any Yagi designers are greatly appreciated.

Dr. Slick

653. Re: Help? Bonding exterior tower ground to AC interior ground - TowerGRD.gif (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 03:23:00 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <ecak9vof60hua4mk50qkj5fvbthhmrd5rh@4ax.com>
Source record: 120905

I am assuming that the jpeg of the tower ground is meant to show the ground leads of each leg being connected at the 5 foot level and going out 4 feet with the curve?
If that is what you are showing that may not be the best thing to do. While it does give a small radius bend in the tower leg ground lead it also adds much inductance to the ground lead by being so long. Often times it is much better to connect the ground lead much closer to ground with a little sharper bend. Even though a sharper bend increases the inductance over that of a longer bend, a shorter lead length will probably more than compensate for it. You are much better off using the lower 5 feet of the large tower leg rather than 5 feet of small (realitivly) ground lead wire.

Most people think that lightning "does not like to turn corners" and bends of any kind should be avoided. It is impedance that lightning does not like to encounter when headed for ground. Any inductance lets the voltage rise and invites flashover to an unwanted point.
Inductance can be introduced by a length of straight wire as easily as it can by a curve in a short wire.

73
Gary K4FMX

On Sun, 13 Apr 2003 04:48:08 -0400, Peter Ackermann
<w4sfd@ispwest.com> wrote:

>YES, you need to bond house and tower grd systems. What we do at
>Broadcast towers is to sink a Grd Rod Between the two Grd point as the
>Common Grd. We never direct connect the two Grd points. We service 3
>different FM stations all on one thousand feet tower. Each transmitter
>has its own grd system.
>
>I guess I will have to write that article on HALO Ground Systems.
>
>W4SFD
>
>
>On 12 Apr 2003 15:24:27 -0700, homac@telusplanet.net (Homac) wrote:
>
>>I am setting up a tower just outside my house. I have grounded each
>>tower leg and these grounds are all connected together via a #6 copper
>>wire. The equipment ground also comes outside and is bonded to this
>>point.

>>
>>The AC (house electrical ground) is a cold water pipe inside the
>>basement of the house. The cold water feed comes up throught the
>>basement and is copper pipe throughout.
>>
>>My question is: Should I run a wire from the cold water AC ground to
>>the antenna ground, bonding them together. My fear is if lightning
>>strikes it may bring current inside the house. Leaving them separate
>>means a difference between two grounds with my equipment in the
>>middle, also not good.
>>
>>A diagram can be viewed here:
>>http://www.telusplanet.net/~homac/radiosetup.jpg
>>
>>I appreciate any help....
>>
>>Thanks
>>
>>Homac

654. Re: Battery Cables on a GM product

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 03:42:27 UTC
From: "Ryan Lughermo, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <b7e7in$d7hfl$1@ID-189073.news.dfncis.de>
Source record: 120912

Your vehicle's radio will lose it's programming and the vehicle's computer
will return to factory defaults and a little bit of driving under YOUR
normal driving conditions should return it back to what is normal for your
driving. Disconnect negative terminal first. This is according to my local
dealer.

Make sure you fuse both cables (pos and neg) at both ends for extra
security. Doesn't cost much. Use at least 12 gauge or thicker wire if
possible. Especially with higher current devices.

Have fun,

--
Ryan, KC8PMX
FF/MFR
REMOVE "NOSPAM" in email address to reply.
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...

"Bill East" <beast@pcs.mb.ca> wrote in message
news:TA3ma.5661$qn.529433@localhost...
> I want to connect my FT- 897 directly to the battery posts .I`m hoping
> someone here has done this before and has a solution.
> If I disconnect the battery from my 01 Chev truck battery for an hour
will
> the truck electronics loose any programming ? I really don`t want to drive
> back to a GM dealer for a download .
> Could I take a 9 volt battery and plug it into the truck cigrerette
lighter
> . Could this work by keeping the truck electronics programmed settings
> while the battery cables are disconnected?
> Or am i worring for nothing ..
>
> thanks,
> Bill
>
>

655. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 04:21:41 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3E9A3755.91731C8E@powerup.com.au>
Source record: 120906

There is another product called 'Turbo-wire'
which has several strands of copper wire along with
the stainless steel wire. Both supported by the
UV resistant polymer cord or tape. Try the farm
products suppliers for a start.

I have used that succesfully. Cheap, too.

Cheers.
Murray

Jules wrote:
>
> Used to use copper-clad electric fence wire for longwires successfully but
> have not seen any in a long time. Disadvantages - kinks easily and will
> break at that spot, copper wears off quickly especially in a salt air
> atmosphere. Advantage - cheap, makes for an almost invisible antenna,
> strong.
> GL - Jules
>
> <g3tmh@gb7abc.net> wrote in message news:g3tmh000386@hamradio...
> > Electric fence wire has a high resistance, it's usually very thin.
> >
> > Electric fences = High volts low Amps
> >
> > Amateur radio Antenna = Low volts high Amps
> >
> > Stick to copper, although I am told solid gold is even better
> > get your gold prospector gear on and go searching HI
> >
> > Ken
> >
> > >
> > >
> > >Tom,
> > > I've used galvanized steel electric fence wire with
> > >no apparent problems. Need to scrape the galvanization
> > >off before soldering, though.
> > > 'Doc
> > >
> > >PS - At about $10 per 1/4 mile spool, I don't know
> > > how you can get any cheaper..
> >
> >
> > --

> >
> > (Sent using HamServ)
> > email: g3tmh@gb7abc.net
> > ax25 : g3tmh@gb7yks.#19.gbr.eu
> > Web site. http://www.gb7abc.net
> >
> > External servers are on line...
> > send a message to me with the subject /HELP
> > for a list of servers that are running on this system.
> >

--
****
* Murray Kelly vk4aok mailto://mkelly@powerup.com.au *
* 6 Spyglass Place, Oxley Ridge QLD. 4075. Australia *
* ph/fax Intl+ 61 7 3879 7968 *
****

656. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 06:01:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9kjmd8nnl0f9f@corp.supernews.com>
Source record: 120907

I'm not a Yagi designer, but a developer and seller of antenna modeling software (EZNEC).

Yagis are very well understood. However, there are so many variables involved and so many things to trade (gain, beam width, size, bandwidth, front/back, sidelobe levels, bandwidth over which a particular gain, impedance, front/back, etc. will hold, etc.) that there aren't many jim-dandy formulas for whipping one up. All Yagis are a bundle of compromises, and it's up to each individual to decide which combination is best.

Over the years I've gotten quite a bit of feedback from customers regarding the ability of programs to optimize and analyze Yagis. The only optimizing program I've heard much about is YO (Yagi Optimizer). I've been told that it will produce good results, but like many optimizers, has a tendency to drop you into a local, rather than a global, optimum. A number of people have had good success by beginning with results, then hand-tweaking with EZNEC or a similar program. They're generally able to improve on YO results by doing the tweaking.

I've had quite a number of customers tell me that Yagi results from EZNEC are very accurate. These include customers with very extensive measurement capabilities, so they're truly able to evaluate the results.

However, every modeling program has its peculiarities. NEC-2, which EZNEC uses, won't give very accurate results (primarily for front/back ratio) for Yagis made from telescoping tubing. However, there's a method developed by Dave Leeson, W6QHS, to calculate an equivalent single-diameter wire for calculation. EZNEC and some other NEC-2 based programs incorporate this method, and the result is very good accuracy for full sized Yagis. NEC-4 is much less susceptible to this problem and can be used for loaded Yagis, but its cost puts it out of the reach of most amateurs. (Also, it can't be exported.) But for full-sized Yagis, NEC-2 with the Leeson correction is just as good.

MININEC-based programs don't have the problem with telescoping tubing, but suffer from another problem. For unknown reasons, narrowband, long Yagis show a frequency offset between modeled and measured results. At least one software developer (Beezley) has claimed to "correct" this, but I don't believe the method or the range over which the correction is effective have ever been made public.

Front/back ratio, or deep nulls in general, are always the hardest thing to achieve. Very small physical changes can cause relatively large changes in nulls. So it wouldn't surprise me if some manual tweaking following computer design might improve null depth in some cases. But

most people do the large majority of the tweaking with the computer
model before building the antenna.

Roy Lewallen, W7EL

Dr. Slick wrote:
> Hello,
>
> I'm not a Yagi specialist, but i feel that the Yagi optimizer
> programs will get you in the ballpark, but you still must do
> additional empirical tuning for best results. This is because the
> program cannot model all the parasitics and mutual couplings in the
> system.
>
> I would say the higher the "Q" of the yagi (thinner diameter
> elements and greater # of bays), the more sensitive it will be to
> variations in the parasitics, and the less the measured results will
> match your computer simulated data.
>
> I would design a yagi antenna with sliding, variable, and
> adjustable parameters (tube-in-a-tube with pipe clamps), so that you
> can adjust the element lengths and their spacings to each other, so
> that you can empirically tune the antenna. I would use the MFJ
> antenna tuner for this, or an acurrate SWR meter like the Diawa, with
> 1-5 watts driving it. Problem is, a good SWR doesn't mean the polar
> pattern is what you want, and not too many people have access to an
> anechoic chamber.
>
> All of the sources i have read on Yagis indicate that they
> are not well understood and still involve a little trial-and-error.
> This is why even programs like the Yagi optimizer are genetic
> algorithms (the computer equivalent of brute force "try this"
> empirical tuning anyways!), and NOT fixed plug-and-play formulas.
> I'll bet that Yagi companies first use a computer to get in
> the ballpark, but then continue to adjust the parameters (while
> measuring with an anechoic chamber) to find a tuning that suits their
> particular materials and such.
>
> And i'll bet the polar plots they give are REAL, measured
> data from the chamber, and NOT simply a plot from their computer
> simulation! (assuming this is a reputable company!)
>
>
> Any comments from any Yagi designers are greatly
> appreciated.
>
>
> Dr. Slick

657. Re: your opinion about portable HF antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 07:52:51 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e9a68d5$0$26375$626a54ce@news.free.fr>
Source record: 120908

Hello Thierry,

Your page gives a quite good overview of field-daying.

By experience, the simplest is the best! I do not use any fancy miraculou$$$ antenna, but only dipoles (full size of course), OCFDs or Levy-type antennas with a glass-fiber pole. I also tried an AP8A that works quite good, other ham fellows use GPA-30 antennas.
The 12 V power comes from a car battery (not the one of the car!!!) linked to the transceiver with 6 sqr.mm cable (crocodile clamps for the battery and banana jacks for the transceiver). Not to mention that all he connectors are soldered to the cables even the ones that came with the transceivers!
The transceivers used here are either an FT900 or a Ten-Tec Scout 555; if the battery voltage drops under 13V you can forget Kenwood, under 12V exit Icom (and under 11.5V Yaesu is out too).
And who needs 100 Watts + for field-day, 50 W is quite sufficient. Field-day contests are made to test the operators skills to longlast on the air, not to make DX! Moreover, field-day is meant for sporadic activity and mobility. If one wants to make great DX, he should stay at home to be able to use the full potential of his rigs.

No one could make a Ferrari out of a Trabant! We should just know what we are able to do with what we get.

73 de F8BOE Olivier ...-.-

658. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 08:07:04 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3e9a6c2a$0$26366$626a54ce@news.free.fr>
Source record: 120909

Hello,

As I understand you want a compact antenna in volume which should be a multiband.
Well, you have the choice between a multi-dipole (works good), a Levy antenna (the Levy coupler is mandatory), an OCFD (FD4-type, using a tuner is not necessary but test it before) or a W3DZZ (more complicated to homebrew if you want specific bands).
Don't forget a mast or a flag-pole and all the harness.

73 de F8BOE Olivier ...-.-

659. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 10:41:18 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9A904E.6F0E7EA9@cwis.net>
Source record: 120910

Art,
Typical "Art'ish" behavior, misquoted, out of
context, delusional. Have to see about getting
you and ol'Frac together. We could have the
"Frac'n'Quack" show...
'Doc

660. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 11:29:07 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7e623ajj1@hercules.btinternet.com>
Source record: 120911

It should be bleeding obvious (as John Cleese says) to any engineer worth his salt, the ONLY way of determining the accuracy of any short, approximate 'formula' is to compare it with the 'exact' fundamental standard of calculating the parameter in question.

It is futile to make measurements or to compare with a variety of suspect, second-hand, approximations to be found in the few fashionable 'bibles'.

Bibles of course serve a useful purpose but need occasional revision by heritics. But as everybody knows, when it comes to radio, any bloody thing will work which is why some books (you know which they are) remain so popular. Great fun!

Assuming a current distribution the 'exact' value of radiation resistance of a vertical antenna above a perfect earth involves integrating the power radiated from each elemental length of the antenna wire over its whole length. Using 'exact' classical transmission line calculations the radiation resistance can be transformed to any feedpoint such as the antenna base.

Having obtained a function of feedpoint resistance versus length or frequency (and in the process, reactance) there are a variety of mathematical methods, nothing to do with radio, of producing simple little formulae which provide estimates of input resistance over a limited range of wire lengths or frequencies.

Rin due to radiation = Square(19.85 * Height / Lambda) ohms is very accurate up to a height of about 0.1 wavelengths. But it's absolutely useless until wild guesses are made of loading coil Q and soil 'constants'. What's the R and K in YOUR backyard?

What on earth are we all haggling about ? Let's not set the World on fire. There are already too many successful lunatics employed in that full time occupation.

Cec, I'm back on French plonk tonight - red, Pays de Vacluse, it's good for the arteries. Cheers!

Reg, G4FGQ

661. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 12:08:46 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9AA61D.9B1E56A4@uwe.ac.uk>
Source record: 120913

Tarmo Tammaru wrote:
>
> Andy,
>
> The 1.7 ratio refers to the Ohms/foot for two wires of the same diameter. To
> have Al wire with the same Ohms/foot as Cu, it has to have about 1.7 times
> the area, or about 1.3 times the diameter as Cu. Neglecting skin effects,
> #12 Al wire is almost as good as #14 Cu.
>

I assumed we were talking RF, so skin effect is the primary effect
and can't be ignored. I always assume that for RF the resistance of
a wire is proportional to the circumference not the cross section,
so the 1.7 times linear is correct. The 1.7:1 ratio is the ratio
of the resistivities of the two metals. #12 Al wire is a little
better than #17 copper, a little worse than #16. #10 Al is roughly
the same as #14 Cu. All # are AWG.

vy 73

Andy, M3ABC

662. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 12:12:55 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9AA718.484F5B2B@uwe.ac.uk>
Source record: 120914

Tarmo Tammaru wrote:
>
> I said, neglecting skin effects. I don't have the formulas handy, but the
> skin depth for AL will not be the same as Cu. Can't remember which way it
> goes.
>
> Tam/WB2TT

Higher resistivity = greater skin depth. You can't ignore
skin effect, it is just wrong if you do.

vy 73

Andy, M3ABC

663. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 12:20:06 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9AA8C6.55101701@uwe.ac.uk>
Source record: 120915

Max wrote:
>
> Hello
>
> > I have to agree with Doc. I have used galvanized electric fence wire ,
> > Barbed wire, metal roof . It may not be perfect but it works and is cheap.
> > Have fun,Mike N5IPJ
>
> Here in OZ there is a lot of 330 m. high mast used for UHF transmission,
> the mast itself is part of the antenna and is made of galvanized steel.
>
> Regards Max

Keeps the budgies feet warm then. If they are using a 330 m (~1100ft) long
wire doesn't the signal go straight up? Must be several hundred lambda
at UHF. Have they repealed J.C. Maxwell's stuff in OZ?

vy 73

Andy, M3ABC

664. Re: Looking for a ladder-line-Balun that tolerates SWR 1:20

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 12:38:24 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9AAD11.BCF852F7@uwe.ac.uk>
Source record: 120916

Peter Thoms wrote:
>
> Hi NG,
>
> Iï¿½m looking for a ladderline-balun.
> I want to hook it up into a 13m Dipol (lazy-H). The Dipol will be loaded
> from 10 to 40m with 100W via an automatiktuner SG 237.
>
> On the Bandedges Nec2 shows relative to 350Ohm a max. SWR of 1:20.
>
> What ist the strategy to design an effective Balun?
>
> vy 73 de Peter, DL6LAT

Dear Peter,

Float the SGC. Put the balun (a coil of 10 or 12 turns, 12"
(30 cm.) diameter) in the coax feed to the SGC. Include a similar
balun in the control/power cable. Works fine on my SGC230. Baluns
are much easier to make in low impedance circuits. They need
smaller components to get the same choking effect.

vy 73

Andy, M3ABC

665. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 13:08:30 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304140508.6d058f4f@posting.google.com>
Source record: 120917

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<0srj9vgnabafbj7rakk79kt01lotfdvvl4@4ax.com>...
> On 13 Apr 2003 15:34:25 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> [snip]
> |I do not use the EZNEC program and thus have no problem. Many others
> |who apparently use EZNEC have not been able to duplicate other
> |computor programs and thus hams do not proceed with the idea. I
> |believe that it is the EZNEC program thatis at fault since those that
> |used it certainly were not dummies.
>
> Art, I believe that I gave your design more than a fair shake when I
> tried to model it. Nevertheless, I could not duplicate anything near
> your claims.
>
> I don't know why you try and fault EZNEC (actually, I have the opinion
> that it is nothing technical), it is a fine program and the basic
> computing engine is used in many other programs that you seem to feel
> give different results. I can assure that they don't.

Wes, thanks for responding
You are one of the fine gentlemen who I believe gave it a full wirl
without concentrating on the "derision" side and yet like others could
not reproduce it.
As you can see from a post earlier we are now seeing a glimmer of
light where somebody states that yes, he can remove the reactance from
an antenna as per this thread heading. Since so many fine people had
tried to play with this type of assembly before using Eznec without
success it does tend to point the finger. Fortunately we also have
somebody actusally going to experiment with it full time no less
without total reliance on computor programs like the old days. So as
many would say "the proof is in the pudding"

> Many on this group, myself included, have cut you a lot of slack,
> likely because of your self-professed "problems", only to be met with
> your derisive rants about "gurus", etc.

Heh my problems are going away, what bothers me is gurus who
dismiss all out of hand

>
> The patent office notwithstanding, no one else either understands your
> design or can prove the operation that you claim. Thus, it is
> incumbent upon you to stop trying to recruit unsuspecting surrogates

> to do your work and prove your claim yourself.
>
> If you can't do that, then cut out the crap and in your words, "just
> be silent for once."

No, I will not be silent about antennas, especially those that can be made like I claim, can be modelled like I claim and have solid mathematical backing like I claim. Nobody has to make antennas like I suggest, I just want people to be aware of them and build upon them which is what this newsgroup is all about. I don't need anybody to prove it to me that it works as I state. If people use computor programs as a tool in conjunction with experimentation our hobby would be much better for it.
Have a great week
Art

666. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 13:52:24 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9ABD18.2F3FA026@cwis.net>
Source record: 120918

> Keeps the budgies feet warm then. If they are using a 330 m (~1100ft) long
> wire doesn't the signal go straight up? Must be several hundred lambda
> at UHF. Have they repealed J.C. Maxwell's stuff in OZ?
>
> vy 73
>
> Andy, M3ABC

Andy,
If the 1100 feet was a horizontal wire, the majority of the
signal would be at very high angles, you're right. If the 1100
feet were a vertical wire/pole/mast/whatever, it would have a
pretty good low angle of radiation (but one hell of an input
impedance). The real question is, how many budgies can you stack
on a 1100 feet vertical perch, and what is the cooking time?
Mr. Maxwell didn't have much to say about budgies and how long to
cook them...
'Doc

667. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 13:56:24 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0304140556.566e5653@posting.google.com>
Source record: 120769

'Doc <w5lz@cwis.net> wrote in message news:<3E9A904E.6F0E7EA9@cwis.net>...
> Art,
> Typical "Art'ish" behavior, misquoted, out of
> context, delusional. Have to see about getting
> you and ol'Frac together. We could have the
> "Frac'n'Quack" show...
> 'Doc

doc? quack? quack? doc? is it posible you finaly
realise what you realy are

jaro

668. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 13:58:01 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7eeo4$qs9$1@slb9.atl.mindspring.net>
Source record: 120770
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Boy you are a bright bulb, ain't ya? I didn't start this thread.
Duuuuuuuuuu

Dan/W4NTI

<Moparholic@hotmailnospam.com> wrote in message
news:20030414082403.922$V0@newsreader.com...
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote:
> > DIPSHIT? Damn...you must be a military type (ex of course). How cum
> > your still on CB? Too damn dumb to get a ham license? Or do you just
> > come on ham anyway and jam the legit types?
> >
> > Dan/W4NTI
> >
> > <Moparholic@hotmailnospam.com> wrote in message
> > news:20030413194801.731$aK@newsreader.com...
> > > "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote:
> > > > What happened? Did you take my adivice? I'll bet your not even a
> > > > ham are you? Most hams I know are proud of their call. Whats your?
> > > >
> > > > Dan/W4NTI
> > > >
> > > This is cross-posted to two CB groups,dipshit.
> >
> A better question is..Why are you trolling CB newsgroups
> with your top/cross-posted drivel?
>
> --
> There was another war-related casualty today. The French were injured when
> they tried to jump on our bandwagon." -Jay Leno
> --
> http://NewsReader.Com/
> 50 GB/Month

669. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:05:05 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <mkfl9vo5unov4gnog6g11o76g4p5onivpo@4ax.com>
Source record: 120772

On Mon, 14 Apr 2003 12:12:55 GMT, Andy Cowley <andy.cowley@uwe.ac.uk>
wrote:

>Tarmo Tammaru wrote:
>>
>> I said, neglecting skin effects. I don't have the formulas handy, but the
>> skin depth for AL will not be the same as Cu. Can't remember which way it
>> goes.
>>
>> Tam/WB2TT
>
>Higher resistivity = greater skin depth. You can't ignore
>skin effect, it is just wrong if you do.

According to page 7.2 of Wirebook IV, a 30% to 40% amount of copper on
copper-clad steel is required to provide RF performance on a par with
100%-copper wire at all HF frequencies. It doesn't mention how
aluminum compares...

Bob
k5qwg

>
>vy 73
>
>Andy, M3ABC

670. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:08:48 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9AC0F0.385A1E8A@cwis.net>
Source record: 120771

Reg Edwards wrote:

> Zero pF is needed to resonate the 1/2-wave loop. So the loop inductance
> must be infinite uH - or is it ?
> ---
> Reg, G4FGQ

Reg,
You can also say that zero uH is needed to resonate that
1/2-wave loop. So,
the loop capacitance must be infinite pF. If we put the two
together, then
infinite uH + infinite pF = resonance on infinite frequencies.
Would you send
that loop to me? I'll provide postage (in the box that my SWR
meter came in).
'Doc

671. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:34:17 UTC
From: richardharrison@webtv.net
Message-ID: <26791-3E9AC6E9-9@storefull-2313.public.lawson.webtv.net>
Source record: 120776

Art, KB9MZ wrote:
"Well I squash the loop----."

Art, do you feed the loop or do you feed the dipole?

Art, please look at Fig 10 on page 26-9 of the 19th edition of the ARRL "Antenna Book" and say how your antenna differs from either (A) or (B).

Best regards, Richard Harrison, KB5WZI

672. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:40:58 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0304140640.1d925de6@posting.google.com>
Source record: 120774

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0304131653.6ea01389@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304130824.abb5588@posting.google.com>...

> > So why are we not attaching a magnetic loop antenna
> > to our dipoles ?
> mark said
> It's very simple. I'll assume for now you mean as a separate antenna
> fed with it own feedline connected in or out of phase with the dipole.

Hi Mark
I don't know sh-t about antenna's, but Art plainly said
"do not feed the loop". If one is going to make asumptions against
what is plainly stated the end result will never match. Also in
another post on another thread Art pointed out his antenna's
"rotated" he did not claim steered.

jaro

673. Re: Smallest HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:43:24 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3E9AC8AA.E22A6F6E@shaw.ca>
Source record: 120775

Louis van Heerden wrote:
>
> Hi ALL
> We are looking for the smallest possible 3 band HF antenna to take on a
> DXpedition. Part of the trip will be in a small plane so the antenna must
> break down into short sections to transport. Does anyone know of a
> commercial antenna that will do this. Even the Mosely TA33Jnr is a bit
bigg.
> 73 Louis ZS1LVH

Take flat rotor cable and make a multiband dipole. Use nylon fishing
line on the ends as insulators. Toss one end over a tree branch and use
it as a sloper. If you have the space between two trees as a flat dipole.
You can also run it in inverted Vee. In some cases. raise one side
vertically up a tree with the other side a couple feet off and parallel
to the ground (a counterpoise). Very versatile and it all rolls up into
a very small, neat package. Feed it with RG-59. Keep it neat with a
twist tie!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

674. YT program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:45:53 UTC
From: Bill Ogden <ogden@us.ibm.com>
Message-ID: <3E9AC9A1.5E3CA682@us.ibm.com>
Source record: 120773

I am trying to obtain the topographical material described in the Antenna Compendium VOL 7 and, as usual, am a little confused.

I downloaded the gis data (from www.gisdatadepot.com) as described, and assumed I wanted the "10 meter" files when there was a choice. The MicroDEM file was downloaded, as described. The YTM2FT.EXE program has escaped me. I downloaded ACV7Setup.exe (from the ARRL site) and executed it. This produced a list of files, including YTM2FT.CAB, but no YTM2FT.EXE.

What is .CAB? Does it need to be unpacked some way to obtain the executable?

(The goal of all this is to compute antenna effectiveness profiles for my antenna, in various directions from my location. The YT program uses terrain profiles for a radius of about 2 miles around my location to compute the effect of the ground on my signal. I am in an area of erratic terrain and this should be interesting. The gis data mentioned is a high-resolution terrain map---this is a much easier way to obtain the data than trying to read it from a printed topo map. The YTM2FT program converts this data to the format needed by the YT program.)

Bill
W2WO

675. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:52:00 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7ehugpfu1@hercules.btinternet.com>
Source record: 120777

If the 1100 feet was a horizontal wire then most of the signal would be off the ENDS with very little straight up.

Why, because you'ld have a Beverage antenna.

676. WTB, Hygain HF Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 14:55:14 UTC
From: "Charles Morrison KI5XP"
Message-ID: <Xns935D6490A2787None@216.40.28.71>
Source record: 120778

Wanting to buy a Hygain TH2MK3 or a TH3JKS antenna. Any reasonable price,
will pay shipping or pickup around Louisiana, East Texas, or Miss.

Charlie
KI5XP

Contact: ki5xp at w5ddl.org

677. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 15:12:48 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <874r51un7z.fld@barrow.com>
Source record: 120779

'Doc <w5lz@cwis.net> wrote:
>> Keeps the budgies feet warm then. If they are using a 330 m (~1100ft) long
>> wire doesn't the signal go straight up? Must be several hundred lambda
>> at UHF. Have they repealed J.C. Maxwell's stuff in OZ?
>>
>> vy 73
>>
>> Andy, M3ABC
>
>
>Andy,
> If the 1100 feet was a horizontal wire, the majority of the
>signal would be at very high angles, you're right. If the 1100

Huh? Why would that be? I'd say very low angles.

>feet were a vertical wire/pole/mast/whatever, it would have a
>pretty good low angle of radiation (but one hell of an input
>impedance).

Huh? Why would any of that be? If vertical, it would radiate
either straight up or straight down. And the impedance would
depend on the frequency, and would actually be relatively low at
some frequencies.

> The real question is, how many budgies can you stack
>on a 1100 feet vertical perch, and what is the cooking time?
>Mr. Maxwell didn't have much to say about budgies and how long to
>cook them...

Ah, you weren't serious about any of this.

> 'Doc

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

678. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 15:14:12 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9AD044.845199E@yahoo.bomb>
Source record: 120780
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Dan/W4NTI wrote:
>
> What happened? Did you take my adivice? I'll bet your not even a ham are
> you? Whats your?

Since you feel that your callsign makes you superior to all others,
my call, to you, is GOD. It's turds like you that have stopped me
from taking an official test. Without studying, I can pass the no
code test with 90+ in 9 minutes on qrz.com. Who cares? I can get
my share of ham talk on repeaters or my old sideband channel.

> Most hams I know are proud of their call.

The others are worthless trolls. You should read Jerry Oxendine's
latest expose of the differences between CB and ham. He hit the
nail on the head. If you were a good ham, you could be a new Nï¿½BK (SK).

679. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 15:26:51 UTC
From: richardharrison@webtv.net
Message-ID: <4074-3E9AD33B-43@storefull-2311.public.lawson.webtv.net>
Source record: 120781

Reg, G4FGQ wrote:
"Why, because you`ld have a Beverage antenna."

Reg should return to a California Beverage (wine) source. He needs to exchange pays`.

This UHF TV antenna needs height for line-of-sight propagation. Height is unbecoming to a Beverage (wave) antenna`s vertically polarized response. The nearby earth`s resistive drag is needed to tilt the wave to get vertically polarized responses in the directions of the ends of the horizontal wire.

Best regards, Richard Harrison, KB5WZI

680. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 15:55:43 UTC
From: richardharrison@webtv.net
Message-ID: <15923-3E9AD9FF-46@storefull-2315.public.lawson.webtv.net>
Source record: 120783

Jaro wrote:
"---Art plainly said "do not feed the loop"."

OK, the zoo sign says "do not feed the animals". Someone does or they soon die.

If Art feeds the associated dipole and not the loop, are the feedwires attached on either siide of an insulator or are they attached delta-match style?

My assumption was that Art was tuning a T-matched dipole with a variable capacitor in series with his feed "loop".

Art may instead be feeding the dipole and placing a tuned "loop" across the drive point of the dipole. If so, this is more or less equivalent to tuning with a variable length stub across the drive point.

I think people who obfuscate often hide ignorance.

Best regards, Richard Harrison, KB5WZI

681. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 16:12:23 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304140812.20cfe7f3@posting.google.com>
Source record: 120782

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<4420-3E9A119E-95@storefull-2315.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "Well I squash the loop so it becomes more a rectangular form so a good
> stretch of it is in contact with the dipole (looks like a parallel
> circuit at the center of the dipole)."
>
> Art, please look at Fig 10 on page 26-9 of the 19th edition of the ARRL
> "Antenna Book" and say how your antenna differs from either (A) or (B).
> Thank you.
>
> Best regards, Richard Harrison, KB5WZI

Hi Richard,
I would be happy to describe the heading of this thread, bearing in
mind that this refers ONLY to one particular part of my antenna
experiments.
The reference you provide has no bearing, but since you refer to that
book
somewhere it referes to the interaction of a loop with other metal
parts to remove offending radiation. It shows that by COUPLING a loop
to an ARBITARY length of conductor one can alter the resonance of the
offending part.
Said in another way, the resonant loop only has to receive a small
amount of energy for it to resonate for a long time, something like
touching the pendulum
of a grandfather clock. The reason for this is the law that 'every
action has an equal and opposite reaction' so when one places a
portion of a loop in close proximaty with another radiator length, it
is placing two inductance fields so that they become one and where the
resonance of the loop is imposed on all that is placed in that field
or coupled to it (ie reaction to energy imposed).
Now back to the dipole. We can look at it as an arbitary length
radiator and if
if we place a parallel circuit at its center it can be seen as a loop
that is coupled to the dipole. You could use a separate loop close to
the dipole but for convienience sake we can 'over couple' the two
circuits by physically combining them into one.
Now looking at the 'total radiator' and ignoring feeding methods we
can start at one end where the current is zero and where it increases
in sinosoidal form
as we move along towards the center of the dipole. When we reach the
'cojoining'
portion the current flow 'leaves' the dipole and enters the loop

circuit and where the current flow conforms to a loop antenna.
Now if you look at it from 'water flow' terms the water swings around the loop
like a 'passive pump' (see Bernolli's theorem) where the variable capacitor acts or conforms with a variable coefficient of discharge, where it can regulate the flow of current such that when it comes out the other side to the other part of the dipole it is exactly at the correct amplitude and phase to take on a sinosoidal curve travel that mirrors that of the other side.
Now you obviously know that a capacitance hat placed on the ends of a dipole can effectively reduce the length of a dipole by cutting off the end portions where 'radiation to unit length' provides diminishing returns. Hold that thought for a second and look back at the current flow of the dipole assembly. The current flow abruptly changes from one of diminishing returns to that of efficient loop radiation at the center of the radiating assembly to one of maximum returns!
At the same time the loop provides for a phase change that effectively places side by side similar current patterns in collinear form and separated by the addition of a loop antennas radiation! If the capacitor is changed in value
then so will the whole assembly and it will stay resonant. In addition, depending on what side of the parallel circuit portion the capacitor is placed
one can choose a capapacitor that is not dependent on high voltage conditions
as with a loop on its own.
Note that if we also add capacity hats to the ends of the dipole we have in effect, created a radiator that has more efficiency per unit length than that of a dipole alone and verifies the reasons why formulas for radiators do not have to revolve around wavelength i.e. 1/4 wave,1/2 wave e.t.c.
Remember Richard, I am only referring to this particular thread heading and its implications there-of. Please do not interweave comments from past threads which refer to different post headings.
If one was to model it one must realise the implications of 'coupling' and how it relates to coupled radiator length and diameters if one was to pursue a pattern of constant impedance with frequency change together with a constant capacitor figure to be used for capacitance (200 ohms perhaps!) in any frequency spread type modeling.
With the above explanation I think that when it is combined with the
many , many, postings over the years I have exhausted all the areas of possible explanations and descriptions. Hopes this provides some help to you Richard as I deliberately have not inserted any Shakespearian prose or reference to Punchinello that in the past have created so much confusion on the subject when inserted by others. If I have oversimplified in any way that could possibly seen that I am talking down to you I apologise since I am very aware of your considerable expertise on the subject of antennas.

Warmest regards
Art Unwin..KB9MZ.....XG

682. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 16:20:40 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304140820.53686cf7@posting.google.com>
Source record: 120784

'Doc <w5lz@cwis.net> wrote in message news:<3E9A904E.6F0E7EA9@cwis.net>...
> Art,
> Typical "Art'ish" behavior, misquoted, out of
> context, delusional. Have to see about getting
> you and ol'Frac together. We could have the
> "Frac'n'Quack" show...
> 'Doc

Doctor,
Don,t you realise that this newsgroup has archives available?
Anybody can back track and read your comments for themselves!
There is no way that you can escape from the truth or anything
pertaining to who you are and what you are.
You would be better off going back to the 'no hassling' comment
of a few weeks ago where the past would be placed aside.
Your choice.....
Art Unwin KB9MZ.....XG

683. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:01:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d4pl9v0e0gfugg9je2jpprusch5hfl0a84@4ax.com>
Source record: 120786

On 14 Apr 2003 09:12:23 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>richardharrison@webtv.net (Richard Harrison) wrote in message
news:<4420-3E9A119E-95@storefull-2315.public.lawson.webtv.net>...
>> Art, KB9MZ wrote:
>> "Well I squash the loop so it becomes more a rectangular form so a good
>> stretch of it is in contact with the dipole (looks like a parallel
>> circuit at the center of the dipole)."
>>
>> Art, please look at Fig 10 on page 26-9 of the 19th edition of the ARRL
>> "Antenna Book" and say how your antenna differs from either (A) or (B).
>> Thank you.
>>
>> Best regards, Richard Harrison, KB5WZI
>
>Hi Richard,

erroneous content removed

>Warmest regards
>Art Unwin..KB9MZ.....XG

Hi Richard,

You are still down 999 attaboys.... I'm beginning to wonder if this
attitude of transparent stupidity is cultured here, or if it is an
import. On the one hand I don't want native species crowded out;
especially if the interloper can be viewed in its own habitat (found
mumbling into the bottom of a wine glass). On the other hand, the
native species is dominated by a weedy, Boston variety that has gone
dormant through genetic inbreeding. One could at least hope for an
optimized change in pitch of the whining, but the pathetic squeal, a
trademark no doubt protected by pending copyright, reminds us all that
an obtuse non-answer is still the best we can expect.

73's
Richard Clark, KB7QHC

684. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:01:56 UTC
From: "Kevin Muenzler, WB5RUE" <wb5rue@yahoo.com>
Message-ID: <3e9ae986$1_2@127.0.0.1>
Source record: 120787
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"JEB" <berndt@berndtmd.REMOVE.ME.com> wrote in message
news:v9dvkukd80q626@corp.supernews.com...
> I know you can damage your CB if the antennae is not tuned to the radio
and
> you use it to transmit, but can you hurt it if you just use it to monitor
> transmissions and have not set the SWR?
>

You won't damage your radio but your receive sensitivity will not be as high
if the radio is not matched to the antenna.

Kevin, WB5RUE

-----== Posted via Newsfeed.Com - Unlimited-Uncensored-Secure Usenet News==----
http://www.newsfeed.com The #1 Newsgroup Service in the World! >100,000 Newsgroups
---= 19 East/West-Coast Specialized Servers - Total Privacy via Encryption =---

685. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:10:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2eql9vgrr4dtep2ojcb2db9b8naatdt74h@4ax.com>
Source record: 120788

On Mon, 14 Apr 2003 10:55:43 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>If Art feeds the associated dipole and not the loop, are the feedwires
>attached on either siide of an insulator or are they attached
>delta-match style?
>

Hi Richard,

It is the simple hairpin match, that's all. Well, let's let that go a
step further: a hairpin match with a opportunistic variable capacitor.
So, it is both a stub and a lumped circuit.

The contribution of this stub/lumped-circuit is inconsequential, that
is, until you have to argue its qualifying merits for the Nobel prize
for antennas. Stockholm has withheld that honor for more than 2
centuries now, waiting for just these announcements made here in this
international forum (the trial for Saddam will be held here next week,
pushed back on the schedule to make way for this stupendous work's
revelation). - yes, I know I misspelled stupendous.

73's
Richard Clark, KB7QHC

686. SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:22:34 UTC
From: jackinariz@webtv.net
Message-ID: <3616-3E9AEE5A-47@storefull-2138.public.lawson.webtv.net>
Source record: 120795

I have put up a new 5/8 wave vertical antenna for 10-11-12M......It has a very high SWR at the radio SWR meter,(3 to as high as 7)...However I also have a Dosy SWR/Power/Mod meter in-line and that meter reads normal,(1 to 3)??Which should I believe?? Thanks. Jack D.

687. TITANEX, GERMANY: have them closed the factory ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:25:44 UTC
From: iz0fma@blusat.com
Message-ID: <18499213.0304140925.6a260fd8@posting.google.com>
Source record: 120789
Cross-posted to: de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

In the past days I've tried to enter in contact with them: emails, fax, phone calls (last one few minutes ago). Impossible to track down them.

Did Titanex (www.titanex.de) close the shop/factory ?

Have somebody fresh informations about their health's status ?

Thanks in advance.

IZ0FMA, Alberto

688. Re: YT program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:28:42 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3E9AEFB9.80106@get.lost>
Source record: 120790

Bill Ogden wrote:

> I downloaded the gis data (from www.gisdatadepot.com) as described, and
> assumed I wanted the "10 meter" files when there was a choice. The
> MicroDEM file was downloaded, as described. The YTM2FT.EXE program has
> escaped me. I downloaded ACV7Setup.exe (from the ARRL site) and
> executed it. This produced a list of files, including YTM2FT.CAB, but
> no YTM2FT.EXE.
>
> What is .CAB? Does it need to be unpacked some way to obtain the
> executable?

A Cab file is a Windows Cabinet file - a compressed file similar to a
Zip. The simplest way to unpack it is using Winzip, which you can
download for free from http://www.winzip.com/
There are other programs for Cab extraction, too, as well as Windows
viewers that will enable you to view the Cab contents in Win Explorer.

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

689. Re: YT program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:28:59 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3E9AEFCB.1090909@get.lost>
Source record: 120791

Bill Ogden wrote:

> I downloaded the gis data (from www.gisdatadepot.com) as described, and
> assumed I wanted the "10 meter" files when there was a choice. The
> MicroDEM file was downloaded, as described. The YTM2FT.EXE program has
> escaped me. I downloaded ACV7Setup.exe (from the ARRL site) and
> executed it. This produced a list of files, including YTM2FT.CAB, but
> no YTM2FT.EXE.
>
> What is .CAB? Does it need to be unpacked some way to obtain the
> executable?

A Cab file is a Windows Cabinet file - a compressed file similar to a
Zip. The simplest way to unpack it is using Winzip, which you can
download for free from http://www.winzip.com/
There are other programs for Cab extraction, too, as well as Windows
viewers that will enable you to view the Cab contents in Win Explorer.

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

690. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:37:51 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304140937.526a4b43@posting.google.com>
Source record: 120792

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304131922.78ff8123@posting.google.com>...
> Hello,
>
> I'm not a Yagi specialist, but i feel that the Yagi optimizer
> programs will get you in the ballpark, but you still must do
> additional empirical tuning for best results. This is because the
> program cannot model all the parasitics and mutual couplings in the
> system.
>
> I would say the higher the "Q" of the yagi (thinner diameter
> elements and greater # of bays), the more sensitive it will be to
> variations in the parasitics, and the less the measured results will
> match your computer simulated data.
>
> I would design a yagi antenna with sliding, variable, and
> adjustable parameters (tube-in-a-tube with pipe clamps), so that you
> can adjust the element lengths and their spacings to each other, so
> that you can empirically tune the antenna. I would use the MFJ
> antenna tuner for this, or an acurrate SWR meter like the Diawa, with
> 1-5 watts driving it. Problem is, a good SWR doesn't mean the polar
> pattern is what you want, and not too many people have access to an
> anechoic chamber.
>
> All of the sources i have read on Yagis indicate that they
> are not well understood and still involve a little trial-and-error.
> This is why even programs like the Yagi optimizer are genetic
> algorithms (the computer equivalent of brute force "try this"
> empirical tuning anyways!), and NOT fixed plug-and-play formulas.
> I'll bet that Yagi companies first use a computer to get in
> the ballpark, but then continue to adjust the parameters (while
> measuring with an anechoic chamber) to find a tuning that suits their
> particular materials and such.
>
> And i'll bet the polar plots they give are REAL, measured
> data from the chamber, and NOT simply a plot from their computer
> simulation! (assuming this is a reputable company!)
>
>
> Any comments from any Yagi designers are greatly
> appreciated.
>
>
> Dr. Slick

Great post!!!!! I heartedly endorse it. I would add the point however, that the basic work on antenna design programs was initially derived by the U.S. government. Present suppliers of programs are only manipulating original programing, thus you come under the mercy of a particular computor programmer
who has siezed the opportunity to leave his original design of work to make money else where. This is not to say that any particular hawker of programs are in error but it does leave the possibility, tho slim, on new inbuilt errors.
I for one find it very strange that one program can produce a product whereas other competant people cannot produce the same using a different program , this usually ellicits a defensive remark by the hawker such as you are not using the program correctly or I am not at liberty to..... e.t.c.
With respect to stray capacitance, your point is well taken because as anybody knows it is quite difficult to obtain equivalent radiation patterns that are not skewed by stray coupling.
Best Regards
Art Unwin KB9MZ.....XG

691. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:40:16 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9AF280.9D0BA67F@cwis.net>
Source record: 120793

Art,
By all means, read the archives. Please!
'Doc

692. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:43:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9AF352.CB639A41@cwis.net>
Source record: 120794

Jaro,
I know exactly what I am. Please do as
Art suggested, read the archives. Then, you
can either apologize, or 'bite' me. Your choice.
'Doc

693. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:50:04 UTC
From: Larry Phipps <larry@telepostinc.com>
Message-ID: <gxCma.213$qa5.342658@newssvr28.news.prodigy.com>
Source record: 120785

Art, as you know I tried with limited success to model your antenna and arrive at the results you claim. The NEC engines, and the programs based on them cannot adequately model all antenna and matching system designs...but that is no reason to deride them. They have proven to be a very valuable design tool for me and many others, accurately predicting performance a gratifying percentage of time.

I don't know how long your antenna has been the on-and-off subject of this list, but it has to be at least a year. If your design can't be accurately modeled... then why don't you just publish the design, along with measured data, so that the design can be verified experimentally.

--
73,
Larry N8LP
www.telepostinc.com

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0304140508.6d058f4f@posting.google.com...
> Wes Stewart <n7ws@#arrl.net> wrote in message
news:<0srj9vgnabafbj7rakk79kt01lotfdvvl4@4ax.com>...
> > On 13 Apr 2003 15:34:25 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> > wrote:
> >
> > [snip]
> > |I do not use the EZNEC program and thus have no problem. Many others
> > |who apparently use EZNEC have not been able to duplicate other
> > |computor programs and thus hams do not proceed with the idea. I
> > |believe that it is the EZNEC program thatis at fault since those that
> > |used it certainly were not dummies.
> >
> > Art, I believe that I gave your design more than a fair shake when I
> > tried to model it. Nevertheless, I could not duplicate anything near
> > your claims.
> >
> > I don't know why you try and fault EZNEC (actually, I have the opinion
> > that it is nothing technical), it is a fine program and the basic
> > computing engine is used in many other programs that you seem to feel
> > give different results. I can assure that they don't.
>
> Wes, thanks for responding
> You are one of the fine gentlemen who I believe gave it a full wirl
> without concentrating on the "derision" side and yet like others could
> not reproduce it.
> As you can see from a post earlier we are now seeing a glimmer of

> light where somebody states that yes, he can remove the reactance from
> an antenna as per this thread heading. Since so many fine people had
> tried to play with this type of assembly before using Eznec without
> success it does tend to point the finger. Fortunately we also have
> somebody actusally going to experiment with it full time no less
> without total reliance on computor programs like the old days. So as
> many would say "the proof is in the pudding"
>
>
>
>
>
> > Many on this group, myself included, have cut you a lot of slack,
> > likely because of your self-professed "problems", only to be met with
> > your derisive rants about "gurus", etc.
>
> Heh my problems are going away, what bothers me is gurus who
> dismiss all out of hand
>
> >
> > The patent office notwithstanding, no one else either understands your
> > design or can prove the operation that you claim. Thus, it is
> > incumbent upon you to stop trying to recruit unsuspecting surrogates
> > to do your work and prove your claim yourself.
> >
> > If you can't do that, then cut out the crap and in your words, "just
> > be silent for once."
>
> No, I will not be silent about antennas, especially those that can be
> made like I claim, can be modelled like I claim and have solid
> mathematical backing like I claim. Nobody has to make antennas
> like I suggest, I just want people to be aware of them and build upon
> them which is what this newsgroup is all about. I don't need anybody
> to prove it to me that it works as I state. If people use computor
> programs as a tool in conjunction with experimentation our hobby would
> be much better for it.
> Have a great week
> Art

694. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 17:52:43 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304140952.11ee6af5@posting.google.com>
Source record: 120796

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b76qeupde1@titan.btinternet.com>...
> Suppose you have a square loop with a circumference of 1/2-wavelength at the
> frequency of interest and you wish to know its inductance so you can
> calculate the value of the tuning capacitor to resonate it to another
> frequency.
>
> Zero pF is needed to resonate the 1/2-wave loop. So the loop inductance
> must be infinite uH - or is it ?
> ---
> Reg, G4FGQ

Reg,
It seems that some do not understand finite versus infinite or the
change over frequency point for max inductance versus max capacitance
/resonance.
The graph certainly appears in most text books but is not required for
exams that requires choice of multiple answers, i.e. pencil in the
circle of your choice! Knoweledge these days is measured differently
compared
to past examinations that measure 'true' understanding or
understandings of first principles.
Cheers
Art

695. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 18:08:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9AF92E.46BB4253@cwis.net>
Source record: 120797

Reg,
What about the budgies? Any good reciepies?
'Doc

696. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 18:08:57 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9AF939.A7825A19@cwis.net>
Source record: 120798

Reg,
What about the budgies? Any good recipes?
'Doc

697. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 18:51:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9m0qj2v46f56a@corp.supernews.com>
Source record: 120800

The only important factors for RF performance are the frequency and the actual thickness of the copper, not the percentage of the total wire thickness. A thickness of around 3 skin depths will bring it to the performance of solid copper for most purposes; 5 skin depths should be adequate for demanding applications like high Q inductors. 30 to 40% is way more than needed if the wire diameter is large, and might not be enough if the wire diameter is very small and/or the frequency is low. It might be a reasonable rule of thumb for a limited wire diameter and frequency range, but shouldn't be regarded as an absolute truth.

Roy Lewallen, W7EL

Bob Miller wrote:
>
> According to page 7.2 of Wirebook IV, a 30% to 40% amount of copper on
> copper-clad steel is required to provide RF performance on a par with
> 100%-copper wire at all HF frequencies. It doesn't mention how
> aluminum compares...
>
> Bob
> k5qwg

698. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 18:53:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9m0t4n656bh86@corp.supernews.com>
Source record: 120801

And what wine would be appropriate to go with?

Roy Lewallen, W7EL

'Doc wrote:
>
> Reg,
> What about the budgies? Any good recipes?
> 'Doc

699. FS Tek 490 mixer set+horns to 140gig

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 18:55:09 UTC
From: tonys2@aol.com
Message-ID: <20030414145509.26027.00001526@mb-fd.aol.com>
Source record: 120802

Mint condition 5 mixers in case wth cable and book+ 2 horns
$900+ups
view mixers at www.pearlone.com/new_site/main/index.php4
Tony
Alex Va

700. Re: YT program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 19:09:05 UTC
From: Bill Ogden <ogden@us.ibm.com>
Message-ID: <3E9B0751.BE15BD58@us.ibm.com>
Source record: 120799

Thank you. I guess I am falling behind the times --- I never heard of a
Windows Cabinet format.

Regards,

Bill
W2WO

ZA Cab file is a Windows Cabinet file - a compressed file similar to a

> Zip. The simplest way to unpack it is using Winzip, which you can
> download for free from http://www.winzip.com/
> There are other programs for Cab extraction, too, as well as Windows
> viewers that will enable you to view the Cab contents in Win Explorer.
>
>

701. Re: 20 meter 1/4 wave ground plane impendence?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 19:37:46 UTC
From: Ian Jackson <ianjackson@g3ohx.demon.co.uk>
Message-ID: <i4g3FCAK4wm+Ew2N@g3ohx.demon.co.uk>
Source record: 120803

In article <9c80cbf5.0304080205.2baf58a5@posting.google.com>, Larry
<rw3gu@qsl.net> writes
>"denton" <denton@oregontrail.net> wrote in message
>news:<b6f71k$s3h$1@news.orego
>ntrail.net>...
>> Hi all...
>> Can anyone give me the approx imput impendence of a 1/4 wave ground plane 20
>> meter vertical antenna above 20 meters to 10 meters, including the warc
>> bands?
>> I want to homebrew a matching network at the base of the antenna, fed with
>> 35 feet of Rg-8 213 coax.
>> Thanks....
>
>Impedances are:
>14.150 36+j0
>18.080 90+j200
>21.200 214+j436
>24.900 920+j800
>28.500 1240-j935
>
>73!

The coax is very short. Feed it directly with the coax, and have the
matching unit in the shack. It's a lot more convenient than having to
adjust it at the far end of the coax.
Ian.

702. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 19:49:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7f3chghb1@titan.btinternet.com>
Source record: 120804

> Reg, G4FGQ wrote:
> "Why, because you`ld have a Beverage antenna."
>
> Reg should return to a California Beverage (wine) source. He needs to
> exchange pays`.
>
> This UHF TV antenna needs height for line-of-sight propagation. Height
> is unbecoming to a Beverage (wave) antenna`s vertically polarized
> response. The nearby earth`s resistive drag is needed to tilt the wave
> to get vertically polarized responses in the directions of the ends of
> the horizontal wire.

Richard Harrison, KB5WZI,

Just do an EZNEC (I assume you are allowed to have it) on a very long wire in terms of wavelengths, remote or not from the trivial resistive drag, and check the favored direction of propagation. Is it vertically upwards or is it in the horizontal direction of the wire?

I havn't done it myself. As a sub-normal Limey foreigner I am banned by the USA government from possessing the program.

Tonight I'm imbibing a white, sweet, South-Eastern Australia vintage appropriately named "Hair of the Dingo". I can recommend it!

==========
Regards from Reg, G4FGQ
For Radio Design Software
Free to USA Citizens
go to http://www.g4fgq.com
==========

703. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 20:31:10 UTC
From: Skipp <standbyfortheeverpresentfrankiefollowup@yahoo.com>
Message-ID: <b7f5qe$i9q$1@woodrow.ucdavis.edu>
Source record: 120805
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"tuned to the radio" is not always the best of terms.

An antenna system doesn't have to be tuned resonant to work. It's specific
to the design and type/operation of the antenna.

There are plenty of non resonant antennas that work well for both
transmitting and receiving.

Receive mode is not specific to anything at all plugged into the antenna
jack. Even a wire will do... just a question of how well it will
receive a signal.

But most antennas by convention are matched to the radio input impedance
and are often tuned for a specific desired bandwidth.

When using a totally wrong type of antenna to monitor (listen) to a
frequency, you might consider pulling the coax ground connector back and
allowing just the center pin to contact the radio. Try it sometimes...

(as an example)
Not the most optimal method by any means, but you can use a 40 meter ham
antenna on 80 meters RECEIVE ONLY buy connecting just the center
conductor to the radio. It works while you make up a proper
transmitting antenna system.

cheers
skipp
http://sonic.ucdavis.edu

: In rec.radio.cb JEB <berndt@berndtmd.remove.me.com> wrote:
: I know you can damage your CB if the antennae is not tuned to the radio and
: you use it to transmit, but can you hurt it if you just use it to monitor
: transmissions and have not set the SWR?

704. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 20:50:59 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7f703$470$1@slb5.atl.mindspring.net>
Source record: 120806
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Considering what I hear on the bands...who needs another CB Plusser ?

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9AD044.845199E@yahoo.bomb...
>
>
> Dan/W4NTI wrote:
> >
> > What happened? Did you take my adivice? I'll bet your not even a ham
are
> > you? Whats your?
>
>
> Since you feel that your callsign makes you superior to all others,
> my call, to you, is GOD. It's turds like you that have stopped me
> from taking an official test. Without studying, I can pass the no
> code test with 90+ in 9 minutes on qrz.com. Who cares? I can get
> my share of ham talk on repeaters or my old sideband channel.
>
> > Most hams I know are proud of their call.
>
> The others are worthless trolls. You should read Jerry Oxendine's
> latest expose of the differences between CB and ham. He hit the
> nail on the head. If you were a good ham, you could be a new N�BK (SK).

705. Re: "Dan/W4NTI" w4nti@mindspring.com trolls CB groups

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:04:57 UTC
From: "Operation \"RRCB\" Freedom" <atanycost@antitwisty.com>
Message-ID: <l0SdnZrv6qkUvwajXTWcog@comcast.com>
Source record: 120807
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

<Moparholic@hotmailnospam.com> wrote in message
news:20030414113311.374$eG_-_@newsreader.com...
> >
> It's hams like -you- that give the hobbie a bad name.

And Illegals like you who give good legal CB a bad name.

706. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:18:06 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9B258E.A6D22C7C@yahoo.bomb>
Source record: 120808
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Dan/W4NTI wrote:
>
> Considering what I hear on the bands...who needs another CB Plusser ?

If you really care about what you hear on the bands, do something
about it. Jerry O. does. Are you just full of hot air? Have you
ever heard my station being operated? I know more about radios
and stuff then all those new CB Plus appliance operators I hear.

> Dan/W4NTI

Callsign: W4NTI Class: Extra

That explains why you feel your merde doesn't stink.

Are you one of those hams that eat, breathe and sleep the stuff?
Do you wear your callsign on a hat, carry an HT on your belt, have
a vanity plate on your mobile porcupine that says "N4NTI" and a
bumper sticker that says "52.525/146.46"

707. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:25:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7f90j$p5j$1@sparta.btinternet.com>
Source record: 120809

> Knoweledge these days is measured differently
> compared
> to past examinations that measure 'true' understanding or
> understandings of first principles.
> Cheers
> Art (an american radio amateur)

==========

Hi Art, my unreliable service provider has omitted to transit some of the recent newsgroup messages.

But I entirely agree with your sentiments - over the last 20 years the standards of engineering/scientific/stastistical/arithmetical education in the schools, colleges and universities of the North Western World have fallen to abysmal levels.

Kids living in the sewers of many of the world's largest cities, culled like rats by armed police forces to keep their numbers down, are better at mental arithmetic, self-educated from basic principles, than the latest products of our educational institutions, Ph.D's included.

I feel guilty of being a member of the generation which allowed, even caused, it to happen.

But onwards into the fray - refresh your glass - once more dear friends to the barricades - World Wide Amateur Radio for Ever!

{ Display this message full frame. }

Reg, G4FGQ

708. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:36:26 UTC
From: "Operation \"RRCB\" Freedom" <atanycost@antitwisty.com>
Message-ID: <o9mcnQF42cl0tAajXTWcoA@comcast.com>
Source record: 120810
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9B258E.A6D22C7C@yahoo.bomb...

> Callsign: W4NTI Class: Extra
>
> That explains why you feel your merde doesn't stink.
>
> Are you one of those hams that eat, breathe and sleep the stuff?
> Do you wear your callsign on a hat, carry an HT on your belt, have
> a vanity plate on your mobile porcupine that says "N4NTI" and a
> bumper sticker that says "52.525/146.46"

So what if he is it is better than going around like you with a " I am a
asshole " on your shirt, or "Kick me Here" on your back

Arent these the same hams you listen to on the repeaters Snott?

709. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:38:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9maif5lq1ngc7@corp.supernews.com>
Source record: 120811

Reg Edwards wrote:
>
> Just do an EZNEC (I assume you are allowed to have it) on a very long wire
> in terms of wavelengths, remote or not from the trivial resistive drag, and
> check the favored direction of propagation. Is it vertically upwards or is
> it in the horizontal direction of the wire?
>
> I havn't done it myself. As a sub-normal Limey foreigner I am banned by the
> USA government from possessing the program.
>
> Tonight I'm imbibing a white, sweet, South-Eastern Australia vintage
> appropriately named "Hair of the Dingo". I can recommend it!

It's not clear to me why you feel it necessary to intentionally pass
false information. It casts doubt on everything else you say.

You, yourself, have EZNEC -- the copy I sent you, gratis, some time ago.

Even if you forgot that you have EZNEC, a glance at my web site
(http://eznec.com) would show ordering information for non-U.S.
customers and a total lack of restrictions for where the program is
sent. A simple and very quick check could have prevented you from making
such an embarrasing misstatement.

A very sizable proportion of EZNEC users are outside the U.S. A good
deal of care has been taken to insure that EZNEC will operate properly
with non-U.S. conventions such as a comma decimal delimiter. In the
EZNEC 3.0 manual (which is also included with the demo version), there's
a "Notes for International Users" section in the "Introduction" chapter.
In the "Acknowledgements" section, you'll see well-known German and
Belgian amateurs who helped beta test version 3.0.

If you really believe what you've posted, then you might consider
cutting back a bit on the Dingo hair.

Roy Lewallen, W7EL

710. Re: "Dan/W4NTI" - w4nti@mindspring.com - trolls CB groups

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:38:19 UTC
From: wa8ulx@aol.com
Message-ID: <20030414173819.23282.00000630@mb-cu.aol.com>
Source record: 120812

>You gonna take that,Leland?

Sure hes going to take it. Dan is right you guys know hes right. So go ahead CBplussers, try and justify your meager existance as Han Radio CBers.

711. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:49:34 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030414174934.25992.00001367@mb-fd.aol.com>
Source record: 120813

Art, the magic antenna wizard exlaimed:

>No, I will not be silent about antennas, especially those that can be
>made like I claim, can be modelled like I claim and have solid
>mathematical backing like I claim.

Hey Antenna Art-ist!

Can you put to rest inquiring minds question:
How can you make parasitic reflector, tuned to shorter frequency than driven element, perform? This is from your patent, chiseled in B/W stone, confirmed by the patent office. (I am not making it up!)
If you do not reveal the secret, you are considered being sharlatan who is jerking our (guru or not guru) chains and holder of phony joke patent.
Your credibility sunk down to minus Kelvin point and you are full of it, whatever it is. You will be elected to "delusional antennas Hall of Fame?"
Join such notables like Freak, CFA, EH, faster than light.
You either 'splain or stop and join the paronoia freaks.

In case you missed this and previous requests, I will repeat them ad-nauseam until you "reveal" the trick and reflective antennamagnetics scientwiphic foundational laws of antenna de-sign.
Maybe you should sell your patent to Freak, join the forces and come up with Freaktal version of shortined reflectors (and longined directors).

Yuri, K3BU/m
Yep, typical Freaky behaviour, problems and crap not touched upon, but forging ahead with new mumbo-jumbo. Cheers (and crackers!)

712. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:55:06 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7famj$2nj$1@slb2.atl.mindspring.net>
Source record: 120814
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

All Jerry does is make some noise on the internet....big deal.

Im glad you know so much about radios. Prove it. Get off the freeband.

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9B258E.A6D22C7C@yahoo.bomb...
>
>
> Dan/W4NTI wrote:
> >
> > Considering what I hear on the bands...who needs another CB Plusser ?
>
>
> If you really care about what you hear on the bands, do something
> about it. Jerry O. does. Are you just full of hot air? Have you
> ever heard my station being operated? I know more about radios
> and stuff then all those new CB Plus appliance operators I hear.
>
>
> > Dan/W4NTI
>
>
> Callsign: W4NTI Class: Extra
>
> That explains why you feel your merde doesn't stink.
>
> Are you one of those hams that eat, breathe and sleep the stuff?
> Do you wear your callsign on a hat, carry an HT on your belt, have
> a vanity plate on your mobile porcupine that says "N4NTI" and a
> bumper sticker that says "52.525/146.46"

713. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:59:37 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7fav0$5hr$1@slb4.atl.mindspring.net>
Source record: 120815
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

I never said my 'merde' doesn't stink. You seem to think thats the case.
As for my class of license....whats that got to do with a thing? Sure I got
it a long while before the cw was basically dropped. But again, so what?

Im talking to you Scott...you are the one trying to prove something. And
attempting to tear me down to do it. Sorry, wont work.

And no I dont have a funny hat and dont have a HT tied to my waste at
hamfests. In fact I dont even listen to 2m FM anymore. I do it on HF.
Where real ham radio is.

Dan/W4NTI

"Operation "RRCB" Freedom" <atanycost@antitwisty.com> wrote in message
news:o9mcnQF42cl0tAajXTWcoA@comcast.com...
>
> "Scott" <scott_unit_69@yahoo.bomb> wrote in message
> news:3E9B258E.A6D22C7C@yahoo.bomb...
>
> > Callsign: W4NTI Class: Extra
> >
> > That explains why you feel your merde doesn't stink.
> >
> > Are you one of those hams that eat, breathe and sleep the stuff?
> > Do you wear your callsign on a hat, carry an HT on your belt, have
> > a vanity plate on your mobile porcupine that says "N4NTI" and a
> > bumper sticker that says "52.525/146.46"
>
>
> So what if he is it is better than going around like you with a " I am a
> asshole " on your shirt, or "Kick me Here" on your back
>
> Arent these the same hams you listen to on the repeaters Snott?
>
>

714. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 21:59:45 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns935DE992A2C82newsleighsorg@130.133.1.4>
Source record: 120816

Pills4ills@yahoo.com (Just Bob) wrote in
news:3e9a0a98.6492375@news-central.giganews.com:

> On The Date Of 13 Apr 2003 14:07:26 GMT, Leigh
> <news_nospam@leighs.org> Wrote The Followng:
>
> ->Try turning off your monitor before spending money. If
> that stops the
> ->interference..... you need to plan your next move.
>
> Ok, I noticed about a 30% reduction in interference when I
> turned the monitor OFF. Now what would be my 'next move'?

Sort out the monitor - change your screen resolution (found it does make a difference), ferrite ring the monitor leads (mains and 15-core cable), move the position of the monitor and radios too and I even ferrite screen the leads in and out of the PC (mains, sound, etc)

I did see a website about this - but since reinstalling - it's no longer in my favourites.

Can anyone else suggest anything?

Leigh.....

715. Re: "Dan/W4NTI" w4nti@mindspring.com trolls CB groups

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 22:00:39 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7fb19$560$1@slb0.atl.mindspring.net>
Source record: 120817
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Now there is a good point.

Dan/W4NTI

"Operation "RRCB" Freedom" <atanycost@antitwisty.com> wrote in message
news:l0SdnZrv6qkUvwajXTWcog@comcast.com...
>
> <Moparholic@hotmailnospam.com> wrote in message
> news:20030414113311.374$eG_-_@newsreader.com...
> > >
> > It's hams like -you- that give the hobbie a bad name.
>
>
> And Illegals like you who give good legal CB a bad name.
>
>

716. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 22:22:07 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <2hednc_yo5YVqQajXTWcpA@crocker.com>
Source record: 120818

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030414174934.25992.00001367@mb-fd.aol.com...
> Art, the magic antenna wizard exlaimed:
>
> >No, I will not be silent about antennas, especially those that can be
> >made like I claim, can be modelled like I claim and have solid
> >mathematical backing like I claim.
>
> Hey Antenna Art-ist!
>
> Can you put to rest inquiring minds question:
> How can you make parasitic reflector, tuned to shorter frequency than
driven
> element, perform? This is from your patent, chiseled in B/W stone,
confirmed

boy yuri, you can't figure that one out?!?!? its so simple even i can
figure out at least one way to do it without even resorting to a modeling
program!

717. An amateur that don't know jack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 22:35:36 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9B37B8.5A0A402B@yahoo.bomb>
Source record: 120819
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Operation \"RRCB\" Freedom wrote:

> Arent these the same hams you listen to on the repeaters Snott?

Geogre, if you EVER hear a repeater on 52.525 or 146.46,
you let me know. Some ham you are.

718. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 22:38:06 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9B384E.26722AC5@yahoo.bomb>
Source record: 120820
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Dan/W4NTI wrote:
>
> All Jerry does is make some noise on the internet....big deal.
>
> Im glad you know so much about radios. Prove it. Get off the freeband.

When have you heard me on the freeband? You are QRMing rec.radio.cb.

719. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 22:48:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9melgjntptr7c@corp.supernews.com>
Source record: 120821

In the past month, EZNEC was purchased by people in the following countries:

England
France
Taiwan
Switzerland
Belgium
Slovenia
Scotland
Mexico
Sweden
Germany

I have no way of tracking where demo version downloads go. But demo downloads exceed sales by a substantial margin, and people from 57 different countries have visited my web site so far this month.

No examination is required of the queen's loyal subjects, so even sub-normal ones are permitted to purchase EZNEC.

Roy Lewallen, W7EL

Reg Edwards wrote:
> . . .
> I havn't done it myself. As a sub-normal Limey foreigner I am banned
> by the
> USA government from possessing the program.
> . . .

720. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 23:28:18 UTC
From: jgboyles@aol.com
Message-ID: <20030414192818.20407.00000920@mb-fu.aol.com>
Source record: 120822

What say you Reg? I purchased Roy's software, and I downloaded your
excellent programs. I have been extremely happy with both, more so with yours
Reg cause it is free. I use both.
The statements about being a sub-normal Limey, and you don't have EZNEC
because the USA government banned EZNEC, is hard to believe .
Shame.

>Reg Edwards wrote:
>> . . .
>> I havn't done it myself. As a sub-normal Limey foreigner I am banned
>> by the
>> USA government from possessing the program.

>In the past month, EZNEC was purchased by people in the following countries:
>
>England
>France
>Taiwan
>Switzerland
>Belgium
>Slovenia
>Scotland
>Mexico
>Sweden
>Germany
>
>I have no way of tracking where demo version downloads go. But demo
>downloads exceed sales by a substantial margin, and people from 57
>different countries have visited my web site so far this month.
>
>No examination is required of the queen's loyal subjects, so even
>sub-normal ones are permitted to purchase EZNEC.
>
>Roy Lewallen, W7EL
>
> Reg Edwards wrote:
>> . . .
>> I havn't done it myself. As a sub-normal Limey foreigner I am banned
>> by the
>> USA government from possessing the program.
> > . . .
>
>
>
>

>
>
>

73 Gary N4AST

721. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 23:36:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <c$bNAZEgX0m+EAg9@ifwtech.co.uk>
Source record: 120823

Dr. Slick wrote:

>
> I'm not a Yagi specialist, but i feel that the Yagi optimizer
>programs will get you in the ballpark, but you still must do
>additional empirical tuning for best results.

You raise several good points, but the overall situation is a long way ahead of what you believe it to be.

The performance of basic yagis with thin cylindrical elements and no boom effects can be computed with very good accuracy, either in free space or over perfect ground. This has been possible for at least 20 years now.

The art lies in translating these computer models into antennas for the real world. Things you have to think about include:

* The effects of real ground (especially at HF where ground tends to be close in terms of wavelengths)

* Effects of tapered elements (telescoping tubing sizes, generally needed at HF for mechanical reasons)

* Effects of cylindrical but electrically "fat" elements (especially at VHF/UHF)

* Electrical effects of a conducting boom, and the fixtures used to mount the elements to the boom (different between HF and VHF/UHF)

Some of the HF-related information is gathered together in Leeson's book on mechanical design of yagi antennas (ARRL); much of the VHF/UHF information is still scattered around in various publications and conference proceedings (see below)... but what you need is actually there.

The reason why we amateurs have latched onto computation is because it suits our available resources. We have the PCs, the software is available, our time costs nothing, and if we're committed enough we can develop the skills. What we hardly ever have is access to measurement facilities.

The professional approach is maybe not as different as you think. Like us, they start out with computer designs, plus techniques for translating computer models into real-world prototypes. They often can make direct measurements, especially at UHF and above where an anechoic chamber is a reasonable size, but at lower frequencies we're talking about serious money for range measurements. Big antenna ranges and

hangar-sized anechoic chambers around the world are gradually closing down due to the land and maintenance costs, and those that remain are putting up their prices, so even professionals are being pushed further and further towards computer modelling.

Amateurs tend to have exaggerated faith in gain and pattern measurements. That's because very few have actually tried to make them, and fewer still have been realistic about the errors involved. Even with professional resources, accurate measurements are very difficult; with amateur resources, they are practically worthless.

But computer simulations have advanced to the point where amateurs can have access to exactly the same tools as professionals, and the rest is all down to personal skill and experience. If there's a conflict between simulation and measurement, the suspicion these days tends to fall on the measurement.

> All of the sources i have read on Yagis indicate that they
>are not well understood and still involve a little trial-and-error.

In that case you're reading the wrong sources. You won't find very much in pre-digested form in either academic textbooks, amateur handbooks or the major magazines. You'll have to look up the original references in amateur conference proceedings, specialized magazines such as DUBUS (www.dubus.org), old Moonbounce Newsletters (archives at http://www.nitehawk.com/rasmit), individual websites (including www.cebik.com and my own) and similar sources. Then you'll have to do your own thinking about it all.

Having done so, I believe you'll find that yagi design and modelling is in fact very well understood. Methods for translating computer models into real-life antennas are based on experiment - but that's not the same as "trial and error", and the methods are now quite well developed and documented.

>This is why even programs like the Yagi optimizer are genetic
>algorithms (the computer equivalent of brute force "try this"
>empirical tuning anyways!), and NOT fixed plug-and-play formulas.

That isn't totally accurate, but it is true that genetic optimizers do not make good use of a designer's basic understanding of how a particular family of antennas works. Each design is a one-off that tells you very little about the previous design or the next one.

But there are other kinds of optimizers that search much more systematically for optimum performance, and give the designer much more control over factors such as element lengths and spacings. This allows the designer to learn something more from each successive design, and to develop whole families of antennas whose design and performance are understood in real depth.

> Any comments from any Yagi designers are greatly
>appreciated.

I've been there and done that with the moonbounce antennas. The ones I used were based on original designs developed by DL6WU using a large anechoic chamber before amateur modelling was possible, and were built and used by hundreds of amateurs. Later they were modelled, built and tested again by several more people, and the translations between models and real life were worked out. Then they were computer-optimized further by DJ9BV and tested on moonbounce; different versions were then modelled and built and tested by others including myself; and further developments have continued. Several other families of long yagis have been developed from the original DL6WU designs, but they're all relatives within the same "clan".

Testing generally consists of checks on parameters that are easy to measure, such as the levels of sidelobes and the angles of sidelobes and nulls. Those are quite sensitive indicators of whether or not the antenna agrees with the model, and if they're correct within a few dB and a few degrees, you can be pretty confident about the predicted values of other parameters such as gain which you cannot measure so accurately.

Such checks have proved that those particular VHF/UHF yagi designs really *are* understood, down to the last millimetre. If you build them correctly, they will work as modelled. The same can equally be said for many established HF yagi designs.

Interesting topic - thank you!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

722. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-14 23:50:03 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7fhe2dar1@slb9.atl.mindspring.net>
Source record: 120824
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Are you really that dense Scott? Im not qrming a damn thing. As stated before I DIDNT START THIS THREAD.

If you dont want to hear from me any longer may I suggest you DONT REPLY and guess what...I wont 'QRM your CB group'.

See how easy that is?

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message news:3E9B384E.26722AC5@yahoo.bomb...
>
>
> Dan/W4NTI wrote:
> >
> > All Jerry does is make some noise on the internet....big deal.
> >
> > Im glad you know so much about radios. Prove it. Get off the freeband.
>
>
> When have you heard me on the freeband? You are QRMing rec.radio.cb.

723. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 00:01:00 UTC
From: tdonaly@aol.com
Message-ID: <20030414200100.27790.00000658@mb-fp.aol.com>
Source record: 120825

Art and Reg wrote,
>
>> Knoweledge these days is measured differently
>> compared
>> to past examinations that measure 'true' understanding or
>> understandings of first principles.
>> Cheers
>> Art (an american radio amateur)
>
>==========
>
>Hi Art, my unreliable service provider has omitted to transit some of the
>recent newsgroup messages.
>
>But I entirely agree with your sentiments - over the last 20 years the
>standards of engineering/scientific/stastistical/arithmetical education in
>the schools, colleges and universities of the North Western World have
>fallen to abysmal levels.
>
>Kids living in the sewers of many of the world's largest cities, culled like
>rats by armed police forces to keep their numbers down, are better at mental
>arithmetic, self-educated from basic principles, than the latest products of
>our educational institutions, Ph.D's included.
>
>I feel guilty of being a member of the generation which allowed, even
>caused, it to happen.
>
>But onwards into the fray - refresh your glass - once more dear friends to
>the barricades - World Wide Amateur Radio for Ever!
>
>{ Display this message full frame. }
>
>---
>Reg, G4FGQ
>

You fellows must have been educated in the golden age of British
mathematical instruction. Here's what George Bernard Shaw said
about his own mathematical education: "Not a word was said to us
about the meaning or utility of mathematics: we were simply asked to
explain how an equilateral triangle could be constructed by the intersection
of two circles, and to do sums in a, b, and x instead of in pence and
shillings, leaving me so ignorant that I concluded that a and b must mean
eggs and cheese and x nothing, with the result that I rejected algebra as

nonsense, and never changed that opinion until in my advanced twenties Graham Wallace and Karl Pearson convinced me that instead of being taught mathematics I had been made a fool of."

73,
Tom Donaly, KA6RUH

724. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 00:16:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sijm9vc4aj6hcocvj2hihli06s5eq3gr8l@4ax.com>
Source record: 120826

On Mon, 14 Apr 2003 21:25:39 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>But I entirely agree with your sentiments - over the last 20 years....

20 Years?! Fossils that haven't left their stratum in a century now
reckon that closely?.

The Merry Old Wive's March begins; but before too much more whine the
two bookends will be stumbling over their petticoats trying to blast
the whippersnappers off the dancefloor.

73's
Richard Clark, KB7QHC

725. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 00:20:43 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <oejm9vkrsevbk4o25m57pfh4rso9tflvsm@4ax.com>
Source record: 120828

On Sat, 12 Apr 2003 19:46:41 +0100, Iain Kelly <no.spam@m0pcb.co.uk>
wrote:

>Hi All,
>

>
>I've seen a B and W antenna that clamps onto a window frame for around
>i¿½100. I wonder if anyone has used one and can comment? There is an MFJ
>I think as well? Both will be far too expensive for me but I was
>looking at making one myself to see how well they work.

The B&W AP-1, I have one of those in storage. It works. I used it in a 3rd story apartment, some years ago. Only disadvantage, it utilizes a fairly long indoor counterpoise wire that is hot with RF. If you're in a dormitory, might be dangerous to other students. If you're in a low-occupancy housing unit of some sort, though, it could work for you. You'll have to adjust the length of the counterpoise wire for each band -- that is how you "tune" the antenna, and bring the SWR down to 1:1. I used it on 40 meters and up. It did fine with 100 watts. Will keep you on the air, and it's a lot cheaper than many of the other portable antennas.

The counterpoise needs to be adjusted to about 1/4 wave on each band. Just keep rolling and unrolling the length until the SWR is 1:1.

Bob
k5qwg

>

>
>Cheers,
>
>73, Iain M0PCB
>North East England
>18yrs BTW!
>
>
>73, Iain
>(the operator of M0PCB)

726. An EZNEC advert.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 00:22:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7fjbp$j4n$1@hercules.btinternet.com>
Source record: 120827

Dear Roy,

I distinctly remember, 4 or 5 years back, AND SO MUST YOU, that EZNEC, in the small print of your adverts, was not to be made available to non-USA citizens. Presumablely, it was originally secretly developed for use by the US armed services, and due to the immature 'reds under the bed' attitude of the US govermment at the time, plus US-dictated international trade sanctions against its imagined enemies, its export was prohibited.

Some years back you did indeed send to me by ordinary parcel post, entirely unsolicited, out of the blue, a floppy containing the EZNEC program. I do not doubt you posted it too me with the best of kind intentions to avoid what remained of any silly restrictions. I gratefully acknowledged receipt of the free gift which on occasions I have used, not always successfully of course, to check the sanity of my own, almost entirely unconnected programs. They imposed no competition to your commercial interests. I have never publically or privately technically criticised, seldom mentioned, EZNEC - indeed, it would be unwise of me to do so in view of its (almost) impeccable, no old-wives, non-radio, mathematical origins of that popular program.

The extremly rare suggestion I have just made to use EZNEC to demonstrate a technical point regarding the radiation pattern of a very long horizontal wire is precisely what EZNEC was intended for. You should be pleased the suggestion was made. Good for business. Any obviously intended humorous comments (they assist memories) alongside the suggestion can easily be bypassed. There was no need to fly off at a tangent. Pity you mentioned it.

Thanks for bringing to the attention of readers, at least insofar as EZNEC is concerned, an embargo on sensitive software from the USA has now been relaxed. I'm sure wealthy radio amateurs in the rest of the world will be most grateful.

Now let's forget it. See you on the groups. ;o)

Yours, Reg.

727. Re: IR Stepper antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 00:53:48 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <mQadnTaep5iAxQajXTWcpg@comcast.com>
Source record: 120829

See May 2003 QST, p67.

Tam/WB2TT
"W0SZ" <zumbruns@evertek.net> wrote in message
news:b77t7rimn1@ins22.netins.net...
> I'm thinking about putting up Stepper antenna this summer. Anyone care to
> share their experience with the antenna: i.e. ease of use, strength and
> durability, comparison with other like antennas etc. Thanks and 73, Steve
> W0SZ
>
>

728. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:00:18 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304141321.3e95e2b2@posting.google.com>
Source record: 120830

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<2eql9vgrr4dtep2ojcb2db9b8naatdt74h@4ax.com>...
> On Mon, 14 Apr 2003 10:55:43 -0500 (CDT), richardharrison@webtv.net
> (Richard Harrison) wrote:
>
> >
> >If Art feeds the associated dipole and not the loop, are the feedwires
> >attached on either siide of an insulator or are they attached
> >delta-match style?
> >
>
> Hi Richard,
>
> It is the simple hairpin match, that's all. Well, let's let that go a
> step further: a hairpin match with a opportunistic variable capacitor.
> So, it is both a stub and a lumped circuit.
>
> The contribution of this stub/lumped-circuit is inconsequential, that
> is, until you have to argue its qualifying merits for the Nobel prize
> for antennas. Stockholm has withheld that honor for more than 2
> centuries now, waiting for just these announcements made here in this
> international forum (the trial for Saddam will be held here next week,
> pushed back on the schedule to make way for this stupendous work's
> revelation). - yes, I know I misspelled stupendous.
>
> 73's
> Richard Clark, KB7QHC

Heh girl,
you are showing off your underslip again. What manner of person
are you trying to seduce this time around?
Try seeing the 'Doctor' he probably understands and shares the
same delights as you do.

Art Unwin KB9MZ....XG

729. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:01:23 UTC
From: richardharrison@webtv.net
Message-ID: <26791-3E9B59E3-34@storefull-2313.public.lawson.webtv.net>
Source record: 120832

Reg, G4FGQ wrote:
"I haven`t done it myself (EZNEC analysis)."

Nor have I.

A wire of many wavelengths in space complicates its radiation pattern as its length grows beyond 1/2-wavelength.

Many texts show the pattern evolution as length increases. Reg has a copy of Terman, who shows the change in pattern from 1/2-wavelength to 4 wavelengths on page 857 of the 1955 edition.

A plan view or slice through a solid figure of revolution is shown. At 1/2-wavelength, the familiar figure-8 pattern is shown broadside to the wire (shorter wires have a similar figure-8 pattern).

At a full wavelength, there are 4 lobes, each peaking at 54 degrees with the wire. The solid figure of revolution wouldbe two cones, apex to apex, centered on the wire axis and opening outward.

As the number of half-wavelengths of wire increases the total antenna length, so do the number of lobes around the wire. The main lobes make a smaller angle with the wire making their aim closer to the wire ends. A wire of 4 wavelengths has main lobes making an angle of 26 degrees with the wire.

Up, down, right, and left are all the same, as the patterns are "solids" of revolution in free-space and they are symmetrical. The only things that count are amplitudes with their angles to the wire plus polarity and phase represented.

"Hair of the Dingo" seems a pitch for repeat business. That sweet stuff often causes me more problems the next day than the dryer stuff. To each his own!

Best regards, Richard Harrison, KB5WZI

730. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:02:20 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7flmsevq1@sparta.btinternet.com>
Source record: 120831

>> but i feel that the Yagi optimizer
> >programs will get you in the ballpark, but you still must do
> >additional empirical tuning for best results.

==========

I venture to say, empirical tuning by even the most experienced people will not get them out of ballparks.

All may attempt to do so and all attempters will suffer from optimisic delusions of accuracy.

Only the most gross misadjustments can be detected and perhaps improved.

Messing about is just as likely to make things worse as better. But all is fine. Nobody is able to measure any sensible difference bat all are happy to retire with imagined satisfaction.

Sorry to be so pessimistic. But don't let me put you off. Enjoy yourselves. If you know what you are doing you will probably not makes things worse.

Bear in mind the old adage - with radio any bloody thing will work.

Reg G4FGQ

731. Re: An amateur that don't know jack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:18:01 UTC
From: "Operation \"RRCB\" Freedom" <atanycost@antitwisty.com>
Message-ID: <I6GcnX_5X8hFwAajXTWcqQ@comcast.com>
Source record: 120833
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9B37B8.5A0A402B@yahoo.bomb...
> Operation \"RRCB\" Freedom wrote:
>
> > Arent these the same hams you listen to on the repeaters Snott?
>
> Geogre, if you EVER hear a repeater on 52.525 or 146.46,
> you let me know. Some ham you are.

Funny I never said there was anyone on those frequencies, or anythign even
remotely close about those freqs nice diversion tactic. But I did say aren't
these the same people(hams)that you listen to on the repeaters, you did
say you do listen to ham repeaters or was it just ham freqs.

732. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:27:09 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <27nm9vguu8aoo9ig4tl8pc0gldkpj4h0ll@4ax.com>
Source record: 120834

On 13 Apr 2003 20:22:43 -0700, radio913@aol.com (Dr. Slick) wrote:

> I'll bet that Yagi companies first use a computer to get in
>the ballpark, but then continue to adjust the parameters (while
>measuring with an anechoic chamber) to find a tuning that suits their
>particular materials and such.
>
> And i'll bet the polar plots they give are REAL, measured
>data from the chamber, and NOT simply a plot from their computer
>simulation! (assuming this is a reputable company!)
>

I know of several companies that design and sell antennas in the vhf and uhf range that are designed and built without any chamber to test them in. A few of them do not even have a test range to check them on!

The polar plots of these same antennas are mostly computer generated simulation plots. Often whole catalogs of them from names you would probably recognize.

73
Gary K4FMX

733. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:29:33 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7fn9t$n8g$1@hercules.btinternet.com>
Source record: 120835

I didn't say I havn't a copy of EZNEC.

I do wish some of you people would not allow your heated imaginations and emotions to run wild.

Some years back Roy kindly posted to me, out of the blue, a free floppy disk. So I am aware of EZNEC's capabilities and limitations. At the time I thought it was illegal in the USA for him to do so.

Isn't it amazing how far we can get away from galvanised iron wire in such a few steps.

Reg

734. Re: An EZNEC advert.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 01:55:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9mpkl2tf04a15@corp.supernews.com>
Source record: 120836

Alas, that Dingo hair has been doing a bad number on your neurons.

EZNEC, and its predecessor ELNEC, have always been available world wide. There has never been a statement in any of my advertisements that EZNEC is restricted in any way.

You might be thinking of EZNEC/4, although it's never been advertised except in flyers and on my web site. Unlike EZNEC (or professional version EZNEC-M), EZNEC/4 uses NEC-4 for calculations, and it can't be exported except under extraordinary circumstances. (The requirement is that the recipient first have an NEC-4 license, which I have nothing to do with, and this can't usually be issued to anyone outside the U.S.) However, as contrasted to the $99 EZNEC ($89 for download), EZNEC/4 is intended for professional use and priced at $600. Combined with the required $850 for an NEC-4 license before purchase, it's of little interest to most amateurs in any country. So you have to work really hard to confuse the two programs.

Of course, you could have obtained this information in a few seconds by dropping by my web site http://eznec.com -- almost certainly less time than it took you to write the lengthy response and hardly more than it took to compose the original false statement. So it's irresponsible, to say the least, for you to make obviously false statements as though they were facts. But then, I pointed this out when you recently attributed to well known authors statements which they didn't make. A reasonable conclusion is that this apparent carelessness isn't carelessness at all, but rather deliberate.

It looks like we'll have to be really cautious about believing what you say.

Please feel free to grouse about the U.S. government's policy of restricting NEC-4 -- you won't see me defending it. But neither will you see me sending EZNEC/4 to anyone, anywhere, ever, who doesn't first have a valid NEC-4 license.

I'm relieved to know that other nations, especially the U.K., don't have similar export restrictions or participate in trade sanctions. Perhaps we should more closely emulate their enlightened governmental system, and select leaders more like theirs.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Dear Roy,
>
> I distinctly remember, 4 or 5 years back, AND SO MUST YOU, that EZNEC, in
> the small print of your adverts, was not to be made available to non-USA

> citizens. Presumablely, it was originally secretly developed for use by the
> US armed services, and due to the immature 'reds under the bed' attitude of
> the US govermment at the time, plus US-dictated international trade
> sanctions against its imagined enemies, its export was prohibited.
>
> Some years back you did indeed send to me by ordinary parcel post, entirely
> unsolicited, out of the blue, a floppy containing the EZNEC program. I do
> not doubt you posted it too me with the best of kind intentions to avoid
> what remained of any silly restrictions. I gratefully acknowledged receipt
> of the free gift which on occasions I have used, not always successfully of
> course, to check the sanity of my own, almost entirely unconnected programs.
> They imposed no competition to your commercial interests. I have never
> publically or privately technically criticised, seldom mentioned, EZNEC -
> indeed, it would be unwise of me to do so in view of its (almost)
> impeccable, no old-wives, non-radio, mathematical origins of that popular
> program.
>
> The extremly rare suggestion I have just made to use EZNEC to demonstrate a
> technical point regarding the radiation pattern of a very long horizontal
> wire is precisely what EZNEC was intended for. You should be pleased the
> suggestion was made. Good for business. Any obviously intended humorous
> comments (they assist memories) alongside the suggestion can easily be
> bypassed. There was no need to fly off at a tangent. Pity you mentioned it.
>
> Thanks for bringing to the attention of readers, at least insofar as EZNEC
> is concerned, an embargo on sensitive software from the USA has now been
> relaxed. I'm sure wealthy radio amateurs in the rest of the world will be
> most grateful.
>
> Now let's forget it. See you on the groups. ;o)
>
> Yours, Reg.
>
>
>
>

735. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 02:10:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9mqhofe1d3d48@corp.supernews.com>
Source record: 120837

Some years ago I visited an elaborate facility used to evaluate Navy shipboard antennas. Real experts in both measurement and computer modeling were employed there, and they had the very best equipment to do both. (3D measurements were done with scale models on a rotating platform with detectors riding a large overhead arch, and modeling with NEC-4 and a custom interface.) One of the engineers told me that when they found disagreement between measurement and computer modeling, they tended to believe the computer model.

Let me be quick to say very clearly that this isn't a statement that computer modeling is always, or necessarily even usually, more accurate than measurement. There are way, way too many variations in the capabilities of the program, measuring equipment, environment, and skill level of the people doing the measurements or computer modeling to make any blanket statement. Ian pointed out only a very few.

However, it does say just how difficult it is to make really good measurements, even given the very best equipment and most highly skilled people.

Amen to all Ian said.

Roy Lewallen, W7EL

Ian White, G3SEK wrote:
> . . .
> The professional approach is maybe not as different as you think. Like
> us, they start out with computer designs, plus techniques for
> translating computer models into real-world prototypes. They often can
> make direct measurements, especially at UHF and above where an anechoic
> chamber is a reasonable size, but at lower frequencies we're talking
> about serious money for range measurements. Big antenna ranges and
> hangar-sized anechoic chambers around the world are gradually closing
> down due to the land and maintenance costs, and those that remain are
> putting up their prices, so even professionals are being pushed further
> and further towards computer modelling.
>
> Amateurs tend to have exaggerated faith in gain and pattern
> measurements. That's because very few have actually tried to make them,
> and fewer still have been realistic about the errors involved. Even with
> professional resources, accurate measurements are very difficult; with
> amateur resources, they are practically worthless.
>
> But computer simulations have advanced to the point where amateurs can
> have access to exactly the same tools as professionals, and the rest is
> all down to personal skill and experience. If there's a conflict between

> simulation and measurement, the suspicion these days tends to fall on
> the measurement.
> . . .

736. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 02:29:16 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <08Kma.457131$L1.131743@sccrnsc02>
Source record: 120838

I, for one, would be very interested in hard information, in the public domain - so that I can evaluate it, that compares measured and calculated radiation patterns AND impedances. Any leads/pointers?

Malcolm M Bibby

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message news:c$bNAZEgX0m+EAg9@ifwtech.co.uk...
> Dr. Slick wrote:
>
> >
> > I'm not a Yagi specialist, but i feel that the Yagi optimizer
> >programs will get you in the ballpark, but you still must do
> >additional empirical tuning for best results.
>
> You raise several good points, but the overall situation is a long way
> ahead of what you believe it to be.
>
> The performance of basic yagis with thin cylindrical elements and no
> boom effects can be computed with very good accuracy, either in free
> space or over perfect ground. This has been possible for at least 20
> years now.
>
> The art lies in translating these computer models into antennas for the
> real world. Things you have to think about include:
>
> * The effects of real ground (especially at HF where ground tends to be
> close in terms of wavelengths)
>
> * Effects of tapered elements (telescoping tubing sizes, generally
> needed at HF for mechanical reasons)
>
> * Effects of cylindrical but electrically "fat" elements (especially at
> VHF/UHF)
>
> * Electrical effects of a conducting boom, and the fixtures used to
> mount the elements to the boom (different between HF and VHF/UHF)
>
> Some of the HF-related information is gathered together in Leeson's book
> on mechanical design of yagi antennas (ARRL); much of the VHF/UHF
> information is still scattered around in various publications and
> conference proceedings (see below)... but what you need is actually
> there.
>
> The reason why we amateurs have latched onto computation is because it

> suits our available resources. We have the PCs, the software is
> available, our time costs nothing, and if we're committed enough we can
> develop the skills. What we hardly ever have is access to measurement
> facilities.
>
> The professional approach is maybe not as different as you think. Like
> us, they start out with computer designs, plus techniques for
> translating computer models into real-world prototypes. They often can
> make direct measurements, especially at UHF and above where an anechoic
> chamber is a reasonable size, but at lower frequencies we're talking
> about serious money for range measurements. Big antenna ranges and
> hangar-sized anechoic chambers around the world are gradually closing
> down due to the land and maintenance costs, and those that remain are
> putting up their prices, so even professionals are being pushed further
> and further towards computer modelling.
>
> Amateurs tend to have exaggerated faith in gain and pattern
> measurements. That's because very few have actually tried to make them,
> and fewer still have been realistic about the errors involved. Even with
> professional resources, accurate measurements are very difficult; with
> amateur resources, they are practically worthless.
>
> But computer simulations have advanced to the point where amateurs can
> have access to exactly the same tools as professionals, and the rest is
> all down to personal skill and experience. If there's a conflict between
> simulation and measurement, the suspicion these days tends to fall on
> the measurement.
>
> > All of the sources i have read on Yagis indicate that they
> >are not well understood and still involve a little trial-and-error.
>
> In that case you're reading the wrong sources. You won't find very much
> in pre-digested form in either academic textbooks, amateur handbooks or
> the major magazines. You'll have to look up the original references in
> amateur conference proceedings, specialized magazines such as DUBUS
> (www.dubus.org), old Moonbounce Newsletters (archives at
> http://www.nitehawk.com/rasmit), individual websites (including
> www.cebik.com and my own) and similar sources. Then you'll have to do
> your own thinking about it all.
>
> Having done so, I believe you'll find that yagi design and modelling is
> in fact very well understood. Methods for translating computer models
> into real-life antennas are based on experiment - but that's not the
> same as "trial and error", and the methods are now quite well developed
> and documented.
>
> >This is why even programs like the Yagi optimizer are genetic
> >algorithms (the computer equivalent of brute force "try this"
> >empirical tuning anyways!), and NOT fixed plug-and-play formulas.
>

> That isn't totally accurate, but it is true that genetic optimizers do
> not make good use of a designer's basic understanding of how a
> particular family of antennas works. Each design is a one-off that tells
> you very little about the previous design or the next one.
>
> But there are other kinds of optimizers that search much more
> systematically for optimum performance, and give the designer much more
> control over factors such as element lengths and spacings. This allows
> the designer to learn something more from each successive design, and to
> develop whole families of antennas whose design and performance are
> understood in real depth.
>
> > Any comments from any Yagi designers are greatly
> >appreciated.
>
> I've been there and done that with the moonbounce antennas. The ones I
> used were based on original designs developed by DL6WU using a large
> anechoic chamber before amateur modelling was possible, and were built
> and used by hundreds of amateurs. Later they were modelled, built and
> tested again by several more people, and the translations between models
> and real life were worked out. Then they were computer-optimized further
> by DJ9BV and tested on moonbounce; different versions were then modelled
> and built and tested by others including myself; and further
> developments have continued. Several other families of long yagis have
> been developed from the original DL6WU designs, but they're all
> relatives within the same "clan".
>
> Testing generally consists of checks on parameters that are easy to
> measure, such as the levels of sidelobes and the angles of sidelobes and
> nulls. Those are quite sensitive indicators of whether or not the
> antenna agrees with the model, and if they're correct within a few dB
> and a few degrees, you can be pretty confident about the predicted
> values of other parameters such as gain which you cannot measure so
> accurately.
>
> Such checks have proved that those particular VHF/UHF yagi designs
> really *are* understood, down to the last millimetre. If you build them
> correctly, they will work as modelled. The same can equally be said for
> many established HF yagi designs.
>
> Interesting topic - thank you!
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

737. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 02:47:04 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304141847.63f2ed7b@posting.google.com>
Source record: 120839

"Larry Phipps" <larry@telepostinc.com> wrote in message
news:<gxCma.213$qa5.342658@newssvr28.news.prodigy.com>...
> Art, as you know I tried with limited success to model your antenna and
> arrive at the results you claim. The NEC engines, and the programs based on
> them cannot adequately model all antenna and matching system designs...but
> that is no reason to deride them. They have proven to be a very valuable
> design tool for me and many others, accurately predicting performance a
> gratifying percentage of time.
>
> I don't know how long your antenna has been the on-and-off subject of this
> list, but it has to be at least a year. If your design can't be accurately
> modeled... then why don't you just publish the design, along with measured
> data, so that the design can be verified experimentally.
>
> --
> 73,
> Larry N8LP
> www.telepostinc.com
>
>
Hi Larry,
certainly I remember when you ,using Eznec, was unable to verify what
I had found not only by modeling but also in real time. When that came
from you it was a real shock since the group in general were just
pursuing a hazing phase. It was then I can suspected that it may well
be the Eznec programing
even tho Roy stood by while his users were struggling. Yes, it has
been going on for a long time. The stuff on this thread was written up
in a patent some eight years ago and I also shared it with this group.
They chose to debunk it so publishing it would do no good for the
hobby. I also offered it to someone for publishing since I started to
believe what people was saying about me.
Getting back to publishing....you have shared your work with your
fellow hobbyist but look how QST is treating you ! Many of this group
can get things published at the drop of a hat as they are insiders
which gives some credability to some of the editorials given by the
dislikable Wayne Green of the 73 magazine. I have since obtained
another patent on antennas which got no review and am presently
working on a third because I believe in what I am doing and as a
former engineer have taken steps to verify by modelliung, many
experiments plus obtaining backup calculations and relavent references
from well known accepted instruction books. I also tried to share that
with this group even prior to getting a patent but again no interest.
Bsically what we have are a couple of people who people look to and

from which they take a wink and a nod
to start the harasment. Roy himself could name quite a few people that he has led the charge against during the last ten years, manufactures, professors with Doctorates and many ,many more, I just happen to be the present one in the barrel who has dared to challenge the veracity of statements by the gurus.
Larry, if somebody treats me with disrespect or call me a thief as some have done on this group I will retalliate...not fade away. I offered a let bygones be bygones..no hard feelings but it has been rejected, I also have said sorry,
begged forgivenes and all that but things just heated up and just got worse because it was taken as a sign of weakness. Well things have changed, I will say what I believe in and will not go away purely because I disagree with some of what the gurus say.
None of this is pointed at you ofcourse as you have had no part of it but now you know some of the history behind all this and why I have taken a stubborn stand.
Still haven't sorted out my E mail problems, ie send and receive but I have a guy coming in after Easter to sort things out for me.Then I can receive the hate mail.
Best regards
Art Unwin....KB9MZ.....XG

By the way I use the AO program and I see in another thread where Roy points
out some downfalls from that supplier and I suspect that the same remarks could be made in reverse. Frankly none of the programs agree on anything according
to one well known teacher of antenna modelling which should be food for thought.
I will point to a couple of things that I really dislike about the EZNEC program, it has no provision for Sommerfield ground or for placing an ohmic value for certain things. It also does not provide for customer ease of use in choosing variation in direction of design as does the AO program which to my mind was the best program in the field when I purchased it, even tho it did not have the advertising strength and hoopla that Roys afilliation with QST has. This was a question of programming ability versus anothers since both were manipulating work that was performed and credited to others.
Fortunately there is now plenty of freeware programs that are very good which has really opened up the market for hams with little money resources since customer assistance is not aparently a measurable issue any more.

738. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 03:36:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9mvio9ac4do81@corp.supernews.com>
Source record: 120840

Art Unwin KB9MZ wrote:
>. . .
> By the way I use the AO program and I see in another thread where Roy
> points
> out some downfalls from that supplier and I suspect that the same
> remarks could be made in reverse. Frankly none of the programs agree
> on anything according
> to one well known teacher of antenna modelling which should be food
> for thought.

I presume you're speaking of my recent comments about some limitations of YO. Even a cursory google search of my postings will bring many examples of my pointing out limitations of EZNEC. I do my very best to be truthful and objective in describing the limitations of all modeling programs -- I have absolutely no desire to misrepresent the capabilities of either EZNEC or competing programs. Brian Beezley's software, including AO and YO, is very well done and capable, and both those programs have features not found in EZNEC. Yet all programs have limitations, and they differ from one to the next, as do the user interfaces.

> I will point to a couple of things that I really dislike about the
> EZNEC program, it has no provision for Sommerfield ground or for
> placing an ohmic value for certain things.

EZNEC does have provision for Sommerfeld ground. In EZNEC it's called "Real, High Accuracy" ground. Anyone who looks will find "Sommerfeld-Norton" in the EZNEC manual index, and either that entry or a search in the manual for "Sommerfeld" will point you to the topic which explains this. MININEC-based programs like AO and ELNEC (the predecessor of EZNEC) don't have Sommerfeld ground, and this is one of their chief limitations.

(For the benefit of readers not acquainted with Sommerfeld ground, it's an advanced ground model that allows accurate results for antennas close to the ground. The perfect ground model of MININEC-based programs begins departing noticeably from real ground when horizontal wires are lower than about 0.2 wavelength. NEC-2 based programs like EZNEC have the Sommerfeld ground model so are able to accurately model antennas with wires as low as about 1/1000 wavelength above ground. I don't know of any NEC-2 based programs that don't include the Sommerfeld ground model.)

> It also does not provide
> for customer ease of use in choosing variation in direction of design
> as does the AO program which to my mind was the best program in the
> field when I purchased it, even tho it did not have the advertising

> strength and hoopla that Roys afilliation with QST has.

I have no affilitation with QST except as a former advertiser and writer of a number of articles (none recently). I discontinued my QST advertising at the end of last year because I felt it was no longer worth the price. Oh, I'm a member of ARRL, so I'm also a subscriber to QST.

> This was a
> question of programming ability versus anothers since both were
> manipulating work that was performed and credited to others.
> Fortunately there is now plenty of freeware programs that are very
> good which has really opened up the market for hams with little money
> resources since customer assistance is not aparently a measurable
> issue any more.

I find that customer assistance is very nearly a full time job. Although the number of customers requiring assistance is fortunately a very small fraction of the total number of EZNEC users, there are enough users to make even this fraction consume very considerable time. I don't begrudge this; it's a large part of what people pay for.

I'm watching the development of free modeling programs with great interest. Who knows, I might end up retiring before long. Or going back to consulting, which pays around 4 - 5 times as much as producing and supporting EZNEC, and with a whole lot less work. So far, though, there are enough people who feel they're getting their money's worth from EZNEC to keep me at it for the time being. And it's still fun. Thanks!

Anybody who'd like to chat, comment, or complain about EZNEC (or rraa) is welcome and encouraged to stop by my booth at Dayton. I'll be at my usual spot -- booth 514, just downhill from the cafeteria, near Yaesu. And I hope you lurkers will drop in with your comments like you have in previous years -- It's always a pleasure to hear from you.

Roy Lewallen, W7EL

739. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 04:04:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jqqm9vsan1e91rfudjo20dqgme3uukj8e0@4ax.com>
Source record: 120841

On 14 Apr 2003 21:59:45 GMT, Leigh <news_nospam@leighs.org> wrote:

>Pills4ills@yahoo.com (Just Bob) wrote in
>news:3e9a0a98.6492375@news-central.giganews.com:
>
>> On The Date Of 13 Apr 2003 14:07:26 GMT, Leigh
>> <news_nospam@leighs.org> Wrote The Followng:
>>
>> ->Try turning off your monitor before spending money. If
>> that stops the
>> ->interference..... you need to plan your next move.
>>
>> Ok, I noticed about a 30% reduction in interference when I
>> turned the monitor OFF. Now what would be my 'next move'?
>
>Sort out the monitor - change your screen resolution (found it does make
>a difference), ferrite ring the monitor leads (mains and 15-core cable),
>move the position of the monitor and radios too and I even ferrite screen
>the leads in and out of the PC (mains, sound, etc)
>
>I did see a website about this - but since reinstalling - it's no longer
>in my favourites.
>
>Can anyone else suggest anything?
>
>Leigh.....

Hi All,

Frequently this noise is conduction borne, not over-the-air. This means it is coming in through a common ground. The same snubbing is useful, but more could be accomplished by placing the interfering source on a separate circuit from the interfered radio (called, for this purpose, "busting ground"). Use extension cords to confirm (with all units in their familiar positions), by patching the extension cord to an outlet on a different breaker. This will reveal if a shared ground is also injecting a shared noise.

The same thing can be accomplished if the radio has batteries and NO MORE than one lead to ground ANYWHERE. As simple as this last admonition is, you may be surprised how often (much less how easily) it gets violated.

If one test or another confirms that a shared ground is injecting noise, but that you have no other circuit to offer a real solution (extension cords clash with the decor); then you want to consider

where you place your heaviest (noisiest) power drain along the length of that common conductor. The closer you can get it to the service panel (and thus the shorter the leads behind the wall), then the less resistance there is available to develop the noise current into interfering noise voltage injected into your radio's shared ground.

73's
Richard Clark, KB7QHC

740. Re: Good Stealth Scanner Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 05:22:01 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9B96F9.AA84F850@cwis.net>
Source record: 120843

Harry,
How about a piece of #22 wire thrown over the roof?
Or several pieces cut to 'ball-park' lengths for the
different bands, all connected to the same feed point.
Mobile? How about your broadcast band antenna? Works
as well as just about any other one...
'Doc

741. Re: Help? Bonding exterior tower ground to AC interior ground

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 05:22:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ai2n9v84o4fqovvrno930un9sl91cc4k90@4ax.com>
Source record: 120844

On 12 Apr 2003 15:24:27 -0700, homac@telusplanet.net (Homac) wrote:

>the antenna ground, bonding them together. My fear is if lightning
>strikes it may bring current inside the house. Leaving them separate
>means a difference between two grounds with my equipment in the
>middle, also not good.
>
>A diagram can be viewed here:
>http://www.telusplanet.net/~homac/radiosetup.jpg
>
>I appreciate any help....
>
>Thanks
>
>Homac

Hi Homac,

Good drawing of a ground loop: the 9914 needs to bond to the same point too. The answer to your question is yes. Code requires it. Insurance could disappear faster than a lightning bolt if you violate code.

The 9914 would not be a violation (but don't take my word for it) because it is not a power conductor (in the conventional sense at 60Hz); however, practical safety engineering would point out that you have a potentially lethal connection. The discussion that follows presumes the subject will be handling commonly exposed metal ground shields and cabinets while dismantling the transmission line.

Consider, you have just unconnected the line to the tower at the back of your rig (we will simplify). As such, you are holding the rig with your left hand, and clutching the antenna transmission line connector in your right hand. If there is a ground potential difference between your service panel and the tower, it will be applied through your arms and directly across your chest. Classic headstone stuff.

INSTEAD

You have your line bonded to the common earth ground. When we confront what was formerly a deadly situation, we now find that both hands are referenced to the same potential.

Your design and page are well done.

73's
Richard Clark, KB7QHC

742. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 05:50:35 UTC
From: Larry Phipps <larry@telepostinc.com>
Message-ID: <L4Nma.525$qa5.590338@newssvr28.news.prodigy.com>
Source record: 120842

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0304141847.63f2ed7b@posting.google.com...

> Hi Larry,
> certainly I remember when you ,using Eznec, was unable to verify what
> I had found not only by modeling but also in real time. When that came
> from you it was a real shock since the group in general were just
> pursuing a hazing phase. It was then I can suspected that it may well
> be the Eznec programing
> even tho Roy stood by while his users were struggling. Yes, it has
> been going on for a long time. The stuff on this thread was written up
> in a patent some eight years ago and I also shared it with this group.
> They chose to debunk it so publishing it would do no good for the
> hobby. I also offered it to someone for publishing since I started to
> believe what people was saying about me.

Art, maybe I didn't get the physical data on your design right. What is the
patent number...I'll look it up and see if it matches my model.

> Getting back to publishing....you have shared your work with your
> fellow hobbyist but look how QST is treating you ! Many of this group
> can get things published at the drop of a hat as they are insiders
> which gives some credability to some of the editorials given by the
> dislikable Wayne Green of the 73 magazine.

Not sure what you refer to here. I have only submitted one manuscript to
QST for publication and it was quickly accepted. I'm still waiting for a
firm publication date, but I certainly wouldn't call that being mistreated.
The article has to do with remote station control over TCP/IP, not antennas.
I am working on a new article to cover my antenna work over the last year...
I expect it's too long for QST... but maybe would be accepted for QEX or a
future Antenna Compendium.
--
73,
Larry N8LP
www.telepostinc.com

743. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 06:02:08 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <08um9v4soafkuttdokva16pvnhvc04o2oc@4ax.com>
Source record: 120845

On 14 Apr 2003 19:47:04 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

[snip]

|Hi Larry,
|certainly I remember when you ,using Eznec, was unable to verify what
|I had found not only by modeling but also in real time. When that came
|from you it was a real shock since the group in general were just
|pursuing a hazing phase. It was then I can suspected that it may well
|be the Eznec programing
|even tho Roy stood by while his users were struggling. Yes, it has
|been going on for a long time. The stuff on this thread was written up
|in a patent some eight years ago and I also shared it with this group.
|They chose to debunk it so publishing it would do no good for the
|hobby. I also offered it to someone for publishing since I started to
|believe what people was saying about me.
|Getting back to publishing....you have shared your work with your
|fellow hobbyist but look how QST is treating you ! Many of this group
|can get things published at the drop of a hat as they are insiders
|which gives some credability to some of the editorials given by the
|dislikable Wayne Green of the 73 magazine. I have since obtained
|another patent on antennas which got no review and am presently
|working on a third because I believe in what I am doing and as a
|former engineer have taken steps to verify by modelliung, many
|experiments plus obtaining backup calculations and relavent references
|from well known accepted instruction books. I also tried to share that
|with this group even prior to getting a patent but again no interest.
|Bsically what we have are a couple of people who people look to and
|from which they take a wink and a nod
|to start the harasment. Roy himself could name quite a few people that
|he has led the charge against during the last ten years, manufactures,
|professors with Doctorates and many ,many more, I just happen to be
|the present one in the barrel who has dared to challenge the veracity
|of statements by the gurus.

Frankly, you have been spared a lot of justified "harassment" if
that's what you choose to call critical peer review.

You take any criticism as a personal affront, when most of it results
from the ability, or lack thereof, that you have in expressing
yourself.

I feel blessed that there are "gurus" who read and post to this group.
If we were having to paying consulting fees to some of these folks for
the knowledge they dispense for free here we wouldn't be buying to

often.

[snip]
|
|By the way I use the AO program and I see in another thread where Roy
|points
|out some downfalls from that supplier and I suspect that the same
|remarks could be made in reverse. Frankly none of the programs agree
|on anything according
|to one well known teacher of antenna modelling which should be food
|for thought.

Roy was completely fair in noting the limitations of both the Mininec engine used in AO, ELNEC, MMANA, et.al. and NEC-2 as used in EZNEC, 4nec2, NEC-Plus, et.al.

All of these programs, when used correctly, agree much more than they disagree.

| I will point to a couple of things that I really dislike about the
|EZNEC program, it has no provision for Sommerfield ground

Absolutely false.

|or for
|placing an ohmic value for certain things.

Another case of your inability to clarify what you mean, but if I was to hazard a guess, I'd believe you're wrong again.

|It also does not provide
|for customer ease of use in choosing variation in direction of design
|as does the AO program which to my mind was the best program in the
|field when I purchased it, even tho it did not have the advertising
|strength and hoopla that Roys afilliation with QST has.

Roy's "affiliation" with QST was the same as any other advertiser: He paid the money; they ran the ad. If I'm not mistaken, he quit paying the money and lo and behold, they quit running the ad.

|This was a
|question of programming ability versus anothers since both were
|manipulating work that was performed and credited to others.
|Fortunately there is now plenty of freeware programs that are very
|good which has really opened up the market for hams with little money
|resources since customer assistance is not aparently a measurable
|issue any more.

Now here is where you are most wrong. I have been using Roy's products since the DOS days. I have on many occasions either emailed or called Roy on the telephone for assistance, advice or to report what I believed was a bug. His customer service is OUTSTANDING.

I recall once reporting a really arcane bug, (oddball ground constants) something that would never occur in reality, and within a few hours, he had fixed the bug and emailed me a patch. The following day, the patch was available on the EZNEC web site.

I must contrast that to my experience with a well-known logging program that cost more than EZNEC. The company has an email reflector where queries can be posted. The program and documentation was really bad and after I said so a few times on the reflector, I received a telephone call from the author asking me to quit posting because I was costing him business. Some of the bugs that I reported were fixed in later "upgrade" versions, for which I got to pay more money. In one case they did email me a patch but never made it available to the rest of the customers.

From the restraint that he shows here and what I can imagine are the questions from some of his customers I'm amazed that he sticks with it.

744. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 06:45:26 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3E9BAA86.9E29ECED@powerup.com.au>
Source record: 120846

Something presumptuous from Bugdewoi?

:-)

Roy Lewallen wrote:
>
> And what wine would be appropriate to go with?
>
> Roy Lewallen, W7EL
>
> 'Doc wrote:
> >
> > Reg,
> > What about the budgies? Any good recipes?
> > 'Doc

--
****
* Murray Kelly vk4aok mailto://mkelly@powerup.com.au *
* 6 Spyglass Place, Oxley Ridge QLD. 4075. Australia *
* ph/fax Intl+ 61 7 3879 7968 *
****

745. Re: An EZNEC advert.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 08:23:23 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <AGdaugA7F8m+EAgB@ifwtech.co.uk>
Source record: 120847

Reg Edwards wrote:
>
>I distinctly remember, 4 or 5 years back, AND SO MUST YOU, that EZNEC,
>in the small print of your adverts, was not to be made available to
>non-USA citizens. Presumablely, it was originally secretly developed
>for use by the US armed services, and due to the immature 'reds under
>the bed' attitude of the US govermment at the time, plus US-dictated
>international trade sanctions against its imagined enemies, its export
>was prohibited.
>

That first sentence is simply false. EZNEC is based on the NEC-2 "calculating engine", the source code of which has been in the public domain for a very long time. There has never been any restriction on its availability here in the UK.

Likewise there has never been any restriction on the sale of proprietary enhancements of the NEC-2 or MININEC engine, such as EZNEC, ELNEC before it, or any of Brian Beezley's products. Having been BB's European distributor for a few years, I had good reason to make sure.

The second "Presumably" sentence is almost all imagination too. Unlike most other countries, detailed reports of R&D work financed by the US Government are mostly in the public domain unless they are security classified. NEC-2 and MININEC were both published as big thick reports containing all the details, and years ago I obtained both from the British Library, simply for the asking.

The only grain of truth in Reg's second sentence is that NEC-*4* is only available to US citizens, non-US contractors to the US Government, or through diplomatic channels. Until you have used one of these routes to obtain a licence to hold NEC-4, Roy is forbidden to sell you EZNEC-*4*. This is just a piece of stupidity - bureaucrats making rules, just because they can - but both the custodians of NEC-4 and Roy have to follow those rules for as long as they remain in force.

Like others, I'm learning to check the local time on Reg's postings. If it's after midnight, watch out.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

746. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 08:34:28 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <K22YSeBUQ8m+EAD+@ifwtech.co.uk>
Source record: 120848

Bibby wrote:
>I, for one, would be very interested in hard information, in the public
>domain - so that I can evaluate it, that compares measured and
>calculated radiation patterns AND impedances. Any leads/pointers?
>
Not a lot in the amateur literature, because we don't have the
facilities to do the measurements, much less the inclination to publish
them.

The most comprehensive measurements on one family of yagis were the ones
that DL6WU made using an anechoic chamber - aircaft hangar, actually -
that was "borrowed" from the German Post Office. Some of these patterns
were published in 'VHF Communications', and rather more in a booklet by
the Dutch national society VERON... in Dutch, of course... and this is
typical of the searching you have to do.

In the professional literature, there's always the famed NBS report. The
NBS yagis are way behind today's state of the art, but the range
measurements are as good as any you'll find. In the early days, amateur
yagi modellers used them extensively for verification.

Also try any of the reputable amateur manufacturers' catalogs. Some of
them have range measurements, but most have already done whatever
verification they can, and now publish computed patterns. They all have
their own little ways of correcting for the constructional features that
their yagis use, but you won't find those published.

There's a general pattern emerging here. The whole verification thing
was a done deal several years ago. There is no longer any question that
the available programs are *capable* of modelling yagis accurately - the
real question is whether you or I are capable of using those tools
correctly, and that's why we make the comparisons. The experience is new
to each of us when we start out, but it's not original work and so
there's nothing to publish. .

For my own part, I measured sidelobe angles and levels on my own array
using sun noise, but didn't even bother to write them down. I simply
checked them against the computer predictions, muttered something like
"That's all right then"... and moved on.

One final point about impedances. Most VHF/UHF long-yagi models don't
include the physical details of matching the driven element, so
impedance data are fairly scarce. On the other hand, it is possible to
design and optimize yagis for a specific feedpoint impedance that will
be easy to match, then build them, and find that the SWR is acceptably
low. This is generally as far as amateurs wish to take it.

The most comprehensive web site for details of antenna modelling techniques for amateurs - including the pitfalls - is that of L B Cebik, W4RNL (www.cebik.com).

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

747. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 09:11:17 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304150111.62c4e647@posting.google.com>
Source record: 120849

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0304140640.1d925de6@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0304131653.6ea01389@posting.google.com>...
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304130824.abb5588@posting.google.com>...
>
> > > So why are we not attaching a magnetic loop antenna
> > > to our dipoles ?
> > mark said
> > It's very simple. I'll assume for now you mean as a separate antenna
> > fed with it own feedline connected in or out of phase with the dipole.
>
> Hi Mark
> I don't know sh-t about antenna's, but Art plainly said
> "do not feed the loop".

If you do not directly feed the loop, it does not operate as, or can
be classified as a magnetic loop. I guess you missed the point.

If one is going to make asumptions against
> what is plainly stated the end result will never match. Also in
> another post on another thread Art pointed out his antenna's
> "rotated" he did not claim steered.

The antenna I modeled was months ago. At that time, he claimed to be
able to steer the pattern by changing the value of the cap. Or at
least, it seemed to be a claim. With Art, it's often hard to tell for
sure. MK

748. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 11:46:13 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304150346.2b980394@posting.google.com>
Source record: 120850

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0304140640.1d925de6@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message Also in
> another post on another thread Art pointed out his antenna's
> "rotated" he did not claim steered.
>
> jaro

He pointed out that EZNEC or for that matter any of the other "similar
engine" programs would not allow one to model his antenna, and tune
out reactance by varying the cap.
But this is not true, and no one has ever said this. I modeled the
antena on each band, and saved a file for each band with the different
cap settings.
But I guess this convenently slipped his mind. Heck, I just reminded
him of this again the other day. If he's going to blame a modeling
program for part of his problems, he needs to at least get the facts
straight. The only reason I brought up "steering" is because "that" is
what the programs said he couldn't do. I mentioed that to again
refresh his memory on what the program did indeed have to say. In
earlier posts months ago, he seemed to hint that he would see
"collinear" gains from the loop/dipole combo. You can not do that
without two separate sources. Maybe he never meant to say the combo
could be steered, but if so , that is due to the obscure way he
describes things. It takes an act of congress just to get enough
details to accurately model what he's talking about. But in the
modeling exercise I did last Aug, he did finally "ok" the diagram of
the antenna I drew and posted on my server as "loopole.jpg" as being
what he described. If his "magnetic loop" does not have it's own
source, it's not operating as a magloop. MK

749. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 11:46:47 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304150346.49eb25eb@posting.google.com>
Source record: 120851

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0304140640.1d925de6@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message Also in
> another post on another thread Art pointed out his antenna's
> "rotated" he did not claim steered.
>
> jaro

He pointed out that EZNEC or for that matter any of the other "similar
engine" programs would not allow one to model his antenna, and tune
out reactance by varying the cap.
But this is not true, and no one has ever said this. I modeled the
antena on each band, and saved a file for each band with the different
cap settings.
But I guess this convenently slipped his mind. Heck, I just reminded
him of this again the other day. If he's going to blame a modeling
program for part of his problems, he needs to at least get the facts
straight. The only reason I brought up "steering" is because "that" is
what the programs said he couldn't do. I mentioed that to again
refresh his memory on what the program did indeed have to say. In
earlier posts months ago, he seemed to hint that he would see
"collinear" gains from the loop/dipole combo. You can not do that
without two separate sources. Maybe he never meant to say the combo
could be steered, but if so , that is due to the obscure way he
describes things. It takes an act of congress just to get enough
details to accurately model what he's talking about. But in the
modeling exercise I did last Aug, he did finally "ok" the diagram of
the antenna I drew and posted on my server as "loopole.jpg" as being
what he described. If his "magnetic loop" does not have it's own
source, it's not operating as a magloop. MK

750. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 12:07:10 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <OBSma.462214$F1.66186@sccrnsc04>
Source record: 120852

Ian, thanks for the reply.

It seems to me, that you confirm that there is no generally available source that compares good measurements with good modeling.

I agree that in the English (US and Brit.) speaking world, the best measurements on Yagis seem to have been those reported in the NBS report of decades ago. (I happen to think that there is something suspect about their 2-element results). It would be very nice to have someone who has access to Mininec and/or NEC-2/4 to run them against the NBS data - subject to one condition. That condition is that the number of cells (wire segments) is increased steadily from 2 segments per element to 100 per element. I would like to see how the F/B ratio and input admittance/impedance change as the model size is changed. I choose these two parameters as they are most susceptible to modeling capabilities/shortcomings. If only one such antenna is examined then I suggest that it be the 6-element one. I would do it myself, except I don't have a copy of either program.

Finally, I agree that there are many incarnations of NEC code around. However, the basic engine was released 20 years ago, which means its design is probably 25 years old. 20/25 years ago, desk-top PCs were just emerging. Designers were still very concerned about conserving memory (core and rotary) size back then - and this inevitably had a significant effect on the trade-offs in the models employed. Numerical analysis methods have also improved since then. For example, most antenna computer codes use simple models like pulses and triangles. Why? One reason is that they result in square matrices. Today, public domain code is available to solve rectangular matrices, and this permits the use of more sophisticated models.

Any volunteers to analyze the 6-element NBS antenna in the manner that I described?

Malcolm M Bibby

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message news:K22YSeBUQ8m+EAD+@ifwtech.co.uk...
> Bibby wrote:
> >I, for one, would be very interested in hard information, in the public
> >domain - so that I can evaluate it, that compares measured and
> >calculated radiation patterns AND impedances. Any leads/pointers?
> >
> Not a lot in the amateur literature, because we don't have the
> facilities to do the measurements, much less the inclination to publish
> them.
>
> The most comprehensive measurements on one family of yagis were the ones

> that DL6WU made using an anechoic chamber - aircaft hangar, actually -
> that was "borrowed" from the German Post Office. Some of these patterns
> were published in 'VHF Communications', and rather more in a booklet by
> the Dutch national society VERON... in Dutch, of course... and this is
> typical of the searching you have to do.
>
> In the professional literature, there's always the famed NBS report. The
> NBS yagis are way behind today's state of the art, but the range
> measurements are as good as any you'll find. In the early days, amateur
> yagi modellers used them extensively for verification.
>
> Also try any of the reputable amateur manufacturers' catalogs. Some of
> them have range measurements, but most have already done whatever
> verification they can, and now publish computed patterns. They all have
> their own little ways of correcting for the constructional features that
> their yagis use, but you won't find those published.
>
> There's a general pattern emerging here. The whole verification thing
> was a done deal several years ago. There is no longer any question that
> the available programs are *capable* of modelling yagis accurately - the
> real question is whether you or I are capable of using those tools
> correctly, and that's why we make the comparisons. The experience is new
> to each of us when we start out, but it's not original work and so
> there's nothing to publish. .
>
> For my own part, I measured sidelobe angles and levels on my own array
> using sun noise, but didn't even bother to write them down. I simply
> checked them against the computer predictions, muttered something like
> "That's all right then"... and moved on.
>
> One final point about impedances. Most VHF/UHF long-yagi models don't
> include the physical details of matching the driven element, so
> impedance data are fairly scarce. On the other hand, it is possible to
> design and optimize yagis for a specific feedpoint impedance that will
> be easy to match, then build them, and find that the SWR is acceptably
> low. This is generally as far as amateurs wish to take it.
>
> The most comprehensive web site for details of antenna modelling
> techniques for amateurs - including the pitfalls - is that of L B Cebik,
> W4RNL (www.cebik.com).
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

751. ATAS120 on vhf/uhf

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 12:10:41 UTC
From: Bill East <beast@pcs.mb.ca>
Message-ID: <BvTma.33$5M.4543@localhost>
Source record: 120854

Anyone using this antenna on these bands . How well does it work .
Where do you have it mounted.
Any comments good or poor.
thanks,
Bill

752. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 12:35:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9nv5tmel9obb2@corp.supernews.com>
Source record: 120853

NEC-2 is free and readily available from the Internet, so you should be able to do the modeling yourself.

A lot of what you say is true of MININEC, which was specifically designed to run on the PCs of the early and mid '80s. However, it's not true of NEC-2, which is used by a number of modern programs.

The IBM PC didn't even exist when NEC-2 was released -- it was intended for use on the large mainframe machines of the day. Double-precision NEC-2 code with a full 10,000 segment model can generate an impedance matrix of up 1.6 GB in size, so it's obvious that the program wasn't limited to conserve memory. It does have the ability to solve the problem in pieces in a smaller memory area, though, to accommodate machines with less than this amount of RAM. (It's quite efficient, too, and doesn't increase the computation time unreasonably.) With the original NEC-2, the amount of required memory and the largest model size are set at compile time to suit the machine. Only in relatively recent times have desktop machines become powerful enough to run NEC-2 at all -- early PCs couldn't come anywhere near being able to run it.

NEC-2 doesn't use rectangular or triangular basis functions, but a sine-cosine-constant function. If you're interested in learning more about how NEC-2 really works, the manual is available on the web.

Roy Lewallen, W7EL

Bibby wrote:
> Ian, thanks for the reply.
>
> It seems to me, that you confirm that there is no generally available source
> that compares good measurements with good modeling.
>
> I agree that in the English (US and Brit.) speaking world, the best
> measurements on Yagis seem to have been those reported in the NBS report of
> decades ago. (I happen to think that there is something suspect about their
> 2-element results). It would be very nice to have someone who has access
> to Mininec and/or NEC-2/4 to run them against the NBS data - subject to one
> condition. That condition is that the number of cells (wire segments) is
> increased steadily from 2 segments per element to 100 per element. I would
> like to see how the F/B ratio and input admittance/impedance change as the
> model size is changed. I choose these two parameters as they are most
> susceptible to modeling capabilities/shortcomings. If only one such
> antenna is examined then I suggest that it be the 6-element one. I would
> do it myself, except I don't have a copy of either program.
>
> Finally, I agree that there are many incarnations of NEC code around.

> However, the basic engine was released 20 years ago, which means its design
> is probably 25 years old. 20/25 years ago, desk-top PCs were just
> emerging. Designers were still very concerned about conserving memory (core
> and rotary) size back then - and this inevitably had a significant effect on
> the trade-offs in the models employed. Numerical analysis methods have
> also improved since then. For example, most antenna computer codes use
> simple models like pulses and triangles. Why? One reason is that they
> result in square matrices. Today, public domain code is available to solve
> rectangular matrices, and this permits the use of more sophisticated models.
>
> Any volunteers to analyze the 6-element NBS antenna in the manner that I
> described?
>
> Malcolm M Bibby

753. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:12:52 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9C0554.B37B28A7@cwis.net>
Source record: 120855

Wouldn't that be a bit... flighty?
'Doc

754. Re: WHat is a ferrite core used for and can it help me?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:36:11 UTC
From: richardharrison@webtv.net
Message-ID: <13929-3E9C0ACB-47@storefull-2317.public.lawson.webtv.net>
Source record: 120856

Leigh wrote:
"Can anyone suggest anything?"

Placing an antenna near an interference source usually produces interference in the receiver.

It`s possible to place a receiver next to the interference with satisfactory results if the antenna is placed elsewhere and other noise paths are avoided.

The receiver must be shielded for zero reception with no antenna input. This requires a conducting enclosure. If external receiver power is required, a powerline filter is required.

A shielded or carefully balanced transmission line is required between the receiver and the antenna.

There are many millions of satisfactory examples in automobiles. Tens of thousands of volts producing hundreds and thousands of arcs per minute under the hood and just a meter or so away an antenna satisfactorily receiving microvolt signals.

Best regards, Richard Harrison, KB5WZI

755. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:48:03 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030415094803.12372.00000387@mb-fi.aol.com>
Source record: 120857

> I'll bet that Yagi companies first use a computer to get in
>the ballpark, but then continue to adjust the parameters (while
>measuring with an anechoic chamber) to find a tuning that suits their
>particular materials and such.
>

Dunno, but in my case, when I tried to see how good AO program is at optimizing 3 el. Quad I found that that AO wasn't as got as I was :-)

When I plugged "average" dimensions of 3 el. Quad into AO as a start and asked it to optimize it to my specs (50 ohm impedance, preferred F/B/S), it did not find dimensions that I have come up with, derived by experimental design on 2m hard model.

When I plugged my "winning" hard modeled design into AO, it did "improve" it on paper (computer screen). I have not had the chance to verify the improved dimensions on the hard model yet. AO is using mininec engine, I have yet to try the 4NEC2 or MMAMA optimization programs.

Software modeling is great tool, but like any tools it takes the master to use it properly, to understand the workings and limitations. I would caution in taking as gospel the designs based only on soft modeling, programs are still not perfect and do not capture all the variables that participate in the antenna performance. But they are tremendous help in exploring various alternatives and comparing designs in similar situations.

Yuri, K3BU

756. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:50:12 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <o6Uma.222392$Zo.41537@sccrnsc03>
Source record: 120858

Thanks for the reply Roy.

It appears that NEC-2 is even older than I thought it was! I stand corrected on the basis function used.

My reason for entering this debate was not to become enmeshed in NEC use. It was simply to point out that with the availability of the NBS data and NEC codes then the original assertion that started this thread could be tested. My contribution is/was to point out how such testing may occur - and what should be examined. I specifically picked out F/B ratio and impedance because I know that they are sensitive to modeling issues. (Most programs give reasonable estimates of gain). I believe that you have the NBS dimensions already entered into your suite of programs. I certainly know that you know the input/output side of NEC very well. Perhaps you could run the test that I described and share the results with us all.

Malcolm M Bibby

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:v9nv5tmel9obb2@corp.supernews.com...
> NEC-2 is free and readily available from the Internet, so you should be
> able to do the modeling yourself.
>
> A lot of what you say is true of MININEC, which was specifically
> designed to run on the PCs of the early and mid '80s. However, it's not
> true of NEC-2, which is used by a number of modern programs.
>
> The IBM PC didn't even exist when NEC-2 was released -- it was intended
> for use on the large mainframe machines of the day. Double-precision
> NEC-2 code with a full 10,000 segment model can generate an impedance
> matrix of up 1.6 GB in size, so it's obvious that the program wasn't
> limited to conserve memory. It does have the ability to solve the
> problem in pieces in a smaller memory area, though, to accommodate
> machines with less than this amount of RAM. (It's quite efficient, too,
> and doesn't increase the computation time unreasonably.) With the
> original NEC-2, the amount of required memory and the largest model size
> are set at compile time to suit the machine. Only in relatively recent
> times have desktop machines become powerful enough to run NEC-2 at all
> -- early PCs couldn't come anywhere near being able to run it.
>
> NEC-2 doesn't use rectangular or triangular basis functions, but a
> sine-cosine-constant function. If you're interested in learning more
> about how NEC-2 really works, the manual is available on the web.
>
> Roy Lewallen, W7EL

>
> Bibby wrote:
> > Ian, thanks for the reply.
> >
> > It seems to me, that you confirm that there is no generally available
source
> > that compares good measurements with good modeling.
> >
> > I agree that in the English (US and Brit.) speaking world, the best
> > measurements on Yagis seem to have been those reported in the NBS report
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> > decades ago. (I happen to think that there is something suspect about
their
> > 2-element results). It would be very nice to have someone who has
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> > to Mininec and/or NEC-2/4 to run them against the NBS data - subject to
one
> > condition. That condition is that the number of cells (wire segments)
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> > increased steadily from 2 segments per element to 100 per element. I
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> > like to see how the F/B ratio and input admittance/impedance change as
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> > model size is changed. I choose these two parameters as they are most
> > susceptible to modeling capabilities/shortcomings. If only one such
> > antenna is examined then I suggest that it be the 6-element one. I
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> > do it myself, except I don't have a copy of either program.
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> > Finally, I agree that there are many incarnations of NEC code around.
> > However, the basic engine was released 20 years ago, which means its
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> > is probably 25 years old. 20/25 years ago, desk-top PCs were just
> > emerging. Designers were still very concerned about conserving memory
(core
> > and rotary) size back then - and this inevitably had a significant
effect on
> > the trade-offs in the models employed. Numerical analysis methods
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> > also improved since then. For example, most antenna computer codes
use
> > simple models like pulses and triangles. Why? One reason is that
they
> > result in square matrices. Today, public domain code is available to
solve
> > rectangular matrices, and this permits the use of more sophisticated
models.
> >
> > Any volunteers to analyze the 6-element NBS antenna in the manner that I
> > described?

> >
> > Malcolm M Bibby
>

757. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:52:58 UTC
From: Jesse <touhey@olypen.com>
Message-ID: <v9o3m1lauh9t64@corp.supernews.com>
Source record: 120859

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7cvofoca1@titan.btinternet.com...
> > 5. Decreasing the angle betweeen the legs of a dipole
tends to
> > lower the input impedance. (see #3) Being able to vary
that
> > angle comes in handy.
>
> ================================
>
> Wrong ! It's not like you Doc. Decreasing the dipole
angle loses more in
> radiating efficiency (radiation resistance) than the
trivial improvement due
> to matching the antenna to the transmission line.
> ---
> Reg.
>
>
Reg, I'm curious. Can you put a number to this huge (not
trivial) loss in effective radiated power you describe?
Would one be able to hear the difference, or see it on their
"S" meter?

Jesse (W6KKT)

758. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 13:54:35 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <vaUma.462080$L1.133038@sccrnsc02>
Source record: 120860

Amen to the last paragraph.

Malcolm M Bibby

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030415094803.12372.00000387@mb-fi.aol.com...
> > I'll bet that Yagi companies first use a computer to get in
> >the ballpark, but then continue to adjust the parameters (while
> >measuring with an anechoic chamber) to find a tuning that suits their
> >particular materials and such.
> >
>
> Dunno, but in my case, when I tried to see how good AO program is at
optimizing
> 3 el. Quad I found that that AO wasn't as got as I was :-)
>
> When I plugged "average" dimensions of 3 el. Quad into AO as a start and
asked
> it to optimize it to my specs (50 ohm impedance, preferred F/B/S), it did
not
> find dimensions that I have come up with, derived by experimental design
on 2m
> hard model.
>
> When I plugged my "winning" hard modeled design into AO, it did "improve"
it on
> paper (computer screen). I have not had the chance to verify the improved
> dimensions on the hard model yet. AO is using mininec engine, I have yet
to try
> the 4NEC2 or MMAMA optimization programs.
>
> Software modeling is great tool, but like any tools it takes the master to
use
> it properly, to understand the workings and limitations. I would caution
in
> taking as gospel the designs based only on soft modeling, programs are
still
> not perfect and do not capture all the variables that participate in the
> antenna performance. But they are tremendous help in exploring various
> alternatives and comparing designs in similar situations.
>
> Yuri, K3BU

759. Re: SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 14:13:08 UTC
From: Jesse <touhey@olypen.com>
Message-ID: <v9o4rrjkovgpf2@corp.supernews.com>
Source record: 120861

"jack D" <jackinariz@webtv.net> wrote in message
news:3616-3E9AEE5A-47@storefull-2138.public.lawson.webtv.net
...
> I have put up a new 5/8 wave vertical antenna for
10-11-12M......It has
> a very high SWR at the radio SWR meter,(3 to as high as
7)...However I
> also have a Dosy SWR/Power/Mod meter in-line and that
meter reads
> normal,(1 to 3)??Which should I believe?? Thanks. Jack D.
>

Jack:
Assuming your swr measuring devices are working properly,
you should expect to get different readings on a line that
has standing waves. When a line (coax) has standing waves
(not terminated into the characteristic impedance of the
line) the impedance is different at each point on the line
If two swr measuring devices are inserted in the line they
will exhibit two different readings.
Make each device is working properly.

Jesse (W6KKT)

760. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 15:18:02 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9C2435.9FC342EB@uwe.ac.uk>
Source record: 120862

'Doc wrote:
>
> Reg,
> What about the budgies? Any good reciepies?
> 'Doc

Half a megawatt ERP on 13 cms and they fall from
the sky ready cooked. Serve with a chilled Southeast
Australian Semillon-Chardonnay. ;-)

vy 73

Andy, M3ABC

761. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 15:29:04 UTC
From: richardharrison@webtv.net
Message-ID: <20386-3E9C2540-252@storefull-2312.public.lawson.webtv.net>
Source record: 120863

Tom S. wrote:
"I am trying to find a cheap source of wire to make my HF antenna."

Aluminum is more conductive by weight than copper. Reliable connections can usually only be made by extremely high compression (Nicopress) wire fittings. These are usually out of reach for the amateur. This makes aluminum a bad deal.

In Houston, Texas, we have an electrical salvage company named "Electric Wire and Cable". Cheap copper and Copperweld are offered there. There are also hamfests and other sources of satisfactory cheap wire.

If you want cheap antenna wire go for copper or Copperweld, new or used, from surplus outlets.

Best regards, Richard Harrison, KB5WZI

762. Re: SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 15:50:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C2A32.7090906@ieee.org>
Source record: 120864

Jesse wrote:
> Assuming your swr measuring devices are working properly,
> you should expect to get different readings on a line that
> has standing waves. When a line (coax) has standing waves
> (not terminated into the characteristic impedance of the
> line) the impedance is different at each point on the line.
> If two swr measuring devices are inserted in the line they
> will exhibit two different readings.

Hi Jesse, what happened to your W7 call? Good to hear from
you again.

Assuming the calibrated Z0 of the SWR meters matches the Z0 of
the transmission line, they should read the same minus losses.
The directional coupler is supposed to take care of the
phase angle between the voltage and current. And since, on
a feedline with an SWR higher than 1:1, the voltages are
undergoing constructive interference while the currents are
undergoing destructive interference (and vice versa), the
SWR meters should be able to do a reasonable job of separating
out the forward wave components from the reflected wave components.
The voltage proportional to the total voltage vectorally added to
the voltage proportional to the total current should result in
a voltage proportional to the relatively constant forward power
up and down a low-loss feedline. Subtracting those two voltages should
result in a voltage proportional to the reflected power. Of course,
the SWR decreases as we move the SWR meter from the antenna to the
transmitter because of line losses.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

763. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 15:56:40 UTC
From: richardharrison@webtv.net
Message-ID: <20389-3E9C2BB8-25@storefull-2312.public.lawson.webtv.net>
Source record: 120867

Andy, M3ABC wrote:
"I know silver is 7% better, if it is bright and shiney, but not when tarnished, as tarnish is a conductor, but not a very good one."

Over 40 years ago, I installed a Motorola MR-50 6-GHz microwave repeater in Port Sulphur, Louisiana. Sulphur permeated the air everywhere! I asked Louis Gonzalez at Freeport Sulphur Company what to expect. Freeport had MR-50`s too. He said, "No problems". Louis was correct. Within weeks, the silverplated waveguide plumbing was pitch black. I could measure no difference in the radio losses than from the measurements made when the radio was originally installed and pristine.

Best regards, Richard Harrison, KB5WZI

764. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 15:56:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C2BCB.4080908@ieee.org>
Source record: 120865

Richard Harrison wrote:
> Aluminum is more conductive by weight than copper. Reliable connections
> can usually only be made by extremely high compression (Nicopress) wire
> fittings. These are usually out of reach for the amateur. This makes
> aluminum a bad deal.

Beam antenna manufacturers and owners might disagree. :-) I have found tinned lugs make a reasonably reliable contact between aluminum and copper. I wonder why there's no aluminum/copper alloy interface washers? At least I've never heard of any.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

765. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:04:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ll9o9vgctefari51v1pq180enuv6gh8ua2@4ax.com>
Source record: 120866

On Tue, 15 Apr 2003 13:50:12 GMT, "Bibby" <bibby@attbi.com> wrote:

> Perhaps you
>could run the test that I described and share the results with us all.
>
>Malcolm M Bibby

Hi Malcom,

I would warn you that your presumption of aid is one that has been seriously corrupted in the past and the offering of intellectual hoops to the readership's anticipated leaps is viewed with some disdain. This is not to sneer at your agenda, but the well has been poisoned by another who uses this type of request as a foil to deflect criticism. Art has certainly had to be prodded often to return his thanks for obtaining these many favors performed by others for him alone.

The cost of getting into the game may be prohibitive for you, that would make it a very subjective test of solvency versus commitment. For the rest of us, we made the commitment both in financial terms and more importantly in terms of time. You may be able to carry off your request, but it will require considerably more schmoozing and acts of good faith (really not that very hard). Myself, I have conducted tests much like what you speculate over, and satisfied myself some 6 to 10 years ago. I cannot point to any specific shorthand example to peg any design course against except: do not worry about results until they get interesting. Another common perception: most things don't really matter all that much.

In other words, if you find yourself suddenly surprised or you have just invented something new - you have indeed done something wrong.

73's
Richard Clark, KB7QHC

766. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:17:11 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9C3087.AF2E7054@yahoo.bomb>
Source record: 120868
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Dan/W4NTI wrote:
>
> Are you really that dense Scott? Im not qrming a damn thing. As stated
> before I DIDNT START THIS THREAD.
>
> If you dont want to hear from me any longer may I suggest you DONT REPLY and
> guess what...I wont 'QRM your CB group'.
>
> See how easy that is?

It would be easier if you just removed rec.radio.cb from your postings.

I would like to leave you with this:
http://www.wiredvideo.com/pics/arguing.jpg

Don't let the door hit 'ya where the lord split 'cha!

767. Re: An amateur that don't know jack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:17:24 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9C3094.27D5EBE2@yahoo.bomb>
Source record: 120719
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Operation "RRCB" Frenchfry wrote:
> >
> > Geogre, if you EVER hear a repeater on 52.525 or 146.46,
> > you let me know. Some ham you are.
>
> Funny I never said there was anyone on those frequencies, or anythign even
> remotely close about those freqs nice diversion tactic. But I did say aren't
> these the same people(hams)that you listen to on the repeaters, you did
> say you do listen to ham repeaters or was it just ham freqs.

If you can't hear anything on those frequencies, get a better antenna. I hear stuff all the time, when I listen. They are national SIMPLEX freqs.

I have many radios and receivers. I can listen anywhere. Hams and repeaters are covered in the range. I can even do the denied portion of 800 MHZ. I don't because cell phones are more boring then hams. Taxi service is great listening. You never know what you'll hear. The drivers are as entertaining as the dispatchers, who are entertained by the customers. Set up two radios, one on dispatch and one on cabs. Split system, no repeater.

768. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:18:41 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <BhWma.464229$F1.64761@sccrnsc04>
Source record: 120720

Richard, I didn't start this thread - someone else did. I guess I'll back out and let the originator of the thread re-insert himself if he cares to.

Like you, I have also examined this issue deeply and have arrived at a different conclusion than you did.

Malcolm M Bibby

"Richard Clark" <kb7qhc@attbi.com> wrote in message news:ll9o9vgctefari51v1pq180enuv6gh8ua2@4ax.com...
> On Tue, 15 Apr 2003 13:50:12 GMT, "Bibby" <bibby@attbi.com> wrote:
>
> > Perhaps you
> >could run the test that I described and share the results with us all.
> >
> >Malcolm M Bibby
>
> Hi Malcom,
>
> I would warn you that your presumption of aid is one that has been
> seriously corrupted in the past and the offering of intellectual hoops
> to the readership's anticipated leaps is viewed with some disdain.
> This is not to sneer at your agenda, but the well has been poisoned by
> another who uses this type of request as a foil to deflect criticism.
> Art has certainly had to be prodded often to return his thanks for
> obtaining these many favors performed by others for him alone.
>
> The cost of getting into the game may be prohibitive for you, that
> would make it a very subjective test of solvency versus commitment.
> For the rest of us, we made the commitment both in financial terms and
> more importantly in terms of time. You may be able to carry off your
> request, but it will require considerably more schmoozing and acts of
> good faith (really not that very hard). Myself, I have conducted
> tests much like what you speculate over, and satisfied myself some 6
> to 10 years ago. I cannot point to any specific shorthand example to
> peg any design course against except: do not worry about results until
> they get interesting. Another common perception: most things don't
> really matter all that much.
>
> In other words, if you find yourself suddenly surprised or you have
> just invented something new - you have indeed done something wrong.
>
> 73's
> Richard Clark, KB7QHC

769. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:21:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C318E.60406@ieee.org>
Source record: 120721

Richard Clark wrote:
> In other words, if you find yourself suddenly surprised or you have
> just invented something new - you have indeed done something wrong.

Reminds me of the Patent Office manager who, around the turn of the
19th-20th century, said the Patent Office might as well be closed
because everything had already been invented.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

770. Re: An EZNEC advert.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:34:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <enbo9v4a2p4g85g2fdrkmgd21qmdo74rgu@4ax.com>
Source record: 120722

On Tue, 15 Apr 2003 09:23:23 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>Reg Edwards wrote:
>>
>>I distinctly remember, 4 or 5 years back, AND SO MUST YOU, that EZNEC,
>>in the small print of your adverts, was not to be made available to
>>non-USA citizens. Presumablely, it was originally secretly developed
>>for use by the US armed services, and due to the immature 'reds under
>>the bed' attitude of the US govermment at the time, plus US-dictated
>>international trade sanctions against its imagined enemies, its export
>>was prohibited.
>>
>
>That first sentence is simply false.

snip

>
>The second "Presumably" sentence is almost all imagination too.
>
snip

>Like others, I'm learning to check the local time on Reg's postings. If
>it's after midnight, watch out.

JUST learning? There are only two sentences!

Odd, but curiously turn-the-other-cheekish when Punchinello throws it
in your face, both sides against the middle now for years. :-)
Using the artifice of midnight argues a simpler shorthand: compare any
two postings to find a contradiction, falsity, or illusion that was
trolled up for no other purpose than to perpetuate babbling.

Our clown is simply anti-intellectual (even in contrast to his
provincial inclination towards dead white technicians), loves to mug,
and cannot cope with the reality that he is possibly the only Brit to
have ever lost World War Two to America.

73's
Richard Clark, KB7QHC

771. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:44:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <amdo9v8f0ajas2cusiet5timrjm42hthc6@4ax.com>
Source record: 120723

On Tue, 15 Apr 2003 11:21:34 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> In other words, if you find yourself suddenly surprised or you have
>> just invented something new - you have indeed done something wrong.
>
>Reminds me of the Patent Office manager who, around the turn of the
>19th-20th century, said the Patent Office might as well be closed
>because everything had already been invented.

Hi Cecil,

Grousing about sour grapes because you've never had the opportunity to
have done something wrong? ;-)

73's
Richard Clark, KB7QHC

772. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 16:59:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5pdo9vojatjo557ahudvb7gtqj71ei2jtb@4ax.com>
Source record: 120724

On Tue, 15 Apr 2003 16:18:41 GMT, "Bibby" <bibby@attbi.com> wrote:

>
>Like you, I have also examined this issue deeply and have arrived at a
>different conclusion than you did.
>
>Malcolm M Bibby

Hi Malcolm,

Unlike me, you offer no insight, even as marginal and limited as mine.

This reinforces the perception that such calls for aid are of marginal interest and certainly out of proportion to the work being put up for others time to burn.

73's
Richard Clark, KB7QHC

773. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:00:26 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304150900.f1b1d74@posting.google.com>
Source record: 120725

"Larry Phipps" <larry@telepostinc.com> wrote in message
news:<L4Nma.525$qa5.590338@newssvr28.news.prodigy.com>...
> "Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
> news:85ed38d.0304141847.63f2ed7b@posting.google.com...
>
> > Hi Larry,
> > certainly I remember when you ,using Eznec, was unable to verify what
> > I had found not only by modeling but also in real time. When that came
> > from you it was a real shock since the group in general were just
> > pursuing a hazing phase. It was then I can suspected that it may well
> > be the Eznec programing
> > even tho Roy stood by while his users were struggling. Yes, it has
> > been going on for a long time. The stuff on this thread was written up
> > in a patent some eight years ago and I also shared it with this group.
> > They chose to debunk it so publishing it would do no good for the
> > hobby. I also offered it to someone for publishing since I started to
> > believe what people was saying about me.
>
>
> Art, maybe I didn't get the physical data on your design right. What is the
> patent number...I'll look it up and see if it matches my model.
>
>
> > Getting back to publishing....you have shared your work with your
> > fellow hobbyist but look how QST is treating you ! Many of this group
> > can get things published at the drop of a hat as they are insiders
> > which gives some credability to some of the editorials given by the
> > dislikable Wayne Green of the 73 magazine.
>
>
> Not sure what you refer to here. I have only submitted one manuscript to
> QST for publication and it was quickly accepted. I'm still waiting for a
> firm publication date, but I certainly wouldn't call that being mistreated.
> The article has to do with remote station control over TCP/IP, not antennas.
> I am working on a new article to cover my antenna work over the last year...
> I expect it's too long for QST... but maybe would be accepted for QEX or a
> future Antenna Compendium.

Larry, we can do a lot better than that i.e. messing with patent
trivia.
You are a professional person so everything of mine is at your
disposal
including the work in progress. My computor is basically busted as
well as all my programs lost but after Easter I can reconstruct things

and use E mail.
I have refrained from using the landline incase it is seen wrongfully.
Come to think of it perhaps I should build an antenna based only on
this thread and give it to you after which you can make any descision
about looking at my other work. The bottom line is that no costs
should be incurred by you, anyway the antrenna is rediculously cheap
to make. You have shown by your excellent page that you have an
interest in sharing for the good of the hobby which I applaud and I
really appreciate your interest
Best regards
Art

774. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:11:36 UTC
From: "Ralf, DL 6 OAP" <wilhelm@stud.uni-hannover.de>
Message-ID: <Pine.GSO.4.20.0304151855170.11765-100000@studserv.stud.uni-hannover.de>
Source record: 120726

On Sun, 13 Apr 2003, Roy Lewallen wrote:

> I'm not a Yagi designer, but a developer and seller of antenna modeling
> software (EZNEC).
>
> Yagis are very well understood. However, there are so many variables
> involved and so many things to trade (gain, beam width, size, bandwidth,
> front/back, sidelobe levels, bandwidth over which a particular gain,
> impedance, front/back, etc. will hold, etc.) that there aren't many
> jim-dandy formulas for whipping one up. All Yagis are a bundle of
> compromises, and it's up to each individual to decide which combination
> is best.
>
> Over the years I've gotten quite a bit of feedback from customers
> regarding the ability of programs to optimize and analyze Yagis. The
> only optimizing program I've heard much about is YO (Yagi Optimizer).
> I've been told that it will produce good results, but like many
> optimizers, has a tendency to drop you into a local, rather than a
> global, optimum. A number of people have had good success by beginning
> with results, then hand-tweaking with EZNEC or a similar program.
> They're generally able to improve on YO results by doing the tweaking.
>
> I've had quite a number of customers tell me that Yagi results from
> EZNEC are very accurate. These include customers with very extensive
> measurement capabilities, so they're truly able to evaluate the results.
>
> However, every modeling program has its peculiarities. NEC-2, which
> EZNEC uses, won't give very accurate results (primarily for front/back
> ratio) for Yagis made from telescoping tubing. However, there's a method
> developed by Dave Leeson, W6QHS, to calculate an equivalent
> single-diameter wire for calculation. EZNEC and some other NEC-2 based
> programs incorporate this method, and the result is very good accuracy
> for full sized Yagis. NEC-4 is much less susceptible to this problem and
> can be used for loaded Yagis, but its cost puts it out of the reach of
> most amateurs. (Also, it can't be exported.) But for full-sized Yagis,
> NEC-2 with the Leeson correction is just as good.
>
> MININEC-based programs don't have the problem with telescoping tubing,
> but suffer from another problem. For unknown reasons, narrowband, long
> Yagis show a frequency offset between modeled and measured results. At
> least one software developer (Beezley) has claimed to "correct" this,
> but I don't believe the method or the range over which the correction is
> effective have ever been made public.
>

> Front/back ratio, or deep nulls in general, are always the hardest thing
> to achieve. Very small physical changes can cause relatively large
> changes in nulls. So it wouldn't surprise me if some manual tweaking
> following computer design might improve null depth in some cases. But
> most people do the large majority of the tweaking with the computer
> model before building the antenna.
>
> Roy Lewallen, W7EL
>
Hi,

in my opinion Yagis are well understood regarding the response of an element to an exciting field, but due to the many variables entering a yagi antenna, finding the global maximum (best) yagi is hard.

Basically you have to define a figure of merit, which could be gain, front to back, swr or a combination of these and optimize this fom by varying the variables.

The standard numerical methods like conjugate gradients, simplex algortihm etc normally end up in a local extremum, that can be ´ he global extremum, but this does not need to be the case.

An alternative are genetic algorithms, which mimic the nature's way to 'optimize' organism by selection, crossing, mutation etc.

Basically you start from a large number of 'individuals' (i. e. antennas). These are described by 'chromosoms' (the variables that describe their design) and are allowed to cross their 'genes' and create new organisms ('children'). You use your figure of merit to selsct among them the best (survival of the fittest), which will cross and inherit their genes again. To create new individuals, random mutation is allowed as well.

Normally genetic algorithms do not get trapped in local extremums and are good if a large number of variables is to be varied and the function to optimize is not well known but has to be calculated numerically (like our figure of merit).

The 4NEC package involves genetic optimizers for yagi design.

See the 'unoffical NEC archive' of wb6tpu at www.qsl.nec.

Anyway people are right if they say that there seems to be no well characterized function where you enter your varaibles, use your pocket calculater and get a number ten seconds later as you have for the length of a dipole.

Gretings from 'old europe' (as my 'friend' Donald Rumsfeld would say, if he doesn't mix my country and Cuba)

Ralf

DL 6 OAP

775. Re: Is there an optimum height to hang a receive- only TTFD?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:28:07 UTC
From: JoanD'arcRoast <snakeplithkin2001@yahoo.com>
Message-ID: <1504200313280728 52%snakeplithkin2001@yahoo.com>
Source record: 120727

In article <3508-3E92E685-4@storefull-2311.public.lawson.webtv.net>,
Richard Harrison <richardharrison@webtv.net> wrote:

> J. wrote:
> "Some relationship to the wavelength it was built to receive, perhaps?"
>
> Optimum height depends on distances to reach. The antenna`s direct
> radiation combines with radiation reflected from the earth to produce a
> vertical-plane radiation pattern. This pattern depends on radiator
> height. A maximum lobe at the best angles to reach the desired stations
> gets the most from your radio when receiving or transmitting.
>
> How good a reflector the earth makes under and around the antenna
> affects its pattern. Also, the TTFD may be placed horizontal, sloping,
> vertical, or Veed. Position affects pattern.
>
> If the TTFD is horizontal above average flat earth, it`s best hung about
> as high as it is wide (about 1/2-wavelength) above the earth, for
> distant stations.
>
> The 35-ft, 4-in long dipole will have its second resonance at about 14
> MHz, since it is a folded dipole. It has its first rersonance around 7
> MHz where it is only 1/4-wave end to end because it is a flattened loop
> with about 1/2-wave of perimeter.
>
> At its second resonance, where it is about 1/2-wavelength end to end,
> the drivepoint impedance would be about 300-ohms were it not for the
> terminating resistor in the folded dipole opposite the drivepoint.
>
> At its first resonance, where it is about 1/4-wavelength end to end, the
> drivepoint impedance would be about 1000 ohms or more were it not for
> the resistor.
>
> Contrary to popular belief, the folded dipole`s response is almost as
> good 1/4-wave long as it is 1/2-wave long. The 1/4-wave antenna problem
> is its high drivepoint impedance. The termination resistor helps make
> things almost equally bad or good at first and second resonances for the
> TTFD by flattening the drivepoint impedance.
>
> So, unless the dipole is over seawater, in which case the antenna should
> be placed vertically, 1/2-wavelength height is usually hard to beat for
> sky wave communication with distant places. For communication with
> closer distances, 1/4-wavelength height is OK.
>

> See Figures on page 3-12 of the 19th edition of the ARRL Antenna Book
> for the vertical patterns produced with a horizontal dipole at various
> heights.
>
> Best regards, Richard Harrison, KB5WZI
>
Thanks for the response. I have a creek in the back yard with tall oaks
on the bank, so i assume i have a decent year-round earth grounding
[perhaps a bit better than average?]; and many options as to height
above that ground. I guess i'll try to put the middle of the antenna
[30 degree pitch] approximately 35 feet above the bank.

Thanks again,
J

776. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:34:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C42BF.1020203@ieee.org>
Source record: 120728

Richard Clark wrote:
> Grousing about sour grapes because you've never had the opportunity to
> have done something wrong? ;-)

Oh, I've done lots of things wrong and have admitted such. But I predict,
in the near future, you will support my ideas about what happens at a
match point in a transmission line. It seems the problem is that
RF engineers are relatively ignorant of the accepted laws of optical
physics even though RF and light are both EM waves.

For instance, RF engineers generally believe that either the voltage *or*
current shifts its phase by 180 degrees at a reflection point when in reality,
all that may have happened is that the voltage and current simply changed
direction and Kirchhoff's convention applies.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

777. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:36:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pbfo9vklfb8kjdn647hg20eq0aftd5otvt@4ax.com>
Source record: 120729

On 15 Apr 2003 10:00:26 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>"Larry Phipps" <larry@telepostinc.com> wrote in message
news:<L4Nma.525$qa5.590338@newssvr28.news.prodigy.com>...
>> Art, maybe I didn't get the physical data on your design right. What is the
>> patent number...I'll look it up and see if it matches my model.
>>
>
>Larry, we can do a lot better than that i.e. messing with patent
>trivia.

the dog-ate-my-homework excuse snipped for excess saccharine content.

Hi Larry,

Art is incapable of handling these kind of details. The following is
a web page he has lost track of entirely (more than once):
http://www.roadkill.com/~unwin/
Try getting a simple answer out of material you might find here ;-)

Providing patent references are simple for most inventors (shows
evidence of what should be obvious interest - the negative self
characterization of "trivia" above is a telling admission). I and
others have done this many times such that you can search the PTO or
Google to find them. I don't repeat that activity here because such
publications were rife with error (as has been reported by others
recently) and obviously relied on bombastic writing to smother the
examiner into an oxygen deprived submission. The density of nonsense
is second only to faster than light invention papers (I've had to read
too many of those too). If Yuri is reading this, it will no doubt
propel him into providing both the chapter and verse of that poor
quality "theory," as well as the cogent out-takes that illuminate it
as unadulterated guff.

73's
Richard Clark, KB7QHC

778. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:45:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <e0ho9vgcia77sg5ovnuv9phsgkjij38k19@4ax.com>
Source record: 120730

On Tue, 15 Apr 2003 12:34:55 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>It seems the problem is that
>RF engineers are relatively ignorant of the accepted laws of optical
>physics even though RF and light are both EM waves.

Hi Cecil,

No doubt you found surprise in these topics for the usual reasons: you were wrong all along.

I've been designing photonics for nearly 30 years and the surprises fell by the wayside long, long ago. I had to drag you kicking and screaming into this, remember? Maybe not, you've been surprised (shocked more like it) ever since.

73's
Richard Clark, KB7QHC

779. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 17:59:13 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304150959.6baedeb4@posting.google.com>
Source record: 120731

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0304150346.2b980394@posting.google.com>...
> jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0304140640.1d925de6@posting.google.com>...
> > nm5k@wt.net (Mark Keith) wrote in message Also in
> > another post on another thread Art pointed out his antenna's
> > "rotated" he did not claim steered.
> >
> > jaro
>
> He pointed out that EZNEC or for that matter any of the other "similar
> engine" programs would not allow one to model his antenna, and tune
> out reactance by varying the cap.
> But this is not true, and no one has ever said this. I modeled the
> antena on each band, and saved a file for each band with the different
> cap settings.
> But I guess this convenently slipped his mind. Heck, I just reminded
> him of this again the other day. If he's going to blame a modeling
> program for part of his problems, he needs to at least get the facts
> straight. The only reason I brought up "steering" is because "that" is
> what the programs said he couldn't do. I mentioed that to again
> refresh his memory on what the program did indeed have to say. In
> earlier posts months ago, he seemed to hint that he would see
> "collinear" gains from the loop/dipole combo. You can not do that
> without two separate sources. Maybe he never meant to say the combo
> could be steered, but if so , that is due to the obscure way he
> describes things. It takes an act of congress just to get enough
> details to accurately model what he's talking about. But in the
> modeling exercise I did last Aug, he did finally "ok" the diagram of
> the antenna I drew and posted on my server as "loopole.jpg" as being
> what he described. If his "magnetic loop" does not have it's own
> source, it's not operating as a magloop. MK

Mark,
let me address a couple of your comments.
Magnetic loop...
there are many debates regarding what is a "magnetic" loop
that I have no intention of bringing back to the surface. What name
you put onto it is really imaterial. Suffice to say that IS a loop
with a periphery that is in the range of 1/10 of a wave length(
doesn't exceed).
The loop also includes a variable capacitor. Why not just leave it at
that
instead of rehashing it over and over again.

Steering..... refers to directing a radiation beam in a similar way as one does with a mechanically rotary beam. It appears to me that convention hasused the term 'steering' is for phased static or imoveable antennas usually of the vertical radiator form. It is not generally used for rotatable beams which one can also say 'steers' a radiation beam. With respect to my antennas I have never openly discussed phased verticles or to that matter any sort of vertical antennas in depth.
Stated plainly my work is directed to horisontaly polarised antennas, that can be rotated, useable at multiple frequencies and loss less feed systems to go with it. Frequencies alluded to is all the HF frequencies in their entirety.
This is the last time I am going to respond to you outside the subject governed by the thread heading.
Regards
Art

780. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:10:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7fho9v0fcg52v773lqo32ihpj8k6i1k68o@4ax.com>
Source record: 120732

On Tue, 15 Apr 2003 19:11:36 +0200, "Ralf, DL 6 OAP"
<wilhelm@stud.uni-hannover.de> wrote:

>
>Normally genetic algorithms do not get trapped in local extremums and are
>good if a large number of variables is to be varied and the function to
>optimize is not well known but has to be calculated numerically (like our
>figure of merit).

Hi Ralf,

There is no such thing as a genetic algorithm (normal or otherwise).
This is the name of a field of different mathematical constructs that
use the term as an umbrella. The term is suggestive only and says
absolutely nothing about any individual process. As such, there are
literally thousands of examples of these algorithms that crap out in
the shallow end of the gene pool (if nature is our guide, we have to
admit to the overwhelming multitude of outright failures).

One of the worst situations to be in is being byte banged by a large
number of variables. Especially in the field of Genetic Algorithms.
The term reserved for this problem is called "combinatorial explosion"
and it is deadly.

73's
Richard Clark, KB7QHC

781. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:14:03 UTC
From: richardharrison@webtv.net
Message-ID: <15924-3E9C4BEB-96@storefull-2315.public.lawson.webtv.net>
Source record: 120737

CAM, W5DXP wrote:
"Beam antenna manufacturers and owners might disagree."

Yes and justifiably so. Bolted connections can be reliable enough. Reliability is often given as a percentage as in failurers per 100 items or hours. Most TV receiving antennas have been made of aluminum tubing which was connected to copper twinlead.

A junction between copper and aluminum is vulnerable when moist because these metals are at opposite ends of the electromotive series. The aluminum tends to disolve into solution under these circumstances.

The Nicopress alloy is an intermediate in the electromotive series when it is chosen to join dissimilar metals. Very high power electrical lines are often aluminum for its weight advantage. They are usually put together and joined with lines of other metals using Nicopress fittings. Bolted fittings are used too, but Nicopress is almost unbeatable for reliability.

Best regards, Richsard Harrison, KB5WZI

782. Re: An EZNEC advert.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:15:02 UTC
From: Bob Nielsen <nielsen@remove_this.oz.net>
Message-ID: <b7hi76$o02$0@216.39.144.81>
Source record: 120733

On Tue, 15 Apr 2003 09:23:23 +0100, Ian White, G3SEK wrote:
>
> The only grain of truth in Reg's second sentence is that NEC-*4* is only
> available to US citizens, non-US contractors to the US Government, or
> through diplomatic channels. Until you have used one of these routes to
> obtain a licence to hold NEC-4, Roy is forbidden to sell you EZNEC-*4*.
> This is just a piece of stupidity - bureaucrats making rules, just
> because they can - but both the custodians of NEC-4 and Roy have to
> follow those rules for as long as they remain in force.

Antennas of mass destruction?

Bob, N7XY

783. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:21:10 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304151021.1d888318@posting.google.com>
Source record: 120734

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<08um9v4soafkuttdokva16pvnhvc04o2oc@4ax.com>...
> On 14 Apr 2003 19:47:04 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:

Wes I can respond to what you call 'false' but what is the point? If
Roy wants to compare his first antenna program with the AO program and
pass over what he did not provide then he is welcome.
As far as your comments lets just say I have taken note of them and
release you from any sympathy thoughts so that you to can throw
hatchets again, after all some never even stopped ! You helped pushed
away Dr Cohen when one of the 'cabal' posted that Final Solution
comment which only Richard Harrison, to his credit,disavowed himself
from but nobody else did which I find aborrent.
Now it is my turn in the barrel but rest assured I am not going to run
away.
If one is uncivil then I can be uncivil, if one wants to keep things
on a professional plane I would surely welcome it. It is other peoples
choice how they want this newsgroup to digress to which I will also
admit to having personal impurities.
At the harvest time of my life I have no intent to carry grudges
but I have never been a coward or will I ever be. I will stay.
Nothing personal intended towards you Wes, you have my respect
Best regards
Art Unwin KB9MZ.....XG.

>
> [snip]
>
> |Hi Larry,
> |certainly I remember when you ,using Eznec, was unable to verify what
> |I had found not only by modeling but also in real time. When that came
> |from you it was a real shock since the group in general were just
> |pursuing a hazing phase. It was then I can suspected that it may well
> |be the Eznec programing
> |even tho Roy stood by while his users were struggling. Yes, it has
> |been going on for a long time. The stuff on this thread was written up
> |in a patent some eight years ago and I also shared it with this group.
> |They chose to debunk it so publishing it would do no good for the
> |hobby. I also offered it to someone for publishing since I started to
> |believe what people was saying about me.
> |Getting back to publishing....you have shared your work with your
> |fellow hobbyist but look how QST is treating you ! Many of this group
> |can get things published at the drop of a hat as they are insiders
> |which gives some credability to some of the editorials given by the

> |dislikable Wayne Green of the 73 magazine. I have since obtained
> |another patent on antennas which got no review and am presently
> |working on a third because I believe in what I am doing and as a
> |former engineer have taken steps to verify by modelliung, many
> |experiments plus obtaining backup calculations and relavent references
> |from well known accepted instruction books. I also tried to share that
> |with this group even prior to getting a patent but again no interest.
> |Bsically what we have are a couple of people who people look to and
> |from which they take a wink and a nod
> |to start the harasment. Roy himself could name quite a few people that
> |he has led the charge against during the last ten years, manufactures,
> |professors with Doctorates and many ,many more, I just happen to be
> |the present one in the barrel who has dared to challenge the veracity
> |of statements by the gurus.
>
> Frankly, you have been spared a lot of justified "harassment" if
> that's what you choose to call critical peer review.
>
> You take any criticism as a personal affront, when most of it results
> from the ability, or lack thereof, that you have in expressing
> yourself.
>
> I feel blessed that there are "gurus" who read and post to this group.
> If we were having to paying consulting fees to some of these folks for
> the knowledge they dispense for free here we wouldn't be buying to
> often.
>
> [snip]
> |
> |By the way I use the AO program and I see in another thread where Roy
> |points
> |out some downfalls from that supplier and I suspect that the same
> |remarks could be made in reverse. Frankly none of the programs agree
> |on anything according
> |to one well known teacher of antenna modelling which should be food
> |for thought.
>
> Roy was completely fair in noting the limitations of both the Mininec
> engine used in AO, ELNEC, MMANA, et.al. and NEC-2 as used in EZNEC,
> 4nec2, NEC-Plus, et.al.
>
> All of these programs, when used correctly, agree much more than they
> disagree.
>
> | I will point to a couple of things that I really dislike about the
> |EZNEC program, it has no provision for Sommerfield ground
>
> Absolutely false.
>
> |or for

> |placing an ohmic value for certain things.
>
> Another case of your inability to clarify what you mean, but if I was
> to hazard a guess, I'd believe you're wrong again.
>
> |It also does not provide
> |for customer ease of use in choosing variation in direction of design
> |as does the AO program which to my mind was the best program in the
> |field when I purchased it, even tho it did not have the advertising
> |strength and hoopla that Roys afilliation with QST has.
>
> Roy's "affiliation" with QST was the same as any other advertiser: He
> paid the money; they ran the ad. If I'm not mistaken, he quit paying
> the money and lo and behold, they quit running the ad.
>
> |This was a
> |question of programming ability versus anothers since both were
> |manipulating work that was performed and credited to others.
> |Fortunately there is now plenty of freeware programs that are very
> |good which has really opened up the market for hams with little money
> |resources since customer assistance is not aparently a measurable
> |issue any more.
>
> Now here is where you are most wrong. I have been using Roy's
> products since the DOS days. I have on many occasions either emailed
> or called Roy on the telephone for assistance, advice or to report
> what I believed was a bug. His customer service is OUTSTANDING.
>
> I recall once reporting a really arcane bug, (oddball ground
> constants) something that would never occur in reality, and within a
> few hours, he had fixed the bug and emailed me a patch. The following
> day, the patch was available on the EZNEC web site.
>
> I must contrast that to my experience with a well-known logging
> program that cost more than EZNEC. The company has an email reflector
> where queries can be posted. The program and documentation was really
> bad and after I said so a few times on the reflector, I received a
> telephone call from the author asking me to quit posting because I was
> costing him business. Some of the bugs that I reported were fixed in
> later "upgrade" versions, for which I got to pay more money. In one
> case they did email me a patch but never made it available to the rest
> of the customers.
>
> From the restraint that he shows here and what I can imagine are the
> questions from some of his customers I'm amazed that he sticks with
> it.

784. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:35:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9ok7832bm29d5@corp.supernews.com>
Source record: 120735

Sorry, I don't have the time to run the experiments you suggest. It's not clear to me why you don't do them yourself, unless it's perhaps that you don't actually have enough interest in computer antenna modeling to learn how to use NEC-2 or one of the several readily available NEC-2 based programs.

Roy Lewallen, W7EL

Bibby wrote:
> Thanks for the reply Roy.
>
> It appears that NEC-2 is even older than I thought it was! I stand
> corrected on the basis function used.
>
> My reason for entering this debate was not to become enmeshed in NEC use.
> It was simply to point out that with the availability of the NBS data and
> NEC codes then the original assertion that started this thread could be
> tested. My contribution is/was to point out how such testing may occur -
> and what should be examined. I specifically picked out F/B ratio and
> impedance because I know that they are sensitive to modeling issues. (Most
> programs give reasonable estimates of gain). I believe that you have the
> NBS dimensions already entered into your suite of programs. I certainly
> know that you know the input/output side of NEC very well. Perhaps you
> could run the test that I described and share the results with us all.
>
> Malcolm M Bibby

785. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:39:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C51F1.30102@ieee.org>
Source record: 120736

Richard Clark wrote:
> On Tue, 15 Apr 2003 12:34:55 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>>It seems the problem is that
>>RF engineers are relatively ignorant of the accepted laws of optical
>>physics even though RF and light are both EM waves.
>
> No doubt you found surprise in these topics for the usual reasons: you
> were wrong all along.

I'm not surprised, Richard, nor was I wrong. I previously said on this newsgroup that if two (and only two) coherent EM waves, traveling in the same direction with equal magnitudes and 120 degrees out of phase, were superposed, it would result in a forward wave and a reflected wave of equal magnitude. Most RF Gurus pooh-poohed that idea. So what do you think you get with non-glare glass if you make a mistake and make the thin film 60 degrees thick instead of 90 degrees thick?

> I've been designing photonics for nearly 30 years and the surprises
> fell by the wayside long, long ago. I had to drag you kicking and
> screaming into this, remember? Maybe not, you've been surprised
> (shocked more like it) ever since.

Here's a simple yes/no question for you. Do you accept the assertions in the last three paragraphs on this web page?

> http://www.mellesgriot.com/products/optics/oc_2_1.htm

If so, you agree with me and disagree with QEX. I knew you would agree with me if you ever abandoned your signature harping and carping mode.
--
73, Cecil http://www.qsl.net/w5dxp

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786. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:47:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C53C6.3000700@ieee.org>
Source record: 120738

Richard Clark wrote:
> There is no such thing as a genetic algorithm ...

Is this akin to there being no such thing as God or Santa?
--
73, Cecil http://www.qsl.net/w5dxp

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787. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 18:55:21 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <pan.2003.04.15.11.55.20.704614.3290@nohow.com>
Source record: 120741

On Tue, 15 Apr 2003 10:34:55 -0700, OC_CAM's Razor wrote:

> For instance, RF engineers generally believe that either the voltage
> *or* current shifts its phase by 180 degrees at a reflection point when
> in reality, all that may have happened is that the voltage and current
> simply changed direction and Kirchhoff's convention applies.

Isn't a change of direction the same as a change of phase? Look at two
sine waves 180 deg out of phase. Current flows in the first in one
direction at the same time it's flowing the opposite direction in the other.

What am I not understanding here?

W7TI

788. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 19:01:43 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <g6lo9vsh2l7vlr9mqod9tk9ag6jlb54n8q@4ax.com>
Source record: 120739

On 15 Apr 2003 11:21:10 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

[snip]
| You helped pushed
|away Dr Cohen when one of the 'cabal' posted that Final Solution
|comment which only Richard Harrison, to his credit,disavowed himself
|from but nobody else did which I find aborrent.

Hold it right there: I don't know what the hell you're talking about
and I doubt that you do either.

If Chip left it wasn't because of any ethnic slurs or remarks that I
ever made or condoned. It wasn't humanly possible to keep track of
every post from, or direct to, Chip, so don't you dare fault me for
some failure to distance myself from something I never saw. In fact,
unless someone other than you can provide evidence to what you refer,
I will assume that it didn't happen, since your credibility has just
shrunk to zero.

And no, I'm not going to do a Google search looking for it. There
seems to be a rash of requests from people wanting somebody else to do
their work for them and I'm not playing anymore.

789. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 19:06:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rolo9v0vj8imt78ns9ug566ucekm53s1q1@4ax.com>
Source record: 120740

On Tue, 15 Apr 2003 13:39:45 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> I previously said on this
>newsgroup that if two (and only two) coherent EM waves, traveling in the
>same direction with equal magnitudes and 120 degrees out of phase, were
>superposed, it would result in a forward wave and a reflected wave of equal
>magnitude. Most RF Gurus pooh-poohed that idea.

ah grasshoppa,

My, how short-sighted, especially as stated when they should've known
that this was not all of the story, the traditional sucker punch would
pull it all together later.

73's
Richard Clark, KB7QHC

790. WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 19:46:37 UTC
From: SWL <radiovintage@hotmail.com>
Message-ID: <xkZma.24740$ey1.2230025@newsread1.prod.itd.earthlink.net>
Source record: 120742
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Disabled on fixed income looking for an MFJ antenna analyzer.Please state price and condition.
Thanks !!

791. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 19:50:38 UTC
From: Bibby <bibby@attbi.com>
Message-ID: <ioZma.224831$Zo.42386@sccrnsc03>
Source record: 120743

Roy, I'm like you - I don't have the time either. Someone (who hasn't reappeared) asked a question, and I tried unsuccessfully to facilitate an answer.

If you attend the ACES conference next year, let's sit down and chat.

Malcolm

"Roy Lewallen" <w7el@eznec.com> wrote in message news:v9ok7832bm29d5@corp.supernews.com...
> Sorry, I don't have the time to run the experiments you suggest. It's
> not clear to me why you don't do them yourself, unless it's perhaps that
> you don't actually have enough interest in computer antenna modeling to
> learn how to use NEC-2 or one of the several readily available NEC-2
> based programs.
>
> Roy Lewallen, W7EL
>
> Bibby wrote:
> > Thanks for the reply Roy.
> >
> > It appears that NEC-2 is even older than I thought it was! I stand
> > corrected on the basis function used.
> >
> > My reason for entering this debate was not to become enmeshed in NEC use.
> > It was simply to point out that with the availability of the NBS data and
> > NEC codes then the original assertion that started this thread could be
> > tested. My contribution is/was to point out how such testing may occur -
> > and what should be examined. I specifically picked out F/B ratio and
> > impedance because I know that they are sensitive to modeling issues. (Most
> > programs give reasonable estimates of gain). I believe that you have the
> > NBS dimensions already entered into your suite of programs. I certainly
> > know that you know the input/output side of NEC very well. Perhaps you
> > could run the test that I described and share the results with us all.
> >
> > Malcolm M Bibby
>

792. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 19:52:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C6317.1070708@ieee.org>
Source record: 120744

Bill Turner wrote:
> Isn't a change of direction the same as a change of phase?

RF engineers think so. Optical engineers don't think so. Think about it. What difference could direction make in the phase between the E and H fields? If one beam of light is traveling orthogonal to another beam of light, does that change the phase between the E and H fields of the individual beams?

Optical engineers say that if light is reflected from a higher "impedance", The E and H fields don't change phase. If light is reflected from a lower "impedance" both E and H fields change phase by 180 degrees. Why should RF be different from light?
--
cheers, CAM http://www.qsl.net/w5dxp

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793. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:07:41 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304151207.23e6da6c@posting.google.com>
Source record: 120745

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b7flmsevq1@sparta.btinternet.com>...
> >> but i feel that the Yagi optimizer
> > >programs will get you in the ballpark, but you still must do
> > >additional empirical tuning for best results.
>
> ==========
>
> I venture to say, empirical tuning by even the most experienced people will
> not get them out of ballparks.
>
> All may attempt to do so and all attempters will suffer from optimisic
> delusions of accuracy.
>
> Only the most gross misadjustments can be detected and perhaps improved.
>
> Messing about is just as likely to make things worse as better. But all is
> fine. Nobody is able to measure any sensible difference bat all are happy to
> retire with imagined satisfaction.
>
> Sorry to be so pessimistic. But don't let me put you off. Enjoy yourselves.
> If you know what you are doing you will probably not makes things worse.
>
> Bear in mind the old adage - with radio any bloody thing will work.
> ---
> Reg G4FGQ

Reg, I use the AO program a lot. At the time I purchased it I was very
interested in impedance loads (ohmic value for frequency shifts plus
the ability
for some dimensions and loads to be variable so that the computor
could search
for correct changes to meet ones need, even to the extent of bending
certain elements to a quad form if that produced better results.
However it took me a long while to realise that the computor yould
take a yes or no aproach in its descisions which sometimes proved to
be the wrong direction
i.e. if it had took what initially was the bad direction it could well
have taken the calculation over the hump or plateu where a whole new
vista was apparent. So it becomes wise to repeat some programs but
with various different variables to explore all venues.Actualy when I
bought AO in those days I thought that only AO had the abilities that
I speak of. Apparently I was in error as it is now claimed that Roy
had all these abilities from the onset so I wasn't very smart at that

time. I would ventue to add that uswable ohmic values for impeadance loads was a boon to my experimentation with multiband useage where otherwise I would have been in difficulties. Anyway the program was always a prelude or guide for onsite experimentation.
Cheers
Art

794. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:08:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9C66A7.5020602@ieee.org>
Source record: 120746

Richard Clark wrote:
> On Tue, 15 Apr 2003 13:39:45 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>>I previously said on this
>>newsgroup that if two (and only two) coherent EM waves, traveling in the
>>same direction with equal magnitudes and 120 degrees out of phase, were
>>superposed, it would result in a forward wave and a reflected wave of equal
>>magnitude. Most RF Gurus pooh-poohed that idea.
>
> My, how short-sighted, especially as stated when they should've known
> that this was not all of the story, the traditional sucker punch would
> pull it all together later.

I assume from your statement that you still have no *technical*
disagreement with me.

The average RF engineer simply doesn't understand what happens
at the impedance match point in a transmission line with reflections.
Optical engineers do indeed understand what happens at that "match
point" where all glare (reflections) is (are) eliminated. All I am
trying to do is bring the technical knowledge already known in the
field of optics to the field of RF transmission lines. Why are you
so opposed to that knowledge being introduced on this newsgroup?
--
73, Cecil http://www.qsl.net/w5dxp

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795. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:22:26 UTC
From: aruder@pipeline.com
Message-ID: <b7hsn8ibi4@slb0.atl.mindspring.net>
Source record: 120754

Are those the kids called Borribles?
Nosy yanks want to know.
WB0NRU

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote:

>> Knoweledge these days is measured differently
>> compared
>> to past examinations that measure 'true' understanding or
>> understandings of first principles.
>> Cheers
>> Art (an american radio amateur)

>==========

>Hi Art, my unreliable service provider has omitted to transit some of the
>recent newsgroup messages.

>But I entirely agree with your sentiments - over the last 20 years the
>standards of engineering/scientific/stastistical/arithmetical education in
>the schools, colleges and universities of the North Western World have
>fallen to abysmal levels.

>Kids living in the sewers of many of the world's largest cities, culled like
>rats by armed police forces to keep their numbers down, are better at mental
>arithmetic, self-educated from basic principles, than the latest products of
>our educational institutions, Ph.D's included.

>I feel guilty of being a member of the generation which allowed, even
>caused, it to happen.

>But onwards into the fray - refresh your glass - once more dear friends to
>the barricades - World Wide Amateur Radio for Ever!

>{ Display this message full frame. }

>---
>Reg, G4FGQ

796. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:24:52 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304151224.4a55f51b@posting.google.com>
Source record: 120747

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<c$bNAZEgX0m+EAg9@ifwtech.co.uk>...
>
>
> Having done so, I believe you'll find that yagi design and modelling is
> in fact very well understood. Methods for translating computer models
> into real-life antennas are based on experiment - but that's not the
> same as "trial and error", and the methods are now quite well developed
> and documented.
>

Thanks for a very informative answer.

My point is that the yagi optimizers find a solution with a
"brute force" type of method: a genetic algorithm that slightly
modifies a given "seed" design, then will give you several designs to
choose from, based upon the weightings you give the different
parameters (f/b ratio, gain, bandwidth, etc.)
Different programs will give you different designs, even with the
same first "seed" design and the same parameters. And even the _same_
program, given the same weighted parameters, will give you different
results if you change the first generation "seed" design that you give
it ("local" minimum versus global "minimum").

If yagis were truly understood, there would be some grand-daddy
formula/program in which you would plug in gain, f/b ratio, desired
null angles, frontal-lobe span in degrees, etc.. and it would tell you
how many elements you would need, the lengths, spacings, diameters,
amd materials, and if it would even be possible.

A comparison would be the way computers play chess in a brute
force method, by trying every possibility. My reasoning is that this
is no different from someone adjusting the yagi parameters on the
"bench".
Apparently, the only reason why this is not done, is that it is
too impractical (few have anechoic chambers), especially at the lower
frequencies, as you have pointed out (i believe when measuring the
electric field strength accurately, you have to be at least 1/4 wave
length away from the antenna under test). If you could somehow get an
accurate measurement of the parameters within 1 minute or so as you
adjusted the element lengths and spacings, this possibly would make
manual tuning practical, but such is not the case.

And it seems that even the people with the measurement
capabilities will lean towards the simulations. I guess this
shouldn't surprise me, in that an antenna is a passive device, and we

don't have to deal with the non-linearities of a FET model, etc...
Another poster claims that many yagi companies don't even use
chambers, and will place computer simulation plots in their catalogs!!
Wow, talk about trusting the computer.

After reading all your posts, it seems to me that yagi computer
simulations are considered close enough to reality, and that empirical
hand-tuning is impractical because yagis are too difficult/expensive
to measure properly.

>
>
> Testing generally consists of checks on parameters that are easy to
> measure, such as the levels of sidelobes and the angles of sidelobes and
> nulls. Those are quite sensitive indicators of whether or not the
> antenna agrees with the model, and if they're correct within a few dB
> and a few degrees, you can be pretty confident about the predicted
> values of other parameters such as gain which you cannot measure so
> accurately.
>

Is this because measuring the electric field strength in uV/meter
would be too inaccurate?
I assume you are saying that it has been experimentally verified
that levels of sidelobes and the angles of sidelobes are a reasonable
guarantee that the gains will be similar between simulation and
prototype.

Dr. Slick

797. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:25:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u4qo9v0i42itq2t56kdehg9qkmlus02u2h@4ax.com>
Source record: 120748

On Tue, 15 Apr 2003 15:08:07 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>> On Tue, 15 Apr 2003 13:39:45 -0500, OC_CAM's Razor
>> <Cecil.A.Moore@ieee.org> wrote:
>>>I previously said on this
>>>newsgroup that if two (and only two) coherent EM waves, traveling in the
>>>same direction with equal magnitudes and 120 degrees out of phase, were
>>>superposed, it would result in a forward wave and a reflected wave of equal
>>>magnitude. Most RF Gurus pooh-poohed that idea.
>>
>> My, how short-sighted, especially as stated when they should've known
>> that this was not all of the story, the traditional sucker punch would
>> pull it all together later.
>
>I assume from your statement that you still have no *technical*
>disagreement with me.
>

Shirley, you jest.

In reference to your statement above? Agree? :-)

73's
Richard Clark, KB7QHC

798. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:33:12 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304151233.33632325@posting.google.com>
Source record: 120749

Gary Schafer <gaschafer@attbi.com> wrote in message
news:<27nm9vguu8aoo9ig4tl8pc0gldkpj4h0ll@4ax.com>...
>
> I know of several companies that design and sell antennas in the vhf
> and uhf range that are designed and built without any chamber to test
> them in. A few of them do not even have a test range to check them on!
>
> The polar plots of these same antennas are mostly computer generated
> simulation plots. Often whole catalogs of them from names you would
> probably recognize.
>

As i have stated in my other post, this shouldn't amaze me as
much as it does, in the sense that an antenna is a passive device.
The non-linearities of a FET do not have to be dealt with in the
modeling (the Silicon Bi-polar transistor models are more accurate
than the FET ones).

Still, as a customer, I would much rather have actual measured
data from a manufactured device.

But if you don't have the time/money to do the measurement...

Slick

799. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 20:40:14 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304151240.2b9096ea@posting.google.com>
Source record: 120750

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030415094803.12372.00000387@mb-fi.aol.com>...
>
> Dunno, but in my case, when I tried to see how good AO program is at optimizing
> 3 el. Quad I found that that AO wasn't as got as I was :-)
>
> When I plugged "average" dimensions of 3 el. Quad into AO as a start and asked
> it to optimize it to my specs (50 ohm impedance, preferred F/B/S), it did not
> find dimensions that I have come up with, derived by experimental design on 2m
> hard model.
>

How did you measure your prototype? How did you optimize it by
hand?

>
> Software modeling is great tool, but like any tools it takes the master to use
> it properly, to understand the workings and limitations. I would caution in
> taking as gospel the designs based only on soft modeling, programs are still
> not perfect and do not capture all the variables that participate in the
> antenna performance.

Don't tell this to the companies that publish simulated polar
plots in their catalogs because they can't afford to measure their
antennas for real!

Slick

800. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:03:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3E9C73B0.701B7261@uci.edu>
Source record: 120751

OC_CAM's Razor wrote:
>
> Bill Turner wrote:
> > Isn't a change of direction the same as a change of phase?

> Optical engineers say that if light is reflected from a higher
> "impedance", The E and H fields don't change phase. If light
> is reflected from a lower "impedance" both E and H fields change
> phase by 180 degrees.

Note that in both cases there is a change in direction, but in only one
case is there a change in phase.

73, jim ac6xg

801. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:10:59 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3E9C7563.FBBC2989@yahoo.bomb>
Source record: 120752
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Me, too. <:

(If you believe that, I'll tell you another.)

SWL wrote:
>
> Disabled on fixed income looking for an MFJ antenna analyzer.Please state
> price and condition.
> Thanks !!

802. Re: An amateur that don't know jack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:14:07 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7hsln$4et$1@slb6.atl.mindspring.net>
Source record: 120753
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

I thought you were leaving wanabee.

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9C3094.27D5EBE2@yahoo.bomb...
>
>
> Operation "RRCB" Frenchfry wrote:
> > >
> > > Geogre, if you EVER hear a repeater on 52.525 or 146.46,
> > > you let me know. Some ham you are.
> >
> > Funny I never said there was anyone on those frequencies, or anythign
even
> > remotely close about those freqs nice diversion tactic. But I did say
aren't
> > these the same people(hams)that you listen to on the repeaters, you
did
> > say you do listen to ham repeaters or was it just ham freqs.
>
>
> If you can't hear anything on those frequencies, get a better antenna. I
> hear stuff all the time, when I listen. They are national SIMPLEX freqs.
>
> I have many radios and receivers. I can listen anywhere. Hams and
repeaters
> are covered in the range. I can even do the denied portion of 800 MHZ. I
> don't because cell phones are more boring then hams. Taxi service is great
> listening. You never know what you'll hear. The drivers are as
entertaining
> as the dispatchers, who are entertained by the customers. Set up two
radios,
> one on dispatch and one on cabs. Split system, no repeater.

803. Re: SWR and damage to the CB

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:15:14 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7hsnp$q9j$1@slb3.atl.mindspring.net>
Source record: 120755
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

See ya CBPlusser wannabee.

Dan/W4NTI

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9C3087.AF2E7054@yahoo.bomb...
>
>
> Dan/W4NTI wrote:
> >
> > Are you really that dense Scott? Im not qrming a damn thing. As stated
> > before I DIDNT START THIS THREAD.
> >
> > If you dont want to hear from me any longer may I suggest you DONT REPLY
and
> > guess what...I wont 'QRM your CB group'.
> >
> > See how easy that is?
>
>
> It would be easier if you just removed rec.radio.cb from your postings.
>
> I would like to leave you with this:
> http://www.wiredvideo.com/pics/arguing.jpg
>
> Don't let the door hit 'ya where the lord split 'cha!

804. Re: An amateur that don't know jack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:29:17 UTC
From: "Operation \"RRCB\" Freedom" <atanycost@antitwisty.com>
Message-ID: <gsScnR2by9sj5AGjXTWcqg@comcast.com>
Source record: 120756
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3E9C3094.27D5EBE2@yahoo.bomb...
>
>
> Operation "RRCB" Frenchfry wrote:
> > >
> > > Geogre, if you EVER hear a repeater on 52.525 or 146.46,
> > > you let me know. Some ham you are.
> >
> > Funny I never said there was anyone on those frequencies, or anythign
even
> > remotely close about those freqs nice diversion tactic. But I did say
aren't
> > these the same people(hams)that you listen to on the repeaters, you
did
> > say you do listen to ham repeaters or was it just ham freqs.
>
>
> If you can't hear anything on those frequencies, get a better antenna. I
> hear stuff all the time, when I listen. They are national SIMPLEX freqs.

I have a few great antenna for 2 meters, 17 element, 5 element, Cuchcraft
dual band omni, 4 element quad . Wanna borrow one? Oh all fed with ldf-4
hardline

> I have many radios and receivers. I can listen anywhere.

round of applause

>Hams and repeaters are covered in the range.

Why do youl isten to hams if you despise them? sounds counter productive and
a waste of time.

> I can even do the denied portion of 800 MHZ.

yeah I imagined so since you do freeband right?

805. Re: TITANEX, GERMANY: have them closed the factory ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:42:26 UTC
From: tobias_richter_@hotmail.com
Message-ID: <83a39bbc.0304151342.42a6c4db@posting.google.com>
Source record: 120757
Cross-posted to: de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hi Alberto

I don't know exactly. I think them and ZX-Yagi are one company. Try to ask there...

73's de Tobias, DO1NTR

806. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:42:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9ov7682eodsdd@corp.supernews.com>
Source record: 120758

AO and YO have the ability to do optimization. None of my programs have ever had this ability. Who has made the claim that they have? Please let me know so I can correct them.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
>
> Reg, I use the AO program a lot. At the time I purchased it I was very
> interested in impedance loads (ohmic value for frequency shifts plus
> the ability
> for some dimensions and loads to be variable so that the computor
> could search
> for correct changes to meet ones need, even to the extent of bending
> certain elements to a quad form if that produced better results.
> However it took me a long while to realise that the computor yould
> take a yes or no aproach in its descisions which sometimes proved to
> be the wrong direction
> i.e. if it had took what initially was the bad direction it could well
> have taken the calculation over the hump or plateu where a whole new
> vista was apparent. So it becomes wise to repeat some programs but
> with various different variables to explore all venues.Actualy when I
> bought AO in those days I thought that only AO had the abilities that
> I speak of. Apparently I was in error as it is now claimed that Roy
> had all these abilities from the onset so I wasn't very smart at that
> time. I would ventue to add that uswable ohmic values for impeadance
> loads was a boon to my experimentation with multiband useage where
> otherwise I would have been in difficulties. Anyway the program was
> always a prelude or guide for onsite experimentation.
> Cheers
> Art

807. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 21:52:33 UTC
From: kludge@panix.com
Message-ID: <b7huv1pml1@panix2.panix.com>
Source record: 120759
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

In article <xkZma.24740$ey1.2230025@newsread1.prod.itd.earthlink.net>,
SWL <radiovintage@hotmail.com> wrote:
>Disabled on fixed income looking for an MFJ antenna analyzer.Please state
>price and condition.

Don't do it. It's a waste of money at any price.
You can build a more effective noise bridge yourself for cheap.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

808. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 22:00:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9p07u8f81hn3f@corp.supernews.com>
Source record: 120760

Dr. Slick wrote:
> . . .
> Another poster claims that many yagi companies don't even use
> chambers, and will place computer simulation plots in their catalogs!!
> Wow, talk about trusting the computer.
> . . .

Then there's the alternative. One well known manufacturer of amateur antennas made some back yard measurements that showed gain well in excess of what's theoretically possible, and began advertising his antennas as having that gain. When modeling showed gain of about what would be expected from conventional theory, he invented a "critical coupling" phenomenon to explain the extraordinary gain. And of course, modeling programs don't "take this into account", which explains their failure to predict the extraordinary gain.

I publicly offered, on this newsgroup, to pay the cost of testing if he took the antenna to a certified test range and the gain was found to be what he claimed. Of course, he declined. This was several years ago, and as far as I know he's still making the same claims.

Now, there's no doubt that careless modeling can produce bad results. However, there are a number of very capable modelers who can be hired to check results, and tests (such as average gain) that can be run on models to catch numerical problems. The sad fact is that some of the manufacturers, like the one I described, don't *want* accurate results.

Some manufacturers will even send you a model of their antenna. This way, if you're a capable modeler, you have a much better chance of assessing antenna performance than you would by any other means except -- just maybe -- very good test results. Even if you're only moderately good at modeling, your results will almost certainly be better than the casual back yard measurements that drive some of the claims.

Roy Lewallen, W7EL

809. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 22:30:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304151430.2367ecf7@posting.google.com>
Source record: 120761

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<g6lo9vsh2l7vlr9mqod9tk9ag6jlb54n8q@4ax.com>...
> On 15 Apr 2003 11:21:10 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> [snip]
> | You helped pushed
> |away Dr Cohen when one of the 'cabal' posted that Final Solution
> |comment which only Richard Harrison, to his credit,disavowed himself
> |from but nobody else did which I find aborrent.
>
> Hold it right there: I don't know what the hell you're talking about
> and I doubt that you do either.
>
> If Chip left it wasn't because of any ethnic slurs or remarks that I
> ever made or condoned. It wasn't humanly possible to keep track of
> every post from, or direct to, Chip, so don't you dare fault me for
> some failure to distance myself from something I never saw. In fact,
> unless someone other than you can provide evidence to what you refer,
> I will assume that it didn't happen, since your credibility has just
> shrunk to zero.
>
> And no, I'm not going to do a Google search looking for it. There
> seems to be a rash of requests from people wanting somebody else to do
> their work for them and I'm not playing anymore.

Wes then I apologise. It is of no surprise to me that only Richard and
I were the only ones around that week (about 3 weeks ago) as every
body else will no doubt probably will say. I find it actually amazing
that so many of the cabul posted so much during that period of time
and did not "see" the posting
or my comments and that it is quite easy to see who the culprit is.
But it is well known to all that you,Roy,Richard C and many others
took great pride in what all were doing to "Chip" which obviously
encouraged others. I have defended Chip and now it is my turn, I can
handle it. Take a moment to read Richard Clarks response to Larry in
the attempt to poison the air and the prevention of anybody looking at
my antenna that he has so vehemently descibed as a fake ,
or I stole it, anything to prevent anybody reviewing it. So with such
concentrated attacks it is not a surprize that you would say I have no
credability, but as I said I can handle it because I know one day
certain people are going to be fully exposed for what they are. Of
course they wont say they wasn't there they will probably say they
didn't understand, my fault again.

Phew
Regards
Art
Best regards
Art
in question, my response to it and also Richards response to it

810. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 23:14:38 UTC
From: jgboyles@aol.com
Message-ID: <20030415191438.12372.00000408@mb-fi.aol.com>
Source record: 120763

Hi Scott,
Could you furnish the details on how to build a noise bridge that is cheaper and more effective than an MFJ-259B or 269? I expect there are many Hams that would like more info on what you propose.
I have built noise bridges, and purchased one from MFJ, and none can compare to the ease of use, and the amount of information about my antenna system the analyzer provides.
The orginal poster claims disability, so building something may not be an option. I would like to help, but my 259B is the *best* piece of Ham test equipment I have ever owned. A waste of money? The last time I checked, it was one of the biggest sellers among MFJ's products.

>Don't do it. It's a waste of money at any price.
>You can build a more effective noise bridge yourself for cheap.
>--scott

73 Gary N4AST

811. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 23:28:34 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <3E9C9543.4050404@socal.rr.com>
Source record: 120764
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

MFJ made two antenna analyzers. One was the "simple noise bridge" and
almost next to useless. The other one had the signal source and was rather
complex. It worked very well for what it is.

Jeff

Scott Dorsey wrote:

>In article <xkZma.24740$ey1.2230025@newsread1.prod.itd.earthlink.net>,
>SWL <radiovintage@hotmail.com> wrote:
>
>
>>Disabled on fixed income looking for an MFJ antenna analyzer.Please state
>>price and condition.
>>
>>
>
>Don't do it. It's a waste of money at any price.
>You can build a more effective noise bridge yourself for cheap.
>--scott
>
>
>

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

812. Re: Am I using the wrong ferrite cores?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 23:43:24 UTC
From: Dean Arthur <dearthur@silverstar.com>
Message-ID: <3E9C9927.312BD92D@silverstar.com>
Source record: 120762
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

http://www.amidon-inductive.com/ should have the info you require

Jason Hsu wrote:

> Can anyone here tell me if I need different ferrite cores? The SWR
> meter I am working on seems to work OK on the lower bands but does not
> work on the higher bands. I don't think I have any stray capacitances
> or inductances in my circuit. (This is HF, not VHF, UHF, or
> microwave.) However, I do understand that ferrite cores have their
> limitations, and I believe those are the source of my problem.
>
> The design I am using is based on that portrayed in the last of the
> three schematics at:
> http://engphys.mcmaster.ca/~elmer101/rfpower/swrtheory.html
>
> One difference between my design and that one is that I apply an RC
> low-pass filter to the diode outputs consisting of a .001uF capacitor
> and a 100k-ohm resistor in parallel.
>
> The ferrite cores I am using have #43 type material. The dimensions
> are .5-in. thickness, .625-in. outer diameter, and .3125-in. inner
> diameter. The turns ratios are 1:10 for both. I noticed that most of
> the other SWR meter designs use smaller cores. (I'm wondering if I
> have stray capacitance between the primary and secondary wires due to
> the relatively long length of wire my cores use as compared to the
> wire lengths of smaller cores.)
>
> I tested my design by connecting it to my transceiver and dummy load.
> The dummy load is supposed to be 50 ohms, but it has stray
> capacitances in parallel to the load, and this causes the SWR to go up
> as the frequency increases. I used full power in order to minimize the
> effects of diode losses.
>
> At 1.8MHz, my MFJ SWR meter showed an SWR of 1.9 and 60W of power. The
> forward voltage sample is 6.46V DC, or 10% of the actual forward
> voltage. The reflected voltage sample is 1.707V. This gives an SWR of
> 1.7. Considering that the MFJ SWR cross-needle meter has mediocre
> resolution, these results seem reasonable.
>
> At 3.8MHz, my MFJ SWR meter showed an SWR of 3 and 20W of power. (As
> you can see, the high SWR protection circuit in the transceiver was at
> work to limit transmitted power when the SWR is high.) I had 3.578V
> forward, 1.795V reflected, and a measured SWR of 3. So far, so good.
>

> At 7.2MHz, my MFJ SWR meter showed an SWR of 5 and 15W of power. The
> measurements were 2.838V forward, 2.166V reflected, and an SWR of 7.5.
> Considering the awful resolution of the MFJ meter at high SWRs, this
> seems reasonable.
>
> At 10.12MHz, my MFJ SWR meter showed an SWR between 5 and infinity.
> The measurements were 2.941 forward, 2.673 reflected, and an SWR of
> 21.
>
> Around the 20m band, my SWR meter begins to fail. At all higher
> frequencies, my MFJ meter showed 10-20W of power and an extremely high
> SWR. The forward reflected power drifted down from 2.692V at 14.3MHz
> to 1.5V at 29MHz. At 14.3MHz, my reflected voltage was 1.3% HIGHER
> than my forward voltage. At still higher frequencies, my measured SWR
> actually dropped.
>
> My measured SWR was infinity at 14.3MHz, 89 at 18.1MHz, 13 at 21.3MHz,
> 5.7 at 24.9MHz, and only 3.9 at 29MHz.
>
> Can anyone help me? Do I need a smaller #43 core? Should I switch to a
> #61 core?
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

813. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-15 23:55:41 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7i64j$3q1$1@slb9.atl.mindspring.net>
Source record: 120765

"Scott" is some kind of a goof. Don't listen to him. He claims all sorts of things and is generally just a troll.

Dan/W4NTI

"JGBOYLES" <jgboyles@aol.com> wrote in message news:20030415191438.12372.00000408@mb-fi.aol.com...
> Hi Scott,
> Could you furnish the details on how to build a noise bridge that is cheaper
> and more effective than an MFJ-259B or 269? I expect there are many Hams that
> would like more info on what you propose.
> I have built noise bridges, and purchased one from MFJ, and none can compare
> to the ease of use, and the amount of information about my antenna system the
> analyzer provides.
> The orginal poster claims disability, so building something may not be an
> option. I would like to help, but my 259B is the *best* piece of Ham test
> equipment I have ever owned. A waste of money? The last time I checked, it was
> one of the biggest sellers among MFJ's products.
>
> >Don't do it. It's a waste of money at any price.
> >You can build a more effective noise bridge yourself for cheap.
> >--scott
>
>
> 73 Gary N4AST

814. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 00:01:18 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <FiBbn3HO1Jn+EA6r@ifwtech.co.uk>
Source record: 120767

Dr. Slick wrote:
>
> If yagis were truly understood, there would be some grand-daddy
>formula/program in which you would plug in gain, f/b ratio, desired
>null angles, frontal-lobe span in degrees, etc.. and it would tell you
>how many elements you would need, the lengths, spacings, diameters, amd
>materials, and if it would even be possible.
>
I don't think that is a realistic expectation.

The only time it can happen is for yagis with so few variables (element lengths and spacings) that there is either just one design that meets the specification, or none is possible. We see this very clearly with 2- and 3-element yagis, where there aren't enough variables to deliver gain, F/B and a convenient feedpoint impedance all at the same time.

In contrast, long multi-element yagis generally have an over-supply of variables. There will always be many different designs that come so close to the desired performance that you can't tell the difference, either by measurement or simulation. This means there *cannot* be a single, fully determined design procedure - and it's a harsh judgement to infer from that that "yagis are not truly understood".

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

815. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 00:01:57 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b7i6hoilu1@slb3.atl.mindspring.net>
Source record: 120766

Reg:

[snip]
> Cec, I'm back on French plonk tonight - red, Pays de Vacluse, it's good
for
> the arteries. Cheers!
> ---
> Reg, G4FGQ
[snip]

For shame, giving up on those wonderful German whites, "blanc de blanc" as
the
French say. But the red's also help reduce the incidence of stroke among
other
things. Have you read the recent Scientific American article on the new
food
pyramid, lots of good words about "vino" in there...

Say... I forget now, but didn't Oliver [Heaviside] run on French plonk as
well?

BTW...

Who is Preece in this little radiation resistance drama?

Would that be Roy... and who would be Uncle
Wheatstone, couldn't be Art, maybe Cec?

Reg, I lift a "red" with you tonight and make a toast...

"Long live Heaviside's Equations", with a "quaternional nod to Maxwell".

--
Peter K1PO
Indialantic By-the-Sea, FL.

816. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 00:07:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ei5p9v0r0fjb62fkd6gusg58095v137oqv@4ax.com>
Source record: 120768

On 15 Apr 2003 15:30:09 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>my antenna that he has so vehemently descibed as a fake ,

Hi Art,

Which one? [ha ha ha ha, that's how we got here. ;-)]

You are being kind by twiceï¿½ over. Actually the only vehemence I have
invested is pointing out transparent stupidity. You can rest assured
that I do not hold your design in the contempt of a fake, merely the
bland indifference toward a mediocre re-hash. After-all, a fake would
at least duplicate the original merits in its copy. [Yeah, I realize
that can get dicked up too.] Take a deep breath and calm down; if
this were a democracy, it is just one vote (so far).

You may also rest assured that I do not generally offer comments about
under-performers that barely dredge up drab numbers; rather, our
correspondence has been sustained by the remarkably stupid
associations and forced terms that attend these lackluster haloed
rabbit ears you haul before us. So let's differentiate what is merely
boring from what is really insipid; after-all, stick with what you do
best because you don't put much time in the boring side of it either.

I look forward to your future writings and encourage you to keep up
the spirit that you've shown.

73's
Richard Clark, KB7QHC

817. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 00:10:21 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <Mb1na.44294$cB3.306614@nnrp1.uunet.ca>
Source record: 120669

I got a 259B for Christmas and now the snow has finally gone, I'm looking forward to messin with my antennas again. Based on my limited use of the analyzer, and by reading through the instructions a couple of times that came with it, I agree with Gary, it's probably the best piece of test equipment a person that likes to work on antenna systems could want. It may cost a lot more than a digital multi tester, and it probably does a few things I haven't figured out how to do yet, it sure beats the heck out of accumulating a bunch of other real expensive test equipment that you need to take all kinds of training to use, and probably only use a few times.
The only thing I found to be a pain is the on off button. If you plan to keep it in some type of case, make sure you put something around the power button so it doesn't turn itself on (I learned this the hard way). After going out and buying a new set of batteries, I took one of those light blue plastic plugs used in the big 5 gallon water cooler bottles, cut the end out of it, and stuck it on over the button to keep it from turning itself on.

Terry VE1TRB

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030415191438.12372.00000408@mb-fi.aol.com...
> Hi Scott,
> Could you furnish the details on how to build a noise bridge that is
cheaper
> and more effective than an MFJ-259B or 269? I expect there are many Hams
that
> would like more info on what you propose.
> I have built noise bridges, and purchased one from MFJ, and none can
compare
> to the ease of use, and the amount of information about my antenna system
the
> analyzer provides.
> The orginal poster claims disability, so building something may not be
an
> option. I would like to help, but my 259B is the *best* piece of Ham test
> equipment I have ever owned. A waste of money? The last time I checked,
it was
> one of the biggest sellers among MFJ's products.
>
> >Don't do it. It's a waste of money at any price.
> >You can build a more effective noise bridge yourself for cheap.
> >--scott
>
>
> 73 Gary N4AST

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.467 / Virus Database: 266 - Release Date: 4/1/2003

818. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 00:56:19 UTC
From: richardharrison@webtv.net
Message-ID: <4074-3E9CAA33-308@storefull-2311.public.lawson.webtv.net>
Source record: 120671

Jessee, W6KKT wrote:
"Would one be able to hear the difference or see it on their "S" meter?
(loss in radiating efficiency from angling a dipole`s sides)"

Maybe.

The inverted Vee is one example of angled dipole sides. The whole world knows it doesn`t suffer too badly. I`m surprised there hasn`t been a chorus of testimonials from dipole users who have angled the sides to fit within confines of available space.

One can also compensate by lengthening the angled sides. There is the extreme of the horizontal Vee antenna. Make the sides of this 8 wavelengths in space with an angle between sides of 35-degrees and you get about 10 dBd gain! This is not the best use of so much wire. The same wire in a rhombic gets several more dB gain and a much greater bandweidth.

Best regards, Richard Harrison, KB5WZI

819. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 01:06:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9CAC8E.9010402@ieee.org>
Source record: 120670

Richard Clark wrote:
> On Tue, 15 Apr 2003 15:08:07 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
>
>>>On Tue, 15 Apr 2003 13:39:45 -0500, OC_CAM's Razor
>>><Cecil.A.Moore@ieee.org> wrote:
>>>
>>>>I previously said on this
>>>>newsgroup that if two (and only two) coherent EM waves, traveling in the
>>>>same direction with equal magnitudes and 120 degrees out of phase, were
>>>>superposed, it would result in a forward wave and a reflected wave of equal
>>>>magnitude. Most RF Gurus pooh-poohed that idea.
>>>
>>>My, how short-sighted, especially as stated when they should've known
>>>that this was not all of the story, the traditional sucker punch would
>>>pull it all together later.
>>
>>I assume from your statement that you still have no *technical*
>>disagreement with me.
>>
> Shirley, you jest.
>
> In reference to your statement above? Agree? :-)

So what happens when one makes a mistake and makes the thickness of a
thin film 60 degrees instead of 90 degrees for coated glass? Half the
glare is canceled and half is not. Exactly the same thing happens in
a transmission line where glare = reflections.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

820. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 01:13:03 UTC
From: richardharrison@webtv.net
Message-ID: <4074-3E9CAE1F-309@storefull-2311.public.lawson.webtv.net>
Source record: 120674

Peter Brackett wrote:
"For shame, giving up those wonderful German whites, Blanc de Blanc as the French say."

I love the bumper stickers appearing here now: Hell, Texas is Bigger than France!

Best regards, Richard Harrison, KB5WZI

821. atas 120 performance on vhf/uhf

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 01:20:36 UTC
From: Bill East <beast@pcs.mb.ca>
Message-ID: <743na.65$5M.7589@localhost>
Source record: 120677

Anyone using this antenna on these bands . How well does it work .
Where do you have it mounted.
Any comments good or poor.
thanks,
Bill

822. Re: Inductance of a Large Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 01:23:08 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304151723.1e8e083a@posting.google.com>
Source record: 120672

tdonaly@aol.com (Tdonaly) wrote in message
news:<20030414200100.27790.00000658@mb-fp.aol.com>...
> Art and Reg wrote,
> >
> >> Knoweledge these days is measured differently
> >> compared
> >> to past examinations that measure 'true' understanding or
> >> understandings of first principles.
> >> Cheers
> >> Art (an american radio amateur)
> >
> >==========
snip >
>
> You fellows must have been educated in the golden age of British
> mathematical instruction. Here's what George Bernard Shaw said
> about his own mathematical education: "Not a word was said to us
> about the meaning or utility of mathematics: we were simply asked to
> explain how an equilateral triangle could be constructed by the intersection
> of two circles, and to do sums in a, b, and x instead of in pence and
> shillings, leaving me so ignorant that I concluded that a and b must mean
> eggs and cheese and x nothing, with the result that I rejected algebra as
> nonsense, and never changed that opinion until in my advanced
> twenties Graham Wallace and Karl Pearson convinced me that
> instead of being taught mathematics I had been made a fool of."
>
> 73,
> Tom Donaly, KA6RUH

Tom, I have no experience with respect to universities other than to
make sure my kids got every chance as there was not a war going on
that could mess things up. Pretty much all the engineering exams that
I have taken included a question
where all formulae used had to be derived from first principles, so
that fear of getting such a question was always in your mind.
For amateur radio in the U.K they (or they did) have to attend
evening classes at the end of which they also had to draw circuits and
the like from first principles.
I suppose I am like those who objected to the loss of code exams or
the publishing of questions and answers where the idea is now to
memorise and fill in the circle with pencil. So I can be put in the
group of the grumbling old men.
On the other hand my son has gone thru the American University system
and for him it obviously worked out fine, so it would seem that I am

just an old man who resists change with demands that all have to go thru the hardships of those before them. I read about these old people when I was young with a smirk on my face and now.....I am one of them.
Best regards
Art

823. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 01:44:30 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030415214430.05668.00001421@mb-fo.aol.com>
Source record: 120673

> If Yuri is reading this, it will no doubt
>propel him into providing both the chapter and verse of that poor
>quality "theory," as well as the cogent out-takes that illuminate it
>as unadulterated guff.
>
>73's
>Richard Clark, KB7QHC
>

Yuri is reading, and reading, and reading, and can't figure out what the hell is it all about. Something about "Antrennas" (should trade mark it in a hurry before Chippy gets it), reflecting directors and directing reflectors, busted computer that supposed to rise after Easter, web page with cleverly disguised deep technical scientwiphilc secret information about the magic tunable, stearable antrenna from DC to light (or maybe even faster than light). Yuri is banging his head on the tower wench, trying to reset the zero reactance in his dummy head.

his other personality
Bada BUm

Hey Art-ist, Freaktenna was hiring antenna wizards, why don't you join his corporation (you got patents to prove your worth) before he hires 4 more Phils. Can imagine Fracantrenna TM - more powerful, wide band and invisible (pocketable) killer antenna that replaced and obsoleted all antennas, towers, dishes and forks. I am sure you can together revolutionize Art of Freaktennas. Thank you for filing the gap in wunder antenna discussions and we wonder who or what is lurking out there next?

Happy Easter to all and pray for our troops!

824. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 02:12:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vbep9vk3hp07ancsirtgs38ee3ko8bu4fg@4ax.com>
Source record: 120675

On Tue, 15 Apr 2003 20:06:22 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> On Tue, 15 Apr 2003 15:08:07 -0500, OC_CAM's Razor
>> <Cecil.A.Moore@ieee.org> wrote:
>>
>>
>>>>On Tue, 15 Apr 2003 13:39:45 -0500, OC_CAM's Razor
>>>><Cecil.A.Moore@ieee.org> wrote:
>>>>
>>>>>I previously said on this
>>>>>newsgroup that if two (and only two) coherent EM waves, traveling in the
>>>>>same direction with equal magnitudes and 120 degrees out of phase, were
>>>>>superposed, it would result in a forward wave and a reflected wave of equal
>>>>>magnitude. Most RF Gurus pooh-poohed that idea.
>>>>
>>>>My, how short-sighted, especially as stated when they should've known
>>>>that this was not all of the story, the traditional sucker punch would
>>>>pull it all together later.
>>>
>>>I assume from your statement that you still have no *technical*
>>>disagreement with me.
>>>
>> Shirley, you jest.
>>
>> In reference to your statement above? Agree? :-)
>
>So what happens when one makes a mistake and makes the thickness of a
>thin film 60 degrees instead of 90 degrees for coated glass? Half the
>glare is canceled and half is not. Exactly the same thing happens in
>a transmission line where glare = reflections.

Got it only half right then, huh? Which half? ;-)

73's
Richard Clark, KB7QHC

825. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 02:13:27 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030415221327.05668.00001422@mb-fo.aol.com>
Source record: 120676

>> When I plugged "average" dimensions of 3 el. Quad into AO as a start and
>asked
>> it to optimize it to my specs (50 ohm impedance, preferred F/B/S), it did
>not
>> find dimensions that I have come up with, derived by experimental design on
>2m
>> hard model.
>>
>
> How did you measure your prototype? How did you optimize it by
>hand?
>

The prototypes were developed using crude antenna test range on 2m, simulating situation on 15m band (for purpose of scaling to HF). I started with 3 el. Quad design and ended up with 10 el. Quad-Yagi combinations. It took me about 3 months and it was done by hand (frozen fingers in Toronto's long winter nights).
Pickup antenna was crosspolarized 10 el. beam and detector was oscilloscope, which allowed to "blow up" the minute differences in signal.
After scaling the designs to 15m, I was about 50 kHz off design frequency, which I considered satisfactory. Other parameters such as impedance, SWR curve and pattern were almost identical between the models and repeatable. You can see some pictures of my Razors at:
http://members.aol.com/ve3bmv/Razors.htm
No software available in those days. I am trying to combine and correlate hard and soft designs this spring, time and QRL permitting.
One thing that came out of experimentation was that antenna should be designed for the height and ground that it will be used in. Fuggetaboutit doing it in "free space", especially vertical arrays.
K7LXC did some tests and comparissons of commercial antennas and summarized it in the book that he sells.

73 Yuri, K3BU, VE3BMV etc.

826. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 03:24:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9CCCDD.8010207@ieee.org>
Source record: 120678

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>So what happens when one makes a mistake and makes the thickness of a
>>thin film 60 degrees instead of 90 degrees for coated glass? Half the
>>glare is canceled and half is not. Exactly the same thing happens in
>>a transmission line where glare = reflections.
>
> Got it only half right then, huh? Which half? ;-)

Point is that we can get close to 100% non-glare, close to 100%
glare, or anything in between by varying the thickness of the thin
film. That's virtually the same thing as varying the length of an
RF transmission line where reflections~glare. Light and RF obey
the same laws of physics. A matched transmission line system with
reflections is like non-glare glass. All of the reflected energy
is re-reflected back toward the load (antenna/picture). You didn't
say whether you agreed or disagreed with the last three paragraphs
on this web page:

http://www.mellesgriot.com/products/optics/oc_2_1.htm
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

827. just bought a house, what is this thing???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 03:32:06 UTC
From: ceckitti@aol.com
Message-ID: <20030415233206.29589.00001106@mb-fq.aol.com>
Source record: 120679

hi, my wife and i just bought a house and there is a very tall antenna mounted to our deck that was left by the previous owner. i would guess the antenna is about 40 feet high and its wired into the house to a connection box that says... solarcon LP-99A. im assuming this is a CB antenna? hopefully some one will let me know.

thanks in advance,

Tom

"Welcome to the camp, i guess you all know why we're here.
My name is Tommy, and i became aware this year"

http://www.angelfire.com/oh5/ceckitti

828. Re: just bought a house, what is this thing???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 03:46:13 UTC
From: John DeGood <nu3e@arrl.net>
Message-ID: <3E9CD205.70008@arrl.net>
Source record: 120680

A Google search turned up this about the Solarcon box:

> Low Pass Filter
> LP-99 Solarcon
> $44.24
> Helps prevent TVI Interference. If you want to stop
> interference then this is THE BEST low pass filter for you.
> Low pass filter DC to 30 MHz. TVI, RFI problem solver. Solid
> aluminum housing for long life. Non polarized. 1000 W pwr rating.
> MADE IN THE USA.

John

Ceckitti wrote:
> hi, my wife and i just bought a house and there is a very tall antenna mounted
> to our deck that was left by the previous owner. i would guess the antenna is
> about 40 feet high and its wired into the house to a connection box that
> says... solarcon LP-99A. im assuming this is a CB antenna? hopefully some one
> will let me know.
>
> thanks in advance,
>
>
> Tom
>
> "Welcome to the camp, i guess you all know why we're here.
> My name is Tommy, and i became aware this year"
>
> http://www.angelfire.com/oh5/ceckitti

829. New Changes

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 03:51:17 UTC
From: Rich
Message-ID: <IbKcnU0jUZlTTwGjXTWcpw@comcast.com>
Source record: 120681

http://community.webshots.com/photo/50669411/69731934ldeerQ

Look at the changes at the Museum, It's going nicely and adding daily.
I have gotten comments and equipment from at lease four states.

Richard Lenker

830. New Request

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 03:54:01 UTC
From: Rich
Message-ID: <CI-dnVk_xMjvTgGjXTWcqg@comcast.com>
Source record: 120682

Look at how it's coming this is the first day
http://community.webshots.com/photo/50669411/69514174MuHlXy

As a member of the Pennsylvania National Fire Museum.
http://members.aol.com/JCW37/FRmuseum.html

I am setting up a communication display. I want you folks to look in your junk draws. And send me some old non functional control heads, or dash type radios. I have a corner assigned to me. I have costume built shelves and will mount all type and brands of radio heads. I will have some stored old audio coming out of these speakers.

Please take it as a gift to the museum and cover the postage. I would like to see all types and brands in this display.

Richard E. Lenker
3540 N 6 th St
Harrisburg, Pa. 17110

Or
The Pennsylvania National Fire Museum
1820 N fourth St
Harrisburg, pa. 17104

In Care Of Richard E. Lenker

Thank You

831. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 06:31:40 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304152231.254c1f47@posting.google.com>
Source record: 120683

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<FiBbn3HO1Jn+EA6r@ifwtech.co.uk>...
> Dr. Slick wrote:
> >
> > If yagis were truly understood, there would be some grand-daddy
> >formula/program in which you would plug in gain, f/b ratio, desired
> >null angles, frontal-lobe span in degrees, etc.. and it would tell you
> >how many elements you would need, the lengths, spacings, diameters, amd
> >materials, and if it would even be possible.
> >
> I don't think that is a realistic expectation.
>
> The only time it can happen is for yagis with so few variables (element
> lengths and spacings) that there is either just one design that meets
> the specification, or none is possible. We see this very clearly with 2-
> and 3-element yagis, where there aren't enough variables to deliver
> gain, F/B and a convenient feedpoint impedance all at the same time.
>
> In contrast, long multi-element yagis generally have an over-supply of
> variables. There will always be many different designs that come so
> close to the desired performance that you can't tell the difference,
> either by measurement or simulation. This means there *cannot* be a
> single, fully determined design procedure - and it's a harsh judgement
> to infer from that that "yagis are not truly understood".

Ian, i believe i understand your point.

I'd say at the very least, yagis are extremely complex beasts
when they are multi elemented. And as you have pointed out, the more
elements/variables, the more solutions to a given set of weighted
parameters you will have.

There are also many ways to win a chess game, but the human
player relies on strategy as opposed to the computer which tries every
possibility, then makes a move. The lack of "strategy", for lack of a
better term, is what is missing in a brute-force, number-crunching
genetic algorithm.

I suppose i shouldn't really care how the solutions are found, as
long as they are solutions that work.

And a computer has beaten the world chess champion, so i guess
the brute-force methods should be given credit!

Slick

832. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 06:44:30 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304152244.318a2b73@posting.google.com>
Source record: 120684

Jim Kelley <jwkelley@uci.edu> wrote in message news:<3E9C73B0.701B7261@uci.edu>...
> OC_CAM's Razor wrote:
> >
> > Bill Turner wrote:
> > > Isn't a change of direction the same as a change of phase?
>
> > Optical engineers say that if light is reflected from a higher
> > "impedance", The E and H fields don't change phase. If light
> > is reflected from a lower "impedance" both E and H fields change
> > phase by 180 degrees.
>
> Note that in both cases there is a change in direction, but in only one
> case is there a change in phase.
>

In RF parlance, that would be and "open" and a "short" for the
extremes of the impedance mismatch.

In both cases, there is a change in direction, but only in the
"short" is the signal's phase shifted 180 degrees. The "open" will
still be in phase, but the direction will change.

Slick

833. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 06:50:30 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304152250.6007fa69@posting.google.com>
Source record: 120685

"Bibby" <bibby@attbi.com> wrote in message news:<08Kma.457131$L1.131743@sccrnsc02>...
> I, for one, would be very interested in hard information, in the public
> domain - so that I can evaluate it, that compares measured and calculated
> radiation patterns AND impedances. Any leads/pointers?
>
> Malcolm M Bibby

This would be very interesting for me as well. Un-doctored
polar plots for simulated and measured Yagis would be best, :)

The core of my original question is: How accurate are these
simulations?

Slick

834. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 07:44:18 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0304152344.78a2c5db@posting.google.com>
Source record: 120686

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<pbfo9vklfb8kjdn647hg20eq0aftd5otvt@4ax.com>...
> If Yuri is reading this, it will no doubt
> propel him into providing both the chapter and verse of that poor
> quality "theory," as well as the cogent out-takes that illuminate it
> as unadulterated guff.
>
> 73's
> Richard Clark, KB7QHC

Hi richard
'Wow' thats not bad, one call and your pet comes running
to lick your feet.
Shame is, it does not say much for the independance of the pet.

jaro

835. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 08:24:03 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0304160024.779bbb8@posting.google.com>
Source record: 120687
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

"SWL" <radiovintage@hotmail.com> wrote in message
news:<xkZma.24740$ey1.2230025@newsread1.prod.itd.earthlink.net>...
> Disabled on fixed income looking for an MFJ antenna analyzer.Please state
> price and condition.
> Thanks !!

I expect you want the MFJ259 analyzer. It's quite a good stuff, but
the RF-1 Analyst can do nearly the same job for half the price.

BR from Ivan OK1SIP

836. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 08:29:00 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304160029.6dcb0e50@posting.google.com>
Source record: 120688

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304150959.6baedeb4@posting.google.com>...

>
> Mark,
> let me address a couple of your comments.
> Magnetic loop...
> there are many debates regarding what is a "magnetic" loop
> that I have no intention of bringing back to the surface. What name
> you put onto it is really imaterial. Suffice to say that IS a loop
> with a periphery that is in the range of 1/10 of a wave length(
> doesn't exceed).
> The loop also includes a variable capacitor. Why not just leave it at
> that
> instead of rehashing it over and over again.

Because you do, and you incorrectly name it and it's function as it
applies to your antenna. Or at least in my opinion.

> Steering..... refers to directing a radiation beam in a similar way
> as one does with a mechanically rotary beam. It appears to me that
> convention hasused the term 'steering' is for phased static or
> imoveable antennas usually of the vertical radiator form. It is not
> generally used for rotatable beams which one can also say 'steers' a
> radiation beam. With respect to my antennas I have never openly
> discussed phased verticles or to that matter any sort of vertical
> antennas in depth.

Doesn't have to be vertical. You can steer horizontally polarized
antennas also.

> Stated plainly my work is directed to horisontaly polarised antennas,
> that can be rotated, useable at multiple frequencies and loss less
> feed systems to go with it. Frequencies alluded to is all the HF
> frequencies in their entirety.

This is useful info. You state "antennas". No wonder everyone stays
confused.
Good luck with that "lossless feed system" for all HF frequencies in
their entirety. You will need it.

> This is the last time I am going to respond to you outside the subject
> governed by the thread heading.

This post is not about the subject of the thread? What are we talking
about? The color of apples before they ripen? Why people bought Edsels
in the late 1950's?

Like that old fart with all the dogs in the movie "Moonstruck", I'm confused....

MK

837. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 08:49:34 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304160049.9c9bbaa@posting.google.com>
Source record: 120689

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<4074-3E9CAA33-308@storefull-2311.public.lawson.webtv.net>...
> Jessee, W6KKT wrote:
> "Would one be able to hear the difference or see it on their "S" meter?
> (loss in radiating efficiency from angling a dipole`s sides)"
>
> Maybe.
>
> The inverted Vee is one example of angled dipole sides. The whole world
> knows it doesn`t suffer too badly. I`m surprised there hasn`t been a
> chorus of testimonials from dipole users who have angled the sides to
> fit within confines of available space.

In the overall scheme of things, the difference is not large enough to worry about unless you want every last drop of performance. The only time I've really noticed a difference was on 160m or 75m where the antenna is low to the ground in terms of wavelength. And I don't think it was the angle of the legs that had the effect. Or much anyway.. I think #1, being the flat top dipole has the legs at equal heights above ground at all points, it has slightly less ground losses than an inv vee with the ends of the legs near ground. Also #2, the antenna is slightly more in the clear of surroundings. Other than that, there is not enough difference to worry about. I've strung up Inv Vee's in nearly every config you can think of. I've Vee'd them vertically and had the legs at an angle horizontally at the same time. Not one ever refused to work. The only thing I try to avoid is an angle less than 90 degrees. Even that will work also though, if there are no other options. On those low bands, a flat top dipole is generally superior to an inv vee if you want every last drop of performance. On the higher bands where the antenna is higher in terms of WL, it will be hard to tell much difference between the two types. MK

838. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 11:07:02 UTC
From: k1bqt@aol.com
Message-ID: <20030416070702.19008.00000007@mb-m03.aol.com>
Source record: 120690

> And a computer has beaten the world chess champion, so i guess
>the brute-force methods should be given credit!<

Hmmm, do I detect a familiar ring?

Rick K1BQT

839. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 11:25:01 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <74fq9vsnb686pqgfdmc2kopvcsuoblsn92@4ax.com>
Source record: 120691

On Mon, 14 Apr 2003 19:20:43 -0500, Bob Miller
<bxmiller@texas.netNOSPAM> wrote:

>The B&W AP-1, I have one of those in storage. It works. I used it in a
>3rd story apartment, some years ago. Only disadvantage, it utilizes a
>fairly long indoor counterpoise wire that is hot with RF. If you're in
>a dormitory, might be dangerous to other students. If you're in a
>low-occupancy housing unit of some sort, though, it could work for
>you. You'll have to adjust the length of the counterpoise wire for
>each band -- that is how you "tune" the antenna, and bring the SWR
>down to 1:1. I used it on 40 meters and up. It did fine with 100
>watts. Will keep you on the air, and it's a lot cheaper than many of
>the other portable antennas.
>
>The counterpoise needs to be adjusted to about 1/4 wave on each band.
>Just keep rolling and unrolling the length until the SWR is 1:1.
>
>Bob
>k5qwg

Hi Bob,

Well the way the accommodation works is that there are a few
individual rooms to a flat so there'd only be me to get a buzz of
RF!!! hi!!

That kind of antenna might prove very useful, I am not sure if they
are available in the UK but I will look. I might even find some
construction details for one and give it a go myself, on a bit of a
shoestring with the cash!!

Thanks for the comments,

73, Iain M0PCB

840. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 12:12:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9D48A4.1030903@ieee.org>
Source record: 120694

Dr. Slick wrote:
> The core of my original question is: How accurate are these
> simulations?

If you thumb through the ARRL Antenna Compendium(s), you will
often see theoretical Vs measured radiation pattern plots.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

841. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 12:13:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9D4900.1020801@ieee.org>
Source record: 120693

Dr. Slick wrote:
> The core of my original question is: How accurate are these
> simulations?

If you thumb through the ARRL Antenna Compendium(s), you will
often see theoretical Vs measured radiation pattern plots.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

842. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 12:17:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9D49DB.8040602@ieee.org>
Source record: 120692

Mark Keith wrote:
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote:
>>The loop also includes a variable capacitor. Why not just leave it at
>>that instead of rehashing it over and over again.
>
> Because you do, and you incorrectly name it and it's function as it
> applies to your antenna. Or at least in my opinion.

Is this antenna a dipole coupled to a small resonant loop?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

843. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 13:41:24 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <9omq9vor2go4e0n2d185e43q7j6vo4psd8@4ax.com>
Source record: 120695

On Wed, 16 Apr 2003 07:17:31 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

|Mark Keith wrote:
|> aunwin@insightbb.com (Art Unwin KB9MZ) wrote:
|>>The loop also includes a variable capacitor. Why not just leave it at
|>>that instead of rehashing it over and over again.
|>
|> Because you do, and you incorrectly name it and it's function as it
|> applies to your antenna. Or at least in my opinion.
|
|Is this antenna a dipole coupled to a small resonant loop?

If I understand it correctly (a REALLY dubious possibility) it is a
dipole with a loop attached. Part of the length of the dipole is one
side of the loop.

But to make it more complicated, the suggested feed method is a delta
match attached to the dipole at or beyond the "loop" portion.

844. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 13:59:05 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030416095905.18913.00000005@mb-m19.aol.com>
Source record: 120696

>
>
> Hi richard
> 'Wow' thats not bad, one call and your pet comes running
>to lick your feet.
> Shame is, it does not say much for the independance of the pet.
>
> jaro
>
>
>

Sproste poznamky si mozes nechat na svoj pobyt v zachode. Lepsie by bolo keby si ukazal svoje schopnosti k tematike.

Juro

845. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 14:25:05 UTC
From: richardharrison@webtv.net
Message-ID: <12042-3E9D67C1-29@storefull-2311.public.lawson.webtv.net>
Source record: 120697

CAM, W5DXP wrote:
"Is this antenna a dipole coupled to a small resonant loop?"

Richard Clark broke the code for me with Art`s URL:
http://www.roadkill.com/~unwin/

"Loop antenna" includes Art`s conjoined loop and dipole in Fig 9. Still doesn`t show the feedline and Art doesn`t answer on where it attaches.

Art shows a dipole pattern with null fill from radiation in the plane of the loop. An advantage?

Best regards, Richard Harrison, KB5WZI

846. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 14:53:24 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <rhrq9v4dn5t6onrhqd95dtkvdcsogos1f1@4ax.com>
Source record: 120698

On Wed, 16 Apr 2003 12:25:01 +0100, Iain Kelly <no.spam@m0pcb.co.uk>
wrote:

>On Mon, 14 Apr 2003 19:20:43 -0500, Bob Miller
><bxmiller@texas.netNOSPAM> wrote:
>
>>The B&W AP-1, I have one of those in storage. It works. I used it in a
>>3rd story apartment, some years ago. Only disadvantage, it utilizes a
>>fairly long indoor counterpoise wire that is hot with RF. If you're in
>>a dormitory, might be dangerous to other students. If you're in a
>>low-occupancy housing unit of some sort, though, it could work for
>>you. You'll have to adjust the length of the counterpoise wire for
>>each band -- that is how you "tune" the antenna, and bring the SWR
>>down to 1:1. I used it on 40 meters and up. It did fine with 100
>>watts. Will keep you on the air, and it's a lot cheaper than many of
>>the other portable antennas.
>>
>>The counterpoise needs to be adjusted to about 1/4 wave on each band.
>>Just keep rolling and unrolling the length until the SWR is 1:1.
>>
>>Bob
>>k5qwg
>
>Hi Bob,
>
>Well the way the accommodation works is that there are a few
>individual rooms to a flat so there'd only be me to get a buzz of
>RF!!! hi!!
>
>That kind of antenna might prove very useful, I am not sure if they
>are available in the UK but I will look. I might even find some
>construction details for one and give it a go myself, on a bit of a
>shoestring with the cash!!
>
>Thanks for the comments,
>
> 73, Iain M0PCB

Waters & Stanton Elect. handles B&W in the UK.

Bob
k5qwg

847. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 14:56:08 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9D7093.D0272862@uwe.ac.uk>
Source record: 120699

Richard Harrison wrote:
>
> Andy, M3ABC wrote:
> "I know silver is 7% better, if it is bright and shiney, but not when
> tarnished, as tarnish is a conductor, but not a very good one."
>
> Over 40 years ago, I installed a Motorola MR-50 6-GHz microwave repeater
> in Port Sulphur, Louisiana. Sulphur permeated the air everywhere! I
> asked Louis Gonzalez at Freeport Sulphur Company what to expect.
> Freeport had MR-50`s too. He said, "No problems". Louis was correct.
> Within weeks, the silverplated waveguide plumbing was pitch black. I
> could measure no difference in the radio losses than from the
> measurements made when the radio was originally installed and pristine.
>
> Best regards, Richard Harrison, KB5WZI

Interesting, Richard. Do you think your measurements would have detected, for example, a 10% loss of efficiency, i.e. a 10% increase in waveguide losses? That would be the same as detecting the difference between silver plated and copper guide. Does anyone know the resistivities of AgO, Ag20 or Ag2S?

I can't find them on the web and no CRC handbook handy.

vy 73

Andy, M3ABC

848. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:11:16 UTC
From: richardharrison@webtv.net
Message-ID: <18753-3E9D80A4-18@storefull-2318.public.lawson.webtv.net>
Source record: 120702

Art starts his loop page with:
"At first glance the loop antenna without a capacitor looks like a small quad which is somertimes termed as two dipoles connected with each other."

Totally confused! A quad is a large loop (in terms of wavelength) which radiates broadside to the loop`s plane. A small (in terms of wavelength) loop radiates in the plane of the loop.

What is a small quad? It must radiate broadside to fit most people`s understanding. It must then be small only because it is for a very high frequency.

Tuning a small loop for a low frequency with a capacitor doesn`t cause a large phase change in current as it courses through the short length. So, the small loop still has a null perpendicular to the plane of the loop. My authority for this observation is Arnold B. Bailey, Bell Labs antenna expert and author of "TV and Other Receiving Antennas" on page 530.

Art`s own pattern of radiation for the conjoined small loop and dipole indicate the same loop radiation pattern, for what that`s worth. The dipole nulls are somewhat filled in and the only source available iis the small loop.

If one wants some directional gain by combining sources it is logical to combine sources that radiate in the same direction, not at right angles. Art did not respond to that suggestion when I made it months ago.

Now that Richard Clark has provided the URL, and we can confirm our suspicions.

Best regards, Richard Harrison, KB5WZI

849. Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:29:20 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7k09v$1okdo$1@ID-150848.news.dfncis.de>
Source record: 120700

I'm going to build a remote atu to tune a random wire antenna that will be about 70 foot long. Of course, part of the circuit will be grounded. I can easily calculate required capacitance needed with a simple L and C network with one of Reg Edward's programs. But, if I want to be able to transmit 100 watts between 1.8 and 30 Mhz, does anyone know what capacitor spacing I should go for? I'm looking at a capacitor with 0.8mm spacing, but don't know if it will be any good. Don't want it arcing over. TIA. Rich.

850. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:39:32 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9D88CF.9FB03AC4@uwe.ac.uk>
Source record: 120701

Richard wrote:
>
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.

If you really do want to do the whole lot, then I reckon you'll find that the cap voltage rating needs to be more than 10 kV - vacuum capacitor territory. Normal, made for amateur use, ATUs use 3 or 3.5 kV on the hot, output side. 3 mm spacing. 0.8 mm sounds very low.

vy 73

Andy, M3ABC

851. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:40:47 UTC
From: richardharrison@webtv.net
Message-ID: <18751-3E9D878F-78@storefull-2318.public.lawson.webtv.net>
Source record: 120707

Andy, M3ABC wrote:
"Do you think your measurements would have detected, for example, a 10% loss of efficiency?"

Not likely. The instrument was an HP 604-B if my memory is correct. 40 years since I`ve even seen one, so the number may be out of nowhere. But, the instrument was very repeatable. I never confided in any of my field instruments beyond plus or minus one dB.

Best regards, Richard Harrison, KB5WZI

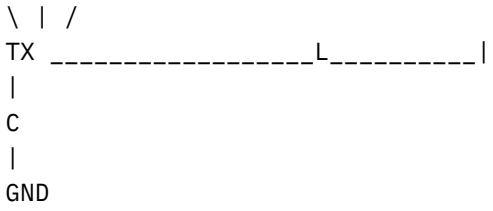
852. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:50:57 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7k1hh$1oagv$1@ID-150848.news.dfncis.de>
Source record: 120703

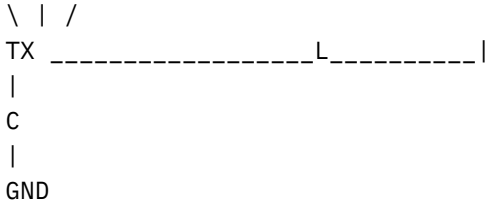
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7k09v$1okdo$1@ID-150848.news.dfncis.de...
> I'm going to build a remote atu to tune a random wire antenna that
will
> be about 70 foot long. Of course, part of the circuit will be
grounded.
> I can easily calculate required capacitance needed with a simple L and
C
> network with one of Reg Edward's programs. But, if I want to be able
to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.

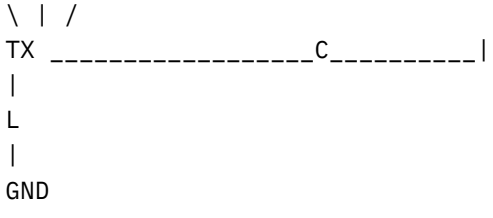
Just to clarify: I think you can match a random wire to 50 ohms
(say) by using just an inductor and capacitor.

I think in practice the antenna circuit will turn out to be either one
or the other of the following:



or





|
L
|
GND

Anyway, for 100wattts TX, I wonder what spacing of vanes in C to cover
any combination.

853. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:54:53 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9D8C68.543F0121@uwe.ac.uk>
Source record: 120705

Richard wrote:
>
> Just to clarify: I think you can match a random wire to 50 ohms
> (say) by using just an inductor and capacitor.
>

Yes, any arbitrary impedance can be transformed to any other
arbitrary impedance with an L network. There are some cases
where 2 Ls or 2 Cs are needed, but these don't occur naturally
with aerials.

vy 73

Andy, M3ABC

854. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 16:56:38 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7k1sb$1ok84$1@ID-150848.news.dfncis.de>
Source record: 120704

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3E9D88CF.9FB03AC4@uwe.ac.uk...
> Richard wrote:
> >
> > I'm going to build a remote atu to tune a random wire antenna that
will
> > be about 70 foot long. Of course, part of the circuit will be
grounded.
> > I can easily calculate required capacitance needed with a simple L
and C
> > network with one of Reg Edward's programs. But, if I want to be
able to
> > transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> > capacitor spacing I should go for? I'm looking at a capacitor with
> > 0.8mm spacing, but don't know if it will be any good. Don't want it
> > arcing over. TIA. Rich.
>
> If you really do want to do the whole lot, then I reckon you'll find
that
> the cap voltage rating needs to be more than 10 kV - vacuum capacitor
> territory. Normal, made for amateur use, ATUs use 3 or 3.5 kV on the
hot,
> output side. 3 mm spacing. 0.8 mm sounds very low.

Oh gosh, so high!! :c(

If one just thinks about transmitting in the ham bands (as one would
obviously) I wonder if there is any particular length of random wire
antenna which allows you to use a capacitor with 0.8mm spacing. Thing
is, 60 or 70 foot is all I can get up. Kind of like antenna design
minimising voltage across C.

855. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 17:04:05 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304160904.22300ff4@posting.google.com>
Source record: 120706

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<12042-3E9D67C1-29@storefull-2311.public.lawson.webtv.net>...
> CAM, W5DXP wrote:
> "Is this antenna a dipole coupled to a small resonant loop?"
>
> Richard Clark broke the code for me with Art`s URL:
> http://www.roadkill.com/~unwin/
>
> "Loop antenna" includes Art`s conjoined loop and dipole in Fig 9. Still
> doesn`t show the feedline and Art doesn`t answer on where it attaches.
>
> Art shows a dipole pattern with null fill from radiation in the plane of
> the loop. An advantage?
>
> Best regards, Richard Harrison, KB5WZI

Richard,
Having no credability with certain people on this newsgroup is not
a problem. But it does matter as far as Wes is concerned because I
have respect for him.
I await a post from you (mine is termed unacceptable) verifying the
fact that you did indeed remove yourself from the remark made
regarding The final solution which is now quietly being slipped under
the rug.
If you also feel that I have no credability (a liar and a thief)
I am better off being forwarned.
Art

856. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 17:44:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <c15r9vognmd65kc785jkopjbhor6v1qanq@4ax.com>
Source record: 120708

On Wed, 16 Apr 2003 17:29:20 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>I'm going to build a remote atu to tune a random wire antenna that will
>be about 70 foot long. Of course, part of the circuit will be grounded.
>I can easily calculate required capacitance needed with a simple L and C
>network with one of Reg Edward's programs. But, if I want to be able to
>transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
>capacitor spacing I should go for? I'm looking at a capacitor with
>0.8mm spacing, but don't know if it will be any good. Don't want it
>arcing over. TIA. Rich.

Hi Rich,

A first cut approximation will give you an idea: you know the
capacitance (or should be able to calculate it), you know the
frequency, you know the power, you should be able to guess the Q (set
it at 10 if you can't guess). Ohm's law works at all frequencies for
these trivial components and you should be able to reduce the known
facts to an assumed potential drop,

Approaching it from the other end, you might try finding what voltage
leads to dielectric breakdown of air across an 0.8mm gap. You will
need this information in the end anyway, but knowing it up front may
reduce the number of wrong turns.

73's
Richard Clark, KB7QHC

857. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 17:48:35 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304160948.3c3a23a3@posting.google.com>
Source record: 120709

jgboyles@aol.com (JGBOYLES) wrote in message
news:<20030415191438.12372.00000408@mb-fi.aol.com>...
> Hi Scott,
> Could you furnish the details on how to build a noise bridge that is cheaper
> and more effective than an MFJ-259B or 269? I expect there are many Hams that
> would like more info on what you propose.
> I have built noise bridges, and purchased one from MFJ, and none can compare
> to the ease of use, and the amount of information about my antenna system the
> analyzer provides.

Agreed. The MFJ-259B is a great/useful piece of equipment.

The real resistance part of the measurement (complex impedance)is
somewhat flaky on my unit, the meter turns on and off in a wierd way.
And close to perfect match is not always 50 ohms but more like 40.

Nevertheless, the main uselfullness of the unit is the SWR meter,
and the convenience of the VFO generator. The frequency counter is
useful too.

And you can supposedly measure velocity factors and other things,
but i haven't explored these functions yet.

Dr. Slick

http://www.drslick.org/

858. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 17:58:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3E9D99C8.A68C1CF7@uci.edu>
Source record: 120710

"Dr. Slick" wrote:
>
> Jim Kelley <jwkelley@uci.edu> wrote in message news:<3E9C73B0.701B7261@uci.edu>...
> > OC_CAM's Razor wrote:
> > >
> > > Bill Turner wrote:
> > > > Isn't a change of direction the same as a change of phase?
> > >
> > > Optical engineers say that if light is reflected from a higher
> > > "impedance", The E and H fields don't change phase. If light
> > > is reflected from a lower "impedance" both E and H fields change
> > > phase by 180 degrees.
> > >
> > Note that in both cases there is a change in direction, but in only one
> > case is there a change in phase.
> > >
>
> In RF parlance, that would be and "open" and a "short" for the
> extremes of the impedance mismatch.
>
> In both cases, there is a change in direction, but only in the
> "short" is the signal's phase shifted 180 degrees. The "open" will
> still be in phase, but the direction will change.
>
> Slick

Absolutely. Thus demonstrating that a change in direction of wave
propagation is not the same thing as a change in phase.

73, ac6xg

859. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 18:06:35 UTC
From: richardharrison@webtv.net
Message-ID: <18751-3E9D9BAB-93@storefull-2318.public.lawson.webtv.net>
Source record: 120712

Art Unwin wrote:
"---remove yourself from the remark made regarding The final solution---."

OK, Art. I welcome the opportunity to disavow "The Final Solution". I am a WW-2 veteran and fervently believe we were on the right side in that conflict.

I have not said, nor do I intend too call Art a liar or a thief. As far as I know, Art is honest, upright, and true.

I said in an old posting that Art`s antenna may have already been invented and asked Art to distinguish his antenna from one published by Bill Orr. Art did not respond.

There are few bright ideas that someone somewhere has not thought of. It doesn`t make the idea less valid.

I welcome innovation attempts, though I may not like to change the way that I`m accustomed to doing things.

Best regards, Richard Harrison, KB5WZI

860. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 18:14:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7k6dh$1sn6s$1@ID-150848.news.dfncis.de>
Source record: 120711

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:c15r9vognmd65kc785jkopjbhor6v1qanq@4ax.com...

> Hi Rich,
>
> A first cut approximation will give you an idea: you know the
> capacitance (or should be able to calculate it), you know the
> frequency, you know the power, you should be able to guess the Q (set
> it at 10 if you can't guess). Ohm's law works at all frequencies for
> these trivial components and you should be able to reduce the known
> facts to an assumed potential drop,
>
> Approaching it from the other end, you might try finding what voltage
> leads to dielectric breakdown of air across an 0.8mm gap. You will
> need this information in the end anyway, but knowing it up front may
> reduce the number of wrong turns.
>
> 73's
> Richard Clark, KB7QHC

Rich

I'll take a stab at working Vcap (voltage across capacitor) out. Then
I'll post my calculation and if I got it wrong someone can tell me where
I went wrong.

Rich.

861. Re: TITANEX, GERMANY: have them closed the factory ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 18:50:42 UTC
From: "Ekki (DF4OR) Plicht" <df4or@df4or.de>
Message-ID: <b7k96t$v2j$07$1@news.t-online.com>
Source record: 120715
Cross-posted to: de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Acid74 wrote:

> I don't know exactly. I think them and ZX-Yagi are one company. Try to ask
> there...

Titanex und ZX-Zagi sind zwei voellig getrennte Firmen und haben nichts
miteinander zu tun.

Titanex-Antennen werden von Titanex gefertigt.
ZX-Yagis werden von WiMo gefertigt.

73,
Ekki

862. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 18:50:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9DA60C.7060308@ieee.org>
Source record: 120713

Jim Kelley wrote:
> Absolutely. Thus demonstrating that a change in direction of wave
> propagation is not the same thing as a change in phase.

The reason that optical physicists know that and RF engineers don't
is that a transmission line is essentially a one-dimesional environment
and Kirchhoff tells us that current flowing in the rearward direction
needs to carry a minus sign. That works for both DC and RF. DC doesn't
have a phase, only a direction. Reflected current is not actually 180
degrees out of phase with its associated voltage. It simply carries
a negative sign because of Kirchhoff's convention concerning direction
of current flow be it DC, 60Hz AC, or RF.

To understand what happens at the Z0-match point in a transmission line,
one needs only to understand the technical information provided on the
following web page (with which you, Jim, can be credited for discovering),
especially the last three paragraphs on the page.

http://www.mellesgriot.com/products/optics/oc_2_1.htm

In so many words, the above web page says experiments prove that, in a matched
system, all the reflected energy (glare) undergoes destructive interference and
following the conservation of energy principle, changes direction (is re-reflected)
and appears as "enhanced intensity (constructive interference) in the transmitted
beam (forward wave)". So much for "The Total Re-Reflection Fallacy" espoused by _QEX_.

Incidentally, _QEX_ has refused to publish any technical information on this
subject, either in an article or even in a letter to the editor.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

863. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 18:57:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9DA798.60101@ieee.org>
Source record: 120714

Richard wrote:
> I'll take a stab at working Vcap (voltage across capacitor) out. Then
> I'll post my calculation and if I got it wrong someone can tell me where
> I went wrong.

If he feeds his transmission line at a current maximum point, he will
have much less of a voltage problem.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

864. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 20:17:33 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7kdotgi1@hercules.btinternet.com>
Source record: 120716

To estimate volts across the tuning capacitor just get to know the antenna wire.

Obtain the antenna feedpoint impedance or input impedance of the transmission line, Zin = Rin + jXin. Estimate Zin from a computer program or by using an antenna analyser or work it out yourself with a pocket calculator on the back of a cigarette packet.

If power input to the antenna is 100 watts then the current flowing into the antenna must be I = Sqrt(P / Rin) amps.

Then volts across the antenna or line must be V = I*Zin where Zin is just the magnitude of the impedance. Phase is not relevant.

But the tuning capacitor is in parallel with the antenna and so the question is answered.

What have theorems and network component values to do with it ?

Sqrt(2) = 1.4

Reg, G4FGQ

==========
"Richard" wrote
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.
>

865. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 20:58:28 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304161258.4635f4d7@posting.google.com>
Source record: 120717

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9DA60C.7060308@ieee.org>...
> Jim Kelley wrote:
> > Absolutely. Thus demonstrating that a change in direction of wave
> > propagation is not the same thing as a change in phase.
>
> The reason that optical physicists know that and RF engineers don't
> is that a transmission line is essentially a one-dimesional environment
> and Kirchhoff tells us that current flowing in the rearward direction
> needs to carry a minus sign. That works for both DC and RF. DC doesn't
> have a phase, only a direction. Reflected current is not actually 180
> degrees out of phase with its associated voltage. It simply carries
> a negative sign because of Kirchhoff's convention concerning direction
> of current flow be it DC, 60Hz AC, or RF.
>

Some of us do know this. Don't assume all RF engineers to have
the same understanding.

The reflected voltage is 180 degrees out of phase with it's
original incident phase, because in an un-balanced transmission line,
the positive voltage peak will now switch from the "top" line to the
"bottom" line (due to the short), so a positive voltage on the
"bottom" line will now actually be measured to be negative., due to
convention.

It's very simply like switching the leads on a multimeter when you
test a battery: it's either positive or negative, depending on
convention.

Slick
> To understand what happens at the Z0-match point in a transmission line,
> one needs only to understand the technical information provided on the
> following web page (with which you, Jim, can be credited for discovering),
> especially the last three paragraphs on the page.
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> In so many words, the above web page says experiments prove that, in a matched
> system, all the reflected energy (glare) undergoes destructive interference and
> following the conservation of energy principle, changes direction (is re-reflected)
> and appears as "enhanced intensity (constructive interference) in the transmitted
> beam (forward wave)". So much for "The Total Re-Reflection Fallacy" espoused by _QEX_.
>
> Incidentally, _QEX_ has refused to publish any technical information on this

> subject, either in an article or even in a letter to the editor.

866. Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 21:28:56 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3E9DCB15.3060101@tampabay.rr.com>
Source record: 120718

hey all you quad builders
i want to know how many elements for a 2 meter quad will fit on a 16
foot boom with the highest gain so if someone have a software package
that does quads please do the specs for me and let me know via email
its 16 foot aluminum boom and the center freq is 144.200
thanks

867. Re: Ground rods: Where do you buy them from in UK?

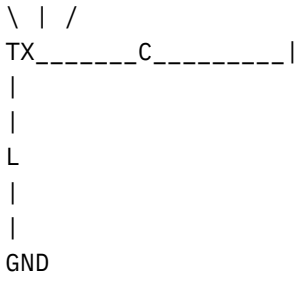
Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 21:45:51 UTC
From: g0xay@aol.com
Message-ID: <20030416174551.18912.00000033@mb-m12.aol.com>
Source record: 120620

Rich
Screwfix is cheaper than ham stores, B&Q etc and they deliver next day.
Dick G0XAY

868. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 21:45:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7kiqk$1vibu$1@ID-150848.news.dfncis.de>
Source record: 120619

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7kdotgi1@hercules.btinternet.com...
> To estimate volts across the tuning capacitor just get to know the
antenna
> wire.
>
> Obtain the antenna feedpoint impedance or input impedance of the
> transmission line, Zin = Rin + jXin. Estimate Zin from a computer
program or
> by using an antenna analyser or work it out yourself with a pocket
> calculator on the back of a cigarette packet.



C= 144pF
L= 26.0uH
Power from TX 100W
Frequency 1.8Mhz.

Input impedance of random wire = Jx = - 559.6 ohms, R = 41.4 ohms.

> If power input to the antenna is 100 watts then the current flowing
into the
> antenna must be I = Sqrt(P / Rin) amps.

I = sqrt (100/41.6 Ohms) = 1.5504342 amps.

> Then volts across the antenna or line must be V = I*Zin where Zin is
just
> the magnitude of the impedance. Phase is not relevant.

Input impedance of random wire = Jx = - 559.6 ohms R = 41.4 ohms., or
Zin = sqrt (559.6 sq + 41.6 sq) = 561.14412 ohms. (?)

V = 1.5504342 amps * 561.14412 ohms = 870.01703 volts RMS.

So voltage across C is 870.01703 volts RMS???

> But the tuning capacitor is in parallel with the antenna and so the
question

> is answered.
>
> What have theorems and network component values to do with it ?
>
> Sqrt(2) = 1.4
> ---
> Reg, G4FGQ

869. Re: SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:07:22 UTC
From: Jesse <touhey@olypen.com>
Message-ID: <v9rl144phudpc2@corp.supernews.com>
Source record: 120622

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3E9C2A32.7090906@ieee.org...
> Jesse wrote:
> > Assuming your swr measuring devices are working
properly,
> > you should expect to get different readings on a line
that
> > has standing waves. When a line (coax) has standing
waves
> > (not terminated into the characteristic impedance of the
> > line) the impedance is different at each point on the
line.
> > If two swr measuring devices are inserted in the line
they
> > will exhibit two different readings.
>
> Hi Jesse, what happened to your W7 call? Good to hear from
> you again.
>
> Assuming the calibrated Z0 of the SWR meters matches the
Z0 of
> the transmission line, they should read the same minus
losses.
> The directional coupler is supposed to take care of the
> phase angle between the voltage and current. And since, on
> a feedline with an SWR higher than 1:1, the voltages are
> undergoing constructive interference while the currents
are
> undergoing destructive interference (and vice versa), the
> SWR meters should be able to do a reasonable job of
separating
> out the forward wave components from the reflected wave
components.
> The voltage proportional to the total voltage vectorally
added to
> the voltage proportional to the total current should
result in
> a voltage proportional to the relatively constant forward
power
> up and down a low-loss feedline. Subtracting those two
voltages should
> result in a voltage proportional to the reflected power.
Of course,
> the SWR decreases as we move the SWR meter from the

antenna to the
> transmitter because of line losses.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
Hi Cecil,
You are correct. My mind was thinking impedance
differential and my hand was typing swr measurement. My
first "senior moment" (:>)
I'm applying for DXCC, which I worked from my mobile on 75m
ssb, under the call W6KKT. I'm getting ready to go mobile
again, and wanted to use my old call. Hopefully, I will
once again conduct some mobile antenna field strength
trials. I still have my equipment.
Jesse

870. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:07:53 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7kk6g$2bj$1@slb9.atl.mindspring.net>
Source record: 120621

I wouldn't make a quad that long. I suggest you keep it to 4 and maybe 6 elements only. After 4 elements you tend to reach a point of diminishing returns.

You would do better stacking antenna's.

Dan/W4NTI

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message news:3E9DCB15.3060101@tampabay.rr.com...
> hey all you quad builders
> i want to know how many elements for a 2 meter quad will fit on a 16
> foot boom with the highest gain so if someone have a software package
> that does quads please do the specs for me and let me know via email
> its 16 foot aluminum boom and the center freq is 144.200
> thanks
>

871. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:09:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9rl5umo8knj5d@corp.supernews.com>
Source record: 120623

AgS is 1.5 - 2.0 ohm-m, and I believe it's the most common silver tarnish.

Cu2O is 10 - 50 ohm-m, CuO is 6000 ohm-m, CuS is 0.3 to 83 X 10^-6 ohm-m.

Thse are from the 1993 CRC Handbook of Chemistry and Physics. I haven't been able to find the values for other common salts such as chlorides. I don't know why the large ranges of values -- perhaps it's due to water content or crystalline structure.

The trick is translating this to loss. If a coating is a perfect insulator, it causes no loss. If it's a perfect conductor, it causes no loss. Loss is maximum at some intermediate value, and this value depends on the thickness, frequency, and underlying material. Unfortunately, it's not a trivial calculation. I've had it on my list of things to do for some time, but haven't gotten to it.

Roy Lewallen, W7EL

Andy Cowley wrote:
>
> Interesting, Richard. Do you think your measurements would have detected,
> for example, a 10% loss of efficiency, i.e. a 10% increase in waveguide
> losses? That would be the same as detecting the difference between silver
> plated and copper guide. Does anyone know the resistivities of AgO, Ag20
> or Ag2S?
>
> I can't find them on the web and no CRC handbook handy.
>
> vy 73
>
> Andy, M3ABC

872. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:12:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9DD53F.8070603@ieee.org>
Source record: 120624

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
> Some of us do know this. Don't assume all RF engineers to have
> the same understanding.

Sorry I wasn't clear. I was talking about the average physicist
Vs the average engineer. Physicists apparently get more training
in EM wave interference than do engineers. Understanding
destructive and constructive interference is key to understanding
what happens at the Z0-match point in a transmission line just as
it is for understanding what happens with non-glare glass.

For instance, the following statement confuses cause and effect.

There are no reflections because the transmitter sees 50 ohms. That's
akin to saying there are no reflections from non-glare glass because
the light sees an index of refraction equal to air at the thin-film
interface which is simply not true.

The true statement would be: The transmitter sees 50 ohms because
all reflections are eliminated through wave cancellation at the
Z0-match point.
--
73, Cecil http://www.qsl.net/w5dxp

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873. Re: SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:21:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9DD774.9050302@ieee.org>
Source record: 120625

Jesse wrote:
> My first "senior moment" (:>)

I think I had my first senior moment in kindergarten.

> Hopefully, I will
> once again conduct some mobile antenna field strength
> trials. I still have my equipment.

It's past time for another Pacific Coast breakfast/shootout/
beerbust/BBQ. :-) I use a Palomar FS-1 for my antenna measurements.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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874. Re: 40 meter dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:39:06 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7km2aivr1@sparta.btinternet.com>
Source record: 120626

Hi Jesse,

From where did you obtain the magnitude "huge".

Decrease apex angle.
Which reduces feedpoint resistance to 50 ohms.
Which reduces SWR from 1.5 to 1.
Which reduces line loss by a trivial 0.2 dB Wow!

Decrease apex angle.
Which reduces radiation resistance.
Which decreases radiating efficiency, loss = 1dB

Result : Overall loss increases by 0.8 dB. Ugh!

This widely propagated old wives' tale involving SWR attempts to change the
vice of the apex angle into a virtue.

Curiosity satisfied ? ;o)

There's a new program soon which analyses versus apex angle the fascinating
behavior of the low, 1/2-wave resonant, inverted-V, the poor-man's high,
straight, dipole.

Yours, Reg, G4FGQ

==========

"Jesse" wrote > Reg, I'm curious. Can you put a number to this huge (not
> trivial) loss in effective radiated power you describe?
> Would one be able to hear the difference, or see it on their
> "S" meter?
>
> Jesse (W6KKT)
>
>

875. Re: WTB:Inexpensive MFJ Antenna Analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:41:26 UTC
From: jgboyles@aol.com
Message-ID: <20030416184126.18936.00000036@mb-m06.aol.com>
Source record: 120627

Hi Ivan,
The various analyzers were reviewed in QST, but since you are not in the USA you may not have access to that Publication. I think the main thing concerning the difference between Autek and MFJ is knowing which model does what. The MFJ 259 which is no longer produced is roughly equivalent to the RF-1 in what it can do. I bought a 259 on closeout for the same price as an RF-1.
The MFJ-259B is roughly equivalent to the Autek VA-1. However each one has a couple of features the other does not, which is pointed out quite clearly in the ads for each unit. The 259B is around $30 US more than the VA-1.
IMHO the 259B is much preferred to the 259, and the VA-1 is over the RF-1, but you make your choice and you pay your money, then argue about which is best :-)

73 Gary N4AST

876. WTB: 2M magmount antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 22:54:09 UTC
From: whru@msn.com
Message-ID: <e52bdeaf.0304161454.3dc015f3@posting.google.com>
Source record: 120628

Looking for a RS or MFJ 2M magmount antenna reasonable.
73 wb6iiq

877. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 23:03:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3E9DE145.2F86820C@uci.edu>
Source record: 120630

Paschen's Law, from Rosebury, Electron Tube and Vacuum Techniques:

"The sparking poteitial for air at atmospheric pressure and uniform
field is

Vs = 30d + 1.35kV"

where Vs is the sparking potential, and d is a gap of the order of .1
cm. The actual voltage function is not linear with distance and
pressure, so the expression is not accurate for gaps that vary by more
than a decade from 10 mm and pressures significantly different than 1
atmosphere. Sparking potentials will however be greater than predicted
with gaps > .1 cm, so it is a safe rule of thumb. Vs will of course be
less than predicted for gaps < .1 cm. Minimum sparking potential in air
is ~350 Volts.

73 de ac6xg

Richard wrote:
>
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.

878. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-16 23:07:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9DE24A.C647FD12@cwis.net>
Source record: 120629

Richard,
Suprizing, huh? That's why transmitting capacitors
have wide plate spacing, and also why you don't normally
wanna touch'em when you're transmitting.(LOL)
'Doc

879. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:00:28 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304161600.5e4b3826@posting.google.com>
Source record: 120631

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:<b7k09v$1okdo$1@ID-150848.news.dfncis.de>...
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.

Rich
Please allow me to assist in your endeaver.
High voltage capacitors can be very expensive and often deters
new amateurs. Let me share with you some ideas.
Florescent tubes are about .045" thick glass and cost nothing if used.
If one covers it with rags for safety sake and direct a bunsen burner
at the ends you are left with a useable glass tube to which one can
stick a layer of aluminium foil. This assembly fits very snugly inside
1 1/4" dia THICK wall plastic piping.
The plunger former can be made of 1" dia THIN wall plastic tubing from
the DIY store and also covered with a layer of alumunium foil.You will
find that this also fits very snugly inside the glass tube with just
enough clearance for it to slide around. With a hole in the glass
tubing assembly for a wiper to contact the moveable rod plus a partial
hole to the alum covered glass tubing you are off and running with a
variable capacitor that is capable of withstanding
10KV. As you want to operate it remotely you can tie nylon to each
end of the moveable so it can be driven up and down by a motor.
Since you are using a 'long' wire as an antenna I would suggest that
you also have a high voltage isolating switch for when you are not
using the antenna, this prevents unwanted static chargess building up
and entering the shack.
A very inexpensive method to achieve this is by using tube/valve that
provides a 'time delay' in radios or amplifiers. This costs around $5
on E bay. When you are ready to use your antenna apply house voltage
to the tube/valve and in a few seconds your antenna is connected and
available for use.
Have a great time with your new antenna.
Cheers
Art

880. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:11:22 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304161611.202068f4@posting.google.com>
Source record: 120632

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9D49DB.8040602@ieee.org>...
> Mark Keith wrote:
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote:
> >>The loop also includes a variable capacitor. Why not just leave it at
> >>that instead of rehashing it over and over again.
> >
> > Because you do, and you incorrectly name it and it's function as it
> > applies to your antenna. Or at least in my opinion.
>
> Is this antenna a dipole coupled to a small resonant loop?

The original version that I modeled back in August looked like this.
http://web.wt.net/~nm5k/loopole.jpg
That was the picture that Art ok'ed as being as he described at that
point. In that case, the feedpoint was at the bottom of the loop , in
the center opposite from the side of the loop that consisted of the
dipole itself. There was a variable cap at the center of the dipole
side, where you see the "X". The source is the "O". In this case, I do
not view the loop as coupling with the dipole. I view it as acting as
a matching device much like a delta match, only with a rectangle
shape. Or much like a "T" match really. "symmetrical gamma match".
I also modeled it using two sources, and actually feeding each
seperate. In that case, the loop was in about the same position, but
using all it's own sides. It did not use the dipole as one of the
sides. That antenna was steerable, but fairly lackluster overall
compared to say two dipoles parallel and phased.
In that scenario, the loop is fairly lossy being it's acting as a
"magloop".
Overall efficiency of the antenna drops in comparison to just a single
dipole being you are using a "semi-dummy load" as one of the elements.
:(As you can tell, I have a fairly negative view of magloops, and
other small antennas of that ilk. Sure they work, but they are no
match to a "real" antenna.
Now, the version that Art describes now, seems to feed on the outside
of the loop instead of inside the loop itself. This seems to be a
recent change, as this way of feeding was never mentioned when I
modeled them. I'm not sure how I would model a "widely split, single
source"...But I don't think it makes much difference. It's the cap
that is tuning out reactance in the one I modeled. He's not changing
the tap points of the loop to the dipole. They stay in one place for
the 20 thru 10 m use I modeled. MK

881. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:21:17 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <59Scnd2GF9LjbgCjXTWcrg@comcast.com>
Source record: 120633

Richard,

Several old time kilowatt linears used receiving capacitors in the pi network on the load side Don't know what their spacing would be, but considerably less than 0.8 mm (.031). RF Parts lists .032 spaced capacitors as being good for 1200V.

Tam/WB2TT
"Richard" <nearlynews_email@ntlworld.com> wrote in message news:b7k09v$1okdo$1@ID-150848.news.dfncis.de...
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.
>

882. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:31:16 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3E9DF5D2.1090409@tampabay.rr.com>
Source record: 120634

thanks dan
but i dont have room to stack and i am thinking of buying the cubex 6
ele quad for 6 and thought i would put a multi element quad for 2 on the
same boom
i dont even know if i would have room for seperated yagis for 6 and 2 i
have a tilt over tower now and i am limited on lay over distance
thanks

Dan/W4NTI wrote:
> I wouldn't make a quad that long. I suggest you keep it to 4 and maybe 6
> elements only. After 4 elements you tend to reach a point of diminishing
> returns.
>
> You would do better stacking antenna's.
>
> Dan/W4NTI
>
> "Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
> news:3E9DCB15.3060101@tampabay.rr.com...
>
>>hey all you quad builders
>>i want to know how many elements for a 2 meter quad will fit on a 16
>>foot boom with the highest gain so if someone have a software package
>>that does quads please do the specs for me and let me know via email
>>its 16 foot aluminum boom and the center freq is 144.200
>>thanks
>>
>
>
>

883. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:37:01 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304161637.209fb6fd@posting.google.com>
Source record: 120635

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<18753-3E9D80A4-18@storefull-2318.public.lawson.webtv.net>...
> Art starts his loop page with:
> "At first glance the loop antenna without a capacitor looks like a small
> quad which is somertimes termed as two dipoles connected with each
> other."
>
> Totally confused! A quad is a large loop (in terms of wavelength) which
> radiates broadside to the loop`s plane. A small (in terms of wavelength)
> loop radiates in the plane of the loop.
>
> What is a small quad? It must radiate broadside to fit most people`s
> understanding. It must then be small only because it is for a very high
> frequency.

Richard, The web page thing is years old and is probably open to
question as it was in my learning years. I have no idea why I made it
for the group and what the point was. On reflection I have no idea of
why a quad was mentioned.
The size of the loop attached to a arbitary length follows the
magnetic loop rule of being less than 1/10 of a wavelength in
circumference for the frequency used. I fully understand your comments
regarding beam direction, I did pursue
the hint given by you years ago about orientantion of the loop but I
saw no significance in wave pattern however it may well be
contributing to the extremely deep nulls on either side.

>
> Tuning a small loop for a low frequency with a capacitor doesn`t cause a
> large phase change in current as it courses through the short length.

Beg to differ hear since the current sees an impeadance mismatch when
looking at the other side of the dipole and chooses to follow the
lower impedance course around the loop. The change in capacitor value
can be used so that 'next time the loop/dipole circuit is completed it
exactly matches the impedance presented by the remaining dipole. This
in theory is no different to Cecils antenna except instead of
'wasting' energy in a partial transmition line
I am using it effectively to reinforce the main lobes. It has the
aditional advantage of cutting off low efficiency per unit length
radiator portions and replacing it by mo0re efficient means

> So, the small loop still has a null perpendicular to the plane of the
> loop. My authority for this observation is Arnold B. Bailey, Bell Labs
> antenna expert and author of "TV and Other Receiving Antennas" on page

> 530.

One of these days I am going to get a copy of that book, I have only heard about it from you. If it is in plain language then I must get it.
>
> Art`s own pattern of radiation for the conjoined small loop and dipole
> indicate the same loop radiation pattern, for what that`s worth. The
> dipole nulls are somewhat filled in and the only source available iis
> the small loop.
Please note that the radiation pattern has a name that is not reference to in the script, it could well be a multi element form.

>
> If one wants some directional gain by combining sources it is logical
> to combine sources that radiate in the same direction, not at right
> angles. Art did not respond to that suggestion when I made it months
> ago.
Richard....I did!!! I will get it from the achives for proof if you like.

>
> Now that Richard Clark has provided the URL, and we can confirm our
> suspicions.

Richard, I provided that page for the viewers of this newsgroup for a specific purpose. It was never hidden or anything like that. I believe the heading of that particular page says as much. Actually over the years it has been brought up a few times by others, usually as a means to attack me,many times when the particular thread does not warrant it which then produces even more confusion that I have no control over. Actually when people introduce new subjects on an existing thread provides for the worst and most vicious discussions.Especialy from those who require.....
dare I say it......binary or quadratic answers!
>
> Best regards, Richard Harrison, KB5WZI

Regards
Art

884. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:42:33 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304161642.69cf173c@posting.google.com>
Source record: 120636

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9DA60C.7060308@ieee.org>...
> Jim Kelley wrote:
> > > Absolutely. Thus demonstrating that a change in direction of wave
> > > propagation is not the same thing as a change in phase.
>
> The reason that optical physicists know that and RF engineers don't
> is that a transmission line is essentially a one-dimesional environment
> and Kirchhoff tells us that current flowing in the rearward direction
> needs to carry a minus sign. That works for both DC and RF. DC doesn't
> have a phase, only a direction. Reflected current is not actually 180
> degrees out of phase with its associated voltage. It simply carries
> a negative sign because of Kirchhoff's convention concerning direction
> of current flow be it DC, 60Hz AC, or RF.
>
> To understand what happens at the Z0-match point in a transmission line,
> one needs only to understand the technical information provided on the
> following web page (with which you, Jim, can be credited for discovering),
> especially the last three paragraphs on the page.
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> In so many words, the above web page says experiments prove that, in a matched
> system, all the reflected energy (glare) undergoes destructive interference and
> following the conservation of energy principle, changes direction (is re-reflected)
> and appears as "enhanced intensity (constructive interference) in the transmitted
> beam (forward wave)". So much for "The Total Re-Reflection Fallacy" espoused by _QEX_.
>
> Incidentally, _QEX_ has refused to publish any technical information on this
> subject, either in an article or even in a letter to the editor.

Cecil,
So where do we put this sheet of glass on a yagi to make your point
with Dr Slick?
Maybe I shouldn't ask where to put it!
Regards
Art

885. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:54:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7ku08$sf3$1@sparta.btinternet.com>
Source record: 120637

Richard,

Here are your exam results :

You lose 0.1 marks for transmitting on 1.8 MHz. It is not legal in the UK for amateurs to transmit below 1.81 MHz.

You lose 0.3 marks because in the band you have chosen it is the coil which is in parallel with the antenna, not the capacitor. The capacitor is actually in series with the antenna and transmitter. But this makes little difference to the voltage across it.

Overall mark = 9.6 marks out of 10. You may now go to the top of the class. Congratulations!

Your question marks after RMS raised my bushy eyebrows a little. Whenever TX watts are stated, to obtain peak volts and peak amps multiply by their RMS values by sqrt(2). But I think you know this.

If you wish to adopt a professional attitude you could perform a similar calculation for each band. The highest capacitor voltage found is what you are looking for.

0.8 mm spacing between capacitor plates seems okay to me. Clean out the dust. Takes only a few seconds to try and see what happens. In any case for most tuner settings the capacitor volts will be far less than the highest experienced.

I could say something about confusing advice from people with fixations on Italian Clowns. But I won't.

Reg, G4FGQ

==========

886. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 00:59:41 UTC
From: Tim Richardson <ter@bellsouth.net>
Message-ID: <huur9vks1o4sq9vv0lbjk7anbosknvnml0@4ax.com>
Source record: 120638

I can't remember how long ago it has been but QST had an article about building a 'Quagi'. The antenna used quad loops as the driven element and reflector and yagi elements as the directors. It performed quite well and was somewhat easier to build than an antenna using all quad elements. As I recall, the one I had used a wooden boom.

Tim W4IOU

On Wed, 16 Apr 2003 21:28:56 GMT, Dennis Kaylor
<k4oxg@tampabay.rr.com> wrote:

>hey all you quad builders
>i want to know how many elements for a 2 meter quad will fit on a 16
>foot boom with the highest gain so if someone have a software package
>that does quads please do the specs for me and let me know via email
>its 16 foot aluminum boom and the center freq is 144.200
>thanks

887. Superconductive diamond antennas coming?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 01:17:30 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030416211730.19020.00000021@mb-m26.aol.com>
Source record: 120640

Found interesting article at
http://physicsweb.org/article/news/7/4/5

Diamonds can be superconductive at room temperature.
SWR shouldn't matter, no loses with bounci waves :-)

Yuri

888. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 01:31:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9E03F0.1070300@ieee.org>
Source record: 120641

Art Unwin KB9MZ wrote:
> So where do we put this sheet of glass on a yagi to make your point
> with Dr Slick?

Actually, the "matching" device is the thin film coating which acts like a tuned feeder in an antenna system. The purpose of the non-glare coating is to ensure that most of the incident light makes it into the glass so it can be reflected from the picture. I guess the analogy to an antenna load would be a flat black picture that accepted all of the energy in the incident light.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

889. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 02:06:19 UTC
From: G&R <spam@limbo.hell>
Message-ID: <s_nna.3829$KH1.566147@news20.bellglobal.com>
Source record: 120644

Hi Dennis,

The best page that I can think of for this information is that of VE3SQB

The page is http://www.qsl.net/ve3sqb/
and look for his UHF and VHF quad program. This program should give you the
information that you want.

Additionally, this page is great resource for those that love quads.

73 de VE3CVS Guenther
info@degendesigns.com

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3E9DCB15.3060101@tampabay.rr.com...
> hey all you quad builders
> i want to know how many elements for a 2 meter quad will fit on a 16
> foot boom with the highest gain so if someone have a software package
> that does quads please do the specs for me and let me know via email
> its 16 foot aluminum boom and the center freq is 144.200
> thanks
>

890. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 02:08:46 UTC
From: Larry Phipps <larry@telepostinc.com>
Message-ID: <O0ona.142$Hy1.128852@newssvr28.news.prodigy.com>
Source record: 120639

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:18751-3E9D9BAB-93@storefull-2318.public.lawson.webtv.net...
> Art Unwin wrote:
> "---remove yourself from the remark made regarding The final
> solution---."
>
> OK, Art. I welcome the opportunity to disavow "The Final Solution". I am
> a WW-2 veteran and fervently believe we were on the right side in that
> conflict.
>
> I have not said, nor do I intend too call Art a liar or a thief. As far
> as I know, Art is honest, upright, and true.
>
> I said in an old posting that Art`s antenna may have already been
> invented and asked Art to distinguish his antenna from one published by
> Bill Orr. Art did not respond.
>

I remember the one you mean, I think...was it the dual band "decoupler"
design in the Beam Antenna Handbook? It had a "loop" that took the form of
a stub placed across the center of a beam DE. It was tuned with a capacitor
in it's center. It was purported to offer two-band performance...and it was
credited to someone in Europe I believe.
--
73,
Larry N8LP
www.telepostinc.com

891. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 02:10:53 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304161810.4ca6f4c9@posting.google.com>
Source record: 120642

Tom S <t_stenbraaten@hotmail.com> wrote in message
news:<63dd9vsns1vdpbg9mlnp68ov0j73i295ba@4ax.com>...
> I'm trying to find a cheap source of wire to make my HF antenna.
> Not sure exactly what type yet. I'm wondering if any one has tried
> aluminum electric fence wire. It is very inexpensive . Failing this
> does any have any other suggestions for inexpensive wire. I love to
> hear all comments.
>
> Tom S
> VA3TSS

Tom,
seems to me that I saw a bunch of copper wire wound around
the neck of a T.V. tube. Old T.V.s are plentifull !!!!
Art

892. Re: SWR Problem:

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 02:15:58 UTC
From: Jesse <touhey@olypen.com>
Message-ID: <v9s3iv8th3ivaf@corp.supernews.com>
Source record: 120643

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3E9DD774.9050302@ieee.org...
> Jesse wrote:
> > My first "senior moment" (:>)
>
> I think I had my first senior moment in kindergarten.
>
> > Hopefully, I will
> > once again conduct some mobile antenna field strength
> > trials. I still have my equipment.
>
> It's past time for another Pacific Coast
breakfast/shootout/
> beerbust/BBQ. :-) I use a Palomar FS-1 for my antenna
measurements.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
Cecil, I just visited your web site. Very nice.

Jesse

893. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 04:16:11 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304162016.5f6744f6@posting.google.com>
Source record: 120645

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9DD53F.8070603@ieee.org>...
>
> For instance, the following statement confuses cause and effect.
>
> There are no reflections because the transmitter sees 50 ohms. That's
> akin to saying there are no reflections from non-glare glass because
> the light sees an index of refraction equal to air at the thin-film
> interface which is simply not true.
>
> The true statement would be: The transmitter sees 50 ohms because
> all reflections are eliminated through wave cancellation at the
> Z0-match point.

I'm not sure i agree with this statement. If all the reactive components of an impedance point have been canceled out, and you are left with a resistive (real) impedance, then if you hook a signal generator of the same resistive impedance to this point, you should get no reflected power, and maximum power transfer (not the best efficiency, though).

Look at some Time-Domain-Reflectometry tests, where you are sending a positive pulse train down a 50 ohm impedance trace, to either a thicker or thinner trace (lower and higher impedances respectively). In either mis-matched case, you will have a reflection, either in phase and still positive(higher impedance) or out of phase (shift of 180 degrees, to a lower impedance).

However, if the trace width doesn't change at all, there will be no reflections at all.

I'll save my comments about antennas as impedance transformers for later.

Dr. Slick

894. Re: Superconductive diamond antennas coming?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 04:28:30 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9E2D6E.89D64791@cwis.net>
Source record: 120646

Yuri,
But you'd probably have to give it a 'non-glare'
coating of some kind to keep from putting your
neighbor's eyes out.
On second thought, wouldn't it have to be an
'in-door' antenna for it to work right at room
temperature?
'Doc

895. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 04:51:23 UTC
From: richardharrison@webtv.net
Message-ID: <5723-3E9E32CB-53@storefull-2313.public.lawson.webtv.net>
Source record: 120647

Art, KB9MZ wrote:
"Beg to differ here since the current sees an impedance mismatch when looking at the other side of the dipole and chooses to follow the lower course around the loop (---capacitoe doesn`t cause a large phase change through the short length.)

Sorry, I wasn`t clear. I only meant phase change within the short circumference of the small loop itself. I conclude that a good null broadside to the small loop is proof that magnitude and phase are the same in both sides of a loop except for the change in direction imposed by the physical configuration.
Pattern null in a small loop is caused broadside because the field produced on one side of the loop cancels that produced on the other side. They balance out because they are nearly equal in phase and magnitude but are seen as flowing in opposite directions from a point broadside to the loop.

Best regards, Richard Harrison, KB5WZI

896. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 05:21:30 UTC
From: richardharrison@webtv.net
Message-ID: <4056-3E9E39DA-172@storefull-2316.public.lawson.webtv.net>
Source record: 120648

Larry, N8LP wrote:
"Was it the dual band "decoupler design" in the "Beam Antenna Handbook"?'

Unfortunately, I don`t have the Beam Book. I asked about an antenna in the 15th edition of the old "Editors and Engineers Radio Hardbook" edited by Bill Orr. Art said his edition was later than mine.

The antenna I was trying to compare with Art`s was a T-match dipole using "resonating condensers" on page 444.

Now that we have Art`s page, which Art says has been around a long time and may be out of date, maybe we don`t need another model for comparison.

Never the less, I think my guess about the T-match is fairly close.

Best regards, Richard Harrison, KB5WZI

897. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 06:38:09 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7li1m$275tc$1@ID-150848.news.dfncis.de>
Source record: 120649

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7ku08$sf3$1@sparta.btinternet.com...
> Richard,
>
> Here are your exam results :
>
> You lose 0.1 marks for transmitting on 1.8 MHz. It is not legal in the
UK
> for amateurs to transmit below 1.81 MHz.

Aaagh!! :c)

> You lose 0.3 marks because in the band you have chosen it is the coil
which
> is in parallel with the antenna, not the capacitor. The capacitor is
> actually in series with the antenna and transmitter. But this makes
little
> difference to the voltage across it.

```
\ | /
TX_______C_________|
|
|
L
|
|
GND
```

The coil is in parallel with the antenna? C is in series?

The results actually gave two anwsers. This was the other:

```
\ | /
TX_______L_________|
|
|
L
|
|
GND
```

Here are my parameters which pretty much would be my set up:

Vertical height above feedpoint: 9.9m
Length of horizontal section: 10m
Antenna conductor: 1.5mm
Operating frequency: 1.8Mhz

Number of radial wires: 10.2m
(Shallow buried radial 9m long, + earth rod 1.2m long)
Diameter of radial wires: 1.5mm
Length of strap: 0.1m
Soil: Average:

Overall power efficiency: 3.87%
Overall loss relative to ideal system: 14.1dB
S-points: 2.3

Problem is my earthing. Are we saying that only 3.87 watts would be radiated from my 100W TX? Looks like it. That's bad!! :c(

> Overall mark = 9.6 marks out of 10. You may now go to the top of the class.
> Congratulations!
>
> Your question marks after RMS raised my bushy eyebrows a little. Whenever TX
> watts are stated, to obtain peak volts and peak amps multiply by their RMS
> values by sqrt(2). But I think you know this.

I've forgetten a lot of the electronics I knew as a lad. Just wanted to be sure it was RMS. So that means voltage across C is 870 * 1.4142 = 1.230Kv.

C has spacing of 0.8mm. Using: Vs = 30d + 1.35kV", Vs = 30 * 0.08 + 1.5Kv = 1.5024 Kv.

Or should the formula be 30,000 + 1.35Kv , Vs = 30,000 * 0.08 + 1.5 Kv = 3.9Kv?

If the capacitor is rated 1.5 Kv, thats cutting it close. What should safety margin be?

> If you wish to adopt a professional attitude you could perform a similar
> calculation for each band. The highest capacitor voltage found is what you
> are looking for.

That's what I would have done.

> 0.8 mm spacing between capacitor plates seems okay to me. Clean out the
> dust. Takes only a few seconds to try and see what happens. In any case for
> most tuner settings the capacitor volts will be far less than the highest
> experienced.
>
> I could say something about confusing advice from people with

fixations on
> Italian Clowns. But I won't.
> ---
> Reg, G4FGQ
>
> ==========

898. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 06:54:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7liv6$24dh1$1@ID-150848.news.dfncis.de>
Source record: 120650

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7li1m$275tc$1@ID-150848.news.dfncis.de...

>
> Here are my parameters which pretty much would be my set up:
>
> Vertical height above feedpoint: 9.9m
> Length of horizontal section: 10m
> Antenna conductor: 1.5mm
> Operating frequency: 1.8Mhz
> Number of radial wires: 10.2m
> (Shallow buried radial 9m long, + earth rod 1.2m long)
> Diameter of radial wires: 1.5mm
> Length of strap: 0.1m
> Soil: Average:
>
>
> Overall power efficiency: 3.87%
> Overall loss relative to ideal system: 14.1dB
> S-points: 2.3

Corrected parameters for use with endfeed.exe:

Vertical height above feedpoint: 9.9m
Length of horizontal section: 10m
Antenna conductor: 1.5mm
Operating frequency: 1.8Mhz
Number of radial wires: 1
Length of radials: 10.2m
(Shallow buried radial 9m long, + earth rod 1.2m long)
Diameter of radial wires: 1.5mm
Length of strap: 0.1m
Soil: Average

899. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 07:07:21 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ljnn$258rp$1@ID-150848.news.dfncis.de>
Source record: 120651

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7li1m$275tc$1@ID-150848.news.dfncis.de...

> I've forgetten a lot of the electronics I knew as a lad. Just wanted
to
> be sure it was RMS. So that means voltage across C is 870 * 1.4142 =
> 1.230Kv.
>
> C has spacing of 0.8mm. Using: Vs = 30d + 1.35kV", Vs = 30 * 0.08 +
> 1.5Kv = 1.5024 Kv.
>
> Or should the formula be 30,000 + 1.35Kv , Vs = 30,000 * 0.08 + 1.5 Kv
=
> 3.9Kv?
>
> If the capacitor is rated 1.5 Kv, thats cutting it close. What should
> safety margin be?

Probably Vs = 30d + 1.35kV is correct. But if it is, the term 30d only
adds 0.0024Kv which is ridiculous. Unless I've put my spacing unit in
wrongly.

If the capacitor was rated 1.5Kv that I guess is RMS. So we would be
putting that in a circuit where voltage across it is 0.87Kv RMS. That's
a 1.724 safety factor.

900. Re: just bought a house, what is this thing???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 07:42:51 UTC
From: Gary Williams <williamsjg@earthlink.net>
Message-ID: <3E9E5BB2.95233FB1@earthlink.net>
Source record: 120652

Actually it is a good antenna, either on the CB band or 10-12 meters
Gary

Ceckitti wrote:

> hi, my wife and i just bought a house and there is a very tall antenna mounted
> to our deck that was left by the previous owner. i would guess the antenna is
> about 40 feet high and its wired into the house to a connection box that
> says... solarcon LP-99A. im assuming this is a CB antenna? hopefully some one
> will let me know.
>
> thanks in advance,
>
> Tom
>
> "Welcome to the camp, i guess you all know why we're here.
> My name is Tommy, and i became aware this year"
>
> http://www.angelfire.com/oh5/ceckitti

901. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 07:43:58 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <uvll7b-n1o.ln@p400bob.lse.com.au>
Source record: 120653

Hi Dennis

I dont have the details handy but be aware that there is always a gain/bandwidth tradeoff. I saw a 4 element 2.5 metre long design once that had some real strange spacing but a lot of gain over maybe 200khz. It was pretty useless 1MHz away...

Just saw your comment on interlacing it on a 6M quad. I have seen an interlaced design somewhere but it was only 3 on 6m and 5 on 2m. I'd be concerned about the interaction between them...

This may be helpful; http://www.cebik.com/quad/2mq.html In fact the whole site is full of useful stuff! http://www.cebik.com/radio.html While you're there have a look at the extraordinary gains available from corner reflectors. I was astounded..!

Cheers Bob VK2YQA

> hey all you quad builders
> i want to know how many elements for a 2 meter quad will fit on a 16
> foot boom with the highest gain so if someone have a software package
> that does quads please do the specs for me and let me know via email
> its 16 foot aluminum boom and the center freq is 144.200
> thanks

902. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 07:56:25 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0304162356.78ea9a79@posting.google.com>
Source record: 120654

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:<b7k09v$1okdo$1@ID-150848.news.dfncis.de>...
> I'm going to build a remote atu to tune a random wire antenna that will
> be about 70 foot long. Of course, part of the circuit will be grounded.
> I can easily calculate required capacitance needed with a simple L and C
> network with one of Reg Edward's programs. But, if I want to be able to
> transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> capacitor spacing I should go for? I'm looking at a capacitor with
> 0.8mm spacing, but don't know if it will be any good. Don't want it
> arcing over. TIA. Rich.

Hi Richard,
build a no-tuner antenna by W5DXP -
http://www.qsl.net/w5dxp/notuner.htm and you have no problems with
capacitors. Use realys to switch the line sections in / out for remote
operation.

73 Ivan OK1SIP

903. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 10:08:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7lua4$28j9a$1@ID-150848.news.dfncis.de>
Source record: 120655

"OK1SIP" <remove_ok1sip@atlas.cz> wrote in message
news:5f5159fa.0304162356.78ea9a79@posting.google.com...
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
news:<b7k09v$1okdo$1@ID-150848.news.dfncis.de>...
> > I'm going to build a remote atu to tune a random wire antenna that
will
> > be about 70 foot long. Of course, part of the circuit will be
grounded.
> > I can easily calculate required capacitance needed with a simple L
and C
> > network with one of Reg Edward's programs. But, if I want to be
able to
> > transmit 100 watts between 1.8 and 30 Mhz, does anyone know what
> > capacitor spacing I should go for? I'm looking at a capacitor with
> > 0.8mm spacing, but don't know if it will be any good. Don't want it
> > arcing over. TIA. Rich.
>
> Hi Richard,
> build a no-tuner antenna by W5DXP -
> http://www.qsl.net/w5dxp/notuner.htm and you have no problems with
> capacitors. Use realys to switch the line sections in / out for remote
> operation.
>
> 73 Ivan OK1SIP

Ivan

Actually, you bring me back to my original idea which I strayed off
from.

Originally the idea was to used preset capacitors and inductors switched
in by relays as per an atu by G3SEK published in the "inpractice" column
of (I think) RSGB's RadCom. I ought to stick with that idea.

One thinks about the possibility of building two aerial tuning units.
One is for receive and it has a variable capacitor and probably tapped
inductor. That is for general coverage receiving. The other is for
transmitting/receiving and it's of the kind I mention above with relays
and fixed components.

So, maybe I should forget buying a biggish variable capacitor and
concentrate on getting some preset components, but that could turn out
more expensive actually. I do have the motor and gearing to turn a
variable capacitor, and I think I can figure out a simple position
indicator.

Rich.

904. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:18:42 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9E8F1D.EE4ADEE3@uwe.ac.uk>
Source record: 120657

OC_CAM's Razor wrote:
>
> Richard wrote:
> > I'll take a stab at working Vcap (voltage across capacitor) out. Then
> > I'll post my calculation and if I got it wrong someone can tell me where
> > I went wrong.
>
> If he feeds his transmission line at a current maximum point, he will
> have much less of a voltage problem.
> --

CAM,

Isn't that point a tad frequency dependent?

vy 73

Andy

905. Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:22:31 UTC
From: dawaywe@hotmail.com
Message-ID: <dd0daf77.0304170322.5c1d129f@posting.google.com>
Source record: 120656

Hi

Anyone have any ideas how I can confine a Yagi antenna beam width??
Vertically I dont really care how wide the beam is, but horizontally
it has to be 30degrees or less. And it can only receive from the front
and not the back. Though minimal rear lobe is tolarable.

I have seen people using yagi's enclosed in a small cylyndrical tube
for wifi purposes. However the frequency for wifi is too high.

I need a Yagi that can receive directionally between 315Mhz and
433Mhz. So I would imagine the tube would have to be much wider in
diameter if I were to employ that method.

Anyone have any suggestions or perhaps ideas about other antennas that
could be useful?

Thanks in advance.

Cheers

906. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:24:19 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9E906D.F8DF2410@uwe.ac.uk>
Source record: 120658

Art Unwin KB9MZ wrote:
>and entering the shack.
> A very inexpensive method to achieve this is by using tube/valve that
> provides a 'time delay' in radios or amplifiers. This costs around $5
> on E bay. When you are ready to use your antenna apply house voltage
> to the tube/valve and in a few seconds your antenna is connected and
> available for use.

Most time delay switches like that are rated less than 1 kV aren't they?

vy 73

Andy, M3ABC

907. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:52:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9E9577.50808@ieee.org>
Source record: 120659

Dr. Slick wrote:
> If all the reactive
> components of an impedance point have been canceled out, and you are
> left with a resistive (real) impedance, then ...

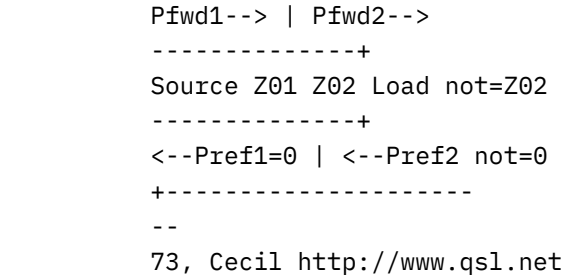
The key is "If (cause), then (effect)". The reactive components being canceled out is the *cause* of the resulting resistive (real) impedance, which is only a V/I ratio. In a system with reflections, the resistive V/I ratio is the effect of wave interference and not a cause of anything (except the ratio itself), i.e., a V/I ratio all by itself cannot change the state or condition of whatever reflections exist or don't exist.

An EM wave doesn't "see" a V/I ratio. An EM wave "sees" physical impedance discontinuities. Nobody has been able to present an example of reflections happening at a virtual impedance point that is not also a physical impedance discontinuity point.

It's a subtle point but the source of much confusion about exactly what happens at a Z0-match point in a transmission line with reflections. However, that "Z0-matching" function is well understood in the field of optics with the "Z0-match" occurring at the air/thin-film interface. Hint: It is not because the light sees a refractive index of 1.0 at the air/thin-film junction.

> However, if the trace width doesn't change at all, there will be
> no reflections at all.

We are presupposing reflections existing somewhere with a Z0-match point at which they are eliminated, i.e. the entire system is NOT flat. In particular:



--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

908. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:55:10 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304170355.49ca39e4@posting.google.com>
Source record: 120660

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304162016.5f6744f6@posting.google.com>...
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9DD53F.8070603@ieee.org>...
> >
> > For instance, the following statement confuses cause and effect.
> >
snip.
>
> I'll save my comments about antennas as impedance transformers
> for later.
>
> Dr. Slick

Doctor,
Now you are coming into my alley with respect
to loss-less feed systems. Don't delay your entry too long
I need the help convincing others
Regards
Art

909. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 11:58:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9E9702.5010700@ieee.org>
Source record: 120661

Andy Cowley wrote:
> OC_CAM's Razor wrote:
>>If he feeds his transmission line at a current maximum point, he will
>>have much less of a voltage problem.

> Isn't that point a tad frequency dependent?

Of course! But that's exactly what I do for my all-HF-band no-tuner dipole.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

910. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 12:13:47 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <cTcN7gD7ppn+EA6s@ifwtech.co.uk>
Source record: 120663

Richard Wrote:

>
>Originally the idea was to used preset capacitors and inductors switched
>in by relays as per an atu by G3SEK published in the "inpractice" column
>of (I think) RSGB's RadCom. I ought to stick with that idea.
>
It certainly wasn't original with me, but it is a workable idea for
low-cost remote matching.

The disadvantage is that there's no cook-book way to do it - you have to
work it out for your own particular installation. The huge advantage is
that you learn a lot on the way.

>One thinks about the possibility of building two aerial tuning units.
>One is for receive and it has a variable capacitor and probably tapped
>inductor. That is for general coverage receiving. The other is for
>transmitting/receiving and it's of the kind I mention above with relays
>and fixed components.
>
>So, maybe I should forget buying a biggish variable capacitor and
>concentrate on getting some preset components, but that could turn out
>more expensive actually.

Or it could be cheaper, if you use home-made sandwich capacitors as
described for G3XJP's PicATUne auto-ATU. In any case, you'll need to use
a receiving-type variable capacitor to determine the values required.

A good acquisition would be a few Ledex rotary switches, and some
ceramic wafers to match... if you find a source in the UK, please let me
know!

> I do have the motor and gearing to turn a
>variable capacitor, and I think I can figure out a simple position
>indicator.

I've had good results with 360deg servo pots - found mine at a rally,
but they are also in the big component catalogues. Another possibility
is to use a 10-turn pot, somewhere further back in the gear train (you
don't need to use the whole 10 turns).

Linearity of the track can be a problem with pot-based indicators, but
in your application that doesn't matter. You only need to be able to
reset the capacitor to the same value - it doesn't matter what that
value actually is.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

911. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 12:26:57 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9E9F1B.1B5764FB@uwe.ac.uk>
Source record: 120662

OC_CAM's Razor wrote:
>
> Andy Cowley wrote:
> > OC_CAM's Razor wrote:
> >>If he feeds his transmission line at a current maximum point, he will
> >>have much less of a voltage problem.
>
> > Isn't that point a tad frequency dependent?
>
> Of course! But that's exactly what I do for my all-HF-band no-tuner dipole.

Dear Cecil,

Distributed rather than lumped tuner doesn't mean it ain't
a tuner in my book, but a very neat idea all the same. An
ATU is an impedance transformer whichever way you make it.

You might need some fairly good relays (high volts) for an auto
version though? The G5RV dimensions for the antenna and fixed
line would probably help a lot as they produce fairly close
to a match on lots of bands. Have you ever done the sums for
the voltages on the open relays? Knife switches do have that
multi kV property when open. Are there any gotchas with RF in
the relay control lines, or voltage overload on the switch
to coil in the relays?

My XYL insisted that my SGC-230 go in a nice white cover, so
I think the windowed line might be a no-no for me. Good stuff
though, thanks.

vy 73

Andy, M3ABC

912. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 13:23:29 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7m9or$2c0l1$1@ID-150848.news.dfncis.de>
Source record: 120664

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7ljnn$258rp$1@ID-150848.news.dfncis.de...

> Probably Vs = 30d + 1.35kV is correct. But if it is, the term 30d
only
> adds 0.0024Kv which is ridiculous. Unless I've put my spacing unit in
> wrongly.
>
> If the capacitor was rated 1.5Kv that I guess is RMS. So we would be
> putting that in a circuit where voltage across it is 0.87Kv RMS.
That's
> a 1.724 safety factor.

This formula or equation (don't know which) still bugs me.

How do you specify d? In cm? So 0.8mm would equal 0.08 cm.

And is Vs a dc or an ac voltage?

Rich.

913. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 13:31:56 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ma8c$2dt2o$1@ID-150848.news.dfncis.de>
Source record: 120665

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7li1m$275tc$1@ID-150848.news.dfncis.de...
> \ | /
> TX_______C_________| <<<<<<< 0.870 Kv
> |
> |
> L
> |
> |
> GND
>
>
> The coil is in parallel with the antenna? C is in series?

0.870 Kv is at point indicated.

If L were a C, then there would be 0.87 Kv across C.

I assumed that there being 0.87 Kv at the antenna feed point, that for all practical purpses you could say there was 0.87 Kv across the C in the diagram.

914. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 13:42:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7masa$2cro8$1@ID-150848.news.dfncis.de>
Source record: 120666

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:cTcN7gD7ppn+EA6s@ifwtech.co.uk...
> Richard Wrote:
>
> >
> >Originally the idea was to used preset capacitors and inductors
switched
> >in by relays as per an atu by G3SEK published in the "inpractice"
column
> >of (I think) RSGB's RadCom. I ought to stick with that idea.
> >
> It certainly wasn't original with me, but it is a workable idea for
> low-cost remote matching.

Well, there is a chance I'll stick to my original preset atu idea.

I'm now wondering about how to get to know what the bandwidth (per band)
would be in my particular random wire set-up. Depends I think on what
VSWR one is willing to go up to. I'm guessing that no higher than 2:1
VSWR. Would one L/C combination/connection be okay for each of the five
main bands (Is what I wonder).

915. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 13:50:37 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9EB2B7.7501225A@uwe.ac.uk>
Source record: 120667

Richard wrote:
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b7ljnn$258rp$1@ID-150848.news.dfncis.de...
>
> > Probably Vs = 30d + 1.35kV is correct. But if it is, the term 30d
> only
> > adds 0.0024Kv which is ridiculous. Unless I've put my spacing unit in
> > wrongly.
> >
> > If the capacitor was rated 1.5Kv that I guess is RMS. So we would be
> > putting that in a circuit where voltage across it is 0.87Kv RMS.
> That's
> > a 1.724 safety factor.
>
> This formula or equation (don't know which) still bugs me.
>
> How do you specify d? In cm? So 0.8mm would equal 0.08 cm.
>
> And is Vs a dc or an ac voltage?
>
> Rich.

Vs (in kV) = 30d (in cm) kV + 1.35 kV. Vs is peak volts (AC or DC)

so for your 0.8 mm = 0.08 cm adds 2.4 kV, giving 3.75 kV.

I'm not happy about the thing though as it gives 1.35 kV for
zero spacing which is obviously wrong. I'm sure I've seen
caveats about this formula, saying it is only relly valid
in the range 1 mm to 1 cm. I think the 30 kV/cm (3 kV/mm)
is the accepted value for _dry_ air but the offset should
be 0.3 kV not 1.35 - initial sparking voltage. Using this
gives your 0.8 mm cap a rating of 2.7 kV peak or 1.9 kV
RMS. I'd want to be sure I didn't need more than 1.5 kV
RMS breakdown voltage to use this one.

There are a lot of variables in this area though. Sharp
points anywhere and over a range of scales will increase
the field strength locally and may well reduce the
flash over voltage below the calculated value, as will
humid air, smoke etc.

http://www.ece.rochester.edu/courses/ECE234/MEMS_ESD.pdf

vy 73

Andy, M3ABC

916. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:06:51 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9EB682.61FF16FD@uwe.ac.uk>
Source record: 120668

Cardwell/Johnson caps seem to give about
1250 volts RMS for .8 mm (0.03") spacing.
I think you should design for that.

vy 73

Andy, M3ABC

917. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:15:14 UTC
From: richardharrison@webtv.net
Message-ID: <25013-3E9EB6F2-225@storefull-2315.public.lawson.webtv.net>
Source record: 120572

Dennis, K4OXG wrote:
"I want to know how many elements for a 2 meter quad will fit on a 16 foot boom---."

Get an ARRL Antenna Book, or Bill Orr`s "Cubical Quads". Additional information you`ll need is in the books.

Spacing between elements of 0.14 to 0.15 wavelength is OK. It`s not critical. At 2 meters, spacing between elements is around one foot.

It`s obvious that a 16-foot boom can accommodate far more elements than are worthwhile. Get a book. It will tell you when to quit adding more directors, how long to make the wires, how much gain, front to back, etc.

Someone warned about coupling with elements for other frequencies. This is not too serious because off-resonant wires don`t get very excited. There are plenty of successful multiband Quads with close spacing.

Best regards, Richard Harrison, KB5WZI

918. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:20:19 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304170620.1cd72814@posting.google.com>
Source record: 120569

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<4056-3E9E39DA-172@storefull-2316.public.lawson.webtv.net>...
> Larry, N8LP wrote:
> "Was it the dual band "decoupler design" in the "Beam Antenna
> Handbook"?'
>
> Unfortunately, I don`t have the Beam Book. I asked about an antenna in
> the 15th edition of the old "Editors and Engineers Radio Hardbook"
> edited by Bill Orr. Art said his edition was later than mine.
>
Richard,
Now you are really throwing thru a loop!
You previously stated Orr's 'Radio hand book 'period. I have a copy of
this which was a different redition to yours.
Now you are stating " editors and Engineers Radio handbook which I
suspect is something totally different. It also occurs to me that
Moxon only recomended
the antenna as a two band design also. But as I stated earlier he did
not have access to the modern computor and thus would have been unable
to run thru the gamut of selecting ideal conductor dimensions for
coupling so that it could be used for multi frequencies.
Actualy it is a shame that he did not pursue it further with
capacitance in parallel with an inductor together with the
modification of seeing the delta
match as a coupling circuit. As I stated earlier, after all these
years I came across a circuit by Terman that brushed very closely to
what I had been doing
so it must be a question of knowing what you are looking for so you
can 'modify the wheel'. Now the seed has been sown so that aged
receiving antennas for the top bands to updated !
Regards
Art
>
> Never the less, I think my guess about the T-match is fairly close.
>
> Best regards, Richard Harrison, KB5WZI

919. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:24:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9EB92A.70606@ieee.org>
Source record: 120570

Andy Cowley wrote:
> Distributed rather than lumped tuner doesn't mean it ain't
> a tuner in my book, ...

"No-tuner" according to the definition of a tuner (transmatch)
in the ARRL Antenna Book.

> Knife switches do have that multi kV property when open.

I presently use knife switches mounted on a piece of plexiglas
mounted in my hamshack window.

> Are there any gotchas with RF in
> the relay control lines, or voltage overload on the switch
> to coil in the relays?

When I used relays, I had trouble keeping the contacts clean
but DC relay coils virtually ignore RF. I used heavy-duty
automotive toggle switches for awhile but had trouble with
arcing on 10m.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

920. Re: Superconductive diamond antennas coming?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:30:05 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3E9EBA07.144364DC@attbi.com>
Source record: 120571

But at $2000 per Karat won't it be a TAD EXPENSIVE??

Deacon Dave, W1MCE

'Doc wrote:
>
> Yuri,
> But you'd probably have to give it a 'non-glare'
> coating of some kind to keep from putting your
> neighbor's eyes out.
> On second thought, wouldn't it have to be an
> 'in-door' antenna for it to work right at room
> temperature?
> 'Doc

921. Re: Superconductive diamond antennas coming?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 14:56:38 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3E9EC231.79D5C751@uwe.ac.uk>
Source record: 120573

Dave Shrader wrote:
>
> But at $2000 per Karat won't it be a TAD EXPENSIVE??
>
> Deacon Dave, W1MCE
>

Need to operate in vacuo too, so you'll need quite
a tall tower. Rohne will get rich ;o)

vy 73

Andy, M3ABC

922. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 15:05:18 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <h6-cnYPkV5A5XwOjXTWcpQ@crocker.com>
Source record: 120574

first, you have to quatify your requirements with reasonable numbers.
i.e. is 30 degrees at 3db down from the main lobe satisfactory, does it have
to be 10db down, or more? what are max levels of side and back lobes that
are permissable, 10db down, 20db, or what? you can not make generic
statements like 'it can only receive from the front and not the back', ALL
antennas will have some degree of side and back lobes, the best you can do
is minimize them based on the system requirements. also note that you will
get scattering from buildings, towers, trees, hills, etc that will result in
some more power going in undesired directions than the antenna design itself
will generate.

the cylindrical tube for some of the wifi antennas is just to keep ice and
snow off the internal yagi antenna which would detune it a bit. it also
makes mechanical construction simpler as the antenna itself doesn't have to
be waterproof or able to withstand ice or wind loads... it has nothing to do
with the pattern. there are some higher frequency versions that use a metal
tube as a horn antenna, but those also generate side and back lobes and
qould be much larger at your frequency.

"SK" <dawaywe@hotmail.com> wrote in message
news:dd0daf77.0304170322.5c1d129f@posting.google.com...
> Hi
>
> Anyone have any ideas how I can confine a Yagi antenna beam width??
> Vertically I dont really care how wide the beam is, but horizontally
> it has to be 30degrees or less. And it can only receive from the front
> and not the back. Though minimal rear lobe is tolarable.
>
> I have seen people using yagi's enclosed in a small cylyndrical tube
> for wifi purposes. However the frequency for wifi is too high.
>
> I need a Yagi that can receive directionally between 315Mhz and
> 433Mhz. So I would imagine the tube would have to be much wider in
> diameter if I were to employ that method.
>
> Anyone have any suggestions or perhaps ideas about other antennas that
> could be useful?
>
> Thanks in advance.
>
> Cheers

923. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 15:31:29 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9EC8D1.B0736D9B@cwis.net>
Source record: 120575

Art,
In reference to the guy who sent you the email
a year ago, I sure wish he'd come back and clarify
his 'loop' statement a bit. Was that on -their-
navy's ships or -our- navy's ships?
'Doc

924. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 15:33:38 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7mhdb$2d1uf$1@ID-150848.news.dfncis.de>
Source record: 120576

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3E9EB2B7.7501225A@uwe.ac.uk...
> Richard wrote:

>
> Vs (in kV) = 30d (in cm) kV + 1.35 kV. Vs is peak volts (AC or DC)
>
> so for your 0.8 mm = 0.08 cm adds 2.4 kV, giving 3.75 kV.
>
> I'm not happy about the thing though as it gives 1.35 kV for
> zero spacing which is obviously wrong. I'm sure I've seen
> caveats about this formula, saying it is only relly valid
> in the range 1 mm to 1 cm. I think the 30 kV/cm (3 kV/mm)
> is the accepted value for _dry_ air but the offset should
> be 0.3 kV not 1.35 - initial sparking voltage. Using this
> gives your 0.8 mm cap a rating of 2.7 kV peak or 1.9 kV
> RMS. I'd want to be sure I didn't need more than 1.5 kV
> RMS breakdown voltage to use this one.
>
> There are a lot of variables in this area though. Sharp
> points anywhere and over a range of scales will increase
> the field strength locally and may well reduce the
> flash over voltage below the calculated value, as will
> humid air, smoke etc.
>
> http://www.ece.rochester.edu/courses/ECE234/MEMS_ESD.pdf

I always thought that 30 Kv produced a 1" spark. That's why I altered
the equation to 30 000d. (I wrote "Or should the formula be 30,000 +
1.35Kv , Vs = 30,000 * 0.08 + 1.5 Kv = 3.9Kv?" Actually in my
calculation I added 1.5 Kv not as it should have been 1.35 Kv, and I
failed to put in the d after 30, 000. And then of course I stated d in
terms of metric, not imperial).

"Cardwell/Johnson caps seem to give about
1250 volts RMS for .8 mm (0.03") spacing.
I think you should design for that."

If that is what Cardwell/Johnstone says about it's capacitors, then the
breakdown is 1250 volts RMS for .8mm spacing.

Odd how it's hard to come by an equation on the internet telling you how
to calculate arcing voltages of air-spaced variable capacitors. Maybe
because folks think we can get specs from manufacturers. :c)

Rich.

925. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 15:42:51 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <orit9vo7cosdjppnggfj2d1r8rd4hb1ud8@4ax.com>
Source record: 120577

On 17 Apr 2003 04:22:31 -0700, dawaywe@hotmail.com (SK) wrote:

|Hi
|
|Anyone have any ideas how I can confine a Yagi antenna beam width??
|Vertically I dont really care how wide the beam is, but horizontally
|it has to be 30degrees or less. And it can only receive from the front
|and not the back. Though minimal rear lobe is tolarable.
|
|I have seen people using yagi's enclosed in a small cylyndrical tube
|for wifi purposes. However the frequency for wifi is too high.
|
|I need a Yagi that can receive directionally between 315Mhz and
|433Mhz. So I would imagine the tube would have to be much wider in
|diameter if I were to employ that method.
|
|Anyone have any suggestions or perhaps ideas about other antennas that
|could be useful?

It's going to take a Yagi with a boom length of at least 3 wavelengths to deliver the beamwidth you require. This assumes that by "beamwidth" you are talking about the total angle between -3 dB points. It is unclear what "minimal rear lobe" means but with a lot of tweaking this can be suppressed to say -20 dB.

That said, you will not see this performance over the frequency bandwidth you specify. Not even close.

926. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:01:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5iit9v03r3kogf6m0d0l8i0d40v63eggal@4ax.com>
Source record: 120578

On Thu, 17 Apr 2003 07:38:09 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>
>I've forgetten a lot of the electronics I knew as a lad. Just wanted to
>be sure it was RMS. So that means voltage across C is 870 * 1.4142 =
>1.230Kv.
>
>C has spacing of 0.8mm. Using: Vs = 30d + 1.35kV", Vs = 30 * 0.08 +
>1.5Kv = 1.5024 Kv.
>
>Or should the formula be 30,000 + 1.35Kv , Vs = 30,000 * 0.08 + 1.5 Kv =
>3.9Kv?
>
>If the capacitor is rated 1.5 Kv, thats cutting it close. What should
>safety margin be?
>

Hi Rich,

There are ways to make this difficult, there are ways to make it simple. One clue I offered would've given you an answer in one step. I left that dangling in case you came across a reference to connect it all together (others with longer explanations and less answers didn't notice it either). A clue to the clue is that it is a clue to one of your recent questions. ;-)

The matter of the poor reference for Paschen's Law has already been discussed (it only works over the range of 0.1 to 10cM) and by now it has been determined that a working value close to 4kV serves. A little thought about the real world would reveal that 0.8mm gap is probably the most common spark gap in the world (4 or more examples being found in nearly every car on this planet). Those gaps support a voltage's arc due to 20-40kV 100000 times a day for years. (It should be pointed out that the increased voltage is required in part due to the elevated pressure of up to 10 Bars. Again, this wholly outside the scope of Paschen's Law.)

You have also found the wrinkles in determining the peak potential. This should put the issue to rest. One last comment is that you need to pay attention to lead dress going to the Capacitor (just insure that your minimum distance of 0.8mm is confined to the device, and not subverted along the way through narrow connectors or nearby washers on bolts.

73's
Richard Clark, KB7QHC

927. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:03:37 UTC
From: richardharrison@webtv.net
Message-ID: <15960-3E9ED059-205@storefull-2314.public.lawson.webtv.net>
Source record: 120579

Art, KB9MZ wrote:
"You previously stated Orr`s "Radio Handbook" period."

Sorry. My attempt to be more specific went astray.

The publisher of the 15th edition of "The Radio Handbook" was Editors and Engineers, later purchased by Howard Sams, and later still, purchased by someone else, if I recall. Bill Orr was editor of the 15th edition and of several other editions of this handbook, which I found very useful.

Orr was prolific. I should have foreseen a problem.

Best regards, Richard Harrison, KB5WZI

928. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:17:32 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0304170817.3e663f23@posting.google.com>
Source record: 120580

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030416095905.18913.00000005@mb-m19.aol.com>..

> Sproste poznamky si mozes nechat na svoj pobyt v zachode. Lepsie by bolo keby
> si ukazal svoje schopnosti k tematike.
>
> Juro

Hi Yuri

Im sure you will understand if i dont comply with your
first sugestion. As for your second i have already stated i know
sh-t about antennas.

Jaro

929. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:36:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tkkt9v4virko2g4kdavi8dbudid6q5di52@4ax.com>
Source record: 120581

On Thu, 17 Apr 2003 10:31:29 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Art,
> In reference to the guy who sent you the email
>a year ago, I sure wish he'd come back and clarify
>his 'loop' statement a bit. Was that on -their-
>navy's ships or -our- navy's ships?
> 'Doc

Hi Doc,

For the Swiss Eastern Pacific Fleet. They have replaced all life
preservers with these loops too.

Details uncovered following the capture of underground RF labs in Iraq
reveal Saddam's plan to flood the western markets with counterfeit
loops to replace computers, TVs and digital watches. The Office of
Homeland Scrutiny warns with the chartreuse alert level that signals
our heroic comrades around the country to be wary of false claims
being attached to loops: "The axis of evil is being bolstered by the
nefarious activities of these few techerrorists." OberGruppenFuhrer
Rumsfield, in a repeated warning admonished: "there will be no
warnings. B-52s are circling the mid-west as we speak. As I said
before, don't make me say this again."

All Hail Bush!
Richard Clark, KB7QHC

930. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:50:29 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7mlt2$2eq4c$1@ID-150848.news.dfncis.de>
Source record: 120582

"Jim Kelley" <jwkelley@uci.edu> wrote in message
news:3E9DE145.2F86820C@uci.edu...
> Paschen's Law, from Rosebury, Electron Tube and Vacuum Techniques:
>
> "The sparking poteitial for air at atmospheric pressure and uniform
> field is
>
> Vs = 30d + 1.35kV"
>
> where Vs is the sparking potential, and d is a gap of the order of .1
> cm. The actual voltage function is not linear with distance and
> pressure, so the expression is not accurate for gaps that vary by more
> than a decade from 10 mm and pressures significantly different than 1
> atmosphere. Sparking potentials will however be greater than
predicted
> with gaps > .1 cm, so it is a safe rule of thumb. Vs will of course
be
> less than predicted for gaps < .1 cm. Minimum sparking potential in
air
> is ~350 Volts.
>
> 73 de ac6xg

The equation should be:

Vs = 30d Kv + 1.35 kV ?

Vs being dc voltage or peak voltage.

So for a 0.08cm air-spaced capacitor:

Vs = 30 * 0.08 Kv = 2.40Kv
+ 1.35 Kv
Equals.................. 3.75 Kv

But, Paschen's Law is a bit stretched at 0.08cm because spacing is under
0.1cm.

So for safety, the 0.8cm spaced capacitor ought to be rated at say 3.5
Kv peak or dc?

But I hear that perhaps the rating should be 1.25 Kv RMS or 1.767 Kv
peak for 0.08cm spacing.

What a discrepancy. :c)

931. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 16:58:12 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7mmba$2h4vb$1@ID-150848.news.dfncis.de>
Source record: 120583

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7mlt2$2eq4c$1@ID-150848.news.dfncis.de...

> The equation should be:
>
> Vs = 30d Kv + 1.35 kV ?
>
> Vs being dc voltage or peak voltage.

The equation as stated originally is correct, it's just me that went
and made an inititial calculation wrong because of misreading the way
the equation was suppossed to be calculated:

I did:

30 * 0.08 = 2.4
+ 1.53 Kv
Equals......1.3524 Kv

The equation could be written:

Vs (Kv) = 30d + 1.35

Rich.

932. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 17:11:30 UTC
From: richardharrison@webtv.net
Message-ID: <12044-3E9EE042-108@storefull-2311.public.lawson.webtv.net>
Source record: 120585

SK wrote:
"Anyone have any idea how I can confine a yagi beam width?"

SK needs 315 to 1433 MHz unidirectional response. It can be approached with a terminated rhombic.

Arnold B. Bailey describes a 200 MHz horizontal rhombic in "TV and Other Receiving Antennas". Height above earth is assumed as many wavelengths and the pattern shown is for free-space.

Resistance at center frequency: 600 ohms

Antenna average surge impedance: 600 ohms

Termination resistor: 600 ohms

Gain at center frequency: 14.5 dBd (or less)

Two #10 wires each 36 feet long separated 18-feet at midpoint, overall length 31 feet.

You can reduce the dimensions to .63 of Baileys for 315 MHz. Rhombics have good front to back ratios when terminated but all those wavelengths of wire do produce sidelobes. The main lobe is narrow and gets narrower with increasing frequency. It`s awsome and the antenna is simple.

Best regards, Richard Harrison, KB5WZI

933. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 17:21:51 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <egBna.37917$c42.33497@fe01.atl2.webusenet.com>
Source record: 120584

Wouldn't an axial mode helix work over that frequency range, Wes? It could be made arbitarily long to get the desired beamwidth, too. If linear polarization was desired, make two of opposite sense and phase as needed.

Jim
N8EE

934. Auto ATU recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 18:19:04 UTC
From: Deni <deni1@tiscali.fr>
Message-ID: <b7mr93$7io$1@news.tiscali.fr>
Source record: 120586

Looking for auto ATU experiences and recommendations, LDG? or w.h.y.
I need a remote operable unit to be housed outdoors. Must be robust and capable of handling at least 100W (and preferably down to<5W) within a reasonable impedance range.
No objection to a kit build.

Any recommended units?

73, Deni GM3SKN

935. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:07:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3E9F098D.EC33827E@uci.edu>
Source record: 120588

Andy Cowley wrote:
> I'm not happy about the thing though as it gives 1.35 kV for
> zero spacing which is obviously wrong.

If you read what Rosebury published and I posted, you'll note that it applies to spacings of .1 cm. But it's not a linear function. Curves are provided in order to arrive at accurate values, but it's a little tough to draw them here using ASCII characters. He plots the product of gap spacing in mm and pressure in mm Hg, vs sparking potential. But since gaps on the order of .1 cm are reasonable for us, I thought the expression he provided plus comments would suffice for Richards purposes.

Vs = (30d + 1.35) kV, near d = .1 cm.

I assume he intends that Vs is a DC sparking potential.

73 de ac6xg

I'm sure I've seen
> caveats about this formula, saying it is only relly valid
> in the range 1 mm to 1 cm. I think the 30 kV/cm (3 kV/mm)
> is the accepted value for _dry_ air but the offset should
> be 0.3 kV not 1.35 - initial sparking voltage. Using this
> gives your 0.8 mm cap a rating of 2.7 kV peak or 1.9 kV
> RMS. I'd want to be sure I didn't need more than 1.5 kV
> RMS breakdown voltage to use this one.
>
> There are a lot of variables in this area though. Sharp
> points anywhere and over a range of scales will increase
> the field strength locally and may well reduce the
> flash over voltage below the calculated value, as will
> humid air, smoke etc.
>
> http://www.ece.rochester.edu/courses/ECE234/MEMS_ESD.pdf
>
> vy 73
>
> Andy, M3ABC

936. Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:22:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7n2ai$2jq6j$1@ID-150848.news.dfncis.de>
Source record: 120589

http://www.ce-mag.com/archive/02/01/MrStatic.html

0.1mm spacing leads to breakdown at 3Kv in air.

Bottom line of graph is a product of distance and atmospheric pressure (mmHg * cm).

So, where you have 0.1 cm spacing and 1 atmosphere you get:

0.1cm x 766 mmHg = a product of 76.6 mmHg.

Follow the line and for that product you can read off the breakdown voltage. Supposed to be 3 Kv.

Very hard to see that at 3 Kv the bottom line reads 76.7 mmHg cm's, but it's supposed to I'm sure.

937. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:23:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9u39jfs7ukm17@corp.supernews.com>
Source record: 120590

Hula loops spinning about an axis of evil?

Roy Lewallen, W7EL
-- the devil made me do that

Richard Clark wrote:
>
> Hi Doc,
>
> For the Swiss Eastern Pacific Fleet. They have replaced all life
> preservers with these loops too.
>
> Details uncovered following the capture of underground RF labs in Iraq
> reveal Saddam's plan to flood the western markets with counterfeit
> loops to replace computers, TVs and digital watches. The Office of
> Homeland Scrutiny warns with the chartreuse alert level that signals
> our heroic comrades around the country to be wary of false claims
> being attached to loops: "The axis of evil is being bolstered by the
> nefarious activities of these few techerrorists." OberGruppenFuhrer
> Rumsfield, in a repeated warning admonished: "there will be no
> warnings. B-52s are circling the mid-west as we speak. As I said
> before, don't make me say this again."
>
> All Hail Bush!
> Richard Clark, KB7QHC

938. Re: Electric Fence Wire for making HF antennas??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:26:17 UTC
From: sideband <KRNO8SPAMLR@cac.net>
Message-ID: <3E9F012A.7000508@cac.net>
Source record: 120587

Both of the loops I use at the house are made of aluminum electric
fence wire, and they seem to work well.

de KR8LR, Chris

Art Unwin KB9MZ wrote:
> Tom S <t_stenbraaten@hotmail.com> wrote in message
news:<63dd9vsns1vdpbg9mlnp68ov0j73i295ba@4ax.com>...
>
>>I'm trying to find a cheap source of wire to make my HF antenna.
>>Not sure exactly what type yet. I'm wondering if any one has tried
>>aluminum electric fence wire. It is very inexpensive . Failing this
>>does any have any other suggestions for inexpensive wire. I love to
>>hear all comments.
>>
>>Tom S
>>VA3TSS
>
>
> Tom,
> seems to me that I saw a bunch of copper wire wound around
> the neck of a T.V. tube. Old T.V.s are plentifull !!!!
> Art

939. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:26:43 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7n2i8$2o9ua$1@ID-150848.news.dfncis.de>
Source record: 120591

```
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7mlt2$2eq4c$1@ID-150848.news.dfncis.de...
>
> "Jim Kelley" <jwkelley@uci.edu> wrote in message
> news:3E9DE145.2F86820C@uci.edu...
> > Paschen's Law, from Rosebury, Electron Tube and Vacuum Techniques:
> >
> > "The sparking poteitial for air at atmospheric pressure and uniform
> > field is
> >
> > Vs = 30d + 1.35kV"
> >
> > where Vs is the sparking potential, and d is a gap of the order of
.1
> > cm. The actual voltage function is not linear with distance and
> > pressure, so the expression is not accurate for gaps that vary by
more
> > than a decade from 10 mm and pressures significantly different than
1
> > atmosphere. Sparking potentials will however be greater than
> predicted
> > with gaps > .1 cm, so it is a safe rule of thumb. Vs will of course
> be
> > less than predicted for gaps < .1 cm. Minimum sparking potential in
> air
> > is ~350 Volts.
> >
> > 73 de ac6xg
>
>
> The equation should be:
>
> Vs = 30d Kv + 1.35 kV ?
>
> Vs being dc voltage or peak voltage.
>
> So for a 0.08cm air-spaced capacitor:
>
>
> Vs = 30 * 0.08 Kv = 2.40Kv
> + 1.35 Kv
> Equals.................. 3.75 Kv
>
> But, Paschen's Law is a bit stretched at 0.08cm because spacing is
```

under
> 0.1cm.
>
> So for safety, the 0.8cm spaced capacitor ought to be rated at say 3.5
> Kv peak or dc?
>
> But I hear that perhaps the rating should be 1.25 Kv RMS or 1.767 Kv
> peak for 0.08cm spacing.
>
> What a discrepancy. :c)

Something wrong here.

3.75 Kv is sparking voltage.

1.25 Kv RMS or 1.767 is I think the capacitors rated voltage.

Different animals.

Rich.

940. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:37:43 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7n36r$2l0ki$1@ID-150848.news.dfncis.de>
Source record: 120592

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7n2ai$2jq6j$1@ID-150848.news.dfncis.de...
> http://www.ce-mag.com/archive/02/01/MrStatic.html
>
> 0.1mm spacing leads to breakdown at 3Kv in air.

Vs (Kv) = 30d + 1.35

Vs = (30 * 0.1) + 1.35 = 4.35 Kv

Discrepancy!!

Perhaps not an exact science this breakdown-voltage business. :c)

941. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:40:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3E9F1135.1040102@ieee.org>
Source record: 120594

Richard wrote:
> Perhaps not an exact science this breakdown-voltage business. :c)

Caps that didn't arc in Phoenix do arc in Galveston
especially after a few days of salt air deposits. :-)
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

942. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:42:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3E9F11BA.8C360AB1@uci.edu>
Source record: 120593

Richard wrote:
> Something wrong here.
>
> 3.75 Kv is sparking voltage.
>
> 1.25 Kv RMS or 1.767 is I think the capacitors rated voltage.
>
> Different animals.
>
> Rich.

The expression in Rosebury is for a uniform field. The smaller the capacitor, the less uniform the field. As you know, two pointed electrode have the lowest possible sparking potential for a given pressure and gap. Could this be why?

73, Jim AC6XG

943. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 20:59:39 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7n4gf$2o3e9$1@ID-150848.news.dfncis.de>
Source record: 120595

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3E9F1135.1040102@ieee.org...
> Richard wrote:
> > Perhaps not an exact science this breakdown-voltage business. :c)
>
> Caps that didn't arc in Phoenix do arc in Galveston
> especially after a few days of salt air deposits. :-)
> --
> 73, Cecil, W5DXP

Yep. :c)

I know, it is an exact science, but each situation has it's own particular facts, and the equation that is given refers to a certain situation which will not be quite the same situation that produced the graph.

944. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 21:02:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <v25u9vgrqr1jti63nmb5lvnf5e1qarne9g@4ax.com>
Source record: 120596

On Thu, 17 Apr 2003 21:26:43 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>Something wrong here.
>
>3.75 Kv is sparking voltage.
>
>1.25 Kv RMS or 1.767 is I think the capacitors rated voltage.
>
>Different animals.
>
>Rich.

Both speak to destruction. Trust your numbers and work.

Your capacitor will arc over if presented with roughly 4kV at STP.

The voltage you have computed stressing that capacitor at 100W
presents less than half that value to cause an arc.

As I offered early on, knowing the break down value first could
prevent a lot of agonizing about optimizing an answer that is already
200% over-designed.

73's
Richard Clark, KB7QHC

945. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 21:06:27 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <j05n7b-viq.ln@p400bob.lse.com.au>
Source record: 120598

JLB wrote:

> Wouldn't an axial mode helix work over that frequency range, Wes? It
> could
> be made arbitarily long to get the desired beamwidth, too. If linear
> polarization was desired, make two of opposite sense and phase as needed.

I like the idea of using a helix! I read somewhere about using a reflector like a large tea cup (sorry couldnt think of another way to describe it) rather than a flat mesh. It apparently cuts down sidelobes dramatically. Dunno what it does to F/B though.

Adding extra reflectors to a yagi also increases F/B but it would only be a narrow bandwidth device. Have a look at http://www.cebik.com/220ref.html

Cheers Bob VK2YQA

946. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 21:10:53 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7n553$2jcod$1@ID-150848.news.dfncis.de>
Source record: 120597

"Jim Kelley" <jwkelley@uci.edu> wrote in message
news:3E9F11BA.8C360AB1@uci.edu...
> Richard wrote:
> > Something wrong here.
> >
> > 3.75 Kv is sparking voltage.
> >
> > 1.25 Kv RMS or 1.767 is I think the capacitors rated voltage.
> >
> > Different animals.
> >
> > Rich.
>
> The expression in Rosebury is for a uniform field. The smaller the
> capacitor, the less uniform the field. As you know, two pointed
> electrode have the lowest possible sparking potential for a given
> pressure and gap. Could this be why?
>
> 73, Jim AC6XG

Vs (Kv) = 30d Kv + 1.35

This is for a situation that perhaps is not exactly the same as what we find with variable capacitors. Vs is I'm sure a breakdown voltage.

The ratings of variable capacitors I'm sure will not be breakdown voltage, but some safe working voltage.

Despite situations not being exactly the same (I don't know in what circumstances the equation was derived) one should have some appreciation of what the safety margin is, perhaps it's approximately 3.75 Kv / 1.767 Kv = 2.1 3.75 Kv appx. is the breakdown voltage, 1.767 Kv is the rated voltage.

Rich.

947. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 21:41:11 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <fe7u9vkcsj8mhu05cel1i60ei8tfpteq1m@4ax.com>
Source record: 120599

On Thu, 17 Apr 2003 11:03:37 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

|Art, KB9MZ wrote:
|"You previously stated Orr`s "Radio Handbook" period."
|
|Sorry. My attempt to be more specific went astray.
|
|The publisher of the 15th edition of "The Radio Handbook" was Editors
|and Engineers, later purchased by Howard Sams, and later still,
|purchased by someone else, if I recall. Bill Orr was editor of the 15th
|edition and of several other editions of this handbook, which I found
|very useful.
|
|Orr was prolific. I should have foreseen a problem.

He was also good at printing previously published material without the
author's knowledge. A noise blanker design of mine was in the book
for some years before someone else asked me a question about it. It
was news to me that it was in the book. Sure hr magazine held the
copyright, but it would have been nice to have a note (or a free copy
maybe) from Orr saying that it had been published again.

'course if they gave a free copy to everyone who had material in the
book, there wouldn't have been any left to sell.

948. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 22:28:24 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <7facnTfqWI0dtwKjXTWcoA@crocker.com>
Source record: 120600

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7n4gf$2o3e9$1@ID-150848.news.dfncis.de...
>
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3E9F1135.1040102@ieee.org...
> > Richard wrote:
> > > Perhaps not an exact science this breakdown-voltage business. :c)
> >
> > Caps that didn't arc in Phoenix do arc in Galveston
> > especially after a few days of salt air deposits. :-)
> > --
> > 73, Cecil, W5DXP
>
>
> Yep. :c)
>
> I know, it is an exact science, but each situation has it's own
> particular facts, and the equation that is given refers to a certain
> situation which will not be quite the same situation that produced the
> graph.
>
>
it may be exact, but its also statistical. when measuring the breakdown
voltage of insulators or air gaps a sampling process is done and failed vs
passed tests are used to determine a voltage with an x% probability of
withstanding the given voltage. temperature, atmospheric pressure, and
humidity all go into the equation, as well as voltage, ac or dc, polarity,
and waveshape. even at that it only gives you a probability of withstanding
a given voltage, there are always those outlying cases where a gap will
breakdown 'unexpectedly'.

949. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:00:57 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <obednUEn8Mm3rwKjXTWcqA@comcast.com>
Source record: 120601

I seem to recall there are edge effects.

Tam/WB2TT
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7n36r$2l0ki$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b7n2ai$2jq6j$1@ID-150848.news.dfncis.de...
> > > http://www.ce-mag.com/archive/02/01/MrStatic.html
> > >
> > > 0.1mm spacing leads to breakdown at 3Kv in air.
>
> Vs (Kv) = 30d + 1.35
>
> Vs = (30 * 0.1) + 1.35 = 4.35 Kv
>
> Discrepancy!!
>
> Perhaps not an exact science this breakdown-voltage business. :c)
>

950. Re: Auto ATU recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:16:33 UTC
From: jgboyles@aol.com
Message-ID: <20030417191633.18935.00000177@mb-m07.aol.com>
Source record: 120602

I just got an SGC-239, it was $170 including shipping, rated at 200W. Should work fine indoors, requires a 12VDC supply.
I put mine in my truck to match various mobile configurations I have. Works here, but a couple of glitches.
Used indoors, I could QSY quicker than a friend using a trap dipole. I used an open wire fed dipole.
>Looking for auto ATU experiences and recommendations.
Please understand this is with limited experience, but the SGC looks OK.

73 Gary N4AST

951. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:39:46 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <l36dnbF-dtqkpgKjXTWcqA@crocker.com>
Source record: 120603

yes, breakdown voltages between 2 plates, from a wire to a plate, between
two wires, or between 2 points are all different. sharp edges tend to
reduce breakdown voltages as they increase the electric field strength.

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:obednUEn8Mm3rwKjXTWcqA@comcast.com...
> I seem to recall there are edge effects.
>
> Tam/WB2TT
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b7n36r$2l0ki$1@ID-150848.news.dfncis.de...
> >
> > "Richard" <nearlynews_email@ntlworld.com> wrote in message
> > news:b7n2ai$2jq6j$1@ID-150848.news.dfncis.de...
> > > http://www.ce-mag.com/archive/02/01/MrStatic.html
> > >
> > > 0.1mm spacing leads to breakdown at 3Kv in air.
> >
> > Vs (Kv) = 30d + 1.35
> >
> > Vs = (30 * 0.1) + 1.35 = 4.35 Kv
> >
> > Discrepancy!!
> >
> > Perhaps not an exact science this breakdown-voltage business. :c)
> >
>
>

952. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:54:11 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304171554.56e378d9@posting.google.com>
Source record: 120604

Andy Cowley <andy.cowley@uwe.ac.uk> wrote in message news:<3E9E906D.F8DF2410@uwe.ac.uk>...
> Art Unwin KB9MZ wrote:
> >and entering the shack.
> > > A very inexpensive method to achieve this is by using tube/valve that
> > > provides a 'time delay' in radios or amplifiers. This costs around $5
> > > on E bay. When you are ready to use your antenna apply house voltage
> > > to the tube/valve and in a few seconds your antenna is connected and
> > > available for use.
> >
> >
> > Most time delay switches like that are rated less than 1 kV aren't they?
> >
> > vy 73
> >
> > Andy, M3ABC
Andy
I haven't seen a rating for the contacts.....I was guestimating.
Correction on PVC tubing...both are thin wall.
Art

953. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:54:18 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Ex6dncEMueU3owKjXTWcow@comcast.com>
Source record: 120605

Richard,

There are curves for breakdown voltage vs gap length in Reference Data For Radio Engineers. Actually, there are two curves, which differ greatly, depending on whether there is a "needle gap" or if there are flat plates. The curves are straight lines on log/log paper, up to about 30KV.

A. For needle gap: .03 inch and 1.2 KV, .7 inch and 20 KV.

B. For flat plates: .03 inch and 3.3 KV, .3 inch and 27 KV.

These seem to be in the two groups that people are coming up with. Also, they state that up to 300 MHz, the breakdown is APROXIMATELY 30 KV/cm, implying flat plates. These are peak voltages, not rms.
Tam/WB2TT

954. Re: Paschen's curve.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-17 23:57:22 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <QZSdnemuGc__ogKjXTWcpQ@comcast.com>
Source record: 120606

I found this after I posted the above

Tam

There are curves for breakdown voltage vs gap length in Reference Data For Radio Engineers. Actually, there are two curves, which differ greatly, depending on whether there is a "needle gap" or if there are flat plates. The curves are straight lines on log/log paper, up to about 30KV.

A. For needle gap: .03 inch and 1.2 KV, .7 inch and 20 KV.

B. For flat plates: .03 inch and 3.3 KV, .3 inch and 27 KV.

These seem to be in the two groups that people are coming up with. Also, they state that up to 300 MHz, the breakdown is APROXIMATELY 30 KV/cm, implying flat plates. These are peak voltages, not rms.
Tam/WB2TT

955. Re: Auto ATU recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 00:16:55 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3E9F43F7.4030107@tampabay.rr.com>
Source record: 120607

hi Deni
i think the LDG RT-11 would do you very well its designed to be a remote auto tuner and takes 150 watts its in a weather tight plastic box so you can mount the tuner out side with no worries the only thing i dont know is if it would work on the low power you need i would drop them an email and ask them
i recently got one of there tuners and am very pleased with it it interfaces with my 706 like a dream
it only needs one interface cable to give power and control to the tuner its a very simple and easy to use tuner it uses the tune button on your radio
good luck

Deni wrote:
> Looking for auto ATU experiences and recommendations, LDG? or w.h.y.
> I need a remote operable unit to be housed outdoors. Must be robust and
> capable of handling at least 100W (and preferably down to<5W) within a
> reasonable impedance range.
> No objection to a kit build.
>
> Any recommended units?
>
> 73, Deni GM3SKN
>
>
>
>
>

956. Re: Auto ATU recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 00:30:25 UTC
From: Dave Fouchey <dafouchey@comcast.net>
Message-ID: <ikhu9voiunlsm8mkjmab977g0dnf7ocokr@4ax.com>
Source record: 120608

Deni my older LDG AT-11 works just fine from 5 to 100 watts.
Understand the newer models do indeed interface directly to several
rigs so their tune buttons control the tuner. RT-11 is the AT-11 in an
outdoor case. No experience with the SGC units so cannot comment on
them.

73's
Dave
WA4EMR
Sterling Heights, MI

On Fri, 18 Apr 2003 00:16:55 GMT, Dennis Kaylor
<k4oxg@tampabay.rr.com> wrote:

>hi Deni
>i think the LDG RT-11 would do you very well its designed to be a remote
>auto tuner and takes 150 watts its in a weather tight plastic box so you
>can mount the tuner out side with no worries the only thing i dont know
>is if it would work on the low power you need i would drop them an email
>and ask them
>i recently got one of there tuners and am very pleased with it it
>interfaces with my 706 like a dream
>it only needs one interface cable to give power and control to the tuner
>its a very simple and easy to use tuner it uses the tune button on your
>radio
>good luck
>
>Deni wrote:
>> Looking for auto ATU experiences and recommendations, LDG? or w.h.y.
>> I need a remote operable unit to be housed outdoors. Must be robust and
>> capable of handling at least 100W (and preferably down to<5W) within a
>> reasonable impedance range.
>> No objection to a kit build.
>>
>> Any recommended units?
>>
>> 73, Deni GM3SKN
>>
>>
>>
>>
>>

957. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 01:35:35 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304171735.6073405f@posting.google.com>
Source record: 120609

'Doc <w5lz@cwis.net> wrote in message news:<3E9EC8D1.B0736D9B@cwis.net>...
> Art,
> In reference to the guy who sent you the email
> a year ago, I sure wish he'd come back and clarify
> his 'loop' statement a bit. Was that on -their-
> navy's ships or -our- navy's ships?
> 'Doc

I will leave him to respond to that and hopefully he will not take
offence at your tone ! If you are familiar with shipyards and tests
prior to commisioning
U.S. ships maybe you can inform all the transmission procedures
undertaken before the U.S. navy accepts the vessel.
Art

958. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 03:00:25 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7npo8$b5i$1@hercules.btinternet.com>
Source record: 120610

Pete,

Your unexpected mention of Preece as usual set my mind wandering.

I have in very good condition a book printed in 1895, 417 pages. It could well be the only surviving copy of "TELEGRAPHY, 11th Edition, Revised" Authors: W.H.Preece, C.B., F.R.S., V.P.Inst.C.E., & etc., and J.Sivewright, M.A., K.C.M.G. What the "etc.," consists of I don't know.

At the time Preece was the distinguished "Engineer-in-Chief and Electrician" of Her Majesty's Post Office Telegraphs, Her Majesty of course being Queen Victoria of the House of Hanover. The family name was changed to Windsor during the first World War. It was something to do with the Kaiser, William II of Hanover, and public opinion after the first few 100,000 had been deprived by politicians of their innocent lives in Flanders Fields amid the poppies. The crosses, "row on row", erected in the stained mud did not appear till later.

I have just looked in the Index. There are numerous mentions of wire but no mention of 'Wireless'. There's no mention even of loading coils, the 88 mH every 2000 yards variety of which millions must still be in use, and which Heaviside had suggested a few years before. But neither had the word 'telephone' yet come into common use. The use of bridge circuits to locate line faults is described and how to select and preserve timber telegraph poles against decay.

{ Ian, it's just struck midnight }

Shortly after WW2 I was priviledged to become a member of the P.O. Engineer-in-Chief's Office. "Telegraphs" had been dropped from the title. Preece was long dead and gone to his Maker but his influence remained. My local elderly supervisor gave me Preece's book and said "Here, read this". Having just spent 4 years working with the recently invented cavity magnetron, complete with the magnet, I did not at first appreciate the connexion.

You see, my recent burnt-in experience had included checking whether or not the triggertron was firing by placing my forefinger on the inner coaxial conductor at the 50 KW pulsed-modulator output. It was working fine. That never-to-be-forgotten lesson was learned in Hong-Kong with a typhoon blowing up. I remember the typhoon was imminent because I had detected it at a range of 50 miles on the radar with the stationary scanner pointing through the open lab window across the harbour. There was a Royal Navy battle-cruiser in the harbour just leaving to spend the storm in the China Sea. One of our RAF Sunderland flying boats was unable to leave due to engine trouble. At the height of the storm it could be seen flying like a kite still tethered

to its buoy.

So I read Preece, beautifully written in logical plain English as engineering books were in those Victorian days. Fortunately I soon came across Everett (1937) who ever since then has been my main reference author. He begins from basic principles which are always simple and easy to grasp so they stick. In the end he makes himself (and others) redundent. Others catalogue a mass of plagiarised facts imperfectly understood by the reader but which books are undeniably valuable as look-up reminders. But designers become addicted and so, without basic understanding, produce full-of-redundency, unreliable, uneconomic designs. Anybody can work by painting by numbers.

Insofar as radio is concerned, Preece, in his capacity as PO Engineer-in-Chief, got his name in the history books by declining an offer by Marconi to set up a radio link between somewhere or other. Was it for the Royal Navy? Anyway, Marconi went away and did the same thing for somebody else. It was about that time the British Empire began to decline. We are now Bush's faithful little poodles deprived of the opportunity to vote on the matter. Does 'Independence' ring bells?

Having mulled it over I can't see any connection between Preece and the others you mention.

Oliver's ghost, no chains, glass in hand, at present sitting alongside me, chuckles "Nice to be remembered - have a good day".
--
Reg

959. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 03:02:04 UTC
From: dawaywe@hotmail.com
Message-ID: <dd0daf77.0304171902.174d4eb2@posting.google.com>
Source record: 120611

Yes sorry, I did leave out the finer details.

If I can reduce the rear lobes totally that would be ideal but I would imagine anything down by 10dB or more would be sufficient. I dont know if that is over optimistic though. With the main lobe anything about 5dB down would be sufficient. However again the more loss of signal outside the main lobe the better. I'll have to double check with my power output from the transmitter to know the exact gain's required otherwise 5dB down might not be enough.

The antenna will be used outdoors and will only require a maximum reception range of about 10-15 meters so scatering and/or diffraction from other objects will not be a problem. I need to try and capture a signal from a moving object moving from say left to right. The reason for the directional beam is that I only want to capture the signal within a specific area.

"David Robbins" <k1ttt@arrl.net> wrote in message
news:<h6-cnYPkV5A5XwOjXTWcpQ@crocker.com>...
> first, you have to quatify your requirements with reasonable numbers.
> i.e. is 30 degrees at 3db down from the main lobe satisfactory, does it have
> to be 10db down, or more? what are max levels of side and back lobes that
> are permissable, 10db down, 20db, or what? you can not make generic
> statements like 'it can only receive from the front and not the back', ALL
> antennas will have some degree of side and back lobes, the best you can do
> is minimize them based on the system requirements. also note that you will
> get scattering from buildings, towers, trees, hills, etc that will result in
> some more power going in undesired directions than the antenna design itself
> will generate.

960. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 03:10:44 UTC
From: dawaywe@hotmail.com
Message-ID: <dd0daf77.0304171910.552b678a@posting.google.com>
Source record: 120612

Yes, actually thats an option. Thanks for that. I had a look at the
radiation pattern of an axial mode helix antenna. Gain looks promising
and directional coverage looks good. Might have to try and confine the
beam a bit more though.

A rhombic antenna looks like it might have the beamwidth im after too
but not the gain.

Cheers

"JLB" <IHateSpam@nospam.net> wrote in message
news:<egBna.37917$c42.33497@fe01.atl2.webusenet.com>...
> Wouldn't an axial mode helix work over that frequency range, Wes? It could
> be made arbitarily long to get the desired beamwidth, too. If linear
> polarization was desired, make two of opposite sense and phase as needed.
>
> Jim
> N8EE

961. Diesel noise in truck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 03:20:29 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <8jru9vg86bp0plg307gkm9dgsal8atfe43@4ax.com>
Source record: 120613

Hi all,
There was a discussion here a while back about noise in a diesel
truck. Was it in a Ford and was the source determined to be the
injector pulses?
Thanks
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

962. WTB:Tri Band Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 04:21:33 UTC
From: SWL <radiovintage@hotmail.com>
Message-ID: <h3Lna.29881$4P1.2702845@newsread2.prod.itd.earthlink.net>
Source record: 120615
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Wanted to buy a tri band or more beam.Prefer economical model and can pick
up within 150 miles of
Joplin,Missouri.
Please state model condition and price.
THANKS !!

963. Re: Diesel noise in truck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 04:29:25 UTC
From: sideband <KRNO8SPAMLR@cac.net>
Message-ID: <3E9F726A.4060700@cac.net>
Source record: 120614

Semi or Pickup?

de KR8LR, Chris

Dan, danl, danny boy, Redbeard, actually Greybeard now wrote:
> Hi all,
> There was a discussion here a while back about noise in a diesel
> truck. Was it in a Ford and was the source determined to be the
> injector pulses?
> Thanks
> Dan, N9JBF
> Amateur radio - What a hobby!
> Remove left x for direct reply

964. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 04:53:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3E9F84DF.748B5AB4@cwis.net>
Source record: 120616

Art,
Never been in a shipyard in my life. But it
might suprize you what I do know about the Navy's
acceptance procedures and sea trials.
'Doc

PS - To paraphrase the 'bard', "Horatio, you ain't
gotta clue!"...

965. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 07:28:46 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7o9bd$2rm09$1@ID-150848.news.dfncis.de>
Source record: 120617

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:Ex6dncEMueU3owKjXTWcow@comcast.com...
> Richard,
>
> There are curves for breakdown voltage vs gap length in Reference Data
For
> Radio Engineers. Actually, there are two curves, which differ greatly,
> depending on whether there is a "needle gap" or if there are flat
plates.
> The curves are straight lines on log/log paper, up to about 30KV.
>
> A. For needle gap: .03 inch and 1.2 KV, .7 inch and 20 KV.
>
> B. For flat plates: .03 inch and 3.3 KV, .3 inch and 27 KV.
>
> These seem to be in the two groups that people are coming up with.
Also,
> they state that up to 300 MHz, the breakdown is APROXIMATELY 30 KV/cm,
> implying flat plates. These are peak voltages, not rms.
> Tam/WB2TT

Tam

I think that the equation: Vs (Kv) = 30d + 1.35 Kv, is too optomistic
for my situation. (Where d is in cm)

For 0.03" (0.8mm) this equation gives a breakdown voltage of 3.75 Kv

I think the more accurate equation would be : Vs (Kv) = 30d + 0.6.
Well, that yealds a peak voltage of 3Kv. But it's weird how even when
spacing is 0cm the breakdown voltage is 0.6 Kv!!

Then I must remember that when looking at capacitor ratings, these are
stated with a safety factor. So, for instance, a capacitor with a
breakdown voltage of 3 Kv will be rated something around 1.5 Kv
(Probably peak). Well, it would be if margin of safety was 2.

I don't know what the safety margin should be for an air-spaced
capacitor with HF rf. I gueuss you don't need to know safety margin if
you get the manufacturers rating, but if you have to work out the
voltages because you have no manufacturers data, then you will need to
know it.

For instance, you get to know that a capacitor has a 4mm spacing, you
might look at the breakdown curves first, then you would have to convert
that into a capacitor rating. Or, there could be a table that just gives

you the rating. Thing is though, are capacitors rated at some peak voltage or RMS? I don't know the answer to that.

I think (because I'm not totally sure) a 0.03" capacitor (0.08mm) is rated at about 1.25 Kv RMS, peak of 1.767 Kv and probably a breakdown of 3 Kv.

I bet if I wrote to a capacitor manufacturer, they would supply me with some of this information about air-spaced capacitors, and their ratings. But who makes air-spaced capaitors today?

There are some tables at:

http://www.mainlinegroup.co.uk/jacksonbrothers/

But I'm not sure what the rating refers to under "Test Volts". Well some say "Peak and I guess logically that is 1.414 * rms. Some other tables don't say anything under "Test Volts". Like I say, I'm guesing "Peak" means 1.414 * rms. What they are not (I surmise) are breakdown voltages.

Rich.

966. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 07:28:54 UTC
From: perrypeters@msn.com
Message-ID: <31019be6.0304172328.7bbd0344@posting.google.com>
Source record: 120519

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<g6lo9vsh2l7vlr9mqod9tk9ag6jlb54n8q@4ax.com>...
> On 15 Apr 2003 11:21:10 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> [snip]
> | You helped pushed
> |away Dr Cohen when one of the 'cabal' posted that Final Solution
> |comment which only Richard Harrison, to his credit,disavowed himself
> |from but nobody else did which I find aborrent.
>

>snip
In fact,
> unless someone other than you can provide evidence to what you refer,
> I will assume that it didn't happen, since your credibility has just
> shrunk to zero.
>

Hi Wes
check this out 16 Jan heading mr bluster posts 39-40-41
Art may have faults but i dont believe him to be dishonest.
I hope this helps to clear the air between yourself and Art.
Perry

967. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 07:30:49 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7o9fa$2psol$1@ID-150848.news.dfncis.de>
Source record: 120618

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7o9bd$2rm09$1@ID-150848.news.dfncis.de...

> Tam
>
> I think that the equation: Vs (Kv) = 30d + 1.35 Kv, is too optomistic
> for my situation. (Where d is in cm)
>
> For 0.03" (0.8mm) this equation gives a breakdown voltage of 3.75 Kv
>
> I think the more accurate equation would be : Vs (Kv) = 30d + 0.6.
> Well, that yealds a peak voltage of 3Kv. But it's weird how even when
> spacing is 0cm the breakdown voltage is 0.6 Kv!!

That should read breakdown voltage of 3 Kv.

968. This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 07:53:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7oaqf$2rqfo$1@ID-150848.news.dfncis.de>
Source record: 120520

Say I wanted to use a random wire and tune it with preset L and C.

I wonder what usuable bandwith the system would have. I suppose that the bandwith all depends upon what SWR one is perpared to accept, but I think generally it's acceptable to allow the SWR to go up to 2:1.

Thing is you see, with presets I wonder if I would need two settings per band, or would just one do.

Rich.

969. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 08:11:59 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304180011.5931a566@posting.google.com>
Source record: 120521

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3E9E9577.50808@ieee.org>...
> Dr. Slick wrote:

<Snippage>

> > However, if the trace width doesn't change at all, there will be
> > no reflections at all.
>
> We are presupposing reflections existing somewhere with a Z0-match point
> at which they are eliminated, i.e. the entire system is NOT flat. In
> particular:
> +---------------------
> Pfwd1--> | Pfwd2-->
> --------------+
> Source Z01 Z02 Load not=Z02
> --------------+
> <--Pref1=0 | <--Pref2 not=0
> +---------------------

At first, this diagram didn't make too much sense to me. I'm
assuming the source is = Z01, so it's impedance is matched, and there
is an infinite return loss (the ideal, no reflected power). At
first, it looks to be a mismatch going from Z01 to Z02. BUT IT CAN
STILL BE MATCHED UNDER CERTAIN CONDITIONS!

Ok, you mean to say this: to impedance match 25 ohms to 100
ohms, you need a 1/4 wavelength of 50 ohm transmission line (see the
Smith Chart), or the geometric mean (square root) of the two
impedances to be matched:
(25*100)**1/2=50.

Z01=25 ohm=source
Z02=50 ohm
Load=100 ohm (not 50)

So you are pointing out the concept that there is still a
reflected wave in the 1/4 wavelength, 50 ohm tranmission line, which
supposedly cancels with the reflected wave from the "mismatch" of 25
ohms to 50 ohms, causing the sum reflection magnitude to be zero, in
essence looking to be a match at the source.

Which is why going from Z01 to Z02 is a matched impedance:
looking into the 50 ohm transmission line (Z02) actually appears to be
25 ohms (Z01).

If this is what you are saying, i'll buy it.

But i never saw anybody write that an impedance matching
network can never have INTERNAL reflections! (they need them to do
their job)
Only at the matched impedances AT THE ENDS, are there NO
reflections.

Dr. Slick

970. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 10:25:01 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b7ojputfo1@slb6.atl.mindspring.net>
Source record: 120522

Reg:

[snp]
> Having mulled it over I can't see any connection between Preece and the
> others you mention.
>
> Oliver's ghost, no chains, glass in hand, at present sitting alongside me,
> chuckles "Nice to be remembered - have a good day".
> --
> Reg
[snip]

Heh, heh....

Thanks for the reminiscences.

Why Preece?

Surely because Preece [in the beginning] was Oliver's nemisis, as he was
also
Guglielmo's nemisis [in the beginning]. In the end, after having initially
thoroughly
castigated both Marconi and Heaviside and their revolutionary ideas, Preece
claimed to admire them and... even went so far as to claim "prior art"
against the two.

Have you ever read:

Paul J. Nahin, "Oliver Heaviside - The life work and times of an electrical
genius
of the Victorian Age", John Hopkins University Press [With IEEE], Baltimore
MD
and London, UK, 1988.

It's a facinating and extremely well done biography on Oliver, with lot's of
great
direct qoutes from the famous Victorian Era trade publication called "The
Electrician"
especially of the acrimonious exchanges between Oliver and Preece.

--
Peter K1PO

971. R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 11:34:03 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3e9fe139_3@newsfeed>
Source record: 120523

Hi, all concerned:

To cure r-f burns from chassis, mike, key, cans, my metal operating desks, and so forth, my son and I emptied my first-floor dining room shack of the movables and took up the rug, put 2 or 3 criss-crossed layers of h-d aluminum foil, with several drainwires for connection to the station equipment, down on the bare hardwood floor, laid the rug back down, and returned everything else to its place.

This is after doing the usual things, such as single-point-grounding everything "properly" to power entry.

Things are now cold in the shack at the 100W-out r-f level. Haven't gotten the k-w operating again as yet.

I may try a variation in the other rooms. The basement is unfinished, with bare joists. I can tack up a grid of wires on the bottoms of the joists under the other rooms, and bring a connection up through the floor, to implement this variation.

It's simply me and two cats -- no other carbon-based life forms to please around my little dump here in Cincinnati, so I have freer rein than many other hams to try things out and see how they perform.

I'm looking for ideas from readers for other uses, and for openers, I'm going to try several mobile antennas against this ground -- well, counterpoise. At least I won't have conventional ignition noise <g>.

In any event, Happy Easter if you're a believer, thanx v.m. for reading, and I hope other ideas are forthcoming.

73, Dave, N3HE

972. Re: Diesel noise in truck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 12:43:49 UTC
From: You Gotta be Kidding <ohno@notme.net>
Message-ID: <7jsv9vg1u527mgsc67blskbktomnjcl4fc@4ax.com>
Source record: 120525

On Thu, 17 Apr 2003 22:20:29 -0500, "Dan, danl, danny boy, Redbeard,
actually Greybeard now" <danlx@execpc.com> wrote:

>Hi all,
>There was a discussion here a while back about noise in a diesel
>truck. Was it in a Ford and was the source determined to be the
>injector pulses?
>Thanks
>Dan, N9JBF
>Amateur radio - What a hobby!
>Remove left x for direct reply

The newer pickups have solenoid driven injectors that produce
quite a bit of noise somewhat like spark noise but of longer duration.
Ford seems to have the reputation of making the most noise but it
has also been observed on Dodges.

973. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 12:50:55 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <7lsv9vs40tal8m84e80rvrq5trgnj57jbo@4ax.com>
Source record: 120526

On 17 Apr 2003 20:02:04 -0700, dawaywe@hotmail.com (SK) wrote:

|Yes sorry, I did leave out the finer details.
|
|If I can reduce the rear lobes totally that would be ideal but I would
|imagine anything down by 10dB or more would be sufficient. I dont know
|if that is over optimistic though. With the main lobe anything about
|5dB down would be sufficient. However again the more loss of signal
|outside the main lobe the better. I'll have to double check with my
|power output from the transmitter to know the exact gain's required
|otherwise 5dB down might not be enough.

Ten dB front-to-back ratio is fairly easy. Beamwidth is normally
specified at the half-power (3 dB) points.

|
|The antenna will be used outdoors and will only require a maximum
|reception range of about 10-15 meters so scatering and/or diffraction
|from other objects will not be a problem. I need to try and capture a
|signal from a moving object moving from say left to right. The reason
|for the directional beam is that I only want to capture the signal
|within a specific area.

Perhaps you can't give away the purpose of this but I wonder how you
plan to discriminate between a signal "in the beam" v. "out of the
beam" when the difference is small. The antenna beamwidth is not a
brick wall filter situation.

If you are looking for precise angular position, you might better be
looking at using pattern nulling, similar to a monopulse radar.

974. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 12:55:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <v9vpurcbfmdi7c@corp.supernews.com>
Source record: 120524

What sorts of antennas have you been you using, and how are they fed?

Roy Lewallen, W7EL

David J. Windisch wrote:
> Hi, all concerned:
>
> To cure r-f burns from chassis, mike, key, cans, my metal operating desks,
> and so forth, my son and I emptied my first-floor dining room shack of the
> movables and took up the rug, put 2 or 3 criss-crossed layers of h-d
> aluminum foil, with several drainwires for connection to the station
> equipment, down on the bare hardwood floor, laid the rug back down, and
> returned everything else to its place.
>
> This is after doing the usual things, such as single-point-grounding
> everything "properly" to power entry.
>
> Things are now cold in the shack at the 100W-out r-f level. Haven't gotten
> the k-w operating again as yet.
>
> I may try a variation in the other rooms. The basement is unfinished, with
> bare joists. I can tack up a grid of wires on the bottoms of the joists
> under the other rooms, and bring a connection up through the floor, to
> implement this variation.
>
> It's simply me and two cats -- no other carbon-based life forms to please
> around my little dump here in Cincinnati, so I have freer rein than many
> other hams to try things out and see how they perform.
>
> I'm looking for ideas from readers for other uses, and for openers, I'm
> going to try several mobile antennas against this ground -- well,
> counterpoise. At least I won't have conventional ignition noise <g>.
>
> In any event, Happy Easter if you're a believer, thanx v.m. for reading, and
> I hope other ideas are forthcoming.
>
> 73, Dave, N3HE
>
>
>
>
>
>
>
>
>

>
>

975. Re: Diesel noise in truck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 13:05:44 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <k0uv9v81a6g78kn78ada2vq22koub3f28q@4ax.com>
Source record: 120527

On Fri, 18 Apr 2003 04:29:25 GMT, sideband <KRNO8SPAMLR@cac.net> sent into the ether:

>Semi or Pickup?
Pickup from what I read.
>
>de KR8LR, Chris
>
>Dan, danl, danny boy, Redbeard, actually Greybeard now wrote:
>> Hi all,
>> There was a discussion here a while back about noise in a diesel
>> truck. Was it in a Ford and was the source determined to be the
>> injector pulses?
>> Thanks
>> Dan, N9JBF
>> Amateur radio - What a hobby!
>> Remove left x for direct reply

Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

976. Re: Removing reactance from antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 13:23:52 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <louv9vsd3uou9031sq74gfhuptjcuh0ppm@4ax.com>
Source record: 120528

On 18 Apr 2003 00:28:54 -0700, perrypeters@msn.com (perrypeters)
wrote:

|Wes Stewart <n7ws@#arrl.net> wrote in message
news:<g6lo9vsh2l7vlr9mqod9tk9ag6jlb54n8q@4ax.com>...
|> On 15 Apr 2003 11:21:10 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
|> wrote:
|>
|> [snip]
|> | You helped pushed
|> |away Dr Cohen when one of the 'cabal' posted that Final Solution
|> |comment which only Richard Harrison, to his credit,disavowed himself
|> |from but nobody else did which I find aborrent.
|>
|
|>snip
| In fact,
|> unless someone other than you can provide evidence to what you refer,
|> I will assume that it didn't happen, since your credibility has just
|> shrunk to zero.
|>
|
|Hi Wes
| check this out 16 Jan heading mr bluster posts 39-40-41
| Art may have faults but i dont believe him to be dishonest.
| I hope this helps to clear the air between yourself and Art.
| Perry

Okay, thanks. One of those threads I didn't follow past the second
post.

I still reject the argument that because I didn't respond to something
I didn't read that I'm a bad person.

977. Re: Directional Yagi Antenna beam width

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 14:05:42 UTC
From: richardharrison@webtv.net
Message-ID: <15960-3EA00636-331@storefull-2314.public.lawson.webtv.net>
Source record: 120529

SK wrote:
"A rhombic antenna looks like it might have the beamwidth I`m after too but not the gain."

The rhombic I gave dimensions of has a 14 dBd gain at its design (low) frequency of 200 MHz. That is typical of a 4 or 5 wavelength per side rhombic.

Arnold B. Bailey, in "TV and Other Receiving Antennas", presents a Helical Antenna design, also for 200 MHz, his normal frequency.

Description:
"Tube 6 wavelengths long coiled into 6 turns, 1/4-wavelength apart, backed up with reflector screen. 18.5-inch diameter. 14.2 inches between turns. Reflector 48 inches. 1-inch tube, 29.5 feet long

Transmission line: Coaxial 125 ohms

Resistance at center frequency: 130 ohms

Gain at center frequency: 8 dBd

Frequency bandwidth: 3 dB down, 200%

References: Kraus, J.D., Proc. I.R.E., Vol. 36, p. 1236, Oct. 1948, --and several others.

The radiation pattern shown is free of the side lobes produced by the rhombic. A small reflector helps reduce spurs, but the rear lobe is fairly severe and not eliminated as in the terminated rhombic.

I`ve used commercial helical antennas in the 450 MHz range. Their gain is unimpressive. A good Yagi leaves them in the shade. But the Yagi is a narrow-band antenna.

I`ve built and used many rhombics in the HF range and they were always outstanding. Commercially, they are outdone by curtain arrays, but the curtain has a very limited frequency range. The rhombic is optimum at a single frequency. Its elevation angle comes down as frequency goes up over the earth, and its main lobe also narrows. But that sucker will take a load without complaint at almost any frequency and spit out a powerful signal that blows most other antennas away.

For many users, dish antennas only become practical in the microwave range because they are big and costly at lower frequencies. They are hard to beat at 1-GHz and above.

Best regards, Richard Harrison, KB5WZI

978. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 14:36:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA00D67.9050100@ieee.org>
Source record: 120530

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>> +--------------------
>> Pfwd1--> | Pfwd2-->
>> --------------+
>>Source Z01 Z02 Load not=Z02
>> --------------+
>> <--Pref1=0 | <--Pref2 not=0
>> +--------------------
>
> At first, this diagram didn't make too much sense to me. I'm
> assuming the source is = Z01, ...

Source impedance doesn't matter since there are no reflections
reaching the source, i.e. in a matched system, source impedance
doesn't matter one iota. Two sources, with source impedances
differing by two magnitudes, can both put out the same voltage
which is all that is required for the above Z0-match.

> ... so it's impedance is matched, and there
> is an infinite return loss (the ideal, no reflected power). At
> first, it looks to be a mismatch going from Z01 to Z02.

There is a physical impedance discontinuity going from Z01 to Z02.

> BUT IT CAN STILL BE MATCHED UNDER CERTAIN CONDITIONS!

The above example *is* matched, by definition, since Pref1=0.

> Ok, you mean to say this: to impedance match 25 ohms to 100
> ohms, you need a 1/4 wavelength of 50 ohm transmission line (see the
> Smith Chart), or the geometric mean (square root) of the two
> impedances to be matched:

That's one of an infinite number of possibilities.

> So you are pointing out the concept that there is still a
> reflected wave in the 1/4 wavelength, 50 ohm tranmission line, which
> supposedly cancels with the reflected wave from the "mismatch" of 25
> ohms to 50 ohms, causing the sum reflection magnitude to be zero, in
> essence looking to be a match at the source.

It's all explained on this web page, especially the last three paragraphs:

http://www.mellesgriot.com/products/optics/oc_2_1.htm

> Which is why going from Z01 to Z02 is a matched impedance:
> looking into the 50 ohm transmission line (Z02) actually appears to be

> 25 ohms (Z01). If this is what you are saying, i'll buy it.

I said what I was saying. In the absence of any physical impedance discontinuity, a virtual impedance (V/I ratio) causes absolutely nothing. Everything is caused by the Z01<->Z02 physical impedance discontinuity just as it is for light in a thin film. From the Melles-Griot web page:

"Clearly, if the wavelength of the incident light and the thickness of the film are such that a phase difference [of 180 degrees] exists between reflections of p, then [the two] reflected wavefronts interfere destructively, and overall reflected intensity is a minimum. If the two reflections are of equal amplitude, then this [reflected] amplitude (and hence intensity) minimum will be zero."

> But i never saw anybody write that an impedance matching
> network can never have INTERNAL reflections!

Me either. I doubt that anyone in the entire world has ever said such a thing. Why did you mention it?
--
73, Cecil, W5DXP

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979. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 14:50:12 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7p38o$35l1v$1@ID-150848.news.dfncis.de>
Source record: 120531

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7oaqf$2rqfo$1@ID-150848.news.dfncis.de...
> Say I wanted to use a random wire and tune it with preset L and C.
>
> I wonder what usuable bandwith the system would have. I suppose that
> the bandwith all depends upon what SWR one is perpared to accept, but
I
> think generally it's acceptable to allow the SWR to go up to 2:1.
>
> Thing is you see, with presets I wonder if I would need two settings
per
> band, or would just one do.
>
> Rich.

Of course anyone can chip in.

I don't think there is a program to work out antenna bandwidth for
inverted Ls'. So, that would have to be done manually.

Here are some parameters:-

\ | /
TX__________Series X__________|
|
|
Shunt L
|
|
GND

Input Z : 50R (from TX)
Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms

Frequency: 1900 Khz
Series X : 153 pF (Xc: -547.49 ohms)
Shunt L : 22.3uH (Xl: + 262.637 Ohms)

Q of coil: 300

Ground Electrode System:-
DC resistance: 19 Ohms
Rf resistance: 39.4 Ohms
Rf reactance 32.9 Ohms

Is it possible to work out 2:1 SWR bandwidth with these parameters?
TIA. Rich.

980. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 15:38:17 UTC
From: tdonaly@aol.com
Message-ID: <20030418113817.19055.00000151@mb-m17.aol.com>
Source record: 120532

>
>Reg:
>
>[snp]
>> Having mulled it over I can't see any connection between Preece and the
>> others you mention.
>>
>> Oliver's ghost, no chains, glass in hand, at present sitting alongside me,
>> chuckles "Nice to be remembered - have a good day".
>> --
>> Reg
>[snip]
>
>Heh, heh....
>
>Thanks for the reminiscences.
>
>Why Preece?
>
>Surely because Preece [in the beginning] was Oliver's nemisis, as he was
Peter wrote,
>also
>Guglielmo's nemisis [in the beginning]. In the end, after having initially
>thoroughly
>castigated both Marconi and Heaviside and their revolutionary ideas, Preece
>claimed to admire them and... even went so far as to claim "prior art"
>against the two.
>
>Have you ever read:
>
>Paul J. Nahin, "Oliver Heaviside - The life work and times of an electrical
>genius
>of the Victorian Age", John Hopkins University Press [With IEEE], Baltimore
>MD
>and London, UK, 1988.
>
>It's a facinating and extremely well done biography on Oliver, with lot's of
>great
>direct qoutes from the famous Victorian Era trade publication called "The
>Electrician"
>especially of the acrimonious exchanges between Oliver and Preece.
>
>--
>Peter K1PO

>

Has anyone ever seen Peter Brackett and Paul J. Nahin in the same room?
73,
Tom Donaly, KA6RUH

981. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 15:51:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA01EEC.9020402@ieee.org>
Source record: 120533

Richard wrote:
> I don't think there is a program to work out antenna bandwidth for
> inverted Ls'. So, that would have to be done manually.

EZNEC would certainly give an approximation.
--
73, Cecil, W5DXP

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982. 706 tune

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 16:21:02 UTC
From: jlevine <jlevine@our-mail.org>
Message-ID: <b7p5a7$8fr$1@sun-news.laserlink.net>
Source record: 120534

I have a 706 and want to place it into 10 watt tune mode .

I see 706 tune controls and it can't be to difficult to build

one myself.

Does anyone have a schematic for the above mentioned

Thanks.

Jeff Levine
kg4tez
jlevine@our-mail.org

983. My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 16:41:16 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304180841.ded96f9@posting.google.com>
Source record: 120535

Hi there,
My name is Art and I am an American albiet born in England.
I have an interest in antennas which is why I post to this group.
I have no degree but I do have curiousity and am willing to learn.
The ham comunity will recognise the names of many posters here as very knoweledgable about antennas, you have seen their names in ham radio magazines.Check off the names for yourselves if you are a ham!
When these people joined up as a group or cabal they not only provided
help to aspiring ham radio operators but also have combined
to attack people who bring up different views on antennas to which they do not agree. They either assume that all is known about antennas or they dislike the new. Instead of agreeing to diagree like gentlemen it becomes a long battle to discredit those who will not fall in line.
There have been many manufacturers that have come under horibble attacks on their credability prior to the multi year attacks on Dr Cohen who has written on Fractal Antennas.
In a similar way to the McCarthy era, good people were drawn into a group of bad people and their followers. We have similar bad people on this newsgroup who all accept, they are wanna bees or fake experts who also natually join the fray to discredit people.The posting about the FINAL SOLUTION/Dr Cohen was posted by one of these accepted wanna bees that we all know. He has a police record as a criminal in America, his adopted Country, and will also send a computor virus to people of his own choosing.
He made such a posting to finally get rid of Dr Cohen for the cabal.
I am the latest target.
I had the temerity to suggest something new with antennas, even patented a couple of them and am writing up another one.
But I have no degree and an immigrant to boot so I am an easy successor to Dr Cohen as one who has the audacity to present something new and, by golly, willing to share these ideas that the cabal resists. This group has a fine record of discrediting people. As can be seen by all, I have lost considerable credability with regards to this newsgroup as a person and regarding antennas.Soon I will be seen as standing naked so I take the opportunitiy now with what little I have left in the hope that some will read this post before total discreditation which will surely come about.
Well, I will not go away, even tho naked and in the cold.
There are many good people in this world and sooner or later good will prevail.
To those who have read some of what I say about antennas, I am telling the truth as I see it and am willing to share with all. I also am not pure and have many faults but I do try to be kind, even to those who

wish to hurt me. Nor do I ask for pity since I have the courage to withstand the storm and will continue to stand up for what I believe in.
Thanks to those you have risked giving me support.
I have no more to say on this posting except one thing..

Forgive them for they know not what they do.

Art Unwin, Bloomington, IL
KB9MZ.....XG (A east ender)
I do not have E mail facilities,

984. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:10:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <moadnUxyz672rD2jXTWcpQ@comcast.com>
Source record: 120536

Richard,

Notice how plotting the curves on log paper gets around the d=0 case,
because there is no 0.

Tam
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7o9fa$2psol$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b7o9bd$2rm09$1@ID-150848.news.dfncis.de...
>
> > Tam
> >
> > I think that the equation: Vs (Kv) = 30d + 1.35 Kv, is too optomistic
> > for my situation. (Where d is in cm)
> >
> > For 0.03" (0.8mm) this equation gives a breakdown voltage of 3.75 Kv
> >
> > I think the more accurate equation would be : Vs (Kv) = 30d + 0.6.
> > Well, that yealds a peak voltage of 3Kv. But it's weird how even when
> > spacing is 0cm the breakdown voltage is 0.6 Kv!!
>
> That should read breakdown voltage of 3 Kv.
>

985. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:25:46 UTC
From: dl6oapnospam@aol.com
Message-ID: <20030418132546.19057.00000132@mb-m16.aol.com>
Source record: 120537

Hi Richard,

I know two people using (what they call) genetic algorithms in Laser science.

One uses adaptive optics (controlled by a genetic optimizer) to optimize the lasers beamquality

The other one generates a plasma on a solid target and optimizes it.

In both cases they have the problem that they can optimize their processes in terms of a few variables, but that they can't measure them directly, so they have to use other variables (more variables).

Both setups work, so I hope they are not employing something that does not exist ;-)

Actually I don't like the term algorithm in this connection.

Greetings and happy easter

Ralf

DL 6 OAP

986. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:37:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7pd4d$1t9$1@sparta.btinternet.com>
Source record: 120539

```
> EZNEC would certainly give an approximation.
> --
> 73, Cecil, W5DXP
>
>
>
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=-----
```

987. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:37:22 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304180937.1bb36375@posting.google.com>
Source record: 120538

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA00D67.9050100@ieee.org>...
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
> >> +--------------------
> >> Pfwd1--> | Pfwd2-->
> >> --------------+
> >>Source Z01 Z02 Load not=Z02
> >> --------------+
> >> <--Pref1=0 | <--Pref2 not=0
> >> +--------------------
> > >
>
>
> > > But i never saw anybody write that an impedance matching
> > > network can never have INTERNAL reflections!
>
> Me either. I doubt that anyone in the entire world has ever said such
> a thing. Why did you mention it?

I doubt anyone in the entire world has ever assumed they
understood what someone said %100 of the time.

I mention is because i thought this was why you were posting what
you did, to show that a matched network CAN and does have reflections.

Excuse me if i misunderstood you.

Slick

988. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:42:43 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304180942.7c7d97a@posting.google.com>
Source record: 120540

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304170355.49ca39e4@posting.google.com>...
> radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304162016.5f6744f6@posting.google.com>...
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3E9DD53F.8070603@ieee.org>...
> > >
> > > For instance, the following statement confuses cause and effect.
> > >
> snip.
> >
> > I'll save my comments about antennas as impedance transformers
> > for later.
> >
> > Dr. Slick
>
> Doctor,
> Now you are coming into my alley with respect
> to loss-less feed systems. Don't delay your entry too long
> I need the help convincing others
> Regards
> Art

Well, to start off, we can say that the sum of the squares of the
magnitudes of the S11 and S21 of a loss-less system will be equal to
1.

[S11]**2 + [S21]**2 = 1

This is really just a conservation of energy formula.

Slick

989. Re: 706 tune

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:44:49 UTC
From: Leigh <news_nospam@leighs.org>
Message-ID: <Xns9361BE5629C0newsleighsorg@130.133.1.4>
Source record: 120541

"jlevine" <jlevine@our-mail.org> wrote in news:b7p5a7$8fr$1@sun-news.laserlink.net:

> I have a 706 and want to place it into 10 watt tune mode .
>
> I see 706 tune controls and it can't be to difficult to build

Totally simple! Minimum can be done with two components, so ignore all those expensive adverts in QST magazine and get your iron warming!

> Does anyone have a schematic for the above mentioned

http://www.mods.dk/mods.php3?radio=icom&model=ic-706&selectid=1864#1864

Sorry for a such a long URL but TinyURL isn't coming up quick enough here - full instructions there, including the settings for the radio!

Hope this helps. Take care.

Leigh....

990. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:48:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7pdq4$2t7$1@sparta.btinternet.com>
Source record: 120542

```
> EZNEC would certainly give an approximation.
> --
> 73, Cecil, W5DXP
==========================

Cecil, assuming Richard has EZNEC and has taught himself something about it,
exactly how would he use the program to find the bandwidth at the 1.5 SWR
points on a random wire length ?
---
Reg.
```

991. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 17:58:06 UTC
From: wieland@copland.udel.edu
Message-ID: <b7pebe$m4$1@copland.udel.edu>
Source record: 120544

For an in-rom antenna, try searching the 'net for antennas made of Slinky
(TM) spring steel helical toys.

--

R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
Icom R75 Heathkit GR-81 Inverted-L in the attic
Reply to wieland at me dot udel dot edu

992. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 18:00:01 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7pebh$3a7mo$1@ID-150848.news.dfncis.de>
Source record: 120543

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7p38o$35l1v$1@ID-150848.news.dfncis.de...

> Here are some parameters:-
>
> \ | /
> TX__________Series X__________|
> |
> |
> Shunt L
> |
> |
> GND
>
> Input Z : 50R (from TX)
> Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms
>
>
> Frequency: 1900 Khz
> Series X : 153 pF (Xc: -547.49 ohms)
> Shunt L : 22.3uH (Xl: + 262.637 Ohms)
>
> Q of coil: 300
>
> Ground Electrode System:-
> DC resistance: 19 Ohms
> Rf resistance: 39.4 Ohms
> Rf reactance 32.9 Ohms
>
> Is it possible to work out 2:1 SWR bandwidth with these parameters?
> TIA. Rich.

I know that it's probably possible to redraw the circuit above as
either a series or parallel resonant circuit, and there must then be a
formula for bandwidth. But, I think the bandwidth would be expressed in
terms of either 3 or 6 dB down. But, I bet the 3 dB bandwidth is not
the same as the bandwidth over a 2:1 SWR range.

993. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 18:22:53 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <va0gk0fpm2sma6@corp.supernews.com>
Source record: 120545

Hi,

Thanks for sharing. Very interesting. Must be great to be able to try such things. Have you any way, other than on-air, to measure the effectiveness of your ground system?

Regards,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

994. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 18:34:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA04541.8030702@ieee.org>
Source record: 120546

Dr. Slick wrote:
> I mention is because i thought this was why you were posting what
> you did, to show that a matched network CAN and does have reflections.
>
> Excuse me if i misunderstood you.

The point was broader than that, i.e. only physical impedance discontinuities can cause reflections. In thin-film optics, that equates with a change in index of refraction being necessary to cause the two reflected waves that cancel to zero net reflections.

Have you ever heard an optics engineer say that the reason there are no reflections from non-glare glass is that the light sees a virtual index of refraction of 1.0 at the air/thin-film interface? That's akin to saying the transmitter sees a virtual 50 ohms so there are no reflections. That's confusion of cause and effect.

The non-glare glass requires two reflected waves in order to cancel the net reflections.

In a system with reflections, the ham antenna system requires two reflected waves in order to cancel the net reflections.
--
73, Cecil, W5DXP

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995. Re: 706 tune

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 18:53:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA049B9.1000006@ieee.org>
Source record: 120547

jlevine wrote:
> I have a 706 and want to place it into 10 watt tune mode .
> I see 706 tune controls and it can't be to difficult to build
> one myself.
> Does anyone have a schematic for the above mentioned

Here's what I did for my screwdriver antenna. Replacing the
relay with a toggle/pushbutton switch will put the 706 in
tune mode.

http://www.qsl.net/w5dxp/706screw.htm
--
73, Cecil, W5DXP

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996. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 18:55:36 UTC
From: dplatt@radagast.org
Message-ID: <va0ih8ngketp3b@corp.supernews.com>
Source record: 120548

In article <b7pebe$m4$1@copland.udel.edu>,
Robert F Wieland <wieland@copland.udel.edu> wrote:

>For an in-rom antenna, try searching the 'net for antennas made of Slinky
>(TM) spring steel helical toys.

Wouldn't an antenna in ROM tend to interfere with the CPU?

Using the USB (Unrolled Slinky Bus) interface would probably be safer...

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

997. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 19:21:08 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA05024.85D4C80@cwis.net>
Source record: 120550

Richard,
How about the length and height, etc, of the antenna?
'Doc

998. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 19:46:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA0562A.6040607@ieee.org>
Source record: 120554

Reg Edwards wrote:
>>EZNEC would certainly give an approximation.
>
> Cecil, assuming Richard has EZNEC and has taught himself something about it,
> exactly how would he use the program to find the bandwidth at the 1.5 SWR
> points on a random wire length ?

For an inv-L, select the height and length of the antenna and enter
into EZNEC. Determine the feedpoint impedance. Use the "loads" feature
to choose the 'Q' and reactance values for matching the antenna. Vary
the frequency plus or minus until the SWR is 1.5:1. I just modeled a
66 ft inv-L for 20m. It showed a 1.5:1 bandwidth of 590 kHz, enough
to cover the entire 20m band. Series Xc=350 ohms, parallel XL=200 ohms
with a 'Q' of 100. Gain is 5 dBi with a TOA of 26 degrees.
--
73, Cecil, W5DXP

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999. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 19:49:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ngj0avs6pe090jbmfq7dlp7gll72k8o9va@4ax.com>
Source record: 120555

On 18 Apr 2003 17:25:46 GMT, dl6oapnospam@aol.com (DL6OAPnospam)
wrote:

>
>Actually I don't like the term algorithm in this connection.
>
>Greetings and happy easter
>
>Ralf
>
>DL 6 OAP

Hi Ralf,

Terms, terms, terms. I remember the dawning of the term "Genetic Algorithms" being coincident with the tailing end of "self correcting code." Of course, back then self correcting code was notorious for being unstable at best, and commonly nothing more sophisticated than any ad-hoc patch.

There are dozens of algorithms for sure, so many that one needs an algorithm to select the right algorithm. Given the age of the market for this stuff, "Genetic Algorithms" is still remarkably juvenile.

73's
Richard Clark, KB7QHC

1000. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 19:56:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7pl6d$3cepi$1@ID-150848.news.dfncis.de>
Source record: 120556

"'Doc" <w5lz@cwis.net> wrote in message
news:3EA05024.85D4C80@cwis.net...
>
>
> Richard,
> How about the length and height, etc, of the antenna?
> 'Doc

Here are some parameters:-

```
\ | /
TX___________Series X___________|
|
|
Shunt L
|
|
GND
```

Height of inverted L: 9.9m
Length of inverted L: 10m
Wire diameter: 1.5mm
Frequency: 1900 Khz
Number of buried radial wires: 1 (100mm deep)
Length of radial wire(s) 10.2m (1 radial 9m long + 1 earth rod 1.2m
long)
Diameter of radial wires(s): 1.5mm
Strap length to radials: 0.1m (connection from Shunt L, to earth rod +
radial wires)
Soil: Average.

Input Z : 50R (from TX)
Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms

Frequency: 1900 Khz
Series X : 153 pF (Xc: -547.49 ohms)
Shunt L : 22.3uH (Xl: + 262.637 Ohms)

Q of coil: 300

Ground Electrode System:-
DC resistance: 19 Ohms
Rf resistance: 39.4 Ohms
Rf reactance 32.9 Ohms

Is it possible to work out 2:1 SWR bandwidth with these parameters?
TIA. Rich.

1001. Re: *Very* short HF antennas...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:03:18 UTC
From: sideband <KRNO8SPAMLR@cac.net>
Message-ID: <3EA04D46.4000408@cac.net>
Source record: 120549

A few (6'-8') lengths of ladderline connected zigzag would make a
pretty good linear load.. run a wire from the end of the linear loads
out the window, connect the "rf ground" to the water pipes, add and
autotuner, and work QRP to your heart's desire on all bands.

Just an idea.

de KR8LR, Chris

Iain Kelly wrote:
> Hi,
>
> I have been looking around at antennas that are small. I know it's a
> reduction in efficiency but I would like to try one out. I am off to
> university at the end of the year and would like to continue working
> the bands, albeit qrp!, from my room. I don't know if there would be
> anywhere for a dipole or other antenna at the moment, and it would
> prove a good learning exercise to build some small antennas and try
> them out!
>
> I have seen advertisements for the ATX walkabout antennas for the
> FT-817 and I wonder if anyone has some information about the coils
> needed to load a short whip.
>
> I found a whip about 47.5" long in the junk box but can't find any
> info on the coils needed to make single band antennas like those sold
> by the retailers.
>
> I am interested also in hearing any experiences and reading some
> theory on shortened antennas as I hope to be studying RF Engineering
> at university and it would be a good start to learn a bit more about
> the nature of the 'beast'!!
>
> Thanks in advance for any help etc...
>
> 73, Iain (M0PCB / M1ETJ)
> to reply via email replace no.spam with iain ...

1002. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:06:22 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7plo9$3ec9t$1@ID-150848.news.dfncis.de>
Source record: 120557

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA0562A.6040607@ieee.org...
> Reg Edwards wrote:
> >>EZNEC would certainly give an approximation.
> >
> > Cecil, assuming Richard has EZNEC and has taught himself something
about it,
> > exactly how would he use the program to find the bandwidth at the
1.5 SWR
> > points on a random wire length ?
>
> For an inv-L, select the height and length of the antenna and enter
> into EZNEC. Determine the feedpoint impedance. Use the "loads" feature
> to choose the 'Q' and reactance values for matching the antenna. Vary
> the frequency plus or minus until the SWR is 1.5:1. I just modeled a
> 66 ft inv-L for 20m. It showed a 1.5:1 bandwidth of 590 kHz, enough
> to cover the entire 20m band. Series Xc=350 ohms, parallel XL=200 ohms
> with a 'Q' of 100. Gain is 5 dBi with a TOA of 26 degrees.
> --
> 73, Cecil, W5DXP
>

Oh, I'll have to download a demo version of EZNEC.

I went to the website and saw the diagrams, and because the lobe
pictures show a yagi, immediately thought to myself what has this
program go to do with inverted L type antennas. So, I kind of dismissed
it on first impressions.

Rich.

1003. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:19:41 UTC
From: richardharrison@webtv.net
Message-ID: <29989-3EA05DDD-356@storefull-2312.public.lawson.webtv.net>
Source record: 120559

Art, KB9MZ wrote:
"I am telling the truth as I see it and am willing to share with all."

Please share how the antenna in your URL, Art, the one with a "tuned loop" conjoined with a dipole, differs from Fig 10 (Series capacitors for tuning out residual reactance with the T and gamma matching systems) shown on page 26-9 of the ARRL "Antenna Book", edition 19.

Probably many editions of the "Antenna Book" carry the same or similar Fig under the T-match heading. My 14th edition has a similar Fig 30 on page 5-14.

Surely, Art has access to an ARRL Antenna Book with a similar figure. Civility of the posters in this thread is not nearly as important to me as the technical content. If Art`s antenna feed system does something that the ordinary T-match doesn`t, I`d like to know about it.

Best regards, Richard Harrison, KB5WZI

1004. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:33:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va0kno1245ep37@corp.supernews.com>
Source record: 120551

OC_CAM's Razor wrote:
> . . .
> Source impedance doesn't matter since there are no reflections
> reaching the source, i.e. in a matched system, source impedance
> doesn't matter one iota. . .

Just to make sure this doesn't cause misunderstanding, it's important to note that source impedance doesn't matter one iota for most purposes in a mismatched system, either. It can impact the amount of power a source delivers, of course, and with sine wave excitation it impacts the way the steady state is reached during the transient buildup period. But once steady state is reached, the ratio of all forward and reflected waves on the line, the SWR, reflection ratios, and impedances, will all be the same regardless of source impedance.

Because source impedance does have an effect during the transient buildup period, it will have an effect on single pulse or non-repetitive waveforms. However, this is seldom of interest to amateurs when dealing with antennas.

Roy Lewallen, W7EL

1005. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:38:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va0l1c8htd4125@corp.supernews.com>
Source record: 120552

Dr Slick could save us all from another few hundred postings by doing a google search of this newsgroup. This topic was discussed in agonizing length not more than a month or so ago. I'd sure hate to see us have to go through this every time someone new drops into the newsgroup and takes the bait. Maybe Dr Slick could browse through the few hundred postings and then get together with Cecil off line, and spare us the repetition? I seriously doubt we'll see anything this time around that we haven't seen before in great detail.

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Dr. Slick wrote:
>
>> I mention is because i thought this was why you were posting what
>> you did, to show that a matched network CAN and does have reflections.
>>
>> Excuse me if i misunderstood you.
>
>
> The point was broader than that, i.e. only physical impedance
> discontinuities can cause reflections. In thin-film optics, that
> equates with a change in index of refraction being necessary to
> cause the two reflected waves that cancel to zero net reflections.
>
> Have you ever heard an optics engineer say that the reason there
> are no reflections from non-glare glass is that the light sees a
> virtual index of refraction of 1.0 at the air/thin-film interface?
> That's akin to saying the transmitter sees a virtual 50 ohms so
> there are no reflections. That's confusion of cause and effect.
>
> The non-glare glass requires two reflected waves in order to cancel
> the net reflections.
>
> In a system with reflections, the ham antenna system requires
> two reflected waves in order to cancel the net reflections.
> --
> 73, Cecil, W5DXP
>
>
>
> ----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers
> =-----

1006. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:41:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va0l7mjonne5b7@corp.supernews.com>
Source record: 120553

I can answer that. Do an SWR sweep. Set the alternate Z0 to the
impedance at the lowest part of the SWR curve, to simulate matching to
that impedance, which I assume you'd want to do. Then read the bandwidth
off the SWR vs frequency curve.

Roy Lewallen, W7EL

Reg Edwards wrote:
>>EZNEC would certainly give an approximation.
>>--
>>73, Cecil, W5DXP
>
> ========================
>
> Cecil, assuming Richard has EZNEC and has taught himself something about it,
> exactly how would he use the program to find the bandwidth at the 1.5 SWR
> points on a random wire length ?
> ---
> Reg.
>
>
>
>

1007. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 20:42:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sko0avojplaohqiq17ebmmilniklmr88d0@4ax.com>
Source record: 120558

On Fri, 18 Apr 2003 07:34:03 -0400, "David J. Windisch"
<davidw@copper.net> wrote:

>
>I may try a variation in the other rooms. The basement is unfinished, with
>bare joists. I can tack up a grid of wires on the bottoms of the joists
>under the other rooms, and bring a connection up through the floor, to
>implement this variation.
>

Hi David,

An interesting wild card. It could be quite useful as the load to an
artificial ground.

73's
Richard Clark, KB7QHC

1008. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 21:12:57 UTC
From: k1bqt@aol.com
Message-ID: <20030418171257.18917.00000171@mb-m11.aol.com>
Source record: 120560

Hi Art--

Stop whining and do the work.

Rick K1BQT

1009. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 21:22:13 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7pq67$3cvlm$1@ID-150848.news.dfncis.de>
Source record: 120561

"'Doc" <w5lz@cwis.net> wrote in message
news:3EA05024.85D4C80@cwis.net...
>
>
> Richard,
> How about the length and height, etc, of the antenna?
> 'Doc

Are you going to make me an .ez file for an inverted L and send it to me
via email? :c)

Anyhow, if anyone want to, my email is:

news_email@REMOVEntlworld.com

Please remove "REMOVE".

1010. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 22:40:28 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7puss$c3e$1@hercules.btinternet.com>
Source record: 120562

"Richard" wrote> Say I wanted to use a random wire and tune it with preset L and C.
>
> I wonder what usuable bandwith the system would have. I suppose that
> the bandwith all depends upon what SWR one is perpared to accept, but I
> think generally it's acceptable to allow the SWR to go up to 2:1.
>
> Thing is you see, with presets I wonder if I would need two settings per
> band, or would just one do.
==========

Richard, try this -

Table of P versus SWR.

SWR	P
1.25	0.20
1.5	0.41
2.0	0.71
3.0	1.15

Bandwidth B between SWR points -

B = P * F / Q

where F is Frequency and Q is Q of the L-match network.

Q = 50/X or X/50, where X is the reactance of the L-network component which is either in series or in shunt with the 50-ohm transmitter. (NOT at the antenna end).

The above should get you in the right street.

The name SWR is meaningless. There's no transline for an SWR to appear on. It's just a number. The instrument is best renamed as a Transmitter Loading Indicator, or TLI which better describes what it does.

Reg, G4FGQ

1011. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 22:50:15 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <9ub0avgbgms95itkt7qvsspuh3kg33j5gp@4ax.com>
Source record: 120563

On 18 Apr 2003 09:41:16 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote a disjointed tirate:

Just a few points Art.

1) I don't know who you think have joined into a "cabal" but I really
doubt that a group of posters have secretly conspired to discredit
anyone they disagree with.

2) Chip was for the most part criticized on technical grounds. It was
only when he started threatening to sue anyone who challenged him on
those grounds did it become ugly.

3) You have been challenged and treated similarly, for similar
reasons.

4) History, and the release of documents from the former Soviet Union,
have shown that McCarthy was right in most cases. His techniques
might be faulted but he was treated worse than he treated others.

1012. Testing A Ground

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-18 23:12:33 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EA085EE.B03778CE@shaw.ca>
Source record: 120564

How does one test a ground system? In particular an RF ground,
but also a ground rod?
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1013. Archives

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:06:28 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <oi1oa.45413$cB3.321779@nnrp1.uunet.ca>
Source record: 120565

This may seem like a dumb question to some but I'm going to ask anyway.
I have seen numerous posts suggesting a person to check the archives on
comments made about whatever. I have never been able to figure our how to do
that, in fact it seems most posts come up "not available" after about 2
weeks. Could someone be so good as to point out how to find or search for an
archived post please? I use Outlook Express, if it makes any difference.

Thank you in advance
--
Terry VE1TRB

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.467 / Virus Database: 266 - Release Date: 4/1/2003

1014. Forsale MFJ 259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:11:43 UTC
From: kingfishndude@msn.com
Message-ID: <41fff60c.0304181711.27b91cd4@posting.google.com>
Source record: 120566

```
Forsale MFJ 259B In mint Condition
Have Box Manual All like new
$150.00 + Shipping
Email Kingfishndude@msn.com
```

1015. Re: Archives

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:33:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA0A76F.8000703@ieee.org>
Source record: 120567

Terry wrote:
> This may seem like a dumb question to some but I'm going to ask anyway.
> I have seen numerous posts suggesting a person to check the archives on
> comments made about whatever. I have never been able to figure our how to do
> that, in fact it seems most posts come up "not available" after about 2
> weeks. Could someone be so good as to point out how to find or search for an
> archived post please? I use Outlook Express, if it makes any difference.

Click on the following URL and select 'Advanced Groups Search'.

http://groups.google.com/
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1016. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:47:35 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b7q9rnutc1@slb1.atl.mindspring.net>
Source record: 120568

Art:

There's just no other way to say it... you only have to remember
three important things when discussing technical topics, they are...

1.) STOP WHINING,
2.) STOP WHINING,
3.) STOP WHINING.

Once *you* have STOPPED WHINING then...
After a long wait, while folks try to forget that you might start
whining again, things will slowly start to get better for you and you
might get some meaningful interaction from others of similar interests.

But things will only get better in direct proportion to your own efforts to
"really" communicate with others.

Communications = Listening and Talking [It's not just Talk!]

Best Regards,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0304180841.ded96f9@posting.google.com...
> Hi there,
> My name is Art and I am an American albiet born in England.
> I have an interest in antennas which is why I post to this group.
> I have no degree but I do have curiousity and am willing to learn.
> The ham comunity will recognise the names of many posters here as very
> knoweledgable about antennas, you have seen their names in ham radio
> magazines.Check off the names for yourselves if you are a ham!
> When these people joined up as a group or cabal they not only
> provided
> help to aspiring ham radio operators but also have combined
> to attack people who bring up different views on antennas to which
> they do not agree. They either assume that all is known about antennas
> or they dislike the new. Instead of agreeing to diagree like gentlemen
> it becomes a long battle to discredit those who will not fall in line.
> There have been many manufacturers that have come under horibble
> attacks on their credability prior to the multi year attacks on Dr
> Cohen who has written on Fractal Antennas.
> In a similar way to the McCarthy era, good people were drawn into a
> group of bad people and their followers. We have similar bad people on
> this newsgroup who all accept, they are wanna bees or fake experts who

> also natually join the fray to discredit people.The posting about the
> FINAL SOLUTION/Dr Cohen was posted by one of these accepted wanna bees
> that we all know. He has a police record as a criminal in America, his
> adopted Country, and will also send a computor virus to people of his
> own choosing.
> He made such a posting to finally get rid of Dr Cohen for the cabal.
> I am the latest target.
> I had the temerity to suggest something new with antennas, even
> patented a couple of them and am writing up another one.
> But I have no degree and an immigrant to boot so I am an easy
> successor to Dr Cohen as one who has the audacity to present something
> new and, by golly, willing to share these ideas that the cabal
> resists. This group has a fine record of discrediting people. As can
> be seen by all, I have lost considerable credability with regards to
> this newsgroup as a person and regarding antennas.Soon I will be seen
> as standing naked so I take the opportunitiy now with what little I
> have left in the hope that some will read this post before total
> discreditation which will surely come about.
> Well, I will not go away, even tho naked and in the cold.
> There are many good people in this world and sooner or later good will
> prevail.
> To those who have read some of what I say about antennas, I am telling
> the truth as I see it and am willing to share with all. I also am not
> pure and have many faults but I do try to be kind, even to those who
> wish to hurt me. Nor do I ask for pity since I have the courage to
> withstand the storm and will continue to stand up for what I believe
> in.
> Thanks to those you have risked giving me support.
> I have no more to say on this posting except one thing..
>
> Forgive them for they know not what they do.
>
>
> Art Unwin, Bloomington, IL
> KB9MZ.....XG (A east ender)
> I do not have E mail facilities,

1017. Re: Radiation resistance of simple vertical antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:49:56 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b7qa04$em6$1@slb3.atl.mindspring.net>
Source record: 120419

Tom:

[snip]
> Has anyone ever seen Peter Brackett and Paul J. Nahin in the same room?
> 73,
> Tom Donaly, KA6RUH
[snip]

Yes!

--
Peter K1PO
Indialantic By-the-Sea, FL.

1018. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:50:02 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304181750.6b8358e3@posting.google.com>
Source record: 120420

Roy Lewallen <w7el@eznec.com> wrote in message news:<va0l1c8htd4125@corp.supernews.com>...
> Dr Slick could save us all from another few hundred postings by doing a
> google search of this newsgroup. This topic was discussed in agonizing
> length not more than a month or so ago. I'd sure hate to see us have to
> go through this every time someone new drops into the newsgroup and
> takes the bait. Maybe Dr Slick could browse through the few hundred
> postings and then get together with Cecil off line, and spare us the
> repetition? I seriously doubt we'll see anything this time around that
> we haven't seen before in great detail.
>
> Roy Lewallen, W7EL
>

Why don't you just skip our post's then? It's usually clear when
two people are talking about something, but if you really can't resist
to join in...then i cannot help you.

And you learn more when you put things in your own words and as
your own questions.

I wouldn't call trying to learn from other people as "taking the
bait".

As the initial poster, maybe I baited all of you!

Dr. Slick

1019. Re: Archives

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 01:51:39 UTC
From: dplatt@radagast.org
Message-ID: <va1atbeffgom74@corp.supernews.com>
Source record: 120421

In article <oi1oa.45413$cB3.321779@nnrp1.uunet.ca>,
Terry <ve1trb@hotmail.com> wrote:

>This may seem like a dumb question to some but I'm going to ask anyway.
>I have seen numerous posts suggesting a person to check the archives on
>comments made about whatever. I have never been able to figure our how to do
>that, in fact it seems most posts come up "not available" after about 2
>weeks. Could someone be so good as to point out how to find or search for an
>archived post please? I use Outlook Express, if it makes any difference.

Surf to groups.google.com, and dig away. You can go directly to the
recent-threads article for this group:

http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&group=rec.radio.amateur.antenna

Or, you can go to http://groups.google.com, hit the "Advanced Search"
button, enter "rec.radio.amateur.antenna" in the newsgroups box and a
few relevant keywords in the keyword-search box, and have Google
locate promising threads to examine.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1020. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 02:43:30 UTC
From: k1bqt@aol.com
Message-ID: <20030418224330.18863.00000306@mb-m04.aol.com>
Source record: 120422

> As the initial poster, maybe I baited all of you! <

That was my thought! Good job of it, too.

Rick K1BQT

1021. heathkit HN-31

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 02:48:59 UTC
From: Vince <vcl@sympatico.ca>
Message-ID: <tO2oa.6929$uY.792913@news20.bellglobal.com>
Source record: 120423

hi guys, i have a heathkit HN-31 dummy load an i would like a manual for it and if anyone can let me know whats the maximum input power for the dummy load and how long can you keep the power in there on keydown can anyone help. plaese email me @ ve3elb@rac.ca thank you......

Vince ve3elb - Vanessa va3vcp
==========
Email: ve3elb@rac.ca
Visit Our Webpages @ :
www.qsl.net/ve3elb
http://www3.sympatico.ca/vcl

1022. F/A Andrews 7/8 n type hardline connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 05:20:34 UTC
From: Mel <k2at@comcast.net>
Message-ID: <_YednRXJx9A7QT2jXTWcqQ@comcast.com>
Source record: 120424

Have for sale two Andrews 7/8 Hardline connectors n type brand new. See them on Ebay Item #3019175969

1023. F/A Alpha-Delta variable Speaker Console

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 05:25:51 UTC
From: Mel <k2at@comcast.net>
Message-ID: <uOacncMgF_R2QD2jXTWcqA@comcast.com>
Source record: 120425

Have for sale an alpha-Delta variable Speaker console in perfect condition.
See it on EBAY Item #3019174114.

1024. Re: This could be for Reg

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 06:50:30 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7qrfp$3khpc$1@ID-150848.news.dfncis.de>
Source record: 120426

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7puss$c3e$1@hercules.btinternet.com...

> Richard, try this -
>
> Table of P versus SWR.
>
> SWR P
> ===== =====
> 1.25 0.20
> 1.5 0.41
> 2.0 0.71
> 3.0 1.15
>
> Bandwidth B between SWR points -
>
> B = P * F / Q

I presume that is B = P * (F/Q)

> where F is Frequency and Q is Q of the L-match network.
>
> Q = 50/X or X/50, where X is the reactance of the L-network component
which
> is either in series or in shunt with the 50-ohm transmitter. (NOT at
the
> antenna end).

Okay lets see.

```
\ | /
TX___________Series X___________|
|
|
Shunt L
|
|
GND
```

Input Z : 50R (from TX)
Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms

Frequency: 1900 Khz
Series X : 153 pF (Xc: -547.49 ohms)
Shunt L : 22.3uH (Xl: + 262.637 Ohms)

B (Khz) = P * (F/Q)

P = 0.71
F = 1900 Khz
Q = 547.9/50 = 10.958

For a 2:1 SWR

B = 0.71 * (1900 / 10.958)

B = 123 Khz

That right?

Rich.

1025. WTB: 950pF (no less) air-spaced variable capacitor 0.8mm gap (no less) UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 10:35:35 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7r8lm$3iajc$1@ID-150848.news.dfncis.de>
Source record: 120427
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,uk.radio.amateur

950PF is about right, and I don't really need anything greater than a 0.08mm (0.031") gap.

(I know where to get one, but I'm hoping I can get a capacitor cheaper. :c))

Do you have one sitting around in your junkbox doin' nothin'.

MUST be double shafted, ie one at each end. 1/4" diameter.

I'm in Yorkshire.

Want quality, like a Jackson Bros item if poss.

My email:

news_email@REMOVEntlworld.com

Please remove "REMOVE".

Rich.

1026. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 10:49:36 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3ea1284b_1@newsfeed>
Source record: 120428

Hi, Roy:

I'm on enough former farmland (now suburban) to have about 2 miles of 70-ft copper radials centered about 85 feet south from shack entry, and there's a 38-ft vertical stick of 2.5-in OD aluminum in the center of radialpatch, which stick forms the vertical side of a triangular loop. Two ~85-ft catenary wires, one from the top and one from the bottom of the stick, run over to a patch panel at shack entry, completing the elongated isosceles triangle loop, which I feed at the near end with various tuners.

Does that paint a good-enough word-picture <g>?

73, Dave, N3HE
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:v9vpurcbfmdi7c@corp.supernews.com...
> What sorts of antennas have you been you using, and how are they fed?
>
> Roy Lewallen, W7EL
>
> David J. Windisch wrote:
> > Hi, all concerned:
> >
> > To cure r-f burns from chassis, mike, key, cans, my metal operating
desks,

1027. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 11:00:06 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3ea12ac0_3@newsfeed>
Source record: 120429

"J Tabor" <denews@taborsoft.com> wrote in message
news:va0gk0fpm2sma6@corp.supernews.com...
> Hi,
>
> Thanks for sharing. Very interesting. Must be great to be able to try such
> things. Have you any way, other than on-air, to measure the effectiveness
of
> your ground system?
>

Hi, OM:

As time and ambition permit, I'm gonna take "measurements" with a MFJ259, a noise bridge/HW-9A, and what ever other instrumentation is suggested *that I can lay my hands on*. Circumstances BMC have placed considerable free time mostly at my disposal, and I could use some direction as to measurements.

73, Dave, N3HE

1028. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 11:14:42 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3ea12e2d_1@newsfeed>
Source record: 120430

Hi, Richard:

Where is the line of demarcation between the load and the artificial ground
;o) ?

IAC, tks vm for the suggestion. I have several variable inductances I will
use to try your suggestion.

73, Dave, N3HE

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:sko0avojplaohqiq17ebmmilniklmr88d0@4ax.com...
> On Fri, 18 Apr 2003 07:34:03 -0400, "David J. Windisch"
> <davidw@copper.net> wrote:
>
> >
> >I may try a variation in the other rooms. The basement is unfinished,
with
> >bare joists. I can tack up a grid of wires on the bottoms of the joists
> >under the other rooms, and bring a connection up through the floor, to
> >implement this variation.
> >
>
> Hi David,
>
> An interesting wild card. It could be quite useful as the load to an
> artificial ground.
>
> 73's
> Richard Clark, KB7QHC

1029. Re: Diesel noise in truck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 11:34:13 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3EA13428.C1D7E74A@attbi.com>
Source record: 120431

Ford fuel injectors also make MUCHO NOISE on gas models also. I own a
2003 Ranger and have S7 - S9 injector noise.

Thank God for the noise blanker on my 706 MKIIg!!

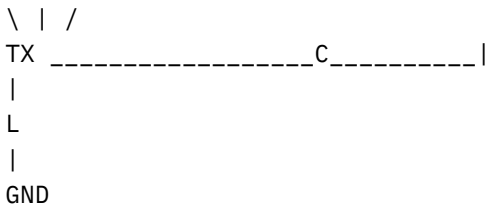
Deacon Dave, W1MCE
+ + +

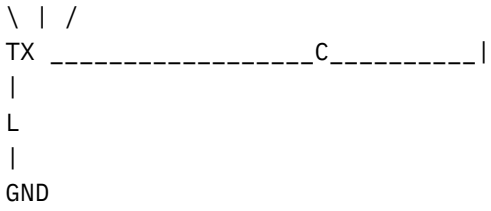
You Gotta be Kidding wrote:
>
> On Thu, 17 Apr 2003 22:20:29 -0500, "Dan, danl, danny boy, Redbeard,
> actually Greybeard now" <danlx@execpc.com> wrote:
>
> >Hi all,
> >There was a discussion here a while back about noise in a diesel
> >truck. Was it in a Ford and was the source determined to be the
> >injector pulses?
> >Thanks
> >Dan, N9JBF
> >Amateur radio - What a hobby!
> >Remove left x for direct reply
>
> The newer pickups have solenoid driven injectors that produce
> quite a bit of noise somewhat like spark noise but of longer duration.
> Ford seems to have the reputation of making the most noise but it
> has also been observed on Dodges.

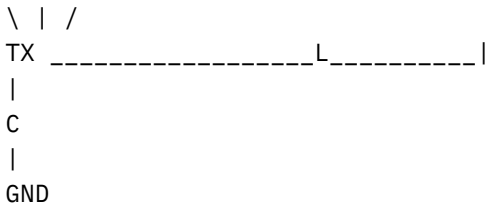
1030. Relays for use in a 100 Watt atu.

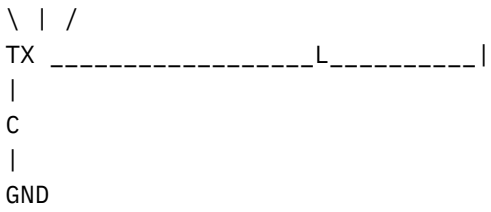
Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 11:46:36 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7rcr0$3p3vj$1@ID-150848.news.dfncis.de>
Source record: 120432

I see that with L network tuning of inverted L there are 4 possible
connections:

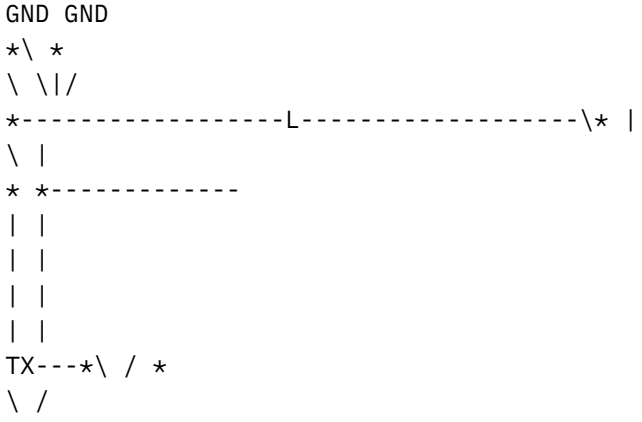








To acheive any of these positions with a remote atu I created
the following switching arangement with relays:



------------------C-----------------

* *
GND GND

Switches are independant 2 way, single pole. The above switching arrangement replicates the first set of connections in the 4 different ways.

Okay, do I need a special kind of single pole two way switch relays for this purpose. Any recommended relays? Where to buy?

TIA.

Rich.

1031. free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 12:04:58 UTC
From: wf3h@ptnosm.com
Message-ID: <3ea13963.375149751@news.ptdprolog.net>
Source record: 120433

Looking at putting up a freestander...probably in the 50-70' range.
Have following info:

Tower Height Cost Load

AN 50' 1340 40
60 1620 37

Trylon T400 64' 1359 34

I have a Mosley Pro 67B with 11.5 sf windloading.

Anybody have experience with these towers? Recommendations? Do's and
don'ts?

Thanks

Bob/WF3H
---
to see who "wf3h" is, go to "qrz.com"
and enter 'wf3h' in the field

1032. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 12:39:32 UTC
From: jgboyles@aol.com
Message-ID: <20030419083932.18950.00000149@mb-m14.aol.com>
Source record: 120434

Actually there are eight possilbe combinations of L networks if you include L-L and C-C. The first two you show will be enough to match a wide range of impedances if the L and C have enough range.
I just built an L network tuner and used a single DPDT relay to switch configurations. (the first two you show) I used a Potter Brumfield KRP series 12vdc coil, modified by removing the Octal pins, a soldering directly to the lugs on the relay frame.
Omron is one brand I have seen in commercial ATUs. Model GY5-254p.
Digi-key, Mouser, or Newark would have what you need. Radio Shack has some relays that would work, especially if you stay below 100 watts. I used a PB relay cause thats what I had in the junkbox.
Rich wrote:

>I see that with L network tuning of inverted L there are 4 possible
>connections:
>
>
> \ | /
>TX _____________________C_____________|
> |
> L
> |
> GND
>
> \ | /
>TX _____________________C_____________|
> |
> L
> |
> GND
>

73 Gary N4AST

1033. Scantenna ST2 Antenna for 30MHz-1.3GHz:: Opinions On ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:00:57 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b7rhc7bq1@slb5.atl.mindspring.net>
Source record: 120435

Hi,

Presently using a R/S Discone in my attic to scan 30MHz to 1.3GHz, or so.
Seems to work surprisingly well, but of course I really can't compare it
against anything.

Was wondering if anyone might have any opinions on the Scantenna ST2 ?
Have heardthat it "greatly" outperforms the Discones over this range for the
normal fm, and also the am aviation stuff.

I do need the broadband capability, as I listen all over that wide range
usually.

Any opinions on whether I should consider replacing the R/S Discone with the
ST2
would be greatly appreciated.

Might as well also ask: Any others in the $100 max range I should consider?
It will have to go in my attic (2 story Colonial).

Actually, I'm not at all sure that I can get the ST2 in the attic, as its
specs seem to say
that it takes a true 8-1/2 foot vertical clearance. True ?

Thanks,
Bob

1034. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:13:21 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3EA14B62.D9E46836@attbi.com>
Source record: 120436

Only 6 comments:

1) Reinforced [rebar] concrete base.
2) Professional Engineer evaluation.
3) Professional installation.
4) Building Permits.
5) Inspections.
6) Insurance.

Deacon Dave, W1MCE
+ + +

wf3h@ptnosm.com wrote:
>
> Looking at putting up a freestander...probably in the 50-70' range.
> Have following info:
>
> Tower Height Cost Load
>
> AN 50' 1340 40
> 60 1620 37
>
> Trylon T400 64' 1359 34
>
> I have a Mosley Pro 67B with 11.5 sf windloading.
>
> Anybody have experience with these towers? Recommendations? Do's and
> don'ts?
>
> Thanks
>
> Bob/WF3H
> --------------------------
> to see who "wf3h" is, go to "qrz.com"
> and enter 'wf3h' in the field

1035. Re: Testing A Ground

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:16:50 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <GYKdncVoe4Wr0TyjXTWcqg@crocker.com>
Source record: 120437

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:3EA085EE.B03778CE@shaw.ca...
> How does one test a ground system? In particular an RF ground,
> but also a ground rod?

you buy or rent a ground rod testing system. Biddle is one company that makes them, where i work we have rented them on occasion from an industrial test equipment rental company. you may also be able to get a local electrician who has one to test your rod. these testers usually use a relatively high voltage source and require either a good reference ground (deep well casing, large buried ground system like under an electrical substation, or good connection to a metal pipe that is part of a large water system) or enough room to drive in 2 or 3 short rods in a specific pattern around the rod being tested. these provide a low frequency resistance reading as they are normally used for testing power line grounds.

you will find that this is not always a good measure of the effectiveness of your ground system for rf. one of the most common problems is that people drive a good rod, and maybe even add some buried radials to it that can help quite a bit, then run a long skinny wire into the shack. you want to use a fat wire or wide ribbon to connect into the shack to keep inductance low, and keep it as short as possible... also read all the other posts on here about common point grounding and other protective measures.

1036. 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:19:24 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <21j2avcu2qia905t2hptuht7gqo2s6fmdu@4ax.com>
Source record: 120438

What length should my feedline be for a 176 ft (overall) double
extended zepp fed with 300 ohm twinlead if I am using a tuner and want
decent loading from 160M to 10M?

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

1037. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:49:13 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EA1532F.B69D7080@gte.net>
Source record: 120439

Ken wrote:

> What length should my feedline be for a 176 ft (overall) double
> extended zepp fed with 300 ohm twinlead if I am using a tuner and want
> decent loading from 160M to 10M?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

Isn't a double extended zepp two 5/8 wave sides? I make that to be over
300' long..

Dale W4OP

1038. Re: Testing A Ground

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:53:43 UTC
From: Dave Fouchey <dafouchey@comcast.net>
Message-ID: <u3l2av0ul9dekq0bvg9njmjc44otcg47lk@4ax.com>
Source record: 120440

On that line here is the one I ordered for my installers to use.

http://www.tessco.com/products/inv_display.jsp?selsku=25453

Pricey but does a very nice job.

No connection to Tessco or Biddle other than a satisfied user/customer

Dave
WA4EMR

On Sat, 19 Apr 2003 13:16:50 -0000, "David Robbins" <k1ttt@arrl.net>
wrote:

>"Irv Finkleman" <finkirv@shaw.ca> wrote in message
>news:3EA085EE.B03778CE@shaw.ca...
>> How does one test a ground system? In particular an RF ground,
>> but also a ground rod?
>
>you buy or rent a ground rod testing system. Biddle is one company that
>makes them, where i work we have rented them on occasion from an industrial
>test equipment rental company. you may also be able to get a local
>electrician who has one to test your rod. these testers usually use a
>relatively high voltage source and require either a good reference ground
>(deep well casing, large buried ground system like under an electrical
>substation, or good connection to a metal pipe that is part of a large water
>system) or enough room to drive in 2 or 3 short rods in a specific pattern
>around the rod being tested. these provide a low frequency resistance
>reading as they are normally used for testing power line grounds.
>
>you will find that this is not always a good measure of the effectiveness of
>your ground system for rf. one of the most common problems is that people
>drive a good rod, and maybe even add some buried radials to it that can help
>quite a bit, then run a long skinny wire into the shack. you want to use a
>fat wire or wide ribbon to connect into the shack to keep inductance low,
>and keep it as short as possible... also read all the other posts on here
>about common point grounding and other protective measures.
>
>
>

1039. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 13:55:06 UTC
From: Dave Fouchey <dafouchey@comcast.net>
Message-ID: <a8l2avgoae9qju4a09kmf2llqqi172fdsk@4ax.com>
Source record: 120441

On Sat, 19 Apr 2003 13:13:21 GMT, Dave Shrader <w1mce@attbi.com>
wrote:

>Only 6 comments:
>
>1) Reinforced [rebar] concrete base.
>2) Professional Engineer evaluation.
>3) Professional installation.
>4) Building Permits.
>5) Inspections.
>6) Insurance.
>
>Deacon Dave, W1MCE
>+ + +

Dotto what Dave says, keeps you out of a multitude of problems.

Dave Fouchey
WA4EMR

>
>wf3h@ptnosm.com wrote:
>>
>> Looking at putting up a freestander...probably in the 50-70' range.
>> Have following info:
>>
>> Tower Height Cost Load
>>
>> AN 50' 1340 40
>> 60 1620 37
>>
>> Trylon T400 64' 1359 34
>>
>> I have a Mosley Pro 67B with 11.5 sf windloading.
>>
>> Anybody have experience with these towers? Recommendations? Do's and
>> don'ts?
>>
>> Thanks
>>
>> Bob/WF3H
>> ---------------------------
>> to see who "wf3h" is, go to "qrz.com"
>> and enter 'wf3h' in the field

1040. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 14:09:38 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7rl84$3p6vp$1@ID-150848.news.dfncis.de>
Source record: 120442

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030419083932.18950.00000149@mb-m14.aol.com...
> Actually there are eight possilbe combinations of L networks if you
> include L-L and C-C.

True. I discarded them because I thought I could get by with LC. :c)

> The first two you show will be enough to match a wide range of
> impedances if the L and C have enough range.

Okay, I think then I could simplify futher to:

```
GND GND
*\ *
\ \|/
*------------------L------------------\* |
\ |
* *-------------
| |
| |
| |
| |
TX---|-----------------C-------------------------|
```

And you use a single DPDT relay for that. Yep that's efficient.

> I just built an L network tuner and used a single DPDT relay to
> switch configurations. (the first two you show).

> I used a Potter Brumfield KRP series 12vdc coil, modified by
> removing the Octal pins, a soldering directly to the lugs on the
> relay frame.

Okay.

> Omron is one brand I have seen in commercial ATUs. Model GY5-254p.

Okay.

> Digi-key, Mouser, or Newark would have what you need. Radio Shack has
> some relays that would work, especially if you stay below 100 watts.
I
> used a PB relay cause thats what I had in the junkbox.

Okay.

Actually, I could simplify further, because with my antenna parameters,
all my connections are series C with shunt L at antenna side, except

that one needs a capacitance of 1062PF. With a 950PF capacitor which I was going to go for, that means I'd have to shunt it with arounf 120pF. That would call for one SPST relay. Or get myself a variable above 1062PF. However, with the system above, that is like you have, I can go with series inductance and 618pF capacitance.

Probably better to go with the connections above, because then I can still use the 950pF and overall I bet there is more flexibility than only having the option of seroes C and shunt L at antenna side all the time.

I think you are recommending regular (non specialised RF) types of relay. I will take a look and see what the GY5-254p is.

1041. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 14:57:13 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ro16$3qrh5$1@ID-150848.news.dfncis.de>
Source record: 120443

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7rl84$3p6vp$1@ID-150848.news.dfncis.de...

> However, with the system above, that is like you have, I can go
> with series inductance and 618pF capacitance.

Ooops. I canot do that, the simplified circuit is series C only with
option to switch shunt L from antenna side to TX side or visa-versa.
Only the full circuit will allow me to have series L. I'd have to shunt
C with a capacitor using a SPST relay.

1042. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 15:00:31 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304190700.67369265@posting.google.com>
Source record: 120444

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304180841.ded96f9@posting.google.com>...
> Hi there,
> My name is Art and I am an American albiet born in England.

Hi Art, my name is Mark, and I am an American albiet born in Tejas,
which everyone knows is a "sub country" of America.

> I have an interest in antennas which is why I post to this group.

Well, I be dipped. Me too.

> I have no degree but I do have curiousity and am willing to learn.

Shazaamm...Me too. I also have no degree, but I do own a good lab
grade thermometer.

> The ham comunity will recognise the names of many posters here as very
> knoweledgable about antennas, you have seen their names in ham radio
> magazines.Check off the names for yourselves if you are a ham!

Are non hams allowed to participate in this adventure? What do we do
if we don't get magazines? Can I just assume for now all here are
world famous authors? Has any of this illustrious group had any #1
best sellers? Can I get a small loan from one of these people?

> When these people joined up as a group or cabal they not only
> provided
> help to aspiring ham radio operators but also have combined
> to attack people who bring up different views on antennas to which
> they do not agree.

What methods do they use for these attacks? Slingshots? Small arms?
GPS directed bunker buster guided missles? Have any of these attempts
been successfull? Maybe I better start wearing a bulletproof vest...

They either assume that all is known about antennas
> or they dislike the new.

They do? That is an interesting phenomenon.

Instead of agreeing to diagree like gentlemen
> it becomes a long battle to discredit those who will not fall in line.

Really? Kind of like Iraq, pre-Sodamn huh? Where would this place you
in the overall scheme of things?

> There have been many manufacturers that have come under horibble
> attacks on their credability prior to the multi year attacks on Dr

> Cohen who has written on Fractal Antennas.

Name them. This sounds like a bunch of "Baghdad Bob" propaganda to
me...

> In a similar way to the McCarthy era, good people were drawn into a
> group of bad people and their followers.

Did they use charcoal or water color? Wait...crap...Excuse me, you are
from England... water colour....There, thats better..

We have similar bad people on
> this newsgroup who all accept, they are wanna bees or fake experts who
> also natually join the fray to discredit people.

Are these "wanna bees" related to the "killer bees" that have started
to migrate into Texas from Mexico? Fierce little suckers they are when
gathered in large numbers...I don't worry about "fake experts". I have
a good insecticide for them. They are quite similar to termites.

The posting about the
> FINAL SOLUTION/Dr Cohen was posted by one of these accepted wanna bees
> that we all know. He has a police record as a criminal in America, his
> adopted Country, and will also send a computor virus to people of his
> own choosing.

Well, at least you can't call him boring....

> He made such a posting to finally get rid of Dr Cohen for the cabal.

Was he successful? We haven't heard much out of the good doktor for a
while...

> I am the latest target.

If I were you, I'd invest in a good bulletproof vest.

> I had the temerity to suggest something new with antennas, even
> patented a couple of them and am writing up another one.

Well, at least we can't call you boring...

> But I have no degree and an immigrant to boot so I am an easy
> successor to Dr Cohen as one who has the audacity to present something
> new and, by golly, willing to share these ideas that the cabal
> resists.

This comparison is inconsistant with the available data. Please try
again...

This group has a fine record of discrediting people.

Dang right. This is the antenna "no spin zone".

> As can be seen by all, I have lost considerable credability with regards to
> this newsgroup as a person and regarding antennas.

You have? Please accept my condolences.

Soon I will be seen
> as standing naked so I take the opportunitiy now with what little I
> have left in the hope that some will read this post before total
> discreditation which will surely come about.

I don't want to see you naked. You are not my type. I don't like
hairy legs for one thing. I for one hope this discreditation will not
surely come about. If it does, please have the good taste to warn us a
day in advance, so I can be absent that next day.

> Well, I will not go away, even tho naked and in the cold.

It should warm up soon. The trees are budding out, and the snowfall is
dwindling. Before long, it will be hot, and you will fit right in.
That is until your neighbor calls the police and they throw you in
jail for wandering about the yard without your skivvies...

> There are many good people in this world and sooner or later good will
> prevail.

Well, at the end maybe.

> To those who have read some of what I say about antennas, I am telling
> the truth as I see it and am willing to share with all.

Is that the whole truth, and nothing but the truth , your honour?

I also am not
> pure and have many faults but I do try to be kind, even to those who
> wish to hurt me.

That's ok. Wandering about the yard with no skivvies is a "victimless
crime" for the most part.

Nor do I ask for pity since I have the courage to
> withstand the storm and will continue to stand up for what I believe
> in.

That is good. Rednecks have pity on very few people in general.

> Thanks to those you have risked giving me support.

Do we need to compensate "them" for this risk?

> I have no more to say on this posting except one thing..
>
> Forgive them for they know not what they do.

But , of course, you do. Whew...Thanks. I'll sleep better at night
knowing that.
I'm glad we were able to have this little chat. Please feel free to
call again.
MK

1043. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 15:02:34 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <f5p2av4hlcd2e4jqbg0brjogau5g3mj1ic@4ax.com>
Source record: 120445

On Sat, 19 Apr 2003 13:49:13 GMT, Dale Parfitt <parinc@gte.net> wrote:
>Isn't a double extended zepp two 5/8 wave sides? I make that to be over
>300' long..

Hi, Dale.

Dunno for sure. Maybe I am wrong on the "80M" part. See:
http://www.qrpworld.com/40_meter_zepp_antenna.htm

I thought it was done as follows: 5/8 of 80M is 50M, which is roughly
the 176 ft. You are suggesting that is the length of each side. I
don't know.

In any event, I will be using a wire that is 176 ft overall for
160M-10M. Does it matter how long the twinlead is if I am using a 4:1
balun and tuner?

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

1044. Re: Archives

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 15:27:49 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <UVdoa.45582$cB3.323373@nnrp1.uunet.ca>
Source record: 120446

Too easy.... Thanks guys.

Terry VESTRY

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA0A76F.8000703@ieee.org...
> Terry wrote:
> > This may seem like a dumb question to some but I'm going to ask anyway.
> > I have seen numerous posts suggesting a person to check the archives on
> > comments made about whatever. I have never been able to figure our how
to do
> > that, in fact it seems most posts come up "not available" after about 2
> > weeks. Could someone be so good as to point out how to find or search
for an
> > archived post please? I use Outlook Express, if it makes any difference.
>
> Click on the following URL and select 'Advanced Groups Search'.
>
> http://groups.google.com/
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

---
Outgoing mail is certified Virus Free.
Checked by AVGAS anti-virus system (http://www.grisoft.com).
Version: 6.0.467 / Virus Database: 266 - Release Date: 4/1/2003

1045. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 15:56:55 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA171C7.590C277@cwis.net>
Source record: 120447

Ken,
Yes, the length of the feed line does matter. It
has to be long enough to reach from the transmitter
to the antenna. After that, the search for the perfect
length of feed line is like the search for the perfect
bowl of chili. Since there are so many things that can,
and do, affect a bowl of chili, the search is a never
ending one, since it's never possible to control all
the variables. You can approach the ideal, and even
get to the 'good enough' stage in your search, but that
perfect bowl of chili will always be a dream.
I thought about comparing it to finding the perfect
woman, but chickened out...
'Doc

PS - There is no ~one~ perfect length for all frequencies.

1046. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:02:02 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA172FA.6C1BD088@cwis.net>
Source record: 120448

Bob,
Of the three choices you gave, the first seems
to be the 'best' bargain, although I'm not familiar
with the brands. Except in the case of toilet seats,
it's always better to 'over-build' than 'under-build'.
'Doc

1047. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:05:01 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA173AD.1D8D7B7B@cwis.net>
Source record: 120449

Richard,
Have you ever seen the schematic for the
'Ten-Tek'(sp) 'big daddy' tuner? (can't think
of the model number, sorry)
'Doc

1048. Re: R-f grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:08:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jcs2av41p4f57gp946c47i6rl3au4jc4sq@4ax.com>
Source record: 120450

On Sat, 19 Apr 2003 07:14:42 -0400, "David J. Windisch"
<davidw@copper.net> wrote:

>Hi, Richard:
>
>Where is the line of demarcation between the load and the artificial ground
>;o) ?
>
>IAC, tks vm for the suggestion. I have several variable inductances I will
>use to try your suggestion.
>
>73, Dave, N3HE

Hi Dave,

The line is at the "ground" terminal of the artificial ground. That
is the point of an artificial ground, you tune it to transform the
potentials situated around a high Z operating station environment into
the currents of a low Z ground. One of the hallmarks of the
artificial ground are that these high potentials are moved to the end
of the artificial ground (just like any dipole - in other words, you
get to sit at the feedpoint).

Don't forget to add a tuning indicator (peak for max current).

73's
Richard Clark, KB7QHC

1049. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:29:05 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7rtcl$41rtp$1@ID-150848.news.dfncis.de>
Source record: 120451

"'Doc" <w5lz@cwis.net> wrote in message
news:3EA173AD.1D8D7B7B@cwis.net...
>
>
> Richard,
> Have you ever seen the schematic for the
> 'Ten-Tek'(sp) 'big daddy' tuner? (can't think
> of the model number, sorry)
> 'Doc

Nope I haven't. But really I bet it's not an rf relay I'm after, more like just a high-voltage relay. It's better if the contacts don't terminate in a plug.

Something like:

```
*----------------
--------------------*
*---------------- |
____|___
| |
| |
|_______|
COIL
```

You connect wires to contacts at top of relay unit at points *. As I say, probably just HV type relays with plenty of insulation.

1050. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:35:36 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7rtop$3ve3b$1@ID-150848.news.dfncis.de>
Source record: 120452

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7rtcl$41rtp$1@ID-150848.news.dfncis.de...

> Something like:
>
> *----------------
> --------------------*
> *---------------- |
> ____|___
> | |
> | |
> |_______|
> COIL

Ha, finally found what I'm after:

http://www.surplussales.com/Relays/rfopen.html

But can I get stuff like this in England? I should be able to, but
where from. If anyone knows please let me know.

1051. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 16:43:22 UTC
From: wf3h@ptnosm.com
Message-ID: <3ea17c28.392234836@news.ptdprolog.net>
Source record: 120453

On Sat, 19 Apr 2003 13:13:21 GMT, Dave Shrader <w1mce@attbi.com>
wrote:

>Only 6 comments:
>
>1) Reinforced [rebar] concrete base.
>2) Professional Engineer evaluation.
>3) Professional installation.
>4) Building Permits.
>5) Inspections.
>6) Insurance.
>

especially insurance! :-)

>Deacon Dave, W1MCE
>+ + +
>
>wf3h@ptnosm.com wrote:
>>
>> Looking at putting up a freestander...probably in the 50-70' range.
>> Have following info:
>>
>> Tower Height Cost Load
>>
>> AN 50' 1340 40
>> 60 1620 37
>>
>> Trylon T400 64' 1359 34
>>
>> I have a Mosley Pro 67B with 11.5 sf windloading.
>>
>> Anybody have experience with these towers? Recommendations? Do's and
>> don'ts?
>>
>> Thanks
>>
>> Bob/WF3H
>> ---------------------------
>> to see who "wf3h" is, go to "qrz.com"
>> and enter 'wf3h' in the field

----
to see who "wf3h" is, go to "qrz.com"
and enter 'wf3h' in the field

1052. Re: Archives

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 17:01:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dtu2av8gnmn1qgsk3o9rj67mba0dcjkh64@4ax.com>
Source record: 120454

On Sat, 19 Apr 2003 12:27:49 -0300, "Terry" <ve1trb@hotmail.com>
wrote:

>Too easy.... Thanks guys.
>
>Terry VESTRY
>
Hi Terry,

The hard part is reading it.

If you enquire into facts, google's search engine will probably find your answer within a page or two of candidate listings. If you enquire into issues, you may as well ask it here open-faced. I'm sure this last piece of advice galls some, galls me too when these "questions" come from those who've been through the mill already. But whatchagonnado?

73's
Richard Clark, KB7QHC

1053. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 17:26:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA186D4.6030809@ieee.org>
Source record: 120455

Ken wrote:
> What length should my feedline be for a 176 ft (overall) double
> extended zepp fed with 300 ohm twinlead if I am using a tuner and want
> decent loading from 160M to 10M?

A 176ft EDZ is designed for 6.65 MHz. Is that what your really want?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1054. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 17:35:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA188DD.3040509@ieee.org>
Source record: 120456

Ken wrote:
> In any event, I will be using a wire that is 176 ft overall for
> 160M-10M. Does it matter how long the twinlead is if I am using a 4:1
> balun and tuner?

Your EDZ is designed for 6.65 MHz. On 1.9 MHz with 300 ohm feedline,
EZNEC sez the SWR will be 83:1 and the feedpoint impedance at a
current maximum point will be 3.6 ohms. Your 4:1 balun will try
to take that down to less than one ohm and your tuner, even if
it will match it, will suffer considerable losses. I suggest that,
on 160m, you feed that antenna Marconi style against a counterpoise.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1055. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 18:43:58 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304191043.31832fd1@posting.google.com>
Source record: 120457

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA04541.8030702@ieee.org>...
> Dr. Slick wrote:
> > I mention is because i thought this was why you were posting what
> > you did, to show that a matched network CAN and does have reflections.
> >
> > Excuse me if i misunderstood you.
>
> The point was broader than that, i.e. only physical impedance
> discontinuities can cause reflections. In thin-film optics, that
> equates with a change in index of refraction being necessary to
> cause the two reflected waves that cancel to zero net reflections.
>

Well, your example is an interesting one, and has certainly
affected how i will view 1/4 wave-length impedance matching
transmission lines (usually coax).

Thanks Cecil and Ian and everyone else for a very interesting
thread.

Slick

1056. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 19:46:14 UTC
From: jgboyles@aol.com
Message-ID: <20030419154614.18877.00000326@mb-m13.aol.com>
Source record: 120458

Hi Richard,
The reason I suggested standard relays was cost and avalibility. Relays designed for rf service would be preferred.
Many of the open frame rf relays pictured in the Surplus Sales of Nebraska link look just like my modified Potter Brumfield relay. As a matter of fact, I think I got the idea of modifying a PB from looking at pix of the rf relays those guys sell.
Richard wrote:
>Ha, finally found what I'm after:
>
>http://www.surplussales.com/Relays/rfopen.html

73 Gary N4AST

1057. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:03:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA1AB8E.6020705@ieee.org>
Source record: 120459

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA04541.8030702@ieee.org>...
>
>>Dr. Slick wrote:
>>
>>> I mention is because i thought this was why you were posting what
>>>you did, to show that a matched network CAN and does have reflections.
>>>
>>> Excuse me if i misunderstood you.
>>
>>The point was broader than that, i.e. only physical impedance
>>discontinuities can cause reflections. In thin-film optics, that
>>equates with a change in index of refraction being necessary to
>>cause the two reflected waves that cancel to zero net reflections.
>>
> Well, your example is an interesting one, and has certainly
> affected how i will view 1/4 wave-length impedance matching
> transmission lines (usually coax).

The following two examples are roughly equivalent:

Coherent | |
Light---->----Air---->----|~~thin-film~~|==infinite glass==...
| |
Index of refraction 1.0 1.22 1.5

XMTR-->--50 ohm feedline--+--1/4WL 150 ohm feedline--450 ohm load

RF engineers could understand exactly how the above match works by
understanding the following web page involving light. In particular,
it tells exactly why the reflected energy changes directions. I have
not yet seen anything like it in RF literature.

http://www.mellesgriot.com/products/optics/oc_2_1.htm
--
73, Cecil http://www.qsl.net/w5dxp

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1058. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:06:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA1AC44.6030507@ieee.org>
Source record: 120460

JGBOYLES wrote:
> Hi Richard,
> The reason I suggested standard relays was cost and avalibility. Relays
> designed for rf service would be preferred.

For 100 watts, the Omron LY series is hard to beat. They are equipped
with barrier strips between the contacts that work well at HF-RF.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1059. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:10:13 UTC
From: fractenna@aol.com
Message-ID: <20030419161013.18914.00000181@mb-m23.aol.com>
Source record: 120461

>2) Chip was for the most part criticized on technical grounds.

Not true.

It was
>only when he started threatening to sue anyone who challenged him on
>those grounds did it become ugly.
>

That is a false statement.

I have neither sought nor advocate these mandacious public statements whose intent is to libel me and deface my good character and reputation.

I will not respond to any responses regarding the above statement on this public newsgroup.

I am proceeding as I have discussed.

Nathan Cohen

1060. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:34:26 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <7dc3av0nmr47aohphhh3o9ugtp3tlmjfea@4ax.com>
Source record: 120462

On 19 Apr 2003 20:10:13 GMT, fractenna@aol.com (Fractenna) sent into
the ether:

>>2) Chip was for the most part criticized on technical grounds.
>
>Not true.
>
> It was
>>only when he started threatening to sue anyone who challenged him on
>>those grounds did it become ugly.
>>
>
>That is a false statement.
>
>I have neither sought nor advocate these mandacious public statements whose
>intent is to libel me and deface my good character and reputation.
>
>I will not respond to any responses regarding the above statement on this
>public newsgroup.
>
>I am proceeding as I have discussed.
>
>Nathan Cohen
You are a buffoon.
Your actions on this and other groups have detailed the type of
buffoon you are. No amount of denial or accusations, true or false
will change the behaviors you have displayed for enough years on news
groups to earn your title of buffoon. Wear it proudly, you deserve
it, you worked hard for it! You are a buffoon!
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

1061. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:40:29 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <1vioa.45660$cB3.324308@nnrp1.uunet.ca>
Source record: 120463

Most of the guys around here go for the Trylon because of it's strength. The only thing I'd suggest is you might want to spend some extra bucks to but the ladder wrongs on all but the bottom two sections (you don't want to make it too easy to climb aka the next door neighbor's kids). The cross braces are singular not cross braced, and they're really hard on the ankles after standing on them for more than an hour. I've climbed a number of different brands and I really appreciate the ones with the ladder wrongs mounted.

Terry VE1TRB

<wf3h@ptnosm.com> wrote in message
news:3ea13963.375149751@news.ptdprolog.net...
> Looking at putting up a freestander...probably in the 50-70' range.
> Have following info:
>
> Tower Height Cost Load
>
> AN 50' 1340 40
> 60 1620 37
>
> Trylon T400 64' 1359 34
>
> I have a Mosley Pro 67B with 11.5 sf windloading.
>
> Anybody have experience with these towers? Recommendations? Do's and
> don'ts?
>
> Thanks
>
> Bob/WF3H
> ---------------------------
> to see who "wf3h" is, go to "qrz.com"
> and enter 'wf3h' in the field

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.474 / Virus Database: 272 - Release Date: 4/18/2003

1062. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 20:43:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <orc3av4fpvt4ubddt2aqruj5ofjbl1vr42@4ax.com>
Source record: 120464

On 19 Apr 2003 20:10:13 GMT, fractenna@aol.com (Fractenna) wrote:

>
>I have neither sought nor advocate these mandacious public statements whose
>intent is to libel me and deface my good character and reputation.
>
>I will not respond to any responses regarding the above statement on this
>public newsgroup.
>
>I am proceeding as I have discussed.
>
>Nathan Cohen

Speaking of responses, we have NEVER seen a public appology nor
retraction of the following documented instances of scurrilous
activity (something that Art Unwin seems to embrace as honorable)
which will serve to illustrate (the following is in the archives):

********** Policing follows **********

The following quotes are from an original topic heading a new thread
submitted from the same address that I am responding through here:
>From: Fractenna (fractenna@aol.com)
>Subject: 'Wakefield Killer' callsign?
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 09:06:41 PST
>
>I just talked with someone who said the Wakfield killer was a former ham with a
>KA1 callsign.
>

Not an isolated instance at all as that thread grew through leaps of a
perverted imagination that could only heap abuse on a member of our
community:
>From: Fractenna (fractenna@aol.com)
>Subject: Re: 'Wakefield Killer' callsign?
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 14:51:34 PST
>
>>Fractenna <fractenna@aol.com> wrote:
>>
>Uhhhh.. you say that Bernie Goetz and xxxxxx xxxxxxxx are both radio HAMS??
>What do you think the random chance of two rampage killers being hams would
>be?? 1 in 10,000? 1 in 1,000,000?
>
(I struck out the name with xxxxxxx to not perpetuate this monstrous

and vicious attack an innocent member of our community.)

Then that is not enough, draw in others to spread the insidious lies:
>From: Fractenna (fractenna@aol.com)
>Subject: Re: 'Wakefield Killer' callsign?
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 16:04:46 PST
>
>Rickie it just gets more befuddlin' .Can you je's say wat u mean? I thought we
>were talkin' 'bout this killer who lives about 20 miles from you.
>

This may have proven to be very prophetic (with an ironic twist):
>From: Fractenna (fractenna@aol.com)
>Subject: Re: 'Wakefield Killer' callsign?
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-29 13:28:56 PST
>
>FYI...in case anyone wonders about why the new year brings legal issues, see
>for yourself.
>
>NC

Within a month, this station went silent. My guess is that the
prophecy kicked in. However, that was in the future and at the time,
the abuse was continued with full gusto and glee:
>From: Fractenna (fractenna@aol.com)
>Subject: KXXXX--'Wakefield Killer'?? Looks like it...
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 10:31:48 PST
>
>As suggested I did a name search on qrz.com. The Boston papers report this guy
>lives in xxxxxxx and sure enough there it is in the flesh as KXXXX.
>
>K-X-X-X-X
>
Our poster was concerned no one would read the call sign in the body
of the text and thus had to deliberately hi-light this entry (changed
by myself here and elsewhere to not perpetuate this monstrosity
visited upon a wholly uninvolved member of our community).

Our noble fellow who so valiantly champions the poor ham here, stated
in the past:
>From: Fractenna (fractenna@aol.com)
>Subject: Re: KXXXX as 'Wakefield Killer'---ARRL response??
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 14:55:31 PST
>
>Now you tell ME that this is just a random correlation.
>
>How many OTHER hams have been murderers??!

>
Apparently the source of this vicious lie is now polling the field for
more material.

>From: Fractenna (fractenna@aol.com)
>Subject: Re: KXXXX as 'Wakefield Killer'---ARRL response??
>Newsgroups: rec.radio.amateur.antenna
>Date: 2000-12-28 15:16:34 PST
>
>Its only a matter of time before they see a ham connection and that's why its
>best to do damage control for the fraternity.
>All I wanted to know was how and look where you guys took it. Bernard Goetz and
> god knows who else and how many ham killers. It's scary..
>
So, the presumption from this poster is that we are a nut fringe
community that breeds and harbors killers.

This vicious slander took place within a vigorous and concerted
campaign to spread the lies through aggressive postings and postures
that eventually bloomed to more than 100 entries. The few quotes
above (hardly their total) merely encompass the opening 27 hours of
that energetic campaign to smear the name of an innocent Ham.

In closing, let's re-visit that hypocritically manufactured sentiment
smugly offered as a response to my posting and my championing against
these scandals aggressively perpetuated upon fellow Hams:
>I often wonder if the folks who devised this newsgroup speculated that some
>participants would use the NG in this and other unsettling ways.
Many here already have comments offered to that very point (this one
being an example), and undoubtedly others have withheld their
astonished and angry responses to the filth offered from this source.

All editorialization aside, the fact remains that EVERY posting made
by this source to the effect of naming this innocent individual as a
murderer was completely wrong, was wholly manufactured through
original conjectures, speculations, and direct statements introduced
only by this source, and had absolutely no basis in reality.

********** Policing ends **********

73's
Richard Clark, KB7QHC

1063. Help needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 21:09:45 UTC
From: listener <listener@here.net>
Message-ID: <tWioa.193115$S14.132164@news1.central.cox.net>
Source record: 120465

I'm living in a ground floor apartment and have tried most of the indoor HF antennae with poor results.

Here is my plan:
25' from the back of the apartment is a wooded area with trees up to 60' high. My receiver is in my front room and my bedroom is inbetween the rear of the apartment and my receiver.

My questions are, I have a length of feedwire from RadioShack (I know, not the best), if I ran that outside to the 25' of grassed area between the apartment and woods, buried it and connected it to a longwire would that work?

My 2nd question is, how long a wire should I use? I'm planning on tying a stone to the end (Multi stranded copper) and throwing it as far as possible over a tree or two. I'm mainly listening to 1MHz up to around 27MHz however it's the lower freqs of 2-8MHz I'm mainly interested in, I have around 50 or 60' of wire for the antenna, I could get more without a problem.

Last question, If I run another wire beside the feedline to the longwire can I attatch it to the ground rod at the back of the apartment for the ground screw on my receiver? (Icom PCR-1000)

Here's a bad picture of what I'm trying to do:

http://members.cox.net/xboxemulation/ant.bmp
24k in size

Thanks for any answers anybody may have, it's appreciated.

1064. Re: Help needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 21:44:48 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7sfv2$1ke$1@slb6.atl.mindspring.net>
Source record: 120466

"listener" <listener@here.net> wrote in message
news:tWioa.193115$S14.132164@news1.central.cox.net...
> I'm living in a ground floor apartment and have tried most of the indoor
HF
> antennae with poor results.
>
> Here is my plan:
> 25' from the back of the apartment is a wooded area with trees up to 60'
> high. My receiver is in my front room and my bedroom is inbetween the rear
> of the apartment and my receiver.
>
> My questions are, I have a length of feedwire from RadioShack (I know, not
> the best), if I ran that outside to the 25' of grassed area between the
> apartment and woods, buried it and connected it to a longwire would that
> work?
>
> My 2nd question is, how long a wire should I use? I'm planning on tying a
> stone to the end (Multi stranded copper) and throwing it as far as
possible
> over a tree or two. I'm mainly listening to 1MHz up to around 27MHz
however
> it's the lower freqs of 2-8MHz I'm mainly interested in, I have around 50
or
> 60' of wire for the antenna, I could get more without a problem.
>
> Last question, If I run another wire beside the feedline to the longwire
can
> I attatch it to the ground rod at the back of the apartment for the ground
> screw on my receiver? (Icom PCR-1000)
>
> Here's a bad picture of what I'm trying to do:
>
> http://members.cox.net/xboxemulation/ant.bmp
> 24k in size
>
> Thanks for any answers anybody may have, it's appreciated.
>
>
>
>
>

The wire you run underground should be insulated. Or use coaxial cable
(prefered).

I see no real need in running a ground wire to the outside ground rod.

It should work alright for receiving.

Basically the more wire the better.

Dan/W4NTI

1065. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 21:59:25 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7sgo7$43ljt$1@ID-150848.news.dfncis.de>
Source record: 120467

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA1AC44.6030507@ieee.org...

> For 100 watts, the Omron LY series is hard to beat. They are equipped
> with barrier strips between the contacts that work well at HF-RF.

<http://www.omroncomponents.co.uk/pdfs/relays/GENERAL%20PURPOSE/LY.pdf>

Yep, that looks a good one.

When I was thinking of OMRON I was thinking about the octal plug-in
types, and thought they would not be that suitable, but the LY series is
different - better. Sealed as well.

Thanks.

Rich.

1066. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 22:08:11 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <4jh3avo2kq7sd5lfs0u2ib35q5pgo35pru@4ax.com>
Source record: 120468

On Sat, 19 Apr 2003 12:26:44 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>A 176ft EDZ is designed for 6.65 MHz. Is that what your really want?

What I want is an antenna that will be OK (not great) on all HF bands.
This one is not supposed to resonate anywhere but to load up OK
everywhere. I have seen commercial versions offered with 100 ft or
125 ft ladderline feedlines that are supposed to be all band,
including 160M. I am trying to do the same thing with 22 gauge copper
wire and twinlead for 0.5-50 watts (max) HF. My tuner is rated for
300 watts and my balun for 200 watts.

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

1067. Re: Help needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 22:13:14 UTC
From: listener <listener@here.net>
Message-ID: <_Rjoa.193844$S14.26678@news1.central.cox.net>
Source record: 120469

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:b7sfv2$1ke$1@slb6.atl.mindspring.net...
>
> "listener" <listener@here.net> wrote in message
> news:tWioa.193115$S14.132164@news1.central.cox.net...
> > I'm living in a ground floor apartment and have tried most of the indoor
> HF
> > antennae with poor results.
> >
> > Here is my plan:
> > 25' from the back of the apartment is a wooded area with trees up to 60'
> > high. My receiver is in my front room and my bedroom is inbetween the
rear
> > of the apartment and my receiver.
> >
> >
> >
> >
>
> The wire you run underground should be insulated. Or use coaxial cable
> (prefered).
>
> I see no real need in running a ground wire to the outside ground rod.
>
> It should work alright for receiving.
>
> Basically the more wire the better.
>
> Dan/W4NTI
>

Thanks for the reply, Dan, the feedline is insulated.
I'm waiting until 10PM EST when it's dark to bury the line and shoot the
longwire into the trees, the wife's helping me - she's good with a spade.

1068. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 22:20:40 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <loi3avohr06d9cku7gqeakfndn43iapocd@4ax.com>
Source record: 120470

There Art, I rest my case. You accused me of running him off and here
he is.

Hook, line, and sucker.

Type apology here: _____

On 19 Apr 2003 20:10:13 GMT, fractenna@aol.com (Fractenna) wrote:

|>2) Chip was for the most part criticized on technical grounds.
|
|Not true.
|
| It was
|>only when he started threatening to sue anyone who challenged him on
|>those grounds did it become ugly.
|>
|
|That is a false statement.
|
|I have neither sought nor advocate these mandacious public statements whose
|intent is to libel me and deface my good character and reputation.
|
|I will not respond to any responses regarding the above statement on this
|public newsgroup.
|
|I am proceeding as I have discussed.
|
|Nathan Cohen

1069. Re: Help needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-19 23:39:45 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7smmj$l3$1@slb2.atl.mindspring.net>
Source record: 120471

"listener" <listener@here.net> wrote in message
news:_Rjoa.193844$S14.26678@news1.central.cox.net...
>
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
> news:b7sfv2$1ke$1@slb6.atl.mindspring.net...
> >
> > "listener" <listener@here.net> wrote in message
> > news:tWioa.193115$S14.132164@news1.central.cox.net...
> > > I'm living in a ground floor apartment and have tried most of the
indoor
> > HF
> > > antennae with poor results.
> > >
> > > Here is my plan:
> > > 25' from the back of the apartment is a wooded area with trees up to
60'
> > > high. My receiver is in my front room and my bedroom is inbetween the
> rear
> > > of the apartment and my receiver.
> > >
> > >
> > >
> > >
> > >
> > The wire you run underground should be insulated. Or use coaxial cable
> > (prefered).
> >
> > I see no real need in running a ground wire to the outside ground rod.
> >
> > It should work alright for receiving.
> >
> > Basically the more wire the better.
> >
> > Dan/W4NTI
> >
>
> Thanks for the reply, Dan, the feedline is insulated.
> I'm waiting until 10PM EST when it's dark to bury the line and shoot the
> longwire into the trees, the wife's helping me - she's good with a spade.
>
>
Go for it....Ive been there and done that. I used to live in a
apartment....at nights Id run my coax out to my car and hook it to my
Hustler mobile antenna.

Unfortunately I had to work for a living so my 'air time' was somewhat limited...hi.

Enjoy.

Dan/W4NTI

1070. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 01:33:25 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <7tt3av02ktqjacnr8nd9euk1kq6sbvrnlf@4ax.com>
Source record: 120472

On 19 Apr 2003 20:10:13 GMT, fractenna@aol.com (Fractenna) wrote:

>>2) Chip was for the most part criticized on technical grounds.
>
>Not true.
>
> It was
>>only when he started threatening to sue anyone who challenged him on
>>those grounds did it become ugly.
>>
>
>That is a false statement.
>
>I have neither sought nor advocate these mandacious public statements whose

^^^^^^^^^

mendacious

>intent is to libel me and deface my good character and reputation.
^^^^^
defame
>
>I will not respond to any responses regarding the above statement on this
>public newsgroup.
>
>I am proceeding as I have discussed.
>
>Nathan Cohen

Russ

1071. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 03:20:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA211F1.2000707@ieee.org>
Source record: 120473

Roy Lewallen wrote:
> Dr Slick could save us all from another few hundred postings by doing a
> google search of this newsgroup. This topic was discussed in agonizing
> length not more than a month or so ago. I'd sure hate to see us have to
> go through this every time someone new drops into the newsgroup and
> takes the bait.

Roy, one of the most frequently asked questions on this newsgroup is
for information about EZNEC. Next time someone asks for information
about EZNEC, should we tell them to do a google search? :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1072. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 03:23:14 UTC
From: k1bqt@aol.com
Message-ID: <20030419232314.18909.00000203@mb-m15.aol.com>
Source record: 120474

Neward Electronics has been selling Omron G2R-1-E relays (24-V coil, SPDT, 16-A AC contacts) for $2.79 each. Just used 5 to build a remote antenna selector switch and was pleasantly surprized. SWR contribution measured less than 1.1:1 for all 5 switch positions and insertion loss was virtually unmeasurable up through 150 MHz (things started to fall apart above 200 MHz). These might make a good choice.

Rick K1BQT

1073. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 04:38:57 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304192038.347a7f6c@posting.google.com>
Source record: 120475

jgboyles@aol.com (JGBOYLES) wrote in message
news:<20030419154614.18877.00000326@mb-m13.aol.com>...
> Hi Richard,
> The reason I suggested standard relays was cost and avalibility. Relays
> designed for rf service would be preferred.
> Many of the open frame rf relays pictured in the Surplus Sales of Nebraska
> link look just like my modified Potter Brumfield relay. As a matter of fact, I
> think I got the idea of modifying a PB from looking at pix of the rf relays
> those guys sell.
> Richard wrote:
> >Ha, finally found what I'm after:
> >
> >http://www.surplussales.com/Relays/rfopen.html
>
> 73 Gary N4AST

I've used some pretty weird relays for antennas. Never had any trouble
so far. The last time was a coil bypass relay for an elevated 40/17m
ground plane. I used a 24 volt fan switching relay like you would see
on a furnace or air handler. They are 24 v relays. Never had any
trouble. The relay contacts are large, which most likely means about
as much as anything for rf use. They are cheap to buy. I have loads of
them laying around, so tend to use what I have instead of buying them.
MK

1074. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 04:42:22 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304192042.2650a3d5@posting.google.com>
Source record: 120476

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA1AC44.6030507@ieee.org>...
> JGBOYLES wrote:
> > Hi Richard,
> > The reason I suggested standard relays was cost and avalibility. Relays
> > designed for rf service would be preferred.
>
> For 100 watts, the Omron LY series is hard to beat. They are equipped
> with barrier strips between the contacts that work well at HF-RF.

Should handle 100w no problem unless they are really flimsy. I ran
1300-1400w through the fan relays I used a while back on my vertical.
Never a problem. MK

1075. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 06:30:11 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304192230.1b1092fc@posting.google.com>
Source record: 120477

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA1AB8E.6020705@ieee.org>...
>
> The following two examples are roughly equivalent:
>
> Coherent | |
> Light---->----Air---->----|~~thin-film~~|==infinite glass==...
> | |
> Index of refraction 1.0 1.22 1.5
>
> XMTR-->--50 ohm feedline--+--1/4WL 150 ohm feedline--450 ohm load
>
> RF engineers could understand exactly how the above match works by
> understanding the following web page involving light. In particular,
> it tells exactly why the reflected energy changes directions. I have
> not yet seen anything like it in RF literature.
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm

There are many parallels in this comparison:

The relative amplitude of the reflected light = (1-p)/(1+p),
where p=n1/n2
and n1=refractive index of medium 1, and n2 for medium 2.
If we multiply top and bottom by n2, we get:

rel. amp.=(n2-n1)/(n2+n1)

This is basically the same formula for the voltage reflection
coefficient:

Ref. Coeff. = (Rload-Ro)/(Rload+Ro), where in most RF cases,
Ro=50 ohms.
And this is assuming purely real or resistive impedances for
simplicity.

So of course, if Rload=50, then Ref. Coeff.=0/100=0 reflected
voltage.
And similarly, if n2=n1, the Amp. Ref. Light=0/2*n1=0 reflected
light (or no change in the medium).

So there is obviously a direct relationship between refractive
index and characteristic impedance. And this is why when wafer fab
folks wish to know the relative dielectric constant of their GaAs,
they will measure the refractive index with a laser beam.
Refractive index= square root of the dielectric constant.

A crazy link i found on this topic:
http://micro.magnet.fsu.edu/primer/java/polarizedlight/ellipsoid/

Your link also mentions that the reflections will interfere with
each other depending on the thinckness in wavelengths of the thin-film
medium (even mentioning the "velocity factor" of the medium, which is
the same concept for the VF of the coax, or transmission line).

So just as the 1/4wave matching coax must really be an
electrical 1/4 wavelength, so i assume the thin-film on
non-reflective lenses be a specific thickness (fractional wavelengths
of visible light) in order to minimize
reflections (or rather, maximize destructive interference).

As i understand it, damned interesting, Cecil.

Dr. Slick

1076. Rotary Switch

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 12:26:37 UTC
From: Bill <n4wc@arrl.org>
Message-ID: <h945avolmuiae65tndj0un8f1vm5lgsafl@4ax.com>
Source record: 120478

Looking for a replacement rotary ceramic switch for a Johnson Viking
Matchbox (Low power version).
Would someone suggest places to look!
I have checked SurplusSales of Neb. No luck!

73 Bill Cook N4WC

1077. Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 12:59:14 UTC
From: AL KA5JGV <ABurzynski@nojunk.satx.rr.com>
Message-ID: <CQwoa.105057$Q27.5726764@twister.austin.rr.com>
Source record: 120479

I'm getting gutsy! Instead of buying a BCB high pass filter I decided to build my own. I must wind three toroid's and have the turns and toroid type I need (T50-2) but I need a bit more information on controlling (improving) the Q of the coil. The only information I have is compiled from a good article by Mr. Lewallen (W7EL) at http://www.qrp.pops.net/w7el.htm and is summarized as follows:

1. Larger gage wire improves the Q.
2. Keep windings on one layer. Even a partial second layer reduces the Q.
3. There is a slight improvement in leaving a 30 degree gap on the toroid, but a small one.
4. Keep turns evenly distributed across 330 degrees of the toroid.
5. There is a slight improvement in regressive winding.

If you have any comments on these tips, or about winding toroid's, or have a source of additional info about the Q of a toroid I would greatly appreciate it. Thank you.

Al
KA5JGV

1078. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 13:04:18 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <k055av8cengpqstuo3nletqg38ee05a1iv@4ax.com>
Source record: 120480

On Sat, 19 Apr 2003 22:08:11 GMT, Ken <cprstn54zz@att.net> wrote:

>On Sat, 19 Apr 2003 12:26:44 -0500, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>>A 176ft EDZ is designed for 6.65 MHz. Is that what your really want?
>
>What I want is an antenna that will be OK (not great) on all HF bands.
>This one is not supposed to resonate anywhere but to load up OK
>everywhere. I have seen commercial versions offered with 100 ft or
>125 ft ladderline feedlines that are supposed to be all band,
>including 160M. I am trying to do the same thing with 22 gauge copper
>wire and twinlead for 0.5-50 watts (max) HF. My tuner is rated for
>300 watts and my balun for 200 watts.
>
>Ken KC2JDY

My 1955 ARRL Antenna Book makes the following statement about
center-fed dipoles, meant for multi-band use, fed with parallel
feedline (twinlead or open wire):

"The length of the flattop is not critical, nor is the length of the
feedline, but some combinations give less trouble with parallel line
currents than others." The book then recommends for a 135' dipole,
used from 3.5 to 28 mhz, and fed with parallel line, the best feedline
lengths are either 42' or 77.5'. For a dipole of 67', feedline lengths
of either 42.5' or 65.5'.

No mention of how they arrived at those combinations.

Have a happy...

Bob
k5qwg

>
>
>Ken
>(to reply via email
>remove "zz" from address)

1079. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 13:14:28 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA29D34.AA6FD5DB@cwis.net>
Source record: 120481

Richard,
What I was getting at was to take a look at
the circuit design and switching method. They
don't use relays.
'Doc

1080. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 13:26:04 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3EA29FCB.E951A776@attbi.com>
Source record: 120482

Ken,

Avoid all the confusion by calling your antenna a Center Fed Doublet with tuned feeders and avoid all the negative comments regarding the definition of an EDZ.

I used a CFD with tuned feeders for many years on USAF MARS and the ham bands from 3.3 MHz to 29.7 MHz and it worked fine!! It was 140 +/- feet long [doesn't really matter] in an inverted Vee configuration with an indeterminate length of 600 ohm open wire feeders. My tuner is an old [OLD] Murch 2000A using an external balun. I have no interest in 160 meters.

I have recently moved to a new QTH. This summer I'll put up a 190 foot long CFD and tune it the same way [The length of my back yard is 190 feet so there's no magic in the length.]

Dave, W1MCE
Manager, Textron Antenna Range, retired
Program Chief Engineer, USAF S-118 RS/RV, retired

1081. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 13:28:32 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3EA2A05E.D3BDB472@attbi.com>
Source record: 120483

Roy's [W7EL] advice is the best you'll get!!

Deacon Dave, W1MCE

AL KA5JGV wrote:
>
> I'm getting gutsy! Instead of buying a BCB high pass filter I decided to
> build my own. I must wind three toroid's and have the turns and toroid type
> I need (T50-2) but I need a bit more information on controlling (improving)
> the Q of the coil. The only information I have is compiled from a good
> article by Mr. Lewallen (W7EL) at http://www.qrp.pops.net/w7el.htm and is
> summarized as follows:
>
> 1. Larger gage wire improves the Q.
> 2. Keep windings on one layer. Even a partial second layer reduces the Q.
> 3. There is a slight improvement in leaving a 30 degree gap on the toroid,
> but a small one.
> 4. Keep turns evenly distributed across 330 degrees of the toroid.
> 5. There is a slight improvement in regressive winding.
>
> If you have any comments on these tips, or about winding toroid's, or have a
> source of additional info about the Q of a toroid I would greatly appreciate
> it. Thank you.
>
> Al
> KA5JGV

1082. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:01:43 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EA2A7CB.5F3467D9@shaw.ca>
Source record: 120484

AL KA5JGV wrote:
>

>
> If you have any comments on these tips, or about winding toroid's, or have a
> source of additional info about the Q of a toroid I would greatly appreciate
> it. Thank you.
>
> Al
> KA5JGV

Roy said it all!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1083. Re: Rotary Switch

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:25:10 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <3EA2ADC6.70003@PAMyahoo.ca>
Source record: 120485

Saw an advert for sale of a relay for the Matchbox.
He also had other parts,I can't find where I saw it because this ISP
only holds the articles for a very short time..
Look under boatanchors,and Ham sale NGs
73 de VE3JUA...

Bill wrote:
> Looking for a replacement rotary ceramic switch for a Johnson Viking
> Matchbox (Low power version).
> Would someone suggest places to look!
> I have checked SurplusSales of Neb. No luck!
>
> 73 Bill Cook N4WC
>

1084. GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:32:07 UTC
From: JamesR@nauti.com
Message-ID: <3EA2AF67.BB374478@nauti.com>
Source record: 120486

I put up a GAP Titan DX (80-10 meters) and thought it would surface. I have found that this antenna doesn't work as well on 80 as I thought. Has anyone else had a similar situation? And have you made any changes that would improve the overall performance of the GAP on 80? I have this antenna mounted about 8 feet off the ground.

In the mean time I ordered a dipole.

Jim

1085. Re: Relays for use in a 100 Watt atu.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:37:38 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ub7i$4gmc8$1@ID-150848.news.dfncis.de>
Source record: 120487

"'Doc" <w5lz@cwis.net> wrote in message
news:3EA29D34.AA6FD5DB@cwis.net...
>
>
> Richard,
> What I was getting at was to take a look at
> the circuit design and switching method. They
> don't use relays.
> 'Doc

Do you mean the 238B?

http://www.tentec.com/HIGH.HTM#model238

This design does not use relays?

Well, I guess it won't because it sits next to your TX.

I notice the blurb says:

"There are reasons that the "L" network has not enjoyed wider use in the past. To match all possible antenna loads, two configurations are required."

Yep, and I think the way Ten Tec deal with that is to stick with one configuration and shunt with capacitance or add series inductance to the basic series-L match. But, of course that switching is done by a front panel switch in this table-top model. Of course with a remote atu you have to use relays for some purpose or other, even if just the add shunt capacitance. Unless there are semiconductors that can do that job these days.

But I think you are alluding to the automatic tuners like the AT-11MP or the AT-1000 etc.

How do automatic tuners switch inductances/capacitances without relays?

1086. How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:40:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ubda$4g929$1@ID-150848.news.dfncis.de>
Source record: 120488

Excuse my ignorance, but I suppose it can be done?

1087. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 14:45:46 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EA2B21C.32240ADC@shaw.ca>
Source record: 120489

Richard wrote:
>
> Excuse my ignorance, but I suppose it can be done?

I don't think it's really necessary. If you use the
'T' configuration as most homebrew tuners do, you don't
ever have to switch them out. The caps and coil are
always present, but just at different settings.

--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1088. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:04:43 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <4jb5avkmf4gln5jgb893db3nsj7lbdipes@4ax.com>
Source record: 120490

On Sun, 20 Apr 2003 12:59:14 GMT, "AL KA5JGV"
<ABurzynski@nojunk.satx.rr.com> wrote:

|I'm getting gutsy! Instead of buying a BCB high pass filter I decided to
|build my own. I must wind three toroid's and have the turns and toroid type
|I need (T50-2) but I need a bit more information on controlling (improving)
|the Q of the coil. The only information I have is compiled from a good
|article by Mr. Lewallen (W7EL) at http://www.qrp.pops.net/w7el.htm and is
|summarized as follows:

Roy writes excellent advice. However, you must read it more
carefully.
|
|1. Larger g(u)age wire improves the Q.

I don't see where he said that, but generally true.

|2. Keep windings on one layer. Even a partial second layer reduces the Q.
|3. There is a slight improvement in leaving a 30 degree gap on the toroid,
|but a small one.

He didn't say that.

|4. Keep turns evenly distributed across 330 degrees of the toroid.

He didn't say that either.

|5. There is a slight improvement in regressive winding.
|
|If you have any comments on these tips, or about winding toroid's, or have a
|source of additional info about the Q of a toroid I would greatly appreciate
|it. Thank you.

Look here: http://www.micrometals.com/software.html

The rf design tool is pretty clunky by today's standards, but still
useful.

1089. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:07:33 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7ucvk$4disq$1@ID-150848.news.dfncis.de>
Source record: 120491

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:3EA2B21C.32240ADC@shaw.ca...
> Richard wrote:
> >
> > Excuse my ignorance, but I suppose it can be done?
>
> I don't think it's really necessary. If you use the
> 'T' configuration as most homebrew tuners do, you don't
> ever have to switch them out. The caps and coil are
> always present, but just at different settings.

Yep, I'm getting the feeling that one way of avoiding any switching, or at least miniming switching, is to use high values of capacitance and inductance in your components.

I can match my TX on all the bands using one L-network configuration as long as I put in a big enough varaiable capacitor. But it's more than just a configuration question, to get away from switching altogether I must have a roller coaster. Big variable + roller coaster = no switching.

I seem to have not spent much time thinking about this thing called the, "T" network. I don't know much about that.

I guess there are semiconductor diodes that can switch high power RF. Probably cost a fortune.

1090. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:11:15 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b7udairug1@slb9.atl.mindspring.net>
Source record: 120492

Russ:

[snip]
> >
> >I have neither sought nor advocate these mandacious public statements
whose
>
> ^^^^^^^^^
>
> mendacious
>
> >intent is to libel me and deface my good character and reputation.
> ^^^^^
> defame
> >
[snip]

Thanks from all of us here, Dr. Cohen is *always* making mistakes and needs
correction!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Russ" <carlzomer@hotmail.com> wrote in message
news:7tt3av02ktqjacnr8nd9euk1kq6sbvrnlf@4ax.com...
> On 19 Apr 2003 20:10:13 GMT, fractenna@aol.com (Fractenna) wrote:
>
> >>2) Chip was for the most part criticized on technical grounds.
> >
> >Not true.
> >
> > It was
> >>only when he started threatening to sue anyone who challenged him on
> >>those grounds did it become ugly.
> >>
> >
> >That is a false statement.
> >
> >I have neither sought nor advocate these mandacious public statements
whose
>
> ^^^^^^^^^
>
> mendacious

>
> >intent is to libel me and deface my good character and reputation.
> ^^^^^
> defame
> >
> >I will not respond to any responses regarding the above statement on this
> >public newsgroup.
> >
> >I am proceeding as I have discussed.
> >
> >Nathan Cohen
>
> Russ
>

1091. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:14:39 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <39e5av8kqkfc059ueuljjvhh5n59vp03kh@4ax.com>
Source record: 120493

On Sun, 20 Apr 2003 15:40:31 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

|Excuse my ignorance, but I suppose it can be done?

Knife switches, toggle switches, rotary switches, clip leads....

1092. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:16:42 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7udgs$4ikpm$1@ID-150848.news.dfncis.de>
Source record: 120494

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:3EA2B21C.32240ADC@shaw.ca...

> If you use the 'T' configuration as most homebrew tuners do, you don't
> ever have to switch them out. The caps and coil are always present,
> but just at different settings.

Would you say that if I wanna be smart I should put my eggs into the "T"
network" basket?

1093. Scantenna ST2 Antenna: A Few More Questions On

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:18:18 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b7udnulop1@slb3.atl.mindspring.net>
Source record: 120496

Hello:

Looks like I'll be purchasing the Antennacraft Scantenna ST2

a. A bit confused over coverage though.

Their specs imply that it has "continuous" coverage from 30MHz to 1.3 GHz.

But, on one of their distributors web pages, it lists the coverage
as being in discrete frequency range blocks from:

"Frequency Range:30-50, 148-174, 450-470, 470-512, 800-1300"

Also:

b. Am going to have a hard time sneaking it in my attic, Apparently, it
has an 8-1/2 feet vertical height length.

If I cut, e.g., an inch or two off the vertical element(s), what is
effected? (coverage, gain, etc.?)
Is this a reasonable practical approach; looks like I need another few
inches shorter, even if I place it directly under the attic's peak.
Or, shouldn't I even think about doing this?

c. Is this antenna truly omni-directional?

Thanks,
Bob

1094. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:18:42 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7udkj$4ii0e$1@ID-150848.news.dfncis.de>
Source record: 120495

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:39e5av8kqkfc059ueuljjvhh5n59vp03kh@4ax.com...
> On Sun, 20 Apr 2003 15:40:31 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
> |Excuse my ignorance, but I suppose it can be done?
>
> Knife switches, toggle switches, rotary switches, clip leads....

I knew I should have qualified my question. :c)

1095. Re: Will painting a white egg insulator cause a problem?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:37:49 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <h9zoa.303091$0g4.8184774@news2.east.cox.net>
Source record: 120497

"CBHoelzel" <cbhoelzel@aol.com> wrote in message
news:20030411223437.08928.00001009@mb-fj.aol.com...
> >Will painting a white egg insulator cause a problem?
>
> Only if the Easter Bunny finds out and pickets your house.

We have chickens that lay brown eggs in New England.

1096. "T" network

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:41:59 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7uf05$4f2r2$1@ID-150848.news.dfncis.de>
Source record: 120498

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b7udgs$4ikpm$1@ID-150848.news.dfncis.de...
>
> "Irv Finkleman" <finkirv@shaw.ca> wrote in message
> news:3EA2B21C.32240ADC@shaw.ca...
>
>
> > If you use the 'T' configuration as most homebrew tuners do, you
don't
> > ever have to switch them out. The caps and coil are always present,
> > but just at different settings.
>
>
> Would you say that if I wanna be smart I should put my eggs into the
"T"
> network" basket?

Pobably the answer is if you want to match over a wide
frequency range, without having to use switches, use the "T" network.
Make sure your capacitors have sufficient high values and use a roller
coaster. Downside is that you need two capacitors.

Otherwise you don't have to use the "T"network and can use the "L"
network. But again, to avoid switching, if that's what you want, use
large C and a roller coaster.

http://fermi.la.asu.edu/w9cf/tuner/tuner.html

Aint that cool.

Okay, enough said about the "T" network I think. I really was after
info. on non relay switching. Ie semiconductor switchching at power RF.

1097. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 15:44:33 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EA2BFE3.B7222B86@shaw.ca>
Source record: 120499

Richard wrote:
>
> "Irv Finkleman" <finkirv@shaw.ca> wrote in message
> news:3EA2B21C.32240ADC@shaw.ca...
> > Richard wrote:
> > >
> > > Excuse my ignorance, but I suppose it can be done?
> >
> > I don't think it's really necessary. If you use the
> > 'T' configuration as most homebrew tuners do, you don't
> > ever have to switch them out. The caps and coil are
> > always present, but just at different settings.
>
> Yep, I'm getting the feeling that one way of avoiding any switching, or
> at least miniming switching, is to use high values of capacitance and
> inductance in your components.
>
> I can match my TX on all the bands using one L-network configuration as
> long as I put in a big enough varaiable capacitor. But it's more than
> just a configuration question, to get away from switching altogether I
> must have a roller coaster. Big variable + roller coaster = no
> switching.
>
> I seem to have not spent much time thinking about this thing called the,
> "T" network. I don't know much about that.
>
> I guess there are semiconductor diodes that can switch high power RF.
> Probably cost a fortune.

The T configuration is the 'Ultimate Transmatch' described in the
Radio Amateur's Handbook and other places. I think Lew McCoy first
coined the name -- I could well be wrong. It uses two capacitors in
series, with an inductor, at the junction of the two capacitors, which
goes to ground. The input and output are at the free ends of the
capacitors. MFJ, Murch, and others all used the 'T'. There is another
version called the SPC in which one of the capacitors is a split
stator, which gives a better low pass characteristic. My homebrew
T match would load a wet noodle!
it
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!

297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at
http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1098. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 16:03:39 UTC
From: Bill <n4wc@arrl.org>
Message-ID: <apg5avstddton27ild4jebg25md7olngb6@4ax.com>
Source record: 120500

On Sun, 20 Apr 2003 10:32:07 -0400, JamesR@nauti.com wrote:

>I put up a GAP Titan DX (80-10 meters) and thought it would surface. I
>have found that this antenna doesn't work as well on 80 as I thought.
>Has anyone else had a similar situation? And have you made any changes
>that would improve the overall performance of the GAP on 80? I have
>this antenna mounted about 8 feet off the ground.
>
>In the mean time I ordered a dipole.
>
>Jim

I used to have one of these and the 80m capability could be described
as poor. It did work acceptably on 40-10.
In the Gap line the Voyager would be a better choice for 80m.
A safe estimate on my part would be to recommend the 80m dipole be
placed at a height of 60-70 feet (if necessary inverted "V"), and you
will be amazed at the difference in the performance of the two
antennas.

73 Bill N4WC

1099. Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 16:39:25 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304200839.1f89f3e8@posting.google.com>
Source record: 120501

Doctor you showed extrodinary insights on the other thread
that has not been very common with this newsgroup.
I was unable to follow a lot of the discussion with Cecil
which obviously made Cecil very happy but by your comments conversent
you are also conversent with impedance transformations. I would really
appreciate your comments on what may well prove to be twisted logic.

When dealing with lossless feed systems my first thoughts are
to match the feed line to the generator since solid state and
tube/valve radios start off with very different impedances.
So when drawing the above as a electrical circuit we have a loop
circuit
containing a generator E, a resistance Rp and an inductance Xp.
If I couple the above loop circuit with another containing Rs , Xs,and
Cs
we can have in effect a lossless feed system provided optimum
resonance
conditions are satisfied.
The above I equivicate with a loop antenna.
If we add another loop circuit say another radiator of arbitary length
where the inductance portion of the circuit is also coupled at the
previous co-joined part the added loop circuit will be impressed by
the resonant frequency of the secondary loop such that the capacitor
Cs together with adjustment of the inductive coupling can provide a
loss less feed system. I have made an antenna system based on the
above that seems to follow the above principle. All values are seen as
constants, of course,
and I have not pursued at this time using these in parallel for
extrordinary
matching ratios or the variability of resistance for changes in Q.
I will tell you up front that for many years my logic is seen as to
be laughable but with no hints as to where my logic fails.
Since you have the stomach to confront Cecil's long standing issue
with this group I would appreciate any insights you can give me on the
above antenna for multiple frequencies and loss-less feed methods.
Thanking you in advance for your comments and please bear in mind
that I have limited understanding with respect to antennas.
Best regards
Arthur Unwin.

1100. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:04:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA2E132.4060005@ieee.org>
Source record: 120502

Dr. Slick wrote:
> A crazy link i found on this topic:
> http://micro.magnet.fsu.edu/primer/java/polarizedlight/ellipsoid/

There is a wealth of information on the web concerning EM wave
interference. Some of the JAVAscript "animation" is really
interesting.

> So just as the 1/4wave matching coax must really be an
> _electrical_ 1/4 wavelength, so i assume the thin-film on
> non-reflective lenses be a specific thickness (fractional wavelengths
> of visible light) in order to minimize
> reflections (or rather, maximize destructive interference).

Exactly! The last paragraph on the Melles-Griot web page explains how
to maximize the reflections by minimizing the destructive interference.
The reflections can be varied from minimum to maximum simply by varying
the width of the thin-film which is exactly like varying the length of
a tuned feeder transmission line. If the reflections from the two surfaces
arrive 180 degrees out of phase, reflections are minimized. If those two
reflections are equal in magnitude, reflections are canceled and the energy
in those two waves reverses direction to join the forward wave toward the
"load". That reversal of direction of the energy in the two reflected waves
is a re-reflection, i.e. in addition to opens, shorts, and 100% reactive
components, destructive interference can cause reflections.

So the two-year-old question remains: Given the two sides in the amateur
radio matching controversy, both of which are slightly wrong, why cannot
RF gurus agree on facts that are well known and accepted in the field
of optics? Why do some of the regulars on this newsgroup and _QEX_ want
to suppress publication of those technical facts transferred from the
field of optics to amateur radio?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1101. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:12:12 UTC
From: k2mme@juno.com
Message-ID: <dc0caa1.0304201012.667946c5@posting.google.com>
Source record: 120503

JamesR@nauti.com wrote in message news:<3EA2AF67.BB374478@nauti.com>...
> I put up a GAP Titan DX (80-10 meters) and thought it would surface. I
> have found that this antenna doesn't work as well on 80 as I thought.
> Has anyone else had a similar situation? And have you made any changes
> that would improve the overall performance of the GAP on 80? I have
> this antenna mounted about 8 feet off the ground.
>
> In the mean time I ordered a dipole.
>
> Jim

Hi Jim
I also have a Titan which is side mounted on a 4 floor building(just
below the top). I am able to make some contacts on 75/80 but the only
thing useful is the fact that the swr is fairly low. I'd guess that
its more than 15db below a dipole. It's my only ant and I am glad to
have something that "gets" me on all bands but what can you expect
from the way they get it to "resonate" on 80?
73
Howie K2MME

1102. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:13:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA2E34B.2050505@ieee.org>
Source record: 120504

Bob Miller wrote:
> My 1955 ARRL Antenna Book makes the following statement about
> center-fed dipoles, meant for multi-band use, fed with parallel
> feedline (twinlead or open wire):
>
> "The length of the flattop is not critical, nor is the length of the
> feedline, but some combinations give less trouble with parallel line
> currents than others." The book then recommends for a 135' dipole,
> used from 3.5 to 28 mhz, and fed with parallel line, the best feedline
> lengths are either 42' or 77.5'. For a dipole of 67', feedline lengths
> of either 42.5' or 65.5'.
>
> No mention of how they arrived at those combinations.

1955 was before much computer modeling. Nowadays, it is a simple question to answer. Feed the antenna near a current maximum point. Determine the current maximum points by modeling with EZNEC or running a program that yields the current maximum points. A graph of the current maximum points for a 130 ft dipole fed with 450 ohm ladder-line is on my web page below. Note that 42' and 77.5' are not good lengths for 75m or 40m.
--
73, Cecil http://www.qsl.net/w5dxp/pnts130.gif

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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1103. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:17:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA2E456.6050508@ieee.org>
Source record: 120505

Richard wrote:
> Excuse my ignorance, but I suppose it can be done?

Bandswitching is done all the time with PIN diodes. It's
the higher power levels involved that makes it difficult.
--
73, Cecil http://www.qsl.net/w5dxp

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1104. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:23:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA2E598.7000205@ieee.org>
Source record: 120506

Richard wrote:
> "Irv Finkleman" <finkirv@shaw.ca> wrote in message
> news:3EA2B21C.32240ADC@shaw.ca...
>
>
>
>>If you use the 'T' configuration as most homebrew tuners do, you don't
>>ever have to switch them out. The caps and coil are always present,
>> but just at different settings.
>
> Would you say that if I wanna be smart I should put my eggs into the "T"
> network" basket?

For the cost of one more variable capacitor, you don't have to do any switching assuming you use variable caps and a roller inductor. Instead of switching a single cap from input to output, you just set the appropriate cap at minimum and adjust the other one.

If you are using relays to switch in/out capacitors, then it becomes more economical to trade one bank of caps/relays for a relay that switches a single bank of caps/relays from input to output.
--
73, Cecil http://www.qsl.net/w5dxp

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1105. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:29:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA2E706.7030303@ieee.org>
Source record: 120507

Art Unwin KB9MZ wrote:
> I was unable to follow a lot of the discussion with Cecil
> which obviously made Cecil very happy ...

Art, nothing would make me happier than for everyone on
this newsgroup to understand what I have been saying for
two years about destructive/constructive interference at
a Z0-match point in a transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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1106. Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 18:42:13 UTC
From: bruceandkarla@ziggycom.net
Message-ID: <7192d525.0304201042.36741558@posting.google.com>
Source record: 120508

Iam getting ready to set up a Satellite Station, but I have know idea which way to turn antenna wise. expecitally my 2M and 440. can anyone help a OLD man keep from going bald.

Bruce
KD4PQF

1107. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 19:42:07 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7ut6f$lo3$1@sparta.btinternet.com>
Source record: 120509

For the T-network with two variable C's a roller inductor is NOT needed.
The coil is tapped and switched from one band to another and is easily
home-brewed. Or there may 2 or 3 coils to maximise coil Q.

Incidentally, to cater for all contingencies, two variable capacitors are
needed even for the L-network.

For T-network design, including efficiency estimates, download program
T_TUNER.

========================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
========================

1108. Little Tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 20:09:59 UTC
From: John <jwh_fla@hotmail.com>
Message-ID: <r8Doa.137609$yh1.8624640@news1.east.cox.net>
Source record: 120510

Ok, have a new little tarheel (mini screwdriver). But it doesn't seem to be resonant anywhere. And get no received signals. Need to troubleshoot it. What steps could I take to check the matching coil and whatever else? How do I use a meter to do this?...Thanks

John

1109. Re: Little Tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 20:35:40 UTC
From: John <jwh_fla@hotmail.com>
Message-ID: <wwDoa.137762$yh1.8629506@news1.east.cox.net>
Source record: 120512

I'll do that. How do I check for a shorted mount?

"Tom Brown" <tab@signalgrp.com> wrote in message
news:b7v059vme1@slb3.atl.mindspring.net...
> Call Robert Young NC4ME at 919-552-8788. He built it and will help you
sort out
> the problem. Maybe a shorted mount?
>
> 73,
>
> Tom N4TAB
>
> ~~~~~~`
>
> John wrote:
> > Ok, have a new little tarheel (mini screwdriver). But it doesn't seem to
be
> > resonant anywhere. And get no received signals. Need to troubleshoot it.
> > What steps could I take to check the matching coil and whatever else?
How do
> > I use a meter to do this?...Thanks
> >
> > John
> >
> >
>

1110. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 20:54:29 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7v1af$4qkm7$1@ID-150848.news.dfncis.de>
Source record: 120513

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7ut6f$lo3$1@sparta.btinternet.com...
> For the T-network with two variable C's a roller inductor is NOT
needed.
> The coil is tapped and switched from one band to another and is easily
> home-brewed. Or there may 2 or 3 coils to maximise coil Q.
>
> Incidentally, to cater for all contingencies, two variable capacitors
are
> needed even for the L-network.
>
> For T-network design, including efficiency estimates, download program
> T_TUNER.

Rog.

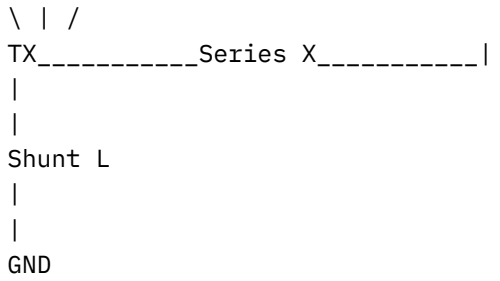
BTW did I work out the bandwidth correctly as per:

> Richard, try this -
>
> Table of P versus SWR.
>
> SWR P
> ===== =====
> 1.25 0.20
> 1.5 0.41
> 2.0 0.71
> 3.0 1.15
>
> Bandwidth B between SWR points -
>
> B = P * F / Q

I presume that is B = P * (F/Q)

> where F is Frequency and Q is Q of the L-match network.
>
> Q = 50/X or X/50, where X is the reactance of the L-network component
which
> is either in series or in shunt with the 50-ohm transmitter. (NOT at
the
> antenna end).

Okay lets see.



Input Z : 50R (from TX)
Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms

Frequency: 1900 Khz
Series X : 153 pF (Xc: -547.49 ohms)
Shunt L : 22.3uH (Xl: + 262.637 Ohms)

B (Khz) = P * (F/Q)

P = 0.71
F = 1900 Khz
Q = 547.9/50 = 10.958

For a 2:1 SWR

B = 0.71 * (1900 / 10.958)

B = 123 Khz

That right?

Rich.

1111. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 21:55:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3175F.60202@ieee.org>
Source record: 120515

Reg Edwards wrote:
> For the T-network with two variable C's a roller inductor is NOT needed.
> The coil is tapped and switched from one band to another and is easily
> home-brewed.

Uhhhhh Reg, we are trying to avoid switching.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1112. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 21:56:25 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304201356.160eb940@posting.google.com>
Source record: 120514

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA2E706.7030303@ieee.org>...
> Art Unwin KB9MZ wrote:
> > I was unable to follow a lot of the discussion with Cecil
> > which obviously made Cecil very happy ...
>
> Art, nothing would make me happier than for everyone on
> this newsgroup to understand what I have been saying for
> two years about destructive/constructive interference at
> a Z0-match point in a transmission line.

I know exactly how you feel Cecil. I have struggled for more than
eight years on my subject, but since it flies in the face that 'all is
known of Antennas and Yagis' it naturally becomes a point of assault.
I am not as smart as you but
if I get one iota of understanding from Dr Slick it will show that
bluster is
not a substitute for real knoweledge nor the adoption of honourable
titles such as Doc without it being earned. Having a degree in English
however, where debating skills are learned as well as The Life And
Times of Punchinello, can help one immensively in staving off the
downfall. For myself I am happy to gain knoweledge without concern to
any mistakes made will affect a resume that infers the title of expert
or Guru. Well done Cecil for having the courage
to stand up for your beliefs in the absence of true knoweledge among
your peers.
I salute you
Best regards
Arthur Unwin

1113. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 21:56:55 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <nn56avgcoqgbcm0k0fjfvrv792ing9jujn@4ax.com>
Source record: 120516

On Sun, 20 Apr 2003 21:54:29 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

I haven't been following this thread, but I gotta ask, why are you
worried about the BW of the matching network? The Q of the antenna
alone is over 11. The matching circuit BW is the least of your
worries.

```
|
|Okay lets see.
|
| \ | /
|TX___________Series X___________|
| |
| |
| Shunt L
| |
| |
| GND
|
|Input Z : 50R (from TX)
|Antenna feedpoint: R: 43.7 ohms: jX: -511.2 Ohms
|
|Frequency: 1900 Khz
|Series X : 153 pF ( Xc: -547.49 ohms)
|Shunt L : 22.3uH ( Xl: + 262.637 Ohms)
|
|
|B (Khz) = P * (F/Q)
|
|P = 0.71
|F = 1900 Khz
|Q = 547.9/50 = 10.958
|
|
|For a 2:1 SWR
|
|B = 0.71 * (1900 / 10.958)
|
|B = 123 Khz
|
|That right?
|
```

|Rich.

1114. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:19:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b7v6du$4puc5$1@ID-175933.news.dfncis.de>
Source record: 120517

Art Unwin wrote(in part):
> Having a degree in English however, where debating
>skills are learned as well as The Life And Times of
>Punchinello, can help one immensively in staving off
>the downfall.

Hmm, I guess the person with a degree in English is not you? Seems as though a person with such a degree should know how to spell "knowledge and "immensely," as well as the rules of capitalization, punctuation, and the use of separate paragraphs for different ideas.

1115. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:23:18 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7v6km$t51$1@titan.btinternet.com>
Source record: 120518

> BTW did I work out the bandwidth correctly

==========
Richard,

Yes, your arithmetic is immaculate.

Not that it matters very much because the usefulness of the result depends on how accurately you erect the antenna system according to your specification and on how accurately you make a wild guess at the soil resistivity.

Most people first obtain a transmitter, string up an antenna wire and THEN start worrying about making a suitable tuner.

I'm sure you would not wish to be in the awkward position of having to experiment by tearing up the lawn, changing the dimensions of your back yard such that it will accommodate an antenna which will work in conjunction with an expensive pre-existing tuner.

As sure as eggs don't bounce off concrete you will eventually end up with a universal T-tuner with the help of alligator clips.

Or have I misjudged the situation. As I said, some of the messages in the various threads have been mislaid by my Internet Service Provider. I DO wish my ISP was as conscientious as you are. Or perhaps it's the MI6 dirty-tricks department.

Reg, G4FGQ

1116. Re: Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:43:54 UTC
From: Howard <mensch90249@yahoo.com>
Message-ID: <6i76av0mp9u6dr2bbqp214inf5u5751gv5@4ax.com>
Source record: 120370

On 20 Apr 2003 11:42:13 -0700, bruceandkarla@ziggycom.net (Bruce)
wrote:

>Iam getting ready to set up a Satellite Station, but I have know idea
>which way to turn antenna wise. expecitally my 2M and 440. can
>anyone help a OLD man keep from going bald.
>
>Bruce
>KD4PQF
Bruce,
To keep from going bald try Rogaine .... of course that presumes that
baldness is a "problem" and frankly the top of my shiny head doesn't
feel it is 8-}

Now, to set up a satellite station using 2M and 440 there are several
options.

1) Use a vertical and hope for the best
2) Use "egg beater" antenna's which can either by purchased
commercially (M-squared) or home-brewed
3) Use a beam that is handheld and you become the rotor
4) Start getting fancy and use either cross-polarized or circularly
polarized beams on an altitude/azimuth rotor system.

If you want to keep overall prices low, check out the Egg Beaters at
http://www.m2inc.com/ Yes, the antennas do have an noticeable price,
but you do save on not having the need for an altitude/azimuth rotor
and these do pack up nicely for portable use.

You may wish to check out the AMSAT website at
http://www.amsat.org/amsat/AmsatHome.html if you haven't already. In
addtion to whatever you find on antenna's you'll find other info that
will help you along in this facet of the hobby.

Good Luck & 73,
Howard KE6MAK

1117. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:45:49 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7v7tgebh1@slb0.atl.mindspring.net>
Source record: 120369

"HowardFerber" <k2mme@juno.com> wrote in message
news:dc0caa1.0304201012.667946c5@posting.google.com...
> JamesR@nauti.com wrote in message news:<3EA2AF67.BB374478@nauti.com>...
> > I put up a GAP Titan DX (80-10 meters) and thought it would surface. I
> > have found that this antenna doesn't work as well on 80 as I thought.
> > Has anyone else had a similar situation? And have you made any changes
> > that would improve the overall performance of the GAP on 80? I have
> > this antenna mounted about 8 feet off the ground.
> >
> > In the mean time I ordered a dipole.
> >
> > Jim
>
> Hi Jim
> I also have a Titan which is side mounted on a 4 floor building(just
> below the top). I am able to make some contacts on 75/80 but the only
> thing useful is the fact that the swr is fairly low. I'd guess that
> its more than 15db below a dipole. It's my only ant and I am glad to
> have something that "gets" me on all bands but what can you expect
> from the way they get it to "resonate" on 80?
> 73
> Howie K2MME

Its not just GAP antennas. All short antennas will suffer from similar
performance.

Dan/W4NTI

1118. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:54:48 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7v8fo$8l5$1@sparta.btinternet.com>
Source record: 120371

> Hmm, I guess the person with a degree in English is not you? Seems as
> though a person with such a degree should know how to spell "knowledge and
> "immensely," as well as the rules of capitalization, punctuation, and the
> use of separate paragraphs for different ideas.
==========

. . . . and what are YOUR qualifications, please?

A first-class Honors Degree in Stating the Bleeding Obvious?

1119. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 22:57:51 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b7v8hc$4ue9c$1@ID-150848.news.dfncis.de>
Source record: 120372

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b7v6km$t51$1@titan.btinternet.com...

As for the formula. Just thought it would be nice to have a formula handy for an L network tuner. I figured that probably there would be no serious bandwidth problems, but nice to be able to easily calculate BW, even if approximately. Also being able to calculate voltage across C was a boon.

> As sure as eggs don't bounce off concrete you will eventually end up with a
> universal T-tuner with the help of alligator clips.

I think a tuner for all bands will be made over a few months. I've a zilion other things to attend to that are crying out for attention. What probably will happen initially is that I'll make a single band pre-set tuner. For 40 meters probably. And I guess it's not beyond possibility that for a while I'll end up with a plug-in tuner arrangement. When I want to change band, go into back garden and slot in a tuner module.

Thanks for your assistance and your programs. It's helping me to get on the air.

Rich.

1120. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 23:11:05 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA32909.224A0AD9@cwis.net>
Source record: 120373

Art said;
"...if I get one iota of understanding from Dr Slick it will show
that
bluster is not a substitute for real knoweledge nor the adoption
of
honourable titles such as Doc without it being earned."

Even after I've told you a number of times that 'Doc' is only
a nickname, you're still obsessive about it. That's really a bit
paranoid, Art, and unhealthy. That's too bad, because I plan to
continue using 'Doc' as a user name. It still doesn't mean that
I hold a doctorate degree in anything. I certainly don't claim to
hold a doctorate of anything. I really doubt that anyone else
here
thinks I'm a Ph.D. of any kind, so it's ~your~ problem. If you
can't
understand that, then I suggest that you at least learn to live
with it, or, just ignore it. (Although it is a good diversion for
the fact that your 'thinking' is sort of cloudy...)
'Doc

1121. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 23:15:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b7v9mr$3vr$1@titan.btinternet.com>
Source record: 120374

Cecil wrote -
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

==========

Wot's the above rubbish to do with switches?

I already get more than enough spam to make a parrot sick.

Or are you a just a poor slave without the constitutional freedom to switch it off?

Sincerely, Your old pal, Reg.

1122. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-20 23:32:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b6a6avs1t81pj04d2g0iu0v2m563bjpeco@4ax.com>
Source record: 120375

On Sun, 20 Apr 2003 17:19:40 -0500, "Richard Fry" <rfry@adams.net>
wrote:

>Art Unwin wrote(in part):
>> Having a degree in English however, where debating
>>skills are learned as well as The Life And Times of
>>Punchinello, can help one immensively in staving off
>>the downfall.
>_________________
>
>Hmm, I guess the person with a degree in English is not you? Seems as
>though a person with such a degree should know how to spell "knowledge and
>"immensely," as well as the rules of capitalization, punctuation, and the
>use of separate paragraphs for different ideas.
>

Hi Richard,

The allusion to clowns summoned up a memory of a film I saw.

The VERY FIRST movie made by MGM starred Lon Chaney as:
"He Who Gets Slapped"
"Story of an inventor who, suffering betrayal in life, makes a career
of it by becoming a clown whose act consists of getting slapped by all
the other clowns. He falls in love with another circus performer, and
those who betrayed him enter his life yet again." (skillfully lifted
from www.imdb.com).

auditions for the circus performer are currently open....

73's
Richard Clark, KB7QHC

1123. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 00:03:33 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA33555.9020205@ieee.org>
Source record: 120376

Reg Edwards wrote:
> Cecil wrote -
>>-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
>>http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
>>------== Over 80,000 Newsgroups - 16 Different Servers! =-----
>
> Wot's the above rubbish to do with switches?
>
> I already get more than enough spam to make a parrot sick.
>
> Or are you a just a poor slave without the constitutional freedom to switch
> it off?

My ISP subscribes to the above news service. The above advertisement is
appended to my postings after being accepted by my ISP. I have absolutely
no control over it.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1124. Re: Scantenna ST2 Antenna: A Few More Questions On

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 00:27:29 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <6ee6avogr05o2kru6acsmcbb8hvcpo21ib@4ax.com>
Source record: 120377

On Sun, 20 Apr 2003 11:18:18 -0400, "Robert11" <rgsrose@tiac.net>
wrote:

>Hello:
>
>Looks like I'll be purchasing the Antennacraft Scantenna ST2
>
>a. A bit confused over coverage though.
>
>Their specs imply that it has "continuous" coverage from 30MHz to 1.3 GHz.
>
>But, on one of their distributors web pages, it lists the coverage
>as being in discrete frequency range blocks from:
>
> "Frequency Range:30-50, 148-174, 450-470, 470-512, 800-1300"

You should hear just fine in the in-between areas. Receiving antennas
are not very critical in their frequency setup.

>
>Also:
>
>b. Am going to have a hard time sneaking it in my attic, Apparently, it
>has an 8-1/2 feet vertical height length.
>
>If I cut, e.g., an inch or two off the vertical element(s), what is
>effected? (coverage, gain, etc.?)

When you shorten the elements, they will become resonant on even
higher frequencies. This would be a problem if you were transmitting.
But since you are only listening, you'll probably be able to hear just
as well as otherwise.

>Is this a reasonable practical approach; looks like I need another few
>inches shorter, even if I place it directly under the attic's peak.
>Or, shouldn't I even think about doing this?
>
>c. Is this antenna truly omni-directional?

If it is vertically polarized, it should be omni.

Bob
k5qwg

>
>Thanks,
>Bob

>

1125. Re: Little Tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 00:46:24 UTC
From: John <jwh_fla@hotmail.com>
Message-ID: <AbHoa.139349$yh1.8705689@news1.east.cox.net>
Source record: 120378

Loose connection...grrrrr. Thanks again.

"Tom Brown" <tab@signalgrp.com> wrote in message
news:b7v059vme1@slb3.atl.mindspring.net...
> Call Robert Young NC4ME at 919-552-8788. He built it and will help you
sort out
> the problem. Maybe a shorted mount?
>
> 73,
>
> Tom N4TAB
>
> ~~~~~~`
>
> John wrote:
> > Ok, have a new little tarheel (mini screwdriver). But it doesn't seem to
be
> > resonant anywhere. And get no received signals. Need to troubleshoot it.
> > What steps could I take to check the matching coil and whatever else?
How do
> > I use a meter to do this?...Thanks
> >
> > John
> >
> >
>

1126. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 00:48:57 UTC
From: k1bqt@aol.com
Message-ID: <20030420204857.18985.00000441@mb-m14.aol.com>
Source record: 120379

>Larger g(u)age wire improves the Q.<

Ooooh, Wes.....either gage or gauge are acceptable spellings, but guage is not
:)

Rick K1BQT

1127. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:02:20 UTC
From: k1bqt@aol.com
Message-ID: <20030420210220.18985.00000443@mb-m14.aol.com>
Source record: 120380

>All short antennas will suffer from similar
performance.<

I'd argue that an antenna of the Gap's size can be built to perform with minimal losses and respectable (if not equal) performance on 80 meters when compared to a full-sized radiator. However, it would probably have very limited frequency coverage in the band--and wouldn't be good for much else.

Rick K1BQT

1128. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:28:21 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304201728.232d1ecd@posting.google.com>
Source record: 120381

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304200839.1f89f3e8@posting.google.com>...
> Doctor you showed extrodinary insights on the other thread
> that has not been very common with this newsgroup.
> I was unable to follow a lot of the discussion with Cecil
> which obviously made Cecil very happy but by your comments conversent
> you are also conversent with impedance transformations. I would really
> appreciate your comments on what may well prove to be twisted logic.
>

I wouldn't call them extrordinary insights but rather comments on
topics i think about on a daily basis.

> When dealing with lossless feed systems my first thoughts are
> to match the feed line to the generator since solid state and
> tube/valve radios start off with very different impedances.
> So when drawing the above as a electrical circuit we have a loop
> circuit
> containing a generator E, a resistance Rp and an inductance Xp.
> If I couple the above loop circuit with another containing Rs , Xs,and
> Cs
> we can have in effect a lossless feed system provided optimum
> resonance
> conditions are satisfied.
> The above I equivicate with a loop antenna.

I assume your Rp and Xp are parallel resistance and reactance,
and your generator has an impedance too.

And i suppose you mean to say that you are connecting this to a
series resistance and reactance, but i'm not sure what your Cs
capacitor is positioned.

Would you type a diagram out like Cecil did?

> If we add another loop circuit say another radiator of arbitary length
> where the inductance portion of the circuit is also coupled at the
> previous co-joined part the added loop circuit will be impressed by
> the resonant frequency of the secondary loop such that the capacitor
> Cs together with adjustment of the inductive coupling can provide a
> loss less feed system. I have made an antenna system based on the
> above that seems to follow the above principle. All values are seen as
> constants, of course,
> and I have not pursued at this time using these in parallel for
> extrordinary
> matching ratios or the variability of resistance for changes in Q.

As you all know, a truly loss-less feed/impedance matching
system is impossible (unless you somehow used liquid Nitrogen cooled
super-conductors), as you always have some losses.

Dr. Slick

1129. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:30:31 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304201730.3a394502@posting.google.com>
Source record: 120382

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304201356.160eb940@posting.google.com>...
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA2E706.7030303@ieee.org>...
> >
> > Art, nothing would make me happier than for everyone on
> > this newsgroup to understand what I have been saying for
> > two years about destructive/constructive interference at
> > a Z0-match point in a transmission line.
>
> I know exactly how you feel Cecil. I have struggled for more than
> eight years on my subject, but since it flies in the face that 'all is
> known of Antennas and Yagis' it naturally becomes a point of assault.
> I am not as smart as you but
> if I get one iota of understanding from Dr Slick it will show that
> bluster is
> not a substitute for real knoweledge nor the adoption of honourable
> titles such as Doc without it being earned.

Ha. Well, I'm not a real Doctor, i just play one on the internet.

:)

Slick

1130. IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:40:34 UTC
From: Heck <heck@zoominternet.net>
Message-ID: <3ea34cf5$1_1@corp.newsgroups.com>
Source record: 120383

I just purchased an IMAX 2000 vertical for 10 meters. It has rings at the base for adjusting the SWR. It comes factory tuned for the CB band and it is...flat on the CB band. But I tried to tune it for 28.500 and the best SWR reading I could get is 1.8 and it goes higher as I go up in frequency. I had to turn the adjusting rings all the way to the top to get it this good.

I was wondering if anyone else had this problem...that is if anyone else has one :)

I've seen a many good reports on this antenna.

Thanks, Ed, WB3LKO

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1131. Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:40:54 UTC
From: Terry O'Neill <rfmscpa@earthlink.net>
Message-ID: <G_Hoa.33156$ey1.2976030@newsread1.prod.itd.earthlink.net>
Source record: 120384

I have tall trees & 5 acres. I am considering an all-band doublet of about 550 feet in length (+/-) @ about 50 feet in height. It will be fed with 450 ohm ladder line & a Johnson Matchbox.

It will be about 16 wavelengths on 10 meters, 12.5 wl on 15, nearly 11 wl on 17, 8 wl on 20 meters, 4 on 40, & 2 on 75 & so it should have some gain in some directions on all bands of interest.

Has anyone ever used such an antenna & if so was it worth the extra wire? Was the gain usable? Were nulls troublesome? Would moving the feedpoint along the length (a la' the "clothesline dipole) change the pattern (i.e. would the pattern be steerable?) I do not own modeling software so I cannot model the antenna. The only references I've found are the ARRL Handbooks.

1132. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:51:55 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304201751.460bdfd3@posting.google.com>
Source record: 120386

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA2E132.4060005@ieee.org>...
>
> So the two-year-old question remains: Given the two sides in the amateur
> radio matching controversy, both of which are slightly wrong, why cannot
> RF gurus agree on facts that are well known and accepted in the field
> of optics? Why do some of the regulars on this newsgroup and _QEX_ want
> to suppress publication of those technical facts transferred from the
> field of optics to amateur radio?

Well, as they say in the RF field, it's "DC to Light". So this
reminds us that light is simply electromagnetic waves, just like a
radio signal. And so optics and the field of EM waves should and do
share many concepts.

I would say that it's just plain old stubborness,
close-mindedness, and general human nature. This is emphasized by the
fact that both optics and RF are very closely related sciences.
The wafer fab PhDs at my last place of employment could not
afford close-mindedness when the success of their product depended on
accurate measurement of the relative dielectric constant of the GaAs,
which was done with lasers (optics), as i have mentioned.

What, might i ask, is the Two sides of the controversy? And is
it really two-sided, or is there a lot of grey in between?

:)

Slick

1133. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 01:52:29 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b7vitagok1@slb5.atl.mindspring.net>
Source record: 120385

"Rick Littlefield" <k1bqt@aol.com> wrote in message
news:20030420210220.18985.00000443@mb-m14.aol.com...
> >All short antennas will suffer from similar
> performance.<
>
> I'd argue that an antenna of the Gap's size can be built to perform with
> minimal losses and respectable (if not equal) performance on 80 meters
when
> compared to a full-sized radiator. However, it would probably have very
limited
> frequency coverage in the band--and wouldn't be good for much else.
>
> Rick K1BQT

Of course it can...reference the series of articles in QST in the 1970s by
W2FMI I believe.

I am , of course, refering to commonly available 'short' HF Verticals.

Dan/W4NTI

1134. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:00:27 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <e4k6avc99v3m96v43h365big8r8n5o3lci@4ax.com>
Source record: 120387

On 21 Apr 2003 00:48:57 GMT, k1bqt@aol.com (Rick Littlefield) wrote:

|>Larger g(u)age wire improves the Q.<
|
|Ooooh, Wes.....either gage or gauge are acceptable spellings, but guage is not
|:)
|
|Rick K1BQT

Arrgg. I know that.

1135. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:04:14 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030420220414.18830.00000245@mb-m21.aol.com>
Source record: 120388

>
> Even after I've told you a number of times that 'Doc' is only
>a nickname, you're still obsessive about it.

Doc,
he must have a diode in his head. Things go in there only one way - his way or no hiway.

Art,
DOC is not a title, there is PhD, Dr. and variations of it that mean Doctor of something. Doc is just like duck, doc, tic, toc just a name or nick name, or handle, or also abbreviation for documents in MS Word. Are all documents created in Word doctors too?

Now it must be terrible dissapointment if Dr. Slick is not a doctor of antennas, but just maybe famous additive to car engines.

We are still dying to understand your patent claim about parasitic reflector in Yagi antenna being shorter or resonating on higher frequency. Can you please enlighten us? Patent is supposed to describe the invention so one can replicate it. I have been working day and night and can not achieve that. What am I doing wrong?

I am also a poor immigrant who crossed the Atlantic with a suitcase and I want to know. If you explain it, I will fight with you all the antenna infidels that are ganging up on you. Or have you already joined Fractenna Inc. TM Patent Pending Scientwiphilc Research Corporation?

All you antenna infidels:
Stop ganging up on the precious few inventors we have here. Shame on you! You should set up Antenna Hall of Frame and put them on the pedestals they raightfully belong on.
If all our NG wizards combined forces, we would be wiped out with antennas having super gain in hundreds of dBs and be so small that they would be virtual or invisible. Aren't we lucky that we are succeeding in trivializing them and preventing them from joining forces. Otherwise we would be out of "business".

We are blessed with unending parade of entertaining antenna wizards who make this NG not so dry and boring.

With gratitude

Bada BUm (my other personality)

1136. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:18:15 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <35l6avg19qmhmak212m3k88nqnseo9db2i@4ax.com>
Source record: 120389

On 21 Apr 2003 02:04:14 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
sent into the ether:

>>
>> Even after I've told you a number of times that 'Doc' is only
>>a nickname, you're still obsessive about it.
>
>
>Doc,
>he must have a diode in his head. Things go in there only one way - his way or
>no hiway.
>
>Art,
>DOC is not a title, there is PhD, Dr. and variations of it that mean Doctor of
>something. Doc is just like duck, doc, tic, toc just a name or nick name, or
>handle, or also abbreviation for documents in MS Word. Are all documents
>created in Word doctors too?
>
>Now it must be terrible dissapointment if Dr. Slick is not a doctor of
>antennas, but just maybe famous additive to car engines.
>
>We are still dying to understand your patent claim about parasitic reflector in
>Yagi antenna being shorter or resonating on higher frequency. Can you please
>enlighten us? Patent is supposed to describe the invention so one can replicate
>it. I have been working day and night and can not achieve that. What am I doing
>wrong?
>
>I am also a poor immigrant who crossed the Atlantic with a suitcase and I want
>to know. If you explain it, I will fight with you all the antenna infidels that
>are ganging up on you. Or have you already joined Fractenna Inc. TM Patent
>Pending Scientwiphilc Research Corporation?
>
>All you antenna infidels:
>Stop ganging up on the precious few inventors we have here. Shame on you! You
>should set up Antenna Hall of Frame and put them on the pedestals they
>raightfully belong on.
>If all our NG wizards combined forces, we would be wiped out with antennas
>having super gain in hundreds of dBs and be so small that they would be virtual
>or invisible. Aren't we lucky that we are succeeding in trivializing them and
>preventing them from joining forces. Otherwise we would be out of "business".
>
>We are blessed with unending parade of entertaining antenna wizards who make
>this NG not so dry and boring.
>

>With gratitude
>
>Bada BUm (my other personality)
Shouldn't that be (my udder personality),
your sure milking it enough :<}
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

1137. OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:26:40 UTC
From: Carl Walthall <motorola1@insightbb.com>
Message-ID: <3EA37575.9010103@insightbb.com>
Source record: 120390

Hi All

I have a Outbacker antenna I would like to use at my apartment. The landlord has no problem with my balconey mount antenna's. I currently have a ATAS 100 mounted there. The OutBacker seem's to be a better antenna and I have made many contacts on 20 meters. I saw the stand Outbacker sells but it will not fit on the balconey because of the height and width, plus I'm under a overhang from the roof.Can someone recommend anther way for me to us the antenna in a apartment?

Thanks
Carl

1138. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:31:14 UTC
From: k1bqt@aol.com
Message-ID: <20030420223114.19020.00000283@mb-m14.aol.com>
Source record: 120391

Hi Dan--

I figured that's what you meant. It's a pretty tall order to make one stick of aluminum do everything well on every band.

Cheers!

Rick K1BQT

1139. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 02:36:14 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304201836.50e97df6@posting.google.com>
Source record: 120392

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EA3175F.60202@ieee.org>...
> Reg Edwards wrote:
> > For the T-network with two variable C's a roller inductor is NOT needed.
> > The coil is tapped and switched from one band to another and is easily
> > home-brewed.
>
> Uhhhhh Reg, we are trying to avoid switching.

Cecil, since many radios have a particular voltage that is
synchronised with a certain voltage level, couldn't one use this
voltage level be used to coordinate stepper motor movements to pre
assigned inductor and capacitor settings ?
I had in mind interfacing with a freeware program such as CAD-CAM used
for 3D router machine control where it could be used not only remotely
but at low or
zero load levels
Regards
Art

1140. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 03:38:00 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <dmp6av0vc99959383hfkn51qjusvu09e7v@4ax.com>
Source record: 120393

On Sun, 20 Apr 2003 11:11:15 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:

>Russ:
>
>[snip]
>> >
>> >I have neither sought nor advocate these mandacious public statements
>whose
>>
>> ^^^^^^^^^
>>
>> mendacious
>>
>> >intent is to libel me and deface my good character and reputation.
>> ^^^^^
>> defame
>> >
>[snip]
>
>Thanks from all of us here, Dr. Cohen is *always* making mistakes and needs
>correction!

I try to stay away from spelling and grammar flames but sometimes the
self-styled high and mighty need it. Of course the mixing of past and
present tense needs pointing out as well.

1141. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:27:32 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA37334.6EA3764A@cwis.net>
Source record: 120394

Carl,
Clamp it to your balconey rail and use a
counterpoise. If it works 'better' than the
ATAS-100, you're doing something wrong...
'Doc

1142. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:31:00 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA37404.F11B37DB@cwis.net>
Source record: 120395

Ed,
Since the Imax is the correct length for use
on 11 meters, I would think shortening it would
make it work better on 10 meters. Of course, doing
that means you won't be using it on 11 meters
any more...
'Doc

1143. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:31:34 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b7vs79$4lfn5$1@ID-134747.news.dfncis.de>
Source record: 120396

Enjoying the thread! RMS refers to DC equivalent
voltage of an AC waveform. For 50/60 cycle AC
Sqrt2 is correct. For a CW signal the RMS if
frequency dependent, and I do not have any real
idea of how to calculate it. SSB and FM make
things even more interesting. That's why you
listen for arcing, or inspect for little black
spots on the plates to determine if you have
exceeded limits. If arcing is a regular problem
you need to reduce power, better tune the antenna,
or use a higher voltage capacitor.

--
73 es cul

wb3fup
a Salty Bear

"Richard" <nearlynews_email@ntlworld.com> wrote in
message
news:b7li1m$275tc$1@ID-150848.news.dfncis.de...
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote
in message
> news:b7ku08$sf3$1@sparta.btinternet.com...
> > Richard,
> >
> > Here are your exam results :
> >
> > You lose 0.1 marks for transmitting on 1.8
MHz. It is not legal in the
> UK
> > for amateurs to transmit below 1.81 MHz.
>
> Aaagh!! :c)
>
> > You lose 0.3 marks because in the band you
have chosen it is the coil
> which
> > is in parallel with the antenna, not the
capacitor. The capacitor is
> > actually in series with the antenna and
transmitter. But this makes
> little
> > difference to the voltage across it.

>
>
> \ | /
> TX_______C_________|
> |
> |
> L
> |
> |
> GND
>
>
> The coil is in parallel with the antenna? C is
in series?
>
>
> The results actually gave two anwsers. This was
the other:
>
>
> \ | /
> TX_______L_________|
> |
> |
> L
> |
> |
> GND
>
> Here are my parameters which pretty much would
be my set up:
>
> Vertical height above feedpoint: 9.9m
> Length of horizontal section: 10m
> Antenna conductor: 1.5mm
> Operating frequency: 1.8Mhz
> Number of radial wires: 10.2m
> (Shallow buried radial 9m long, + earth rod 1.2m
long)
> Diameter of radial wires: 1.5mm
> Length of strap: 0.1m
> Soil: Average:
>
>
> Overall power efficiency: 3.87%
> Overall loss relative to ideal system: 14.1dB
> S-points: 2.3
>
> Problem is my earthing. Are we saying that only
3.87 watts would be

> radiated from my 100W TX? Looks like it.
That's bad!! :c(
>
> > Overall mark = 9.6 marks out of 10. You may
now go to the top of the
> class.
> > Congratulations!
> >
> > Your question marks after RMS raised my bushy
eyebrows a little.
> Whenever TX
> > watts are stated, to obtain peak volts and
peak amps multiply by their
> RMS
> > values by sqrt(2). But I think you know
this.
>
> I've forgetten a lot of the electronics I knew
as a lad. Just wanted to
> be sure it was RMS. So that means voltage across
C is 870 * 1.4142 =
> 1.230Kv.
>
> C has spacing of 0.8mm. Using: Vs = 30d +
1.35kV", Vs = 30 * 0.08 +
> 1.5Kv = 1.5024 Kv.
>
> Or should the formula be 30,000 + 1.35Kv , Vs =
30,000 * 0.08 + 1.5 Kv =
> 3.9Kv?
>
> If the capacitor is rated 1.5 Kv, thats cutting
it close. What should
> safety margin be?
>
>
> > If you wish to adopt a professional attitude
you could perform a
> similar
> > calculation for each band. The highest
capacitor voltage found is what
> you
> > are looking for.
>
> That's what I would have done.
>
> > 0.8 mm spacing between capacitor plates seems
okay to me. Clean out
> the
> > dust. Takes only a few seconds to try and see

what happens. In any
> case for
> > most tuner settings the capacitor volts will
be far less than the
> highest
> > experienced.
> >
> > I could say something about confusing advice
from people with
> fixations on
> > Italian Clowns. But I won't.
> > ---
> > Reg, G4FGQ
> >
> > ==========
>

1144. Re: Little Tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:32:57 UTC
From: Tom Brown <tab@signalgrp.com>
Message-ID: <b7v059vme1@slb3.atl.mindspring.net>
Source record: 120511

Call Robert Young NC4ME at 919-552-8788. He built it and will help you sort out
the problem. Maybe a shorted mount?

73,

Tom N4TAB

~~~~~~`

John wrote:
> Ok, have a new little tarheel (mini screwdriver). But it doesn't seem to be
> resonant anywhere. And get no received signals. Need to troubleshoot it.
> What steps could I take to check the matching coil and whatever else? How do
> I use a meter to do this?...Thanks
>
> John
>
>
~~~~~~

1145. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:37:00 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA3756C.80317063@cwis.net>
Source record: 120397

Slick,
OOoooooh, you're in trouble now! You
have disapointed Art sooooo much...
'Doc

1146. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:41:36 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b7vsq2$4v899$1@ID-134747.news.dfncis.de>
Source record: 120398

If you are using a tuner use 450 ohm ladder line.
Then you will have more power to the antenna, and
no problem matching it anywhere you want.

--
73 es cul

wb3fup
a Salty Bear
"Ken" <cprstn54zz@att.net> wrote in message
news:f5p2av4hlcd2e4jqbg0brjogau5g3mj1ic@4ax.com...
> On Sat, 19 Apr 2003 13:49:13 GMT, Dale Parfitt
<parinc@gte.net> wrote:
> >Isn't a double extended zepp two 5/8 wave
sides? I make that to be over
> >300' long..
>
> Hi, Dale.
>
> Dunno for sure. Maybe I am wrong on the "80M"
part. See:
>
http://www.qrpworld.com/40_meter_zepp_antenna.htm
>
> I thought it was done as follows: 5/8 of 80M is
50M, which is roughly
> the 176 ft. You are suggesting that is the
length of each side. I
> don't know.
>
> In any event, I will be using a wire that is 176
ft overall for
> 160M-10M. Does it matter how long the twinlead
is if I am using a 4:1
> balun and tuner?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

1147. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:48:31 UTC
From: Carl Walthall <motorola1@insightbb.com>
Message-ID: <3EA396B4.2000101@insightbb.com>
Source record: 120399

I have a counterpoise on the ATAS but it doesnt do very well on 20 meter HF compared to the Outbacker on my truck. Can you give me some info on how to make it work?

Thanks for the info
Carl

'Doc wrote:
>
> Carl,
> Clamp it to your balconey rail and use a
> counterpoise. If it works 'better' than the
> ATAS-100, you're doing something wrong...
> 'Doc

1148. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:49:17 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b7vt8g$4v3pb$1@ID-134747.news.dfncis.de>
Source record: 120400

What ever is missing on top is compensated for by
the feedline. Just forget the balun, and coax and
tune the feedline. Make sure that the overall
length of the antenna and feedline is longer than
1/2 wave at the lowest frequency you intend to
operate at. I had to use coax for the first 15
years I was licensed, and then just tried the
ladder line feed for the devil of it. I will
never feed a dipole any other way if I have a
tuner to use.

--
73 es cul

wb3fup
a Salty Bear
"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in
message
news:k055av8cengpqstuo3nletqg38ee05a1iv@4ax.com...
> On Sat, 19 Apr 2003 22:08:11 GMT, Ken
<cprstn54zz@att.net> wrote:
>
> >On Sat, 19 Apr 2003 12:26:44 -0500, OC_CAM's
Razor
> ><Cecil.A.Moore@ieee.org> wrote:
> >>A 176ft EDZ is designed for 6.65 MHz. Is that
what your really want?
> >
> >What I want is an antenna that will be OK (not
great) on all HF bands.
> >This one is not supposed to resonate anywhere
but to load up OK
> >everywhere. I have seen commercial versions
offered with 100 ft or
> >125 ft ladderline feedlines that are supposed
to be all band,
> >including 160M. I am trying to do the same
thing with 22 gauge copper
> >wire and twinlead for 0.5-50 watts (max) HF.
My tuner is rated for
> >300 watts and my balun for 200 watts.
> >
> >Ken KC2JDY
>
> My 1955 ARRL Antenna Book makes the following

statement about
> center-fed dipoles, meant for multi-band use,
fed with parallel
> feedline (twinlead or open wire):
>
> "The length of the flattop is not critical, nor
is the length of the
> feedline, but some combinations give less
trouble with parallel line
> currents than others." The book then recommends
for a 135' dipole,
> used from 3.5 to 28 mhz, and fed with parallel
line, the best feedline
> lengths are either 42' or 77.5'. For a dipole of
67', feedline lengths
> of either 42.5' or 65.5'.
>
> No mention of how they arrived at those
combinations.
>
> Have a happy...
>
> Bob
> k5qwg
>
> >
> >
> >Ken
> >(to reply via email
> >remove "zz" from address)
>

1149. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 04:52:00 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b7vtdi$4rkqg$1@ID-134747.news.dfncis.de>
Source record: 120401

And your antenna will work great on 160. Isn't it
great, as much wire as you can, as high in the air
as you can get it, and enjoy the hobby.

--
73 es cul

wb3fup
a Salty Bear
"Dave Shrader" <w1mce@attbi.com> wrote in message
news:3EA29FCB.E951A776@attbi.com...
> Ken,
>
> Avoid all the confusion by calling your antenna
a Center Fed Doublet
> with tuned feeders and avoid all the negative
comments regarding the
> definition of an EDZ.
>
> I used a CFD with tuned feeders for many years
on USAF MARS and the ham
> bands from 3.3 MHz to 29.7 MHz and it worked
fine!! It was 140 +/- feet
> long [doesn't really matter] in an inverted Vee
configuration with an
> indeterminate length of 600 ohm open wire
feeders. My tuner is an old
> [OLD] Murch 2000A using an external balun. I
have no interest in 160
> meters.
>
> I have recently moved to a new QTH. This summer
I'll put up a 190 foot
> long CFD and tune it the same way [The length of
my back yard is 190
> feet so there's no magic in the length.]
>
> Dave, W1MCE
> Manager, Textron Antenna Range, retired
> Program Chief Engineer, USAF S-118 RS/RV,
retired

1150. Re: 80M Double Extended Zepp twinlead length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 05:34:55 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <sk07avknbpcsdvdgui111ga0ubg55o8juv@4ax.com>
Source record: 120402

On Mon, 21 Apr 2003 00:49:17 -0400, "WB3FUP \(Mike Hall\)"
<wb3fup@msn.com> wrote:

|What ever is missing on top is compensated for by
|the feedline.

So I can just shorten the dipole to a foot or so and add transmission
line, right?

1151. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 08:55:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA3B1FA.F1190C60@cwis.net>
Source record: 120403

Carl,
Any antenna is going to be at a disadvantage being
mounted as your's will have to be, under an over hanging
balconey, and close to a bulding. Put your 'Out Backer'
in the ATAS-100's place and see for your self what the
difference is.
'Doc

1152. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 09:58:06 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <GW2bamAuC8o+EAwe@ifwtech.co.uk>
Source record: 120404

Richard wrote:
>I think a tuner for all bands will be made over a few months. I've a
>zilion other things to attend to that are crying out for attention.
>What probably will happen initially is that I'll make a single band
>pre-set tuner. For 40 meters probably. And I guess it's not beyond
>possibility that for a while I'll end up with a plug-in tuner
>arrangement. When I want to change band, go into back garden and slot
>in a tuner module.
>
That's a good strategy, and this is a good time of year to be doing it.
Come autumn, you will know what kinds of networks you'll need to make
remotely switchable for the winter... or maybe you'll still find
yourself going out into the garden at all hours and in all weathers (as
I did for several years).

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1153. endfeed.exe and t_tuner.exe and T network.

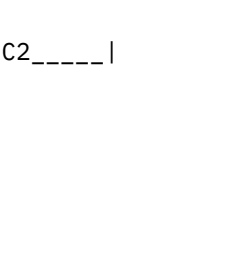
Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 10:32:10 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b80h79$4uchp$1@ID-150848.news.dfncis.de>
Source record: 120405

This could be in Reg's domain in particular.

The (mainly) physical parameters of the antenna are :

Height of inverted L: 9.9m
Length of inverted L: 10m
Wire diameter: 1.5mm
Frequency: 7050 Khz
Number of buried radial wires: 1 (100mm deep)
Length of radial wire(s) 10.2m (1 radial 9m long + 1 earth rod 1.2m long)
Diameter of radial wires(s): 1.5mm
Strap length to radials: 0.1m (connection from Shunt L, to earth rod + radial wires)
Soil: Average.

First I tried endfeed.exe, and selecting T network L & C values I got:



Input Z : 50R (from TX)
Antenna feedpoint: R: 1485.5 ohms: jX: 1455.3 Ohms

Frequency: 7050 Khz
C1 : 35 pF
C2 : 5 pF
Shunt L : 12.7 uH

Q of coil: 300

Ground Electrode System:-
DC resistance: 19 Ohms
Rf resistance: 39.4 Ohms
Rf reactance 32.9 Ohms

I calculated voltage at feedpoint to be:

I feedpoint = sqrt (100/1485.5) = 0.2594559 A RMS

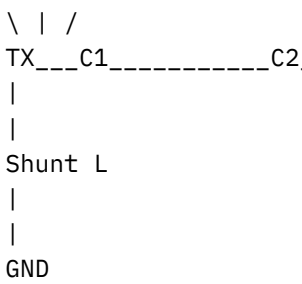
Input Z feedpoint = sqrt 1485.5 ^ + 1455.3 ^ = 2079.5693 Ohms

Voltage at feedpoint: I * Z = 0.2594559 * 2079.5693 = 539.5 v RMS, 763 v Peak.

Then I ran T_TUNER.EXE and entered these parameters:

Frequency: 7.050
Input resistance: 50 Ohms
Load Resistance: 1485.5
Load Reactance: 1455.3
"A" arbitrary parameter: 1
Q of coil: 300
Capacitor Q : 1500
Max Capacitor setting: 10000 pF
Watts input : 100

And got:



C1 : 83.8 pF
C2 : 13 pF
Coil inductance : 6.08 uH

Voltage across C1 : 540 Peak
Voltage across C2 : 642 Peak.

I am confused because of the differences in values computed. Am I doing something wong? TIA. Rich.

1154. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 10:43:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b80hsd$53ch5$1@ID-150848.news.dfncis.de>
Source record: 120406

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:GW2bamAuC8o+EAwe@ifwtech.co.uk...
> Richard wrote:
> >I think a tuner for all bands will be made over a few months. I've a
> >zilion other things to attend to that are crying out for attention.
> >What probably will happen initially is that I'll make a single band
> >pre-set tuner. For 40 meters probably. And I guess it's not beyond
> >possibility that for a while I'll end up with a plug-in tuner
> >arrangement. When I want to change band, go into back garden and
slot
> >in a tuner module.
> >
> That's a good strategy, and this is a good time of year to be doing
it.
> Come autumn, you will know what kinds of networks you'll need to make
> remotely switchable for the winter... or maybe you'll still find
> yourself going out into the garden at all hours and in all weathers
(as
> I did for several years).

Yea. And Reg is knowledgeable of the human. Because in his minds eye he
can see that what starts out as temporary can become permanent.

"As sure as eggs don't bounce off concrete you will eventually end up
with a universal T-tuner with the help of alligator clips."

Rich.

1155. broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 11:23:21 UTC
From: Ryan Stapleton <ryans_linux@yahoo.com>
Message-ID: <JwQoa.33710$ey1.3029135@newsread1.prod.itd.earthlink.net>
Source record: 120407

Hello,
I am living on the ground floor of an apartment complex in
the DC area. The complex has an outside antenna but it dosn't
work so well on UHF. The VHF channels come in great, but channels
20, 26, 32, 66 come in a little fuzzy and channel 50 doesn't come
in at all.

I would like to know what options I have to improve my UHF
reception. I do have a little set of rabbit ears that gets c66
MUCH better, and 50 comes in pretty fuzzy.

My goal is to get c50 watchable and possibly clean c66 up some. I
assume that I want to get something out on my porch. I have a sliding
glass door I can run some basic wire around.

Thanks for the help.

-Ryan

1156. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 11:33:54 UTC
From: Ryan Stapleton <ryans_linux@yahoo.com>
Message-ID: <CGQoa.33719$ey1.3029738@newsread1.prod.itd.earthlink.net>
Source record: 120408

Ryan Stapleton wrote:
> Hello,
> I am living on the ground floor of an apartment complex in
> the DC area. The complex has an outside antenna but it dosn't
> work so well on UHF. The VHF channels come in great, but channels
> 20, 26, 32, 66 come in a little fuzzy and channel 50 doesn't come
> in at all.
>
> I would like to know what options I have to improve my UHF
> reception. I do have a little set of rabbit ears that gets c66
> MUCH better, and 50 comes in pretty fuzzy.
>
> My goal is to get c50 watchable and possibly clean c66 up some. I
> assume that I want to get something out on my porch. I have a sliding
> glass door I can run some basic wire around.
>
> Thanks for the help.
>
> -Ryan
>

I forgot to mention that the matching transformer is a UHF/VHF one
so I can use coax to my TV.

Thanks
-Ryan

1157. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 12:43:50 UTC
From: richardharrison@webtv.net
Message-ID: <6427-3EA3E786-99@storefull-2311.public.lawson.webtv.net>
Source record: 120409

Mike, WB3FUP wrote:
"RMS refers to DC equivalent voltage of an AC waveform. For 50/60 cycle AC, Sqet 2 is correct."

The relationship between peak and rms volts is independent of frequency. It is a function of waveform, however. In a square wave, peak and average are the same. Not so in a sinewave. Average volts times average amps don`t give average power with sinewaves. RMS volts times RMS amps give average power.

If a bulb is to burn as brightly on a-c as it does on d-c, average power supplied the bulb must be the same in both cases. For a sinewave, average power is peak volts times peak amps, divided by two. Intergrating the right waveforms proves this. "RMS power" is not an appropriate term. The correct term is "average power" for rms volts times rms amps.

Since sqrt 2 (rms volts) times sqrt 2 (rms amps) equals 2 times rms volts times rms amps, sqrt 2 is clearly the correct scale factor for converting to peak volts and peak amps. Peak power is 2X average power for an rms sinewave.

Best regards, Richard Harrison, KB5WZI

1158. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 13:00:23 UTC
From: richardharrison@webtv.net
Message-ID: <6427-3EA3EB67-100@storefull-2311.public.lawson.webtv.net>
Source record: 120410

Ryan Stapleton wrote:
"The complex has an outside antenna but it doesn`t work so well on UHF."

Have it repaired or sign up for cable.

Ryan has tried rabbit ears. He is on the ground floor and the rabbit ears don`t satisfy.

Perhaps the complex may allow his own antenna installation on the roof.

Best regards, Richard Harrison, KB5WZI

1159. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 13:36:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3F3DB.3070701@ieee.org>
Source record: 120411

Dr. Slick wrote:
> Ha. Well, I'm not a real Doctor, i just play one on the internet. :)

I have a friend who is a retired army general with a doctor of divinity degree. We call him 'Doc', but not because of his degree. We have been calling him 'Doc' ever since high school in the early 50's since he was the student trainer for the football team. He wrapped our ankles, etc.
--
73, Cecil http://www.qsl.net/w5dxp

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1160. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 13:38:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3F44B.3000508@ieee.org>
Source record: 120412

Heck wrote:
> I just purchased an IMAX 2000 vertical for 10 meters. It has rings at the
> base for adjusting the SWR. It comes factory tuned for the CB band and it
> is...flat on the CB band. But I tried to tune it for 28.500 and the best SWR
> reading I could get is 1.8 and it goes higher as I go up in frequency. I had
> to turn the adjusting rings all the way to the top to get it this good.
>
> I was wondering if anyone else had this problem...that is if anyone else has
> one :)

My suggestion: Trim the length by 5%.
--
73, Cecil http://www.qsl.net/w5dxp

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1161. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 13:41:26 UTC
From: JamesR@naut.net
Message-ID: <3EA3F506.6F562121@naut.net>
Source record: 120413

Thanks guys. I emailed GAP and ask them also, waiting for their answer.

I wanted responses from real people first, and as usual good hams came through.

As some of you know, the MARS program operates in and around the 80 meter band
for the most part, that's why I would like to get this working. Frankly it's
holding me back and i'm disappointed in the antenna for that reason so far.

I hung a 75 foot piece of wire in the trees, I receive (not transmit) better on
the wire on 80 than the GAP.

I really appreciate all your comments.

If GAP answers my questions i'll let you know.

Jim

Dan/W4NTI wrote:

> "HowardFerber" <k2mme@juno.com> wrote in message
> news:dc0caa1.0304201012.667946c5@posting.google.com...
> > JamesR@nauti.com wrote in message news:<3EA2AF67.BB374478@nauti.com>...
> > > I put up a GAP Titan DX (80-10 meters) and thought it would surface. I
> > > have found that this antenna doesn't work as well on 80 as I thought.
> > > Has anyone else had a similar situation? And have you made any changes
> > > that would improve the overall performance of the GAP on 80? I have
> > > this antenna mounted about 8 feet off the ground.
> > >
> > > In the mean time I ordered a dipole.
> > >
> > > Jim
> >
> > Hi Jim
> > I also have a Titan which is side mounted on a 4 floor building(just
> > below the top). I am able to make some contacts on 75/80 but the only
> > thing useful is the fact that the swr is fairly low. I'd guess that
> > its more than 15db below a dipole. It's my only ant and I am glad to
> > have something that "gets" me on all bands but what can you expect
> > from the way they get it to "resonate" on 80?
> > 73
> > Howie K2MME
>
> Its not just GAP antennas. All short antennas will suffer from similar
> performance.
>
> Dan/W4NTI

1162. Re: Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 13:48:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3F698.9050904@ieee.org>
Source record: 120414

Terry O'Neill wrote:
> I have tall trees & 5 acres. I am considering an all-band doublet of about
> 550 feet in length (+/-) @ about 50 feet in height. It will be fed with 450
> ohm ladder line & a Johnson Matchbox.
>
> It will be about 16 wavelengths on 10 meters, 12.5 wl on 15, nearly 11 wl on
> 17, 8 wl on 20 meters, 4 on 40, & 2 on 75 & so it should have some gain in
> some directions on all bands of interest.
>
> Has anyone ever used such an antenna & if so was it worth the extra wire?
> Was the gain usable?

The major gain for a very long doublet is dual lobes off each end (four
major lobes in all). For instance, if you run that doublet North and
South, on 10m the major lobes will be N12degE, N12degW, S12degE, & S12degW.
Don't expect very much broadside radiation.

When my cable TV goes out, I use my 20m rotatable dipole to receive
TV stations from 30 miles away. The above four lobes are readily
apparent.
--
73, Cecil http://www.qsl.net/w5dxp

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1163. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 14:13:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3FC72.1000308@ieee.org>
Source record: 120415

Dr. Slick wrote:
> What, might i ask, is the Two sides of the controversy? And is
> it really two-sided, or is there a lot of grey in between?

I believe it is mostly two-sided. It is what the ARRL told us in
the 1970-80's Vs what the ARRL is telling us now. Both sides agree
that at a Z0-match point, there are two rearward reflected waves
that are equal in magnitude and opposite in sign and therefore
they cancel. This also agrees with the field of optics. What happens
immediately after they cancel is what the argument is all about.

1. The 1980 side says that the cancellation of the two reflected waves
causes a virtual short (or open) circuit that in turn causes re-reflection
of all the reflected energy back toward the load.

2. The present-day side says that total re-reflection is a fallacy. Quoting
from a recent _QEX_ article: "The misconception is that a total re-reflection
of the reflected power occurs at a matching network or match point as
a result of an impedance match being established there." There's nothing
given that tells us where the reflected energy goes since it is not
re-reflected back toward the load and also never reaches the source.

3. It can be inferred from the Melles-Griot web page that neither of
the above explanations tells the whole story. Nothing is said about any
"virtual index of refraction". Each thin-film reflection occurs because
of the actual physical index of refraction. And all the reflected energy
is indeed re-reflected back toward the "load" by destructive interference
(wave cancellation of two reflected waves) toward the source accompanied
by an equal magnitude of constructive interference toward the load. It's
explained in the last three paragraphs on this web page:

http://www.mellesgriot.com/products/optics/oc_2_1.htm
--
73, Cecil http://www.qsl.net/w5dxp

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1164. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 14:21:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3FE71.8040502@ieee.org>
Source record: 120416

Art Unwin KB9MZ wrote:
> Cecil, since many radios have a particular voltage that is
> synchronised with a certain voltage level, couldn't one use this
> voltage level be used to coordinate stepper motor movements to pre
> assigned inductor and capacitor settings ?

Of course, I once did that with my IC-745. Either stepping motors
or gear-head motors could be used. I found that the setting could
not be pre-assigned unless the weather remained the same. So, IMO,
the SWR still needs to be part of the closed feedback loop.
--
73, Cecil http://www.qsl.net/w5dxp

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1165. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 14:23:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA3FEE7.7000700@ieee.org>
Source record: 120417

'Doc wrote:
> Clamp it to your balconey rail and use a
> counterpoise. If it works 'better' than the
> ATAS-100, you're doing something wrong...

Maybe the Outbacker works better mobile than the
ATAS-100 does on the balcony.
--
73, Cecil http://www.qsl.net/w5dxp

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1166. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 15:10:27 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA409DA.E16EFBB9@att.net>
Source record: 120418

Richard,

Careful!!!!

Average voltage and average current are often zero. It is probably best
to avoid the use of "average" when discussing voltages and currents,
unless you really mean it.

73,
Gene
W4SZ

Richard Harrison wrote:
>
> Mike, WB3FUP wrote:
> "RMS refers to DC equivalent voltage of an AC waveform. For 50/60 cycle
> AC, Sqet 2 is correct."
>
> The relationship between peak and rms volts is independent of frequency.
> It is a function of waveform, however. In a square wave, peak and
> average are the same. Not so in a sinewave. Average volts times average
> amps don`t give average power with sinewaves. RMS volts times RMS amps
> give average power.
>
> If a bulb is to burn as brightly on a-c as it does on d-c, average power
> supplied the bulb must be the same in both cases. For a sinewave,
> average power is peak volts times peak amps, divided by two.
> Intergrating the right waveforms proves this. "RMS power" is not an
> appropriate term. The correct term is "average power" for rms volts
> times rms amps.
>
> Since sqrt 2 (rms volts) times sqrt 2 (rms amps) equals 2 times rms
> volts times rms amps, sqrt 2 is clearly the correct scale factor for
> converting to peak volts and peak amps. Peak power is 2X average power
> for an rms sinewave.
>
> Best regards, Richard Harrison, KB5WZI

1167. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 15:28:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b812h4cut1@news.service.uci.edu>
Source record: 120320

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA3FC72.1000308@ieee.org...
> 3. It can be inferred from the Melles-Griot web page that neither of
> the above explanations tells the whole story. Nothing is said about any
> "virtual index of refraction". Each thin-film reflection occurs because
> of the actual physical index of refraction. And all the reflected energy
> is indeed re-reflected back toward the "load" by destructive interference
> (wave cancellation of two reflected waves) toward the source accompanied
> by an equal magnitude of constructive interference toward the load.

Conservation of energy indeed dictates that all of the energy cancelled in the direction of the source must then appear at the load. However the statement that re-reflection is caused by destructive interference is equivalent to saying it is caused by a virtual short. The dilema would seem to be over the fact that, in both the optical and RF cases, the coefficient of reflectivity in the direction of the source is less than 1. This leads us to this question: how is 100% of the reflected energy then re-reflected by something that is less than 100% reflective?

73 de ac6xg

1168. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 15:28:30 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b812lg$u9e$1@slb9.atl.mindspring.net>
Source record: 120319

If you have the room...and since you have a 75 footer out...put out 120 foot, or so. End feed it via a tuner and operate all bands. Try and put in a good counterpoise and/or ground and you should do reasonably well.

Dan/W4NTI

<JamesR@naut.net> wrote in message news:3EA3F506.6F562121@naut.net...
> Thanks guys. I emailed GAP and ask them also, waiting for their answer.
>
> I wanted responses from real people first, and as usual good hams came through.
>
> As some of you know, the MARS program operates in and around the 80 meter band
> for the most part, that's why I would like to get this working. Frankly it's
> holding me back and i'm disappointed in the antenna for that reason so far.
>
> I hung a 75 foot piece of wire in the trees, I receive (not transmit) better on
> the wire on 80 than the GAP.
>
> I really appreciate all your comments.
>
> If GAP answers my questions i'll let you know.
>
> Jim
>
>
> Dan/W4NTI wrote:
>
> > "HowardFerber" <k2mme@juno.com> wrote in message
> > news:dc0caa1.0304201012.667946c5@posting.google.com...
> > > JamesR@nauti.com wrote in message news:<3EA2AF67.BB374478@nauti.com>...
> > > > I put up a GAP Titan DX (80-10 meters) and thought it would surface. I
> > > > have found that this antenna doesn't work as well on 80 as I thought.
> > > > Has anyone else had a similar situation? And have you made any changes
> > > > that would improve the overall performance of the GAP on 80? I have
> > > > this antenna mounted about 8 feet off the ground.
> > > >

> > > > In the mean time I ordered a dipole.
> > > >
> > > > Jim
> > >
> > > Hi Jim
> > > I also have a Titan which is side mounted on a 4 floor building(just
> > > below the top). I am able to make some contacts on 75/80 but the only
> > > thing useful is the fact that the swr is fairly low. I'd guess that
> > > its more than 15db below a dipole. It's my only ant and I am glad to
> > > have something that "gets" me on all bands but what can you expect
> > > from the way they get it to "resonate" on 80?
> > > 73
> > > Howie K2MME
> >
> > Its not just GAP antennas. All short antennas will suffer from similar
> > performance.
> >
> > Dan/W4NTI
>

1169. Aperiodic loop design aid solicited

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 15:53:02 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <ytUoa.313948$0g4.8548569@news2.east.cox.net>
Source record: 120321

Hi everyone!

I want to build an aperiodic loop that will cover from LF up to about 2 or 3 MHz.
I am considering either an air-wound large loop (3 foot diameter) or a simple
eave mounted ferrite loopstick for the pickup.

I am considering having the loop drive a MC1350/MC1349 IC with J-FET source followers on the inputs. Or, is there a better fet input op amp with a lower noise figure I should be considering?

What is the proper means to determine the needed loop inductance for these designs? Do I want to use the largest loop size with a single turn, or is the
ferrite bar the way too go? How does one determine the proper inductance for a broadband design?

Use would be primarily AM BCB listening, secondary would be for LF BCB dx'ing, and general SWL use.

1170. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 16:00:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA41584.8050209@ieee.org>
Source record: 120322

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EA3FC72.1000308@ieee.org...
>
>>3. It can be inferred from the Melles-Griot web page that neither of
>>the above explanations tells the whole story. Nothing is said about any
>>"virtual index of refraction". Each thin-film reflection occurs because
>>of the actual physical index of refraction. And all the reflected energy
>>is indeed re-reflected back toward the "load" by destructive interference
>>(wave cancellation of two reflected waves) toward the source accompanied
>>by an equal magnitude of constructive interference toward the load.
>
> Conservation of energy indeed dictates that all of the energy cancelled in
> the direction of the source must then appear at the load. However the
> statement that re-reflection is caused by destructive interference is
> equivalent to saying it is caused by a virtual short. The dilema would seem
> to be over the fact that, in both the optical and RF cases, the coefficient
> of reflectivity in the direction of the source is less than 1. This leads
> us to this question: how is 100% of the reflected energy then re-reflected
> by something that is less than 100% reflective?

The only answer I've been able to come up with is that 100% wave cancellation
is 100% reflective. You can use your eye to see that the two sets of reflections
have been canceled in one direction and appear as "enhanced intensity" in the
opposite direction.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1171. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 16:02:05 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304210802.1ce2c0c2@posting.google.com>
Source record: 120323

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304201728.232d1ecd@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304200839.1f89f3e8@posting.google.com>...
> > Doctor you showed extrodinary insights on the other thread
> > that has not been very common with this newsgroup.
> > I was unable to follow a lot of the discussion with Cecil
> > which obviously made Cecil very happy but by your comments conversent
> > you are also conversent with impedance transformations. I would really
> > appreciate your comments on what may well prove to be twisted logic.
> >
>
> I wouldn't call them extrordinary insights but rather comments on
> topics i think about on a daily basis.

Dr Slick,
I am referring to the fact that you recognise that many of natures
laws
affect the subject of antennas and that it is ignorant to believe that
antenna studies have been so exhaustive to where we have reached a
stage where all relevant laws have been cataloged, thus enabling all
antenna books to be closed and locked for all time.

>
> > When dealing with lossless feed systems my first thoughts are
> > to match the feed line to the generator since solid state and
> > tube/valve radios start off with very different impedances.
> > So when drawing the above as a electrical circuit we have a loop
> > circuit
> > containing a generator E, a resistance Rp and an inductance Xp.
> > If I couple the above loop circuit with another containing Rs , Xs,and
> > Cs
> > we can have in effect a lossless feed system provided optimum
> > resonance
> > conditions are satisfied.
> > The above I equivicate with a loop antenna.
>
>
> I assume your Rp and Xp are parallel resistance and reactance,
> and your generator has an impedance too.
No, that assumption is not correct. The complex circuit to be drawn is
one
that shows that with a minimum of two variables one can obtain an
antenna
with the highest efficieny possible (loss-less feed system so called)

and which at the same time clearly shows that there is no relationship between the radiator and wavelength regarrdles of frequency. Since we have a generator which has an impedance it is a factor that must be obviously considered for described aims to be achieved and is the reason why I choose a transmission line of equal impeadance as frequency of the complex circuit must be ameniable to change.
>
> And i suppose you mean to say that you are connecting this to a
> series resistance and reactance, but i'm not sure what your Cs
> capacitor is positioned.

Since all are series circuits and where only the inductances are co-joined
(coupled) positioning of all other constants within their own circuits is immaterial.
>
Would you type a diagram out like Cecil did?

I am not at the educational level of yourself and Cecil. Where you both can
discuss the curiousities of an oak tree at length my curiousity is limited to that of picking up an acorn. I suppose I should have added that the subscript
addesd i.e.'p' and 's' stood for primary and secondary circuits

Is it possible we can break it down to a basic simplistic for such as defining a radiator as a circuit comprising of the lumped constants of Resistance,Capacitance and Inductance in series to which when energy supplied will result in radiation? This then allows us to consider a complex circuit that contain three of the above circuits with the addition of an energy provider?
If all these circuits are co-joined by inductance coupling alone it can be shown mathematically that there are minimum two variables available that will allow us to give finality to the required aims.
This is a very simplistic aproach and more variables could be made available if we introduced parallel inductance/capacitance circuits or adding a chain of such circuits.
Unless the original logic is fully understood it would be folly to expand at this point.

>
>
> > If we add another loop circuit say another radiator of arbitary length
> > where the inductance portion of the circuit is also coupled at the
> > previous co-joined part the added loop circuit will be impressed by
> > the resonant frequency of the secondary loop such that the capacitor
> > Cs together with adjustment of the inductive coupling can provide a
> > loss less feed system. I have made an antenna system based on the
> > above that seems to follow the above principle. All values are seen as
> > constants, of course,
> > and I have not pursued at this time using these in parallel for

> > extrordinary
> > matching ratios or the variability of resistance for changes in Q.
>
> As you all know, a truly loss-less feed/impedance matching
> system is impossible (unless you somehow used liquid Nitrogen cooled
> super-conductors), as you always have some losses.

So true, I am often in error regarding terms used. 'Loss-less' feed systems I understood to describe a transformation of energy with the maximum efficiency
(a coined term) that natures laws will allow. If there is a better term now would be the time to use it!

In a follow up to your other thread, I have also used the above reasoning
to design a yagi style antenna where a succesion of elements / radiators were coupled with good results, which echoes your original thoughts regarding whether all is known about antennas. But then that can be described under another thread heading at another time, It is not in any of the books however so it must remain suspect.Hi,Hi.

Doctor Slick, please hang in with me on this subject even tho my description
may be confusing. I badly need the finality which only you can supply. Once the mathematical analysis is proved I would then be free to describe how it can be used as a fresh aproach in antenna design without attack.
Regards
Arthur Unwin
>

> Dr. Slick

1172. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 16:22:56 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304210822.4168785d@posting.google.com>
Source record: 120324

'Doc <w5lz@cwis.net> wrote in message news:<3EA3756C.80317063@cwis.net>...
> Slick,
> OOoooooh, you're in trouble now! You
> have disapointed Art sooooo much...
> 'Doc

No I am not disapointed. I get disapointed after reaching the heights
of excitement when I am led to believe one is an open minded expert
only to find out they are not. Doc don't you think it is time to
moidify some of your remarkes? I find it distastfull to have to
reciprocate in kind when alternatives could be so much better.
Let me give you a story.
In olden times salt was so valuable that it was always
placed close to the King. Ofcourse most of his companions who thought
they were knowledgable and his closest advisors always congregated at
that particular
end of the table ,leaving others who were more retiscent in their
behavior
were satisfied to seat themselves in the remaining places. There was
one time that the King noticed that a very qualified person had taken
up a chair at the farther most point away from the table salt. He
immediatly ordered the man to assume a place at his right hand thus
depriving a seat from a person who had overated his attributes. The
above shows that those who enlarge themselves
beyond their true capabilities will eventually suffer humility and
where those that display and perform nobally will always be recognised
eventually.
Think about it Doc and consider changing your attitude so you can be
friendly
to all.
Art

1173. Recommend a color camera to mount on antenna mast?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 16:29:05 UTC
From: johnfofawn@hotmail.com
Message-ID: <d89364bd.0304210829.32d8c632@posting.google.com>
Source record: 120325
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Hi,

I upgraded a 9913 run (125') to LMR-600. I left the old 9913 cable
there.

If possible, I'd like to put a color video camera on the mast and use
the 9913 cable (50 ohms) to get the signal back. I'd also like to be
able to power the camera via the coax.

Is this reasonable? Doable? What kind of camera would you recommend?

Thanks,
John

1174. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 16:55:45 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304210855.2e1d3f13@posting.google.com>
Source record: 120326

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA3FE71.8040502@ieee.org>...
> Art Unwin KB9MZ wrote:
> > Cecil, since many radios have a particular voltage that is
> > synchronised with a certain voltage level, couldn't one use this
> > voltage level be used to coordinate stepper motor movements to pre
> > assigned inductor and capacitor settings ?
>
> Of course, I once did that with my IC-745. Either stepping motors
> or gear-head motors could be used. I found that the setting could
> not be pre-assigned unless the weather remained the same. So, IMO,
> the SWR still needs to be part of the closed feedback loop.

Cecil how disappointing. I do admit to surprise that weather has that
much effect but to be forewarned is to be forearmed! I was trying to
avoid inductive swithing problems.
Regards
Art

1175. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 17:18:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA427DF.4060000@ieee.org>
Source record: 120327

Art Unwin KB9MZ wrote:
> Cecil how disappointing. I do admit to surprise that weather has that
> much effect but to be forewarned is to be forearmed! I was trying to
> avoid inductive swithing problems.

Weather (rain, snow, sleet) affects the VF of window-line thus
shifting the location of the current/voltage nodes/anti-nodes
and changing the impedance seen looking into the feedline.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1176. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 17:19:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA4282A.ACB44212@uci.edu>
Source record: 120328

OC_CAM's Razor wrote:
> The only answer I've been able to come up with is that 100% wave cancellation
> is 100% reflective. You can use your eye to see that the two sets of reflections
> have been canceled in one direction and appear as "enhanced intensity" in the
> opposite direction.

The apparent dichotomy is that you can also use your eye to see back
through an antireflective coating. It's not 100% reflective.

73, Jim AC6XG

1177. Screwdriver Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 17:23:37 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <vMVoa.48407$gd5.39452@fe03.atl2.webusenet.com>
Source record: 120329

Hello,

After suffering a stroke, I am now able to build my Carolina Cyclone line of HF screwdrivers again.
There are many screwdrivers on the market now, and I wouldn't "knock" any of them. The
only thing is quite a few have to ask $400-$500 for them. Again, I don't blame them, but I
also know how much it costs to build a good-performing HF antenna, and save the customer
money--money my fellow hams can use towards a new rig, or a ATU for their base station,
or other accessories. I use quality parts, Skil motors (which have been proven reliable), and
heavy-duty windings. There is no PVC anywhere; I prefer to use black nylon wound at 8 TPI
which also has proven its mettle in a harsh environment. I use #14 wire, plated copper wire, and
the combination makes for a fine-performing antenna at a price people would pay. They come
in 2 and 3" sizes; I have been using the 3" Cyclone II for 6 years. Oh, *some* builders skimp
on the weather covers by using that thin Butyl stuff. You will end replacing it in about a year.
Mine are 1/8" wall LEXAN that does not crack or turn yellow. Warranty? I will repair or replace
ANY Carolina Cyclone antenna if it fails to live up to its reputation. Now, if you're going to bang
it on the garage header or allow it to suffer obvious abuse, come on, let's be reasonable, OK? But
for coupler collars, stripped threads (that hardly ever happens, but you should see some folks do
to their equipment), or motors, sure. I want to make people happy, not mad at me.

So visit my web page at www.qsl.net/k4kwh to take a look-see. At $240 (I may have to ask
for a bit more shipping because UPS is going out of sight) shipped for Cyclone I and $340 for
the 3" Cyclone II, it is a pretty good deal.

Thanks for reading and feel free to contact me with any questions.

73

Jerry
K4KWH

1178. Re: endfeed.exe and t_tuner.exe and T network.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 17:33:22 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b81a12ap1@hercules.btinternet.com>
Source record: 120330

Richard sez -
> I am confused because of the differences in
> values computed. Am I doing
> something wong? TIA. Rich.
==========

An antenna input impedance is described by TWO numbers, R and jX, which are required to be transformed to TWO different numbers, usually 50 + j0.

A fundamental property of any impedance transforming network is that it should contain at least TWO variable L and C components. An L-network contains the two necessary and sufficient components and in principle will match anything to anything.

A T-network has 3 components any one of which can be made redundant. But if it is used for the SAME impedance transformation it has the very useful property of allowing the other two components to take on other, more practical or feasible values. There are in principle an infinite number of settings which will provide the same impedance match.

So the usual T-match can have the two series-capacitors fully variable and the shunt-coil switchable from one band to another. This allows the required capacitor settings to remain within their upper and lower capacitance limits.

==========

As described above, the arbitrary "A" value in program T_MATCH allows the operator, in effect, to select the coil inductance and network operating Q.

As a consequence power efficiency also changes. As you vary "A" you will see C1 and C2 change values, all for no change in antenna impedance. If you set "A" = 2.041, coil Q = 300? and capacitor Q = infinity, then both programs will give the same answer and all should become clear.

In program ENDFEED the tuner is subject to the constraint that capacitor settings must not exceed 300pF?. So the program has to do its best to find the lowest value of inductance which the constraint will accept. It does this by trial and error. It cleverly decides its own value of "A", gets on with the job and then keeps it a secret.

==========

In your ENDFEED example, computed capacitor setting C2 is only 3pF (7500 ohms) which is impossible to obtain when its maximum setting is around 300pF or more. Minimum capacitance setting plus stray wiring and switch capacitance is typically of the order of 5 to 10 percent of maximum setting.

This problem occurs because your antenna is almost exactly 1/2-wavelength long at 7.05 MHz. Input impedance is very high at 2080 ohms. This asks too much of a multi-band tuner capacitance range. Little can be done except change length, up or down, of the antenna wire by a few feet. The only noticeable change will be tuner settings. Use T_MATCH to vary antenna length and watch what happens.

It will be noticed T_MATCH tuner performs better than ENDFEED tuner just because of the smaller coil.

Some tuner manufacturers state in operating handbooks there may be problems when antenna length is an exact number of 1/2-wavelengths. In practice this is a very minor problem.

Reg, G4FGQ

1179. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 17:59:08 UTC
From: richardharrison@webtv.net
Message-ID: <19531-3EA4316C-161@storefull-2312.public.lawson.webtv.net>
Source record: 120333

Gene, W4SZ wrote:
"Carefull!!!! Average voltage and average current are often zero."

True. One alternation is positive. The other is negative. So, the single period average of an axis centered sinusoidal waveform is zero. My earlier posting was in reference to the difference between d-c and sinewaves. My example was a light bulb which works very well from a voltage which may have an average voltage of zero. Its average power is by definition the same from either d-c or a-c volts.

A-C power alternations are all positive and twice as frequent as the voltage and current cycles which produce them. A power alternation occurs on each half-cycle and arithmetic shows they are all positive because a negative voltage times a negative current gives a positive power product.

The effective value of an a-c waveform can be found by taking instantaneous values at equally-spaced times as ordinates on a graph over one half cycle. Each ordinate value is squared, as instantaneous power is e squared over R or as Instantaneous power is I squared times R. The squared values are summed and divided by the number of samples (ordinate value points). This exercise gives the average value of the squared curve if enough samples are used. It proves that the average value of the squared waveform is 1/2 the peak value of that waveform. The whole waveform period could have been used with identical results as analysis of only a half-period. Using both alternations just doubles the number of samples to divide into a doubled sum. When the samples are squared, the minus sign goes away. The square root of this average (0.5 peak) of the squared wave sample values is 0.707 of the peak value of sine wave. This is the root-mean-square (rms) value or the effective value of a sinewave. It is what an a-c voltmeter or ammeter is calibrated to read. It produces the same heat in a resistor as d-c.

Best regards, Richard Harrison, KB5WZI

1180. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:07:16 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211007.39d4f710@posting.google.com>
Source record: 120331

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA3FC72.1000308@ieee.org>...
>
> I believe it is mostly two-sided. It is what the ARRL told us in
> the 1970-80's Vs what the ARRL is telling us now. Both sides agree
> that at a Z0-match point, there are two rearward reflected waves
> that are equal in magnitude and opposite in sign and therefore
> they cancel. This also agrees with the field of optics. What happens
> immediately after they cancel is what the argument is all about.
>
> 1. The 1980 side says that the cancellation of the two reflected waves
> causes a virtual short (or open) circuit that in turn causes re-reflection
> of all the reflected energy back toward the load.
>

As i understand our discussion, i would not say that the
cancellation of the two reflected waves constitutes a virtual short or
open.

If we use our 25 to 100 ohm matching with a 50 ohm 1/4 wave stub
example, the measured impedance at the input to the 50 ohm 1/4 coax or
transmission line will be 25 ohms, NOT an open or a short. If it was
an open or a short, then no power would be transfered at all.

> 2. The present-day side says that total re-reflection is a fallacy. Quoting
> from a recent _QEX_ article: "The misconception is that a total re-reflection
> of the reflected power occurs at a matching network or match point as
> a result of an impedance match being established there." There's nothing
> given that tells us where the reflected energy goes since it is not
> re-reflected back toward the load and also never reaches the source.
>

Part of the reason for the controversy no doubt stems from the
fact that it would be difficult to measure all of this with
directional couplers, as there is always a finite directivity of
these, and they would also load and affect the matching network, which
would destroy any accuracy.

It's well know that high VSWRs will kill a transistor, due to
high voltage or high currents (catastrophic failure due to exceeding
the breakdown voltage). So it's obvious that the reflected energy
from a mismatched load WILL reach the transistor. How much of THAT
reflected energy is re-reflected back to the forward direction would
be a very difficult if not impossible thing to measure, as we have the
original incident power to measure as well.

Dr. Slick

1181. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:09:37 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211009.17d8f788@posting.google.com>
Source record: 120332

'Doc <w5lz@cwis.net> wrote in message news:<3EA3756C.80317063@cwis.net>...
> Slick,
> OOoooooh, you're in trouble now! You
> have disapointed Art sooooo much...
> 'Doc

Doctor,

I ain't here to impress anyone!

:/

Doctor.

1182. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:35:48 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211035.b14b812@posting.google.com>
Source record: 120334

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030420220414.18830.00000245@mb-m21.aol.com>...
>
> Art,
> DOC is not a title, there is PhD, Dr. and variations of it that mean Doctor of
> something. Doc is just like duck, doc, tic, toc just a name or nick name, or
> handle, or also abbreviation for documents in MS Word. Are all documents
> created in Word doctors too?
>

Ok, now i have to explain myself. I'm actually one of those
God-forsaken, you-should-burn-in-hell pirate radio operators (FM band
88-108 MHz).

Sorry to disappoint all you goddy-two-shoe Hams who would love to
call the FCC on me.

Dr. Slick is my radio name, sorry to disappoint you.

Nevertheless, i felt i understood some topics such as the Smith
Chart better than some of the REAL doctors that i used to work with.
It is not difficult (no degree required)to be more knowledgable in a
specific topic
of electronics than a PhD, as there are many, many, many niches you
can specialize in. Most of these guys were Physics or EE/Device
Physics majors, and knew more about quantum tunneling and electron
mobility than impedance matching networks.

> Now it must be terrible dissapointment if Dr. Slick is not a doctor of
> antennas, but just maybe famous additive to car engines.
>

I'm sure that Dr. Dre and Dr. John aren't PhDs.

Just "Slick" is fine.

1183. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:46:53 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA43C9D.CE4CF863@cwis.net>
Source record: 120335

```
Cecil,
I wouldn't doubt that a bit, but swap antennas
and places, and I'll bet the same thing is true.
'Doc
```

1184. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:50:38 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA43D7E.72CC250A@cwis.net>
Source record: 120336

Art,
It bothers me very little to be seated 'bellow the
salt'. Probably much less than those 'above the salt'
will ever know...
'Doc

1185. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:51:47 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA43DC3.F4128311@cwis.net>
Source record: 120337

"Dr. Slick",
I too, am not a doctor. So as one non-doc
to another, suits me...
'Doc

1186. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 18:53:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <26d8av8677pcf6emcd1pnt8posbmrfrh6b@4ax.com>
Source record: 120338

On Fri, 18 Apr 2003 15:19:41 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Art, KB9MZ wrote:
>"I am telling the truth as I see it and am willing to share with all."
>
snip
>Civility of the posters in this thread is not nearly as important to me
>as the technical content.

Hi Richard,

If truth and your civility paid for an answer, it must have been just
enough to cover the thumb in the eye response.

73's
Richard Clark, KB7QHC

1187. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 19:06:00 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <u6g8avcppnai3m0mcutl86s6br67b4tkov@4ax.com>
Source record: 120339

"Average" is the correct terminology. Many refer to it as "RMS power".
That is a misnomer as there is no such thing.

The +- voltage and current in a sine wave do not average to zero
because they are occurring at different times.

73
Gary K4FMX

On Mon, 21 Apr 2003 15:10:27 GMT, Gene Fuller <W4SZzzzzz@att.net>
wrote:

>Richard,
>
>Careful!!!!
>
>Average voltage and average current are often zero. It is probably best
>to avoid the use of "average" when discussing voltages and currents,
>unless you really mean it.
>
>73,
>Gene
>W4SZ
>
>Richard Harrison wrote:
>>
>> Mike, WB3FUP wrote:
>> "RMS refers to DC equivalent voltage of an AC waveform. For 50/60 cycle
>> AC, Sqet 2 is correct."
>>
>> The relationship between peak and rms volts is independent of frequency.
>> It is a function of waveform, however. In a square wave, peak and
>> average are the same. Not so in a sinewave. Average volts times average
>> amps don`t give average power with sinewaves. RMS volts times RMS amps
>> give average power.
>>
>> If a bulb is to burn as brightly on a-c as it does on d-c, average power
>> supplied the bulb must be the same in both cases. For a sinewave,
>> average power is peak volts times peak amps, divided by two.
>> Intergrating the right waveforms proves this. "RMS power" is not an
>> appropriate term. The correct term is "average power" for rms volts
>> times rms amps.
>>
>> Since sqrt 2 (rms volts) times sqrt 2 (rms amps) equals 2 times rms
>> volts times rms amps, sqrt 2 is clearly the correct scale factor for

>> converting to peak volts and peak amps. Peak power is 2X average power
>> for an rms sinewave.
>>
>> Best regards, Richard Harrison, KB5WZI

1188. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 19:34:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ipg8avkinaiocekgsibmto206efvk0jdjm@4ax.com>
Source record: 120340

On Fri, 18 Apr 2003 15:19:41 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>Please share how the antenna in your URL, Art, the one with a "tuned
>loop" conjoined with a dipole, differs from Fig 10 (Series capacitors
>for tuning out residual reactance with the T and gamma matching systems)
>shown on page 26-9 of the ARRL "Antenna Book", edition 19.
>
>Probably many editions of the "Antenna Book" carry the same or similar
>Fig under the T-match heading. My 14th edition has a similar Fig 30 on
>page 5-14.
>

Hi Richard,

Now to respond to your technical issue.

Art's is nearly identical to figure 30 that you have before you. the
difference would be found in moving the line to (for this operation)
the split in the dipole and combining the two caps into one.

The article (nearly 20 years old in the re-hash of understood matching
techniques) reveals nearly all the characteristics that Art offers as
hallmarks of his "invention." It is set at the same frequency that
Art likes to use as a jump-off for discussion. It employs the same
values of components (once we got that figured out from Art's haze),
stressed with the same potentials; compensating the same reactances;
and shown to roughly the same dimensions.

73's
Richard Clark, KB7QHC

1189. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 19:48:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <eMWdnTvXNaGR1jmjXTWcoA@comcast.com>
Source record: 120341

"Gene Fuller" <W4SZzzzzz@att.net> wrote in message
news:3EA409DA.E16EFBB9@att.net...
> Richard,
>
> Careful!!!!
>
> Average voltage and average current are often zero. It is probably best
> to avoid the use of "average" when discussing voltages and currents,
> unless you really mean it.
>
> 73,
> Gene
> W4SZ

Yeah, another reason not to talk about " average" is that the average magnitude and the rms value of an AC voltage are not the same. As I recall, the average magnitude of an AC voltage is about .63xVpeak. This is what you would get out of a full wave rectifier followed by a choke input filter.

Tam/WB2TT

1190. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 19:58:39 UTC
From: richardharrison@webtv.net
Message-ID: <6501-3EA44D6F-36@storefull-2314.public.lawson.webtv.net>
Source record: 120342

Richard Clark opined that Art is not providing a significant response to my request for differentiation between Art`s antenna and a T-matched Dipole.

I am of the same opinion. A sincere promoter of a new antenna should answer sincere questions about the novel antenna.

Best regards, Richard Harrison, KB5WZI

1191. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:07:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA44F92.C515A442@uci.edu>
Source record: 120344

"Dr. Slick" wrote:
> Ok, now i have to explain myself. I'm actually one of those
> God-forsaken, you-should-burn-in-hell pirate radio operators (FM band
> 88-108 MHz).

Long as you don't pull that stuff on the ham bands, I don't think we
care that much. On the other hand we do sort of have a general
predisposition against people who interfere with other stations. I'm
guessing you have more sense than that.

> Sorry to disappoint all you goddy-two-shoe Hams who would love to
> call the FCC on me.

Chances are they're already aware of your operation.

ac6xg

1192. Re: Aperiodic loop design aid solicited

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:16:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <yD-dnb6Bi58ozDmjXTWcqA@comcast.com>
Source record: 120343

Peter,

The MC1350 is a TV IF amplifier, and has a low enough noise figure for what you want. You would need the JFET only if you want a very high input impedance. There are very few opamps that have much usable gain at 2 MHz. A source follower will not improve the noise figure.

Tam/WB2TT
" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message news:ytUoa.313948$0g4.8548569@news2.east.cox.net...
> Hi everyone!
>
> I want to build an aperiodic loop that will cover from LF up to about 2 or 3
> MHz.
> I am considering either an air-wound large loop (3 foot diameter) or a
> simple
> eave mounted ferrite loopstick for the pickup.
>
> I am considering having the loop drive a MC1350/MC1349 IC with J-FET
> source followers on the inputs. Or, is there a better fet input op amp with
> a lower noise figure I should be considering?
>
> What is the proper means to determine the needed loop inductance for these
> designs? Do I want to use the largest loop size with a single turn, or is
> the
> ferrite bar the way too go? How does one determine the proper inductance
> for a broadband design?
>
> Use would be primarily AM BCB listening, secondary would be for LF
> BCB dx'ing, and general SWL use.
>
>

1193. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:30:54 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA454F5.708F270F@att.net>
Source record: 120345

Gary,

Your comment is nonsense.

The average and the RMS values each must be computed over some time interval. This interval is typically taken as a full cycle. In that case that average and the RMS values are not the same. Even if you choose a different time interval the average and RMS will generally not be the same. There is no meaning to either average or RMS at a single time point on a sine wave.

Some people might refer to "RMS" as "average", but this is non-standard. My comments were about voltage and current, not power. Average power is fine, while average voltage or average current is typically not what one wants to consider.

This is not rocket science; rather it is straight out of any elementary text book on algebra, physics, or electronics.

73,
Dr. Gene
W4SZ

Gary Schafer wrote:
>
> "Average" is the correct terminology. Many refer to it as "RMS power".
> That is a misnomer as there is no such thing.
>
> The +- voltage and current in a sine wave do not average to zero
> because they are occurring at different times.
>
> 73
> Gary K4FMX
>
> On Mon, 21 Apr 2003 15:10:27 GMT, Gene Fuller <W4SZzzzzz@att.net>
> wrote:
>
> >Richard,
> >
> >Careful!!!!
> >
> >Average voltage and average current are often zero. It is probably best
> >to avoid the use of "average" when discussing voltages and currents,
> >unless you really mean it.
> >
> >73,

> >Gene
> >W4SZ

1194. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:33:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA45598.9080606@ieee.org>
Source record: 120346

Jim Kelley wrote:
> The apparent dichotomy is that you can also use your eye to see back
> through an antireflective coating. It's not 100% reflective.

Of course it's not 100% reflective. If it was, no light would ever get
through it. The reflected amplitude is (1-P)/(1+P) where P = n1/n2.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1195. Re: Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:38:48 UTC
From: ray gaschk <rgaschk@ca.astound.net>
Message-ID: <b81n30$2kq$1@news.astound.net>
Source record: 120356

Bruce,
If you are after low orbiting, "easy" birds, we make a 24 inch boom dualband antenna that many people have used. Look at elkantennas.com
for data and photo. If you want more info, just ask,
be glad to reply. Especially read what users have to say about their ELK antennas.
Best wishes from ray w6fya

"Bruce" <bruceandkarla@ziggycom.net> wrote in message news:7192d525.0304201042.36741558@posting.google.com...
> Iam getting ready to set up a Satellite Station, but I have know idea
> which way to turn antenna wise. expecitally my 2M and 440. can
> anyone help a OLD man keep from going bald.
>
> Bruce
> KD4PQF

1196. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:38:55 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA456D5.C9B475EE@att.net>
Source record: 120347

Hi Art,

I have heard similar stories about kings and salt for a long time, but I
am still puzzled. Virtually all of Great Britain is within 100 miles of
an ocean. Why was salt so valuable in olden times?

Where did the king live? (perhaps a long way from an ocean?)

Was this story generated before the oceans existed?

Is it a recent discovery that the oceans are salty?

Inquiring minds want to know.

73,
Dr. Gene
W4SZ

Art Unwin KB9MZ wrote:
>
> 'Doc <w5lz@cwis.net> wrote in message news:<3EA3756C.80317063@cwis.net>...
> > Slick,
> > OOoooooh, you're in trouble now! You
> > have disapointed Art sooooo much...
> > 'Doc
>
> No I am not disapointed. I get disapointed after reaching the heights
> of excitement when I am led to believe one is an open minded expert
> only to find out they are not. Doc don't you think it is time to
> moidify some of your remarkes? I find it distastfull to have to
> reciprocate in kind when alternatives could be so much better.
> Let me give you a story.
> In olden times salt was so valuable that it was always
> placed close to the King. Ofcourse most of his companions who thought
> they were knowledgable and his closest advisors always congregated at
> that particular
> end of the table ,leaving others who were more retiscent in their
> behavior
> were satisfied to seat themselves in the remaining places. There was
> one time that the King noticed that a very qualified person had taken
> up a chair at the farther most point away from the table salt. He
> immediatly ordered the man to assume a place at his right hand thus
> depriving a seat from a person who had overated his attributes. The
> above shows that those who enlarge themselves
> beyond their true capabilities will eventually suffer humility and
> where those that display and perform nobally will always be recognised

> eventually.
> Think about it Doc and consider changing your attitude so you can be
> friendly
> to all.
> Art

1197. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:39:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA456E9.C4B6DD2B@uci.edu>
Source record: 120348

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > The apparent dichotomy is that you can also use your eye to see back
> > through an antireflective coating. It's not 100% reflective.
>
> Of course it's not 100% reflective. If it was, no light would ever get
> through it.

I think I just said that.

ac6xg

1198. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:51:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b81ljn$d57$1@titan.btinternet.com>
Source record: 120349

> The reflected amplitude is (1-P)/(1+P) where P = n1/n2

==========

Why not just say reflected amplitude is (n2-n1)/(n2+n1) and be done with it
?

Reg.

1199. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:58:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA45B84.2080504@ieee.org>
Source record: 120350

Dr. Slick wrote:
> If we use our 25 to 100 ohm matching with a 50 ohm 1/4 wave stub
> example, the measured impedance at the input to the 50 ohm 1/4 coax or
> transmission line will be 25 ohms, NOT an open or a short. If it was
> an open or a short, then no power would be transfered at all.

It's kinda like an AC diode. In one direction the virtual impedance is
50 ohms. In the other direction, the virtual impedance is an open (or
short). That's the number 1 answer which fell out of favor when the
number 2 explanation was adopted.

> How much of THAT
> reflected energy is re-reflected back to the forward direction would
> be a very difficult if not impossible thing to measure, as we have the
> original incident power to measure as well.

The question is: If there is zero reflected energy reaching the source
in a system with reflected energy, where does the reflected energy go?
The number 2 answer is that it doesn't make it to the source AND it
also doesn't reverse direction and flow toward the load. Forgive me,
but when the choice is limited to two directions and it doesn't take
either direction, something supernatural must be happening.

The number 3 answer is that both numbers 1 and 2 are incorrect. There is
no virtual short that causes anything. Wave cancellation causes reflections
and in a matched system, 100% of the reflected energy reverses direction and
flows toward the load. There is simply no other place for it to go. This
has been verified experimentally in the field of optics but appears to
be politically incorrect at the ARRL and on this newsgroup. So much so,
that _QEX_ refuses to print anything critical of explanation number 2 and
people on this newsgroup complain every time it is mentioned here.

If one makes the thickness of the thin-film such that there is a 120 degree
phase difference between the two reflected waves, half the energy in those
two reflected waves will wind up flowing toward the source and half toward
the load. Why that concept is so hard for RF engineers to grasp is hard for
me to understand.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1200. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 20:59:41 UTC
From: richardharrison@webtv.net
Message-ID: <13530-3EA45BBD-394@storefull-2317.public.lawson.webtv.net>
Source record: 120355

Richard Clark wrote:
"Art`s is nearly identical to figure 30 that you have before you, the difference (between Art`s antenna and a T-matched dipole) would be in moving the line (for this operation) to the split in the dipole and combining the two caps into one."

Art has at least one advantage and that would be in using one less variable capacitor.

Small loops of either the open or closed varieties have low radiatiation resistances. If they radiated as efficiently as dipoles, you`d see a lot more loops in service. Arnold B. Bailey has a square loop chart (for circular loops multiply the radiation resistance shown by 1.62), in "TV and Other Receiving Antennas", on page 408.

The current in Art`s loop takes depends on the dipole`s impedance as compared to the loop`s impedance. Tuning the loop can affect this.

As the loop has such a low radiation resistance, loss resistance can spell trouble.

I would not say Art`s antenna can`t work.

Best regards, Richard Harrison, KB5WZI

1201. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:00:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA45BF4.2326A414@uci.edu>
Source record: 120358

OC_CAM's Razor wrote:
> There is
> no virtual short that causes anything. Wave cancellation causes reflections
> and in a matched system, 100% of the reflected energy reverses direction and
> flows toward the load.

The only difference in the two ideas is the term being used to describe
the phenomenon.

73, AC6XG

1202. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:02:30 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304211302.191f9e99@posting.google.com>
Source record: 120351

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304211035.b14b812@posting.google.com>...
> k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030420220414.18830.00000245@mb-m21.aol.com>...
> >
> > Art,
> > DOC is not a title, there is PhD, Dr. and variations of it that mean Doctor of
> > something. Doc is just like duck, doc, tic, toc just a name or nick name, or
> > handle, or also abbreviation for documents in MS Word. Are all documents
> > created in Word doctors too?
> >
>
> Ok, now i have to explain myself. I'm actually one of those
> God-forsaken, you-should-burn-in-hell pirate radio operators (FM band
> 88-108 MHz).
>
> Sorry to disappoint all you goddy-two-shoe Hams who would love to
> call the FCC on me.
>
> Dr. Slick is my radio name, sorry to disappoint you.
>
> Nevertheless, i felt i understood some topics such as the Smith
> Chart better than some of the REAL doctors that i used to work with.
> It is not difficult (no degree required)to be more knowledgable in a
> specific topic
> of electronics than a PhD, as there are many, many, many niches you
> can specialize in. Most of these guys were Physics or EE/Device
> Physics majors, and knew more about quantum tunneling and electron
> mobility than impedance matching networks.
>
>
> > Now it must be terrible dissapointment if Dr. Slick is not a doctor of
> > antennas, but just maybe famous additive to car engines.
> >
>
> I'm sure that Dr. Dre and Dr. John aren't PhDs.
>
>
>
> Just "Slick" is fine.

Slick, please do not allow yourself to be baited so that the subject
strays.
This is not an uncommon tactic by those whose intent is to disrupt.

If we stay on track I am sure we can resolve this circuit problem
where I can be proved right or wrong. I suspect that there are at
least a few are wanting this to be resolved rather than those who want
to jump on center stage to be noticed.
Regards
Art

1203. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:04:50 UTC
From: N0SA <n0sa@earthlink.net>
Message-ID: <S1Zoa.35989$4P1.3221585@newsread2.prod.itd.earthlink.net>
Source record: 120352

Keep the wire as tight to the core as you can. This is why some wire might be too large and is too hard to bend tight to the core.
I get this from the Xtal radio guys. They have done a lot of research on high Q coils.
Larry N0SA

"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message news:CQwoa.105057$Q27.5726764@twister.austin.rr.com...
> I'm getting gutsy! Instead of buying a BCB high pass filter I decided to
> build my own. I must wind three toroid's and have the turns and toroid type
> I need (T50-2) but I need a bit more information on controlling (improving)
> the Q of the coil. The only information I have is compiled from a good
> article by Mr. Lewallen (W7EL) at http://www.qrp.pops.net/w7el.htm and is
> summarized as follows:
>
> 1. Larger gage wire improves the Q.
> 2. Keep windings on one layer. Even a partial second layer reduces the Q.
> 3. There is a slight improvement in leaving a 30 degree gap on the toroid,
> but a small one.
> 4. Keep turns evenly distributed across 330 degrees of the toroid.
> 5. There is a slight improvement in regressive winding.
>
> If you have any comments on these tips, or about winding toroid's, or have a
> source of additional info about the Q of a toroid I would greatly appreciate
> it. Thank you.
>
> Al
> KA5JGV
>
>
>

1204. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:10:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA45E32.2090801@ieee.org>
Source record: 120353

Gene Fuller wrote:
> I have heard similar stories about kings and salt for a long time, but I
> am still puzzled. Virtually all of Great Britain is within 100 miles of
> an ocean. Why was salt so valuable in olden times?

Did you know that when India was a colony of Great Britain, the citizens
were forbidden by law from mining salt or making their own salt from sea
water? All the citizens of India were required to buy their salt from
British approved sources.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1205. Re: Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:12:19 UTC
From: jder8745@aol.com
Message-ID: <20030421171219.02043.00000264@mb-m01.aol.com>
Source record: 120354

Howdy,

At frequencies where the antenna is "long", i.e., lots of lambdas. There will be many lobes. That will almost make you think the antenna is omnidirectional in the horizontal plane.

Jack K9CUN

1206. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:17:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA46003.80602@ieee.org>
Source record: 120357

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>>The apparent dichotomy is that you can also use your eye to see back
>>>through an antireflective coating. It's not 100% reflective.
>>
>>Of course it's not 100% reflective. If it was, no light would ever get
>>through it.
>
> I think I just said that.

What you didn't say is that an eye is a sink, not a source.
You are not "seeing back through the antireflective coating".
You are *receiving* light that is passing through it in your
direction. Light comes in through a window. You don't really
"see out" through a window.
--
73, Cecil http://www.qsl.net/w5dxp

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1207. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:19:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA46076.544B8F95@uci.edu>
Source record: 120364

OC_CAM's Razor wrote:
> You are not "seeing back through the antireflective coating".

My point is that you CAN see back through the antireflective coating.
That's the dichotomy.

73, Jim AC6XG

1208. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:20:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA46086.7060407@ieee.org>
Source record: 120359

Reg Edwards wrote:
>>The reflected amplitude is (1-P)/(1+P) where P = n1/n2
>
> Why not just say reflected amplitude is (n2-n1)/(n2+n1) and be done with it?

I was just quoting the web page. Dr. Slick has already pointed out
the above.
--
73, Cecil http://www.qsl.net/w5dxp

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1209. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:23:20 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3ea46322$0$118$edfadb0f@dtext02.news.tele.dk>
Source record: 120361

Hello Gene

> I have heard similar stories about kings and salt for a long time, but I
> am still puzzled. Virtually all of Great Britain is within 100 miles of
> an ocean. Why was salt so valuable in olden times?

I live in Denmark, and no dane is more than 35 miles avay from the ocean,
but
in the old days salt was of very high value. You see that at that time
people
had no incom, so it was a problem to collect taxes, s the king prohibited
the people to make their own salt from the sea, it was forbidden by death
penalty. Then the king sold the rights to produce the salt and he also could
heavely tak the sales of salt and in that way make some money. In this part
of the world salt is named "The White "gold".

Regards Max

1210. Re: Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:23:24 UTC
From: derswede@aol.comspam.com
Message-ID: <20030421172324.18840.00000371@mb-m17.aol.com>
Source record: 120360

Try the "Texas Potatoe Masher" which is an omni design. Built mine from welding rod...'course, it helps to have the stuff, so use CopperWeld or just regular 12 ga solid wire.

As for plans, the link is:

http://members.aol.com/k5oe/tpm.htm

Good luck with the project!

Andrew

1211. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:35:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA46413.8070303@ieee.org>
Source record: 120362

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>There is
>>no virtual short that causes anything. Wave cancellation causes reflections
>>and in a matched system, 100% of the reflected energy reverses direction and
>>flows toward the load.
>
> The only difference in the two ideas is the term being used to describe
> the phenomenon.

The difference is the term "virtual short" being dropped entirely. The advantage of that is nothing has to be proven about a "virtual short". Otherwise, a "virtual short" has to be proven to exist and possess the required characteristics. That has proven to be an infinite intellectual black hole. The difference is between the following:

1. Wave cancellation causes a virtual short which causes re-reflections.

2. Wave cancellation causes re-reflections - as stated, in so many words, on the Melles-Griot web page. No need for any virtual index of reflection.

Ockham's Razor says to go with number 2.
--
73, Cecil http://www.qsl.net/w5dxp

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1212. Re: Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:38:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA464F3.9020004@ieee.org>
Source record: 120363

JDer8745 wrote:
> At frequencies where the antenna is "long", i.e., lots of lambdas. There will
> be many lobes. That will almost make you think the antenna is omnidirectional
> in the horizontal plane.

EZNEC sez the side lobes will be 7 dB down from the major lobes.
--
73, Cecil http://www.qsl.net/w5dxp

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1213. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:39:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA46506.BC6CF9FD@uci.edu>
Source record: 120366

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >
> >>There is
> >>no virtual short that causes anything. Wave cancellation causes reflections
> >>and in a matched system, 100% of the reflected energy reverses direction and
> >>flows toward the load.
> >
> > The only difference in the two ideas is the term being used to describe
> > the phenomenon.
>
> The difference is the term "virtual short" being dropped entirely. The
> advantage of that is nothing has to be proven about a "virtual short".

As you know, I'm still looking for the proof that a wave can be reversed simply by cancellation. As we've discussed, physical discontinuities are required in order for waves to reverse their course. I can find no exceptions to that in the physics. Both yours and Walter's ideas seem to be at odds with that fact.

> 1. Wave cancellation causes a virtual short which causes re-reflections.
>
> 2. Wave cancellation causes re-reflections - as stated, in so many words,
> on the Melles-Griot web page. No need for any virtual index of reflection.
>
> Ockham's Razor says to go with number 2.

That's presumes there is no simpler explanation, and evidently there is one.

73, AC6XG

1214. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 21:53:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA46852.7010704@ieee.org>
Source record: 120365

Jim Kelley wrote:
> My point is that you CAN see back through the antireflective coating.
> That's the dichotomy.

It's an illusion, Jim. NOTHING is traveling back through the antireflective coating. You don't see the light until it is on your side of the boundary. You are NOT seeing back through the antireflective coating. You are only seeing light that has aged while it traveled from one side of the boundary to the other. It's a small example like a galaxy being 100 light years away. You have to wait for the light to get to you. When you look at that light from that distant galaxy, you are not looking back through space. You are simply collecting the available local light. A deep space telescope doesn't allow you to see into deep space. It merely collects the light from deep space that is incident upon the earth. Thinking that they are looking back into deep space is what is confusing astronomers. The light they are collecting has been modified during the last 100 years in a way that they don't yet understand. Thus the need to invent dark energy.
--
73, Cecil http://www.qsl.net/w5dxp

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1215. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:02:31 UTC
From: Ryan Stapleton <ryans_linux@yahoo.com>
Message-ID: <XTZoa.34364$ey1.3093501@newsread1.prod.itd.earthlink.net>
Source record: 120367

Richard Harrison wrote:
> Ryan Stapleton wrote:
> "The complex has an outside antenna but it doesn`t work so well on UHF."
>
> Have it repaired or sign up for cable.
>
> Ryan has tried rabbit ears. He is on the ground floor and the rabbit
> ears don`t satisfy.
>
> Perhaps the complex may allow his own antenna installation on the roof.
>
> Best regards, Richard Harrison, KB5WZI
>

How do the amplified antennas work? Is there a way to make a channel specific (for channel 50) antenna? How hard is it to make?
What works well? I can tolerate the other channels and if I can find a way to get c50 better I have no desire to get cable.

Thanks for the help

-Ryan
KA3WUT (by no means a good antenna builder, I have to work on HF as well with the same indoor ground level setup..)

1216. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:13:26 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211413.70c172b0@posting.google.com>
Source record: 120368

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304210802.1ce2c0c2@posting.google.com>...
>
> Dr Slick,
> I am referring to the fact that you recognise that many of natures
> laws
> affect the subject of antennas and that it is ignorant to believe that
> antenna studies have been so exhaustive to where we have reached a
> stage where all relevant laws have been cataloged, thus enabling all
> antenna books to be closed and locked for all time.
>

Anyone who claims that everything is known about a particular
field is full of baloney. Yagi-Udas were discovered in 1927 or so,
which is not really that long ago, and i think more breakthroughs are
to come (see link below). There are infinite unknowns in the
universe, but people prefer to pretend that they themselves or modern
science in general understands all, because it makes them feel better
and more secure.

> >
> Would you type a diagram out like Cecil did?
>
> I am not at the educational level of yourself and Cecil. Where you
> both can
> discuss the curiousities of an oak tree at length my curiousity is
> limited to that of picking up an acorn. I suppose I should have added
> that the subscript
> addesd i.e.'p' and 's' stood for primary and secondary circuits
>

Art, first and foremost, you have to be understood for people
to answer your questions. I know it's difficult with just words, but
you can draw a crude diagram for us to see what you mean.

>
>
> So true, I am often in error regarding terms used. 'Loss-less' feed
> systems I understood to describe a transformation of energy with the
> maximum efficiency
> (a coined term) that natures laws will allow. If there is a better
> term now would be the time to use it!
>

As i understand it, an ideal "loss-less" system would have no
resistive losses at all. Super-conducting filters have been made, and

research continues. Here's a link on super-conducting antenna
research:

http://www.edt.bham.ac.uk/supercondant.htm

>
> Doctor Slick, please hang in with me on this subject even tho my
> description
> may be confusing. I badly need the finality which only you can supply.
> Once the mathematical analysis is proved I would then be free to
> describe how it can be used as a fresh aproach in antenna design
> without attack.
> Regards
> Arthur Unwin
> >

Sorry to disappoint you Art, but i don't think anyone can really
supply you with "finality". The nature of true science is to
constantly question what we know, to break new ground.
Einstein questioned Newton, and now, experts continue to question
Einstein.
This is the way science should be.
Even if we did prove a new method mathematically and published it
in technical journals, people would attack it mercilessly, as they
really SHOULD.
New ideas are always questioned, Einstein certainly was, and it
took quite some time for people to believe him. This is the way it
should be, to ensure that the new ideas are truly sound.

It's like Darwin in action: only the fittest scientific concepts
will survive the test of time.

If people attack your logic and expose holes in your theory, you
should really actually thank them after you get over being upset,
because then you can go back and make the theory stronger.

Your enemies strengthen you.

Slick

1217. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:17:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304211417.4fb1674b@posting.google.com>
Source record: 120269

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA427DF.4060000@ieee.org>...
> Art Unwin KB9MZ wrote:
> > Cecil how disappointing. I do admit to surprise that weather has that
> > much effect but to be forewarned is to be forearmed! I was trying to
> > avoid inductive swithing problems.
>
> Weather (rain, snow, sleet) affects the VF of window-line thus
> shifting the location of the current/voltage nodes/anti-nodes
> and changing the impedance seen looking into the feedline.

Ah,now I see what you are refering to, that problem is non existant
when coax is used. One day maybe you will share your interface program
with me when my E mail facilities are restored.
Regards
Art

1218. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:28:04 UTC
From: k1bqt@aol.com
Message-ID: <20030421182804.18913.00000251@mb-m19.aol.com>
Source record: 120270

>....those who enlarge themselves
beyond their true capabilities will eventually suffer humility...<

If not a blowout! (that's why I don't answer those turgid fantasy ads that keep popping up on my Email).

>...and where those that display and perform nobally will always be recognised eventually.<

Never! They, too, die penniless in pathetic circumstances.

Keep performing no-bally, Arthur. God and time will do the rest.

Rick K1BQT

1219. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:29:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA470D8.6040306@ieee.org>
Source record: 120271

Art Unwin KB9MZ wrote:
> Ah,now I see what you are refering to, that problem is non existant
> when coax is used.

I wouldn't say "non-existant". Rain can change ground conductivity
which can modify the feedpoint impedance of an antenna.

> One day maybe you will share your interface program
> with me when my E mail facilities are restored.

I'll be glad to, Art. Are you talking about the current
maximum program?
--
73, Cecil, W5DXP

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1220. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:36:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fjs8avkdj15tcjpqrigp12lu3vtk220f27@4ax.com>
Source record: 120272

On Mon, 21 Apr 2003 16:53:22 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Jim Kelley wrote:
>> My point is that you CAN see back through the antireflective coating.
>> That's the dichotomy.
>
>It's an illusion

:-)

1221. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:56:17 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b81sug$7h9$1@slb0.atl.mindspring.net>
Source record: 120273

Russ:

[snip]
> I try to stay away from spelling and grammar flames but sometimes the
> self-styled high and mighty need it. Of course the mixing of past and
> present tense needs pointing out as well.
[snip]

Do not be afraid to "correct" Dr. Cohen... he has shown on many occasions
that he *needs* correction badly.

It's really sad that his Mother did not "correct" him more when he was a
young
prodigy, perhaps if that had happened the rest of us would not have been
cursed
by his continual public errors and mistakes which clearly often need
"correction".

--
Peter K1PO
Indialantic By-the-Sea, FL.

1222. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:57:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA4773D.9060405@ieee.org>
Source record: 120274

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>
>>Jim Kelley wrote:
>>>My point is that you CAN see back through the antireflective coating.
>>>That's the dichotomy.
>>
>>It's an illusion
>
> :-)

When I "look out" my window and see a bird in the yard, I am collecting light that is 50 nanoseconds old. That light collection process is local to the location of my eyes. I am not really "looking out" my window at all. Jim is not looking back through the antireflective coating at all. There's no dichotomy.

When I shoot at a bird out in my yard, I am betting it is still there when I shoot and will be there for another tenth of a second. If a bird could fly away in a nanosecond, I would never be able to hit one.
--
73, Cecil, W5DXP

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1223. Re: Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 22:59:25 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <4TSdnad8xqRN6jmjXTWcqA@ctc.net>
Source record: 120275

> Iam getting ready to set up a Satellite Station, but I have know idea
> which way to turn antenna wise. expecitally my 2M and 440. can
> anyone help a OLD man keep from going bald.
>

As with most things in ham radio , HOW MUCH MONEY are you going to allocate to the antenna system ?

You need to give a range such as very little, $ 100, $ 300, $ 500, unlimiated or some such range. Also which sats are you going to use ? The LEO sats can be accessed ith most anything. Oscar 40 will need a good beam to get you in.

HOw much do or can you build ?

1224. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:00:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA47813.E72C9E12@uci.edu>
Source record: 120278

OC_CAM's Razor wrote:
> When I "look out" my window and see a bird in the yard, I am
> collecting light that is 50 nanoseconds old. That light
> collection process is local to the location of my eyes. I am
> not really "looking out" my window at all. Jim is not looking
> back through the antireflective coating at all. There's no
> dichotomy.

Light passes both ways through AR coated glass. If it did not, you
wouldn't be able to see your "painting" through it.

1225. B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:09:15 UTC
From: Lee Jarvis <ljarvis@tampabay.rr.com>
Message-ID: <vS_oa.231086$o8.3905113@twister.tampabay.rr.com>
Source record: 120276

Has anyone had any experience with the Barker & Williamson broadband folded dipole antenna?

http://www.bwantennas.com/ama/amaindex.htm

They claim "Our field proven broadband HF antennas operate all frequencies continuously from 1.8 to 30 Mhz without an antenna tuner, plus 6 meters. If you are participating in various programs such as MARS, ARES, RACES or CAP these antennas will work all of your frequencies all the time. If your frequencies get reassigned, it does not matter."

Now, my name isn't Lewallen, but I have spent a few hours tangling wire and burning my fingers with a soldering iron. I'm thinking that the housing above the feed point contains a sizable resistor. But because B&W has a great reputation and has been around longer than I have, I'm certainly intrigued by the ad.

Anybody have any practical experience with this antenna?

I have a friend going to Haiti on a two year mission trip. He's working on his general class ticket now. Still, he's a missionary first and a ham... well it's a distant second. He needs an antenna installation that simple and effective.

I'm thinking that a simple trap dipole might be a better bet.

1226. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:14:28 UTC
From: k9sqg@aol.com
Message-ID: <20030421191428.19057.00000278@mb-m23.aol.com>
Source record: 120277

Jim,

It is hard to make a small antenna perform as well as a larger one, unless somebody has found a way to repeal the laws of physics. The shorter the antenna the lower the efficiency and the narrower the bandwidth. I know of no way to change that relationship.

73s,

Evan

1227. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:30:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vmv8avc58m11t2gmas7ibqsh73vo5dekjd@4ax.com>
Source record: 120279

On Mon, 21 Apr 2003 16:00:35 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>OC_CAM's Razor wrote:
>> When I "look out" my window and see a bird in the yard, I am
>> collecting light that is 50 nanoseconds old. That light
>> collection process is local to the location of my eyes. I am
>> not really "looking out" my window at all. Jim is not looking
>> back through the antireflective coating at all. There's no
>> dichotomy.
>
>Light passes both ways through AR coated glass. If it did not, you
>wouldn't be able to see your "painting" through it.

Hi Jim,

'nother illusion....

73's
Richard Clark, KB7QHC

1228. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:38:40 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ea48343_1@news1.prserv.net>
Source record: 120280

Read the articles on T2FD at:
www.cebik.com/radio.html

Then, go to www.groups.google.com, where you will find that this question has been asked on rec.radio.amateur.antenna news group on an average of once a week since the usenet started.

--
Crazy George
Remove NO and SPAM from return address
"Lee Jarvis" <ljarvis@tampabay.rr.com> wrote in message
news:vS_oa.231086$o8.3905113@twister.tampabay.rr.com...
> Has anyone had any experience with the Barker & Williamson broadband folded
> dipole antenna?
>
> http://www.bwantennas.com/ama/amaindex.htm
>
> They claim "Our field proven broadband HF antennas operate all frequencies
> continuously from 1.8 to 30 Mhz without an antenna tuner, plus 6 meters.
> If you are participating in various programs such as MARS, ARES, RACES or
> CAP these antennas will work all of your frequencies all the time. If your
> frequencies get reassigned, it does not matter."
>
> Now, my name isn't Lewallen, but I have spent a few hours tangling wire and
> burning my fingers with a soldering iron. I'm thinking that the housing
> above the feed point contains a sizable resistor. But because B&W has a
> great reputation and has been around longer than I have, I'm certainly
> intrigued by the ad.
>
> Anybody have any practical experience with this antenna?
>
> I have a friend going to Haiti on a two year mission trip. He's working on
> his general class ticket now. Still, he's a missionary first and a ham...
> well it's a distant second. He needs an antenna installation that simple and
> effective.
>
> I'm thinking that a simple trap dipole might be a better bet.
>
>

1229. Re: Aperiodic loop design aid solicited

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:42:30 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ea48344_1@news1.prserv.net>
Source record: 120281

There was, IIRC, a very good article on this subject, including the
parameters in choosing the proper electronics, in QST last year. Remember,
if you are not out in the middle of the desert, beyond ground wave range of
any station, there WILL BE BCB stations which WILL overload the amplifier.
And, then at night, it doesn't matter where you are. Intermod, big time.

--
Crazy George
Remove NO and SPAM from return address
" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message
news:ytUoa.313948$0g4.8548569@news2.east.cox.net...
> Hi everyone!
>
> I want to build an aperiodic loop that will cover from LF up to about 2 or
3
> MHz.
> I am considering either an air-wound large loop (3 foot diameter) or a
> simple
> eave mounted ferrite loopstick for the pickup.
>
> I am considering having the loop drive a MC1350/MC1349 IC with J-FET
> source followers on the inputs. Or, is there a better fet input op amp
with
> a lower noise figure I should be considering?
>
> What is the proper means to determine the needed loop inductance for these
> designs? Do I want to use the largest loop size with a single turn, or
is
> the
> ferrite bar the way too go? How does one determine the proper inductance
> for a broadband design?
>
> Use would be primarily AM BCB listening, secondary would be for LF
> BCB dx'ing, and general SWL use.
>
>

1230. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-21 23:47:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hc09avg3afljlrjscgkck2qfenov25qeks@4ax.com>
Source record: 120282

On Mon, 21 Apr 2003 15:57:01 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>When I "look out" my window
...
> I am
>not really "looking out" my window at all.
...
>Jim is not looking
>back
...
>When I shoot at a bird
> I am betting it is
>still there

Makes more sense as Nostradamus-like Haiku. ;-)

73's
Richard Clark, KB7QHC

1231. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 00:01:19 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA4863E.72814281@att.net>
Source record: 120283

Cecil,

No, I did not know that.

Were there any kings in India during the time India was a British
colony? Did they get to sit above the salt or were they relegated to the
far end of the table?

73,
Dr. Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > I have heard similar stories about kings and salt for a long time, but I
> > am still puzzled. Virtually all of Great Britain is within 100 miles of
> > an ocean. Why was salt so valuable in olden times?
>
> Did you know that when India was a colony of Great Britain, the citizens
> were forbidden by law from mining salt or making their own salt from sea
> water? All the citizens of India were required to buy their salt from
> British approved sources.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1232. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:00:23 UTC
From: Dave Shrader <w1mce@attbi.com>
Message-ID: <3EA49417.5465FAA5@attbi.com>
Source record: 120284

I replied to Lee directly with the loss issues and several
recommendations. Let's not blow up on this one <grin>.

Deacon Dave, W1MCE

Lee Jarvis wrote:
>
> Has anyone had any experience with the Barker & Williamson broadband folded
> dipole antenna?
>
> http://www.bwantennas.com/ama/amaindex.htm
>
> They claim "Our field proven broadband HF antennas operate all frequencies
> continuously from 1.8 to 30 Mhz without an antenna tuner, plus 6 meters.
> If you are participating in various programs such as MARS, ARES, RACES or
> CAP these antennas will work all of your frequencies all the time. If your
> frequencies get reassigned, it does not matter."
>
> Now, my name isn't Lewallen, but I have spent a few hours tangling wire and
> burning my fingers with a soldering iron. I'm thinking that the housing
> above the feed point contains a sizable resistor. But because B&W has a
> great reputation and has been around longer than I have, I'm certainly
> intrigued by the ad.
>
> Anybody have any practical experience with this antenna?
>
> I have a friend going to Haiti on a two year mission trip. He's working on
> his general class ticket now. Still, he's a missionary first and a ham...
> well it's a distant second. He needs an antenna installation that simple and
> effective.
>
> I'm thinking that a simple trap dipole might be a better bet.

1233. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:05:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA49554.9060409@ieee.org>
Source record: 120285

Jim Kelley wrote:
> Light passes both ways through AR coated glass. If it did not, you
> wouldn't be able to see your "painting" through it.

And we don't need to cancel any of the light from the painting.
--
73, Cecil, W5DXP

------------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

1234. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:08:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA4961A.5040705@ieee.org>
Source record: 120286

Gene Fuller wrote:
> Were there any kings in India during the time India was a British
> colony? Did they get to sit above the salt or were they relegated to the
> far end of the table?

Don't know the answer but it appears that the Brits have been
hung up on salt for a long time.
--
73, Cecil, W5DXP

----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

1235. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:17:01 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <3EA4980D.1050808@core.com>
Source record: 120287

Lee;

As noted elsewhere there is nothing in antenna science guarantied to
cause controversy like the B&W antenna.
Yes it has a very large resistor in the pvc above the feed point. This
resistor swamps the excess current that otherwise would be reflected
back to the finals.
The purpose of this antenna is to allow the user to transmit on any
frequency with out having to adjust an antenna tuner. The Department of
Defense made extensive use of this type of antenna due to it's idiot
proof construction and the need to operate over a very large frequency
spread.
I use one of these antenna's on a daily basis. It does the job I want it
to do, I'm in CAP and we use USAF frequencies which are not near the ham
bands.
Is it the most efficient antenna to use? That depends on what you want
to do. If you want to work QRP then use dedicated, tuned antennas for
the frequencies you want to work. If you just want to work a lot of
frequencies then the B&W can do the job.
Many people on this group will tell you that the B&W is junk. To them it
is. Others will tell you, like me, that it will do the job we want it
to do. It is not perfect but then neither is a standard dipole.
Do what you feel works for you. I have worked the world with my B&W.

Dave WD9BDZ

Lee Jarvis wrote:
> Has anyone had any experience with the Barker & Williamson broadband folded
> dipole antenna?
>
> http://www.bwantennas.com/ama/amaindex.htm
>
> They claim "Our field proven broadband HF antennas operate all frequencies
> continuously from 1.8 to 30 Mhz without an antenna tuner, plus 6 meters.
> If you are participating in various programs such as MARS, ARES, RACES or
> CAP these antennas will work all of your frequencies all the time. If your
> frequencies get reassigned, it does not matter."
>
> Now, my name isn't Lewallen, but I have spent a few hours tangling wire and
> burning my fingers with a soldering iron. I'm thinking that the housing
> above the feed point contains a sizable resistor. But because B&W has a
> great reputation and has been around longer than I have, I'm certainly
> intrigued by the ad.
>
> Anybody have any practical experience with this antenna?

>
> I have a friend going to Haiti on a two year mission trip. He's working on
> his general class ticket now. Still, he's a missionary first and a ham...
> well it's a distant second. He needs an antenna installation that simple and
> effective.
>
> I'm thinking that a simple trap dipole might be a better bet.
>
>

1236. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:42:23 UTC
From: richardharrison@webtv.net
Message-ID: <11164-3EA49DFF-628@storefull-2318.public.lawson.webtv.net>
Source record: 120290

Ryan, KA3WUT wrote:
"How do amplified antennas work?"

Sometimes they help if the environment is quiet and there is some signal to be amplified. Most noise is generated within the set. Enough signal is needed to override the set noise. A directional antenna usually is better because it not only boosts the signal but avoids pickup of noise from unwanted directions.

UHF signals are often blocked by obstructions which prevent a line-of-sight path. The wavelength at Channel 50 is only about 44 cm. It does not take a large structure to block such a short wavelength.

The short wavelength makes a small antenna effective if a signal is there for the taking. A very simple antenna with high gain can be scaled from Arnold B. Bailey`s diamond shaped rhombic antenna in "TV and Other Receiving antennas". Bailey`s rhombic is designed for 200 MHz. But, at 689 MHz, dimensions are only 0,29X Bailey`s lengths.

Description:
Two wires (Can be almost any diameter but Bailey used #10 at 200 MHz) scaled for Chan. 50, are each 10.5 feet long, separated 5.25 feet at the midpoint. Overall length of the rhombic is 9 feet. These two wires come nearly together at the skinny ends of the rhombic and are separated by small insulators.

One end of the rhombic is pointed at the station to be received and has a resistor of about 600 ohms connecting the two wires across the insulator. This terminates the antenna in its Zo.

The other end of the rhombic has the 300-ohm twinlead connected to its wires. This twinlead is used to convey the signal to the TV set.

Like any antenna, it works best up high and free of close-by objects. This antenna can be vertical, horizontal, or in-between. Bailey shows it horizontally polarized, but most TV stations broadcast at both polarizations. The rhombic is expected to be many wavelencths above the earth so that the earth`s influence is small on the antenna itself.

The rhombic gives about 14 dB more gain than a dipole at its design frequency (Chan. 50). It will also receive many other channels very well but only if they are very nearly in the same direction as Chan. 50, if that`s where it is pointed.

Best regards, Richard Harrison, KB5WZI

1237. Re: free standing tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:43:11 UTC
From: wf3h@ptnosm.com
Message-ID: <3ea49d8c.5998612@news.ptdprolog.net>
Source record: 120288

On Sat, 19 Apr 2003 17:40:29 -0300, "Terry" <ve1trb@hotmail.com>
wrote:

>Most of the guys around here go for the Trylon because of it's strength. The
>only thing I'd suggest is you might want to spend some extra bucks to but
>the ladder wrongs on all but the bottom two sections (you don't want to make
>it too easy to climb aka the next door neighbor's kids). The cross braces
>are singular not cross braced, and they're really hard on the ankles after
>standing on them for more than an hour. I've climbed a number of different
>brands and I really appreciate the ones with the ladder wrongs mounted.
>
>Terry VE1TRB

yeah, the trylon is looking pretty good...dayton, here i come!

>
><wf3h@ptnosm.com> wrote in message
>news:3ea13963.375149751@news.ptdprolog.net...
>> Looking at putting up a freestander...probably in the 50-70' range.
>> Have following info:
>>
>> Tower Height Cost Load
>>
>> AN 50' 1340 40
>> 60 1620 37
>>
>> Trylon T400 64' 1359 34
>>
>> I have a Mosley Pro 67B with 11.5 sf windloading.
>>
>> Anybody have experience with these towers? Recommendations? Do's and
>> don'ts?
>>
>> Thanks
>>
>> Bob/WF3H
>> --------------------------
>> to see who "wf3h" is, go to "qrz.com"
>> and enter 'wf3h' in the field
>
>
>---
>Outgoing mail is certified Virus Free.
>Checked by AVG anti-virus system (http://www.grisoft.com).
>Version: 6.0.474 / Virus Database: 272 - Release Date: 4/18/2003

>
>

---
to see who "wf3h" is, go to "qrz.com"
and enter 'wf3h' in the field

1238. Questions From A Re-Tread

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 01:52:24 UTC
From: Greg Queen <gqueen@sbcglobal.net>
Message-ID: <sf1pa.487$5S.34398302@newssvr21.news.prodigy.com>
Source record: 120189

I recently retired and I am about to re-license after a 20-year absence from amateur radio. I will re-license as an Amateur Extra class operator. The hobby has changed a lot since I was last involved. With all the changes, I want to get back on the air at a modest cost and then see where I want to go in the endeavor. After I blow out the dust and clean it up, I will use my 20-year old Yaesu FT901DM as the "starter" rig.

The shack will be on the second story of the home.

I have a metal roof. Not sheets of metal. It is metal shingles formed and coated to resemble tile, and applied much like a composition (asphalt/fiberglass shingles) roof. I do not believe the coating is electrically conductive. I would not think there was a good electrical bond (either DC or RF) between the individual shingles. Viewed from the top, this is 1300 square feet of overlapping coated metal.

I am wrestling with decisions regarding the antenna, grounding, and effects of my roof and would appreciate comment and advice on the following.

1) I have a 10' ground rod (installed 20-years ago) that is about 30-feet (as the copper runs) from the shack. There is very little I can do shorten this length with the shack's location on the second floor. I am not worried from an electrical safety point of view but from an rf-ground point of view, I suspect this arrangement approaches uselessness. I have seen some "ground tuners" that (if I read the material correctly) can be used to establish a good rf-ground in the shack. Is there value to these? Should I consider them?

2) The roof has joints (shingle-to-shingle) contact. These joints, or at least some of them, may be conductive. If the roof is exposed to an RF field (i.e., the transmit power) could it become a source of RFI? The mechanism that worries me (maybe I am just paranoid) is that the joints will act as non-linear junctions and generate harmonics and such which are then radiated. That is with a perfectly clean waveform at the end of the coax, would/could the roof generate RFI?

2) Previously I used a 10m --> 40m trap vertical (Hy-Gain 14AV, I think) mounted on the peak of the roof with the radials spread across the roof (one of the 40-meter radials was "bent" to accommodate the roof dimensions). The antenna was removed, and discarded, years ago during a re-roofing operation. Though antenna worked quite well, I had some pretty strong RF-fields in the house when I was transmitting (gauging from what it would do to audio equipment). I could "hear" as well as anyone in the area. One of the current antenna options under considerations is a multi-band vertical. This time I would go for one with a "counter-poise" as opposed to a radial system (smaller footprint) and mount it on a pipe extending upward from a wall at the corner of the house. If I go this route, the base of the antenna would be about 8' above the roof (the pitch of the roof would cause the longest elements of the counterpoise to not have as much roof clearance). Any thoughts or comments on this antenna approach?

3) Another antenna under consideration is a folded dipole (the 65 or 90-foot version from B&W) along the back fence (basically an east-west run). The end-points would be 20-feet (possibly 25-feet) above ground with normal droop to the middle. Given all the conditions, the feed line may actually slant upwards (to a gable vent in the house) for entry to the shack. From the characteristics of a dipole, I would expect reasonably omni-directional performance on the lower bands (due to physical ground proximity) and bi-directional (north-south) performance on the higher bands. I am aware of the loss issues (swamping resistor) and for the multi-band convenience would live with the 3-db or so penalty. Any thoughts or comments on this antenna approach.

Thanks in advance for you time, advise, and comments.

Greg Queen
GregQueen@cal.berkeley.edu

1239. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 02:12:12 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <a699avs8c87bnave59hh1khbpqdfs3hv25@4ax.com>
Source record: 120289

Sorry Gene, I was following Richards post where he was discussing
power computed from RMS voltage and current.
In comparing DC to equivalent AC you generally look at what the two do
to the heating of a resistor. (that is what Richard was responding to
the other posters comments I think) My comments were in line with that
as elementary as they may be.

73
Gary K4FMX

On Mon, 21 Apr 2003 20:30:54 GMT, Gene Fuller <W4SZzzzzz@att.net>
wrote:

>Gary,
>
>Your comment is nonsense.
>
>The average and the RMS values each must be computed over some time
>interval. This interval is typically taken as a full cycle. In that case
>that average and the RMS values are not the same. Even if you choose a
>different time interval the average and RMS will generally not be the
>same. There is no meaning to either average or RMS at a single time
>point on a sine wave.
>
>Some people might refer to "RMS" as "average", but this is non-standard.
>My comments were about voltage and current, not power. Average power is
>fine, while average voltage or average current is typically not what one
>wants to consider.
>
>This is not rocket science; rather it is straight out of any elementary
>text book on algebra, physics, or electronics.
>
>73,
>Dr. Gene
>W4SZ
>
>Gary Schafer wrote:
>>
>> "Average" is the correct terminology. Many refer to it as "RMS power".
>> That is a misnomer as there is no such thing.
>>
>> The +- voltage and current in a sine wave do not average to zero
>> because they are occurring at different times.
>>
>> 73

>> Gary K4FMX
>>
>> On Mon, 21 Apr 2003 15:10:27 GMT, Gene Fuller <W4SZzzzzz@att.net>
>> wrote:
>>
>> >Richard,
>> >
>> >Careful!!!!
>> >
>> >Average voltage and average current are often zero. It is probably best
>> >to avoid the use of "average" when discussing voltages and currents,
>> >unless you really mean it.
>> >
>> >73,
>> >Gene
>> >W4SZ

1240. 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 02:54:59 UTC
From: Michael Grenier <mwgrenier@yahoo.com>
Message-ID: <va9bo4evg3mhb7@corp.supernews.com>
Source record: 120291

dumb question time...

For a stacked antenna, which is better (has higher gain)?
A stacked 5/8 wave or a stacked dipole (1/2 wave)?

See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html

It seems like the extra 1/8 wave of a 5/8 would be
the wrong polarity so I don't understand why they
claim higher gain. Yet companies like Cushcraft use
stacked 5/8 wave designs - see the Ringo Ranger II
http://www.cushcraft.com/amateur/details.asp?catid=76

What am I missing?

-Mike KC0IOC
mwgrenier@yahoo.com

1241. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 03:09:54 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304211909.36444338@posting.google.com>
Source record: 120292

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0304211413.70c172b0@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304210802.1ce2c0c2@posting.google.com>...
snip
> >
>
> Anyone who claims that everything is known about a particular
> field is full of baloney. Yagi-Udas were discovered in 1927 or so,
> which is not really that long ago, and i think more breakthroughs are
> to come (see link below). There are infinite unknowns in the
> universe, but people prefer to pretend that they themselves or modern
> science in general understands all, because it makes them feel better
> and more secure.

>
> Art, first and foremost, you have to be understood for people
> to answer your questions. I know it's difficult with just words, but
> you can draw a crude diagram for us to see what you mean.
>
You asked for a crude drawing and that is what you get. Unfortunately
the more
you provide the more you are subject to attack. I had hoped that since
all left you alone on the Cecil discussion it would be the same for
mine so I apologise
for bringing you into all this and I understand if you prefer to let
it all go
since I can never supply enough. I have been beaten down before and
tho it hurts
one does get over it.
>
>
> >
> >
> > So true, I am often in error regarding terms used. 'Loss-less' feed
> > systems I understood to describe a transformation of energy with the
> > maximum efficiency
> > (a coined term) that natures laws will allow. If there is a better
> > term now would be the time to use it!
But the term is used every where in the books that I have! What is the
replacement term in present day parlance?
> >
>
> As i understand it, an ideal "loss-less" system would have no

> resistive losses at all. Super-conducting filters have been made, and
> research continues. Here's a link on super-conducting antenna
> research:
>
> http://www.edt.bham.ac.uk/supercondant.htm
>
>
> >
> > Doctor Slick, please hang in with me on this subject even tho my
> > description
> > may be confusing. I badly need the finality which only you can supply.
> > Once the mathematical analysis is proved I would then be free to
> > describe how it can be used as a fresh aproach in antenna design
> > without attack.
> > Regards
> > Arthur Unwin
> > >
>
>
> Sorry to disappoint you Art, but i don't think anyone can really
> supply you with "finality". The nature of true science is to
> constantly question what we know, to break new ground.
> Einstein questioned Newton, and now, experts continue to question
> Einstein.
> This is the way science should be.
> Even if we did prove a new method mathematically and published it
> in technical journals, people would attack it mercilessly, as they
> really SHOULD.
> New ideas are always questioned, Einstein certainly was, and it
> took quite some time for people to believe him. This is the way it
> should be, to ensure that the new ideas are truly sound.
>
> It's like Darwin in action: only the fittest scientific concepts
> will survive the test of time.

Yes, it is really stupid in this hobby to share ideas. Antics of 80
metres is spreading rapidly which drives people to computor endevours
to move away from the ham comm. Sorry to say the hobby is dying

> If people attack your logic and expose holes in your theory, you
> should really actually thank them after you get over being upset,
> because then you can go back and make the theory stronger.

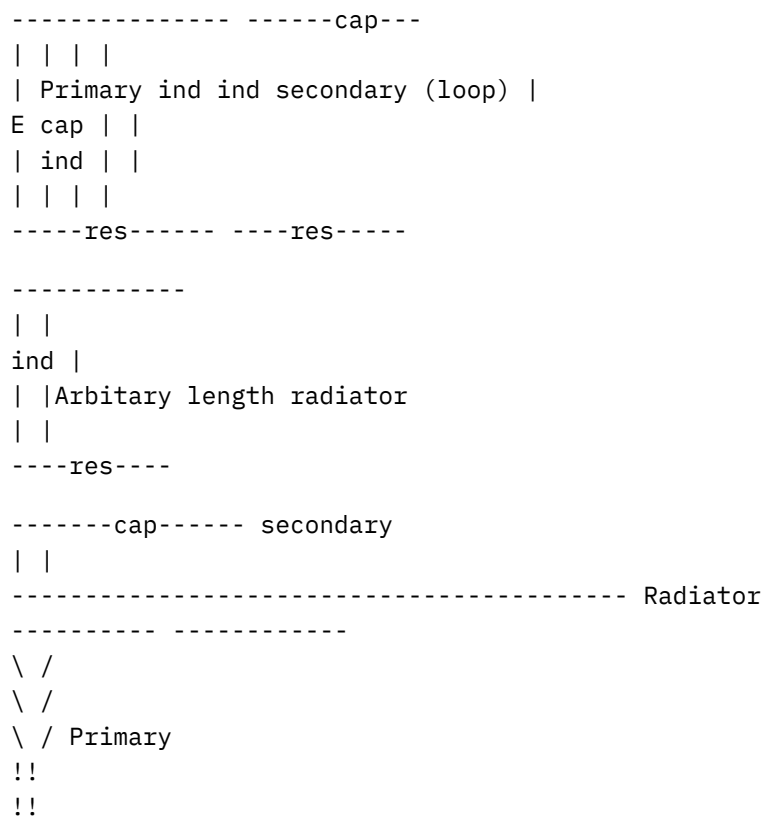
No, people have never exposed holes in the theory they have only
attacked,
changed the subject, refused to look at my page e.t.c Asked me to look
up references that are non existant, ignored answers and generaly
played the confusing game by alluding to antennas that are not the
subject of the particular thread. Basically any newcomer will see
quite readily that I have no credability with respect to antennas, so
basically they have succeeded with me

as they have done with those before me. I have consistently said I have never "invented" anything but the term of liar and thief has indelibly marked me
for all time. One can stand up to the multitude for a short time but eventually
numbers and vicious actions will eventually provide for downfall. Bigo looks good as a pastime at the present time.

> Your enemies strengthen you.

Nice words but ofcourse it is not true! It weakens me and hurts me and leaves me somewhat mystified . But fortunately it is not totally fatal as long as you retain some courage. I will fully understand any decision to withdraw from the thread in the face of what is going on. It was nice to have met you, thankyou.
Regards
Art

> Slick



1242. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 03:10:12 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211910.2961094e@posting.google.com>
Source record: 120293

Jim Kelley <jwkelley@uci.edu> wrote in message news:<3EA46506.BC6CF9FD@uci.edu>...
> >
> > The difference is the term "virtual short" being dropped entirely. The
> > advantage of that is nothing has to be proven about a "virtual short".
>
> As you know, I'm still looking for the proof that a wave can be reversed
> simply by cancellation. As we've discussed, physical discontinuities
> are required in order for waves to reverse their course. I can find no
> exceptions to that in the physics. Both yours and Walter's ideas seem
> to be at odds with that fact.
>

I'd like to see that proof too. As i understand it, only when
you hit an impedance greater or less than 50 ohms, will you have a
reflected wave (real, resistive impedances to keep things simple).

I don't believe you can reverse the course of a wave through
cancellation alone.

Slick

1243. Re: How do you switch, in or out, circuit components in an atu without using mechanical relays?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 03:14:29 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0304211914.936fb0d@posting.google.com>
Source record: 120294

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304211417.4fb1674b@posting.google.com>...
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA427DF.4060000@ieee.org>...
> > Art Unwin KB9MZ wrote:
> > > Cecil how disappointing. I do admit to surprise that weather has that
> > > much effect but to be forewarned is to be forearmed! I was trying to
> > > avoid inductive swithing problems.
> >
> > Weather (rain, snow, sleet) affects the VF of window-line thus
> > shifting the location of the current/voltage nodes/anti-nodes
> > and changing the impedance seen looking into the feedline.
>
> Ah,now I see what you are refering to, that problem is non existant
> when coax is used. One day maybe you will share your interface program
> with me when my E mail facilities are restored.
> Regards
> Art

I have two discs with Dancad and Dancam that came with a three stepmotor driver.
Art

1244. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 03:24:21 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304211924.2cf0c722@posting.google.com>
Source record: 120295

Jim Kelley <jwkelley@uci.edu> wrote in message news:<3EA44F92.C515A442@uci.edu>...
> "Dr. Slick" wrote:
> > Ok, now i have to explain myself. I'm actually one of those
> > God-forsaken, you-should-burn-in-hell pirate radio operators (FM band
> > 88-108 MHz).
>
> Long as you don't pull that stuff on the ham bands, I don't think we
> care that much. On the other hand we do sort of have a general
> predisposition against people who interfere with other stations. I'm
> guessing you have more sense than that.
>

There are plenty of Ham band pirates too, as you well know. I
would find that boring personally, as not too many could tune in.

I do my best to keep interfence down.

> > Sorry to disappoint all you goddy-two-shoe Hams who would love to
> > call the FCC on me.
>
> Chances are they're already aware of your operation.

Some of my operations! :) They are a bit low on money these
days, so it's a good season for it.

Slick

1245. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 03:38:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA4B945.1070800@ieee.org>
Source record: 120296

Dr. Slick wrote:
> I don't believe you can reverse the course of a wave through
> cancellation alone.

If you cancel that wave with another wave of the same magnitude and opposite phase, what happens to the intrinsic energy contained in those two waves? There are only two possible directions and the energy is canceled in one of those directions.

From the Melles-Griot web page: " If the two reflections are of equal amplitude, then this amplitude (and hence intensity) minimum will be zero." i.e. the two reflections undergo wave cancellation in their direction of travel.

"In the absence of absorption or scatter, the principle of conservation of energy indicates all "lost" reflected intensity will appear as enhanced intensity in the transmitted beam." i.e. the energy in the two canceled reflected waves changes direction and joins the forward wave.

Typical transmission line example. The two following reflected waves suffer wave cancellation at the Z0-match point:

Wave1 35.36V at zero deg, 0.707A at 180 deg, Power = 25W

Wave2 35.36V at 180 deg, 0.707A at zero deg, Power = 25W

Wave1 + Wave2 = zero volts, zero amps, and zero watts. What happens to the 50 joules/sec? "All 'lost' reflected intensity will appear as enhanced intensity in the transmitted beam.", i.e. if it's not flowing rearward, it has to be flowing the only other direction available.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1246. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 04:10:32 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <Yg3pa.34190$ij4.2142661@twister.southeast.rr.com>
Source record: 120297

Sounds that the laws governing alocoholic spirits.
"Max" <Max_Jens@post9.tele.dk> wrote in message
news:3ea46322$0$118$edfadb0f@dtext02.news.tele.dk...
> Hello Gene
>
> > I have heard similar stories about kings and salt for a long time, but I
> > am still puzzled. Virtually all of Great Britain is within 100 miles of
> > an ocean. Why was salt so valuable in olden times?
>
> I live in Denmark, and no dane is more than 35 miles avay from the ocean,
> but
> in the old days salt was of very high value. You see that at that time
> people
> had no incom, so it was a problem to collect taxes, s the king prohibited
> the people to make their own salt from the sea, it was forbidden by death
> penalty. Then the king sold the rights to produce the salt and he also
could
> heavely tak the sales of salt and in that way make some money. In this
part
> of the world salt is named "The White "gold".
>
> Regards Max
>
>

1247. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 04:38:09 UTC
From: Richard Karlquist <richard@karlquist.removethis.com>
Message-ID: <RG3pa.590746$S_4.644128@rwcrnsc53>
Source record: 120300

"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:CQwoa.105057$Q27.5726764@twister.austin.rr.com...
> 1. Larger gage wire improves the Q.
> If you have any comments on these tips, or about winding toroid's, or have
a
> source of additional info about the Q of a toroid I would greatly
appreciate
> it. Thank you.
> KA5JGV

#1 is misleading. It is true that, all other things being equal,
larger wire will improve Q. However, with smaller wire, you
can get more turns on the toroid. If you compare two toroids,
such that one has twice the number of turns, and the other has
twice the wire diameter, the one with more turns will have lower
copper losses.

Having said that, loss should be dominated by core loss, thus
the wire is not a big factor. However, you are using obsolete
powered iron cores. You can probably do better with Fair-Rite
#61, #65, #67, or #68, depending on your frequency range. A
Q of about 400 is the best I've been able to do with ferrite.

If you want really high Q, you'll have to use air core coils.
You can easily get well over 500 that way and possibly up
to Q=1000.

Rick N6RK

1248. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 05:01:11 UTC
From: Tim <Tim-may>
Message-ID: <wLKcnWEQjOtUUTmjXTWcqA@comcast.com>
Source record: 120302

No dumb questions Michael. Questions are why were all here.

Think of a light bulb that draws 100w, it lights your back yard just fine but the usefull light doesn't go far, at 50ft it's just enough to light yard. Now take a flashlight which is maybe 5 watts (a good one!) shine it on the shed 100ft away... whoa it's lit up just fine, much brighter than the 100w bulb right?

Ahhh but the trade off, you can't see a thing behind the flashlight because all the energy is focused in ONE direction making 5w work much better than 100w, the energy from the regular light bulb goes EVERYWHERE up down left right so that 100w of light has to be shared all the way around.

Antennas are no different, RF power is RF power, just like the light you don't get something for nothing, there are trade offs, by changing the size, shape, and the way the antenna is fed you can in essence do the same thing that reflector does in the flashlight. A beam with 4 elements focuses the direction of the RF so the energy is not wasted on areas you don't want it going to.

In the case of a vertical, adding the extra 1/8 wave really isn't what you might think, your not adding more antenna as much as you are changing the radiation pattern of the antenna. Look at the radiation pattern of a 1/2 wave antenna (a vertical) there is some signal going straight up, on vhf for example this is totally wasted energy, (unless your trying to work the space station) if the radiation pattern looked something like a beach ball for a half wave, then squish the beachball from the top, it flattens out but the SIDES get bigger. This is what adding that extra 1/8 wave does, well at least this is the case with a 5/8. So the wasted energy that WAS going straight up is now going out at 90 degrees where you want it. Those GAIN numbers represent the signal at 90 degrees, just as the gain measurments for a beam are taken from the direction the beam is pointed, not the backside which would be a very poor GAIN number.

I'm leaving out alot but I hope this simplistic view gives you a better handle on the magic of antennas and their associted gain. It's ALL about the radiation pattern.

Also, Colinear might be a better way to describe the antenna, stacked sounds more like two 4 element beams on top of each other.

73, Tim

"Michael Grenier" <mwgrenier@yahoo.com> wrote in message
news:va9bo4evg3mhb7@corp.supernews.com...
> dumb question time...
>

> For a stacked antenna, which is better (has higher gain)?
> A stacked 5/8 wave or a stacked dipole (1/2 wave)?
>
> See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
> and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html
>
> It seems like the extra 1/8 wave of a 5/8 would be
> the wrong polarity so I don't understand why they
> claim higher gain. Yet companies like Cushcraft use
> stacked 5/8 wave designs - see the Ringo Ranger II
> http://www.cushcraft.com/amateur/details.asp?catid=76
>
> What am I missing?
>
> -Mike KC0IOC
> mwgrenier@yahoo.com
>

1249. Re: Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 05:31:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va9hcn8osgc8bf@corp.supernews.com>
Source record: 120298

One thing to remember, about the "some gain in some directions" -- the more gain the antenna has, the narrower the directional regions in which it has that gain. In all other directions it'll have less gain than the comparison antenna -- typically much less in wide regions. So unless the lobes happen to fall in directions you want to communicate, you're much better off with a lower gain antenna.

Moving the feedpoint along the wire will have only a minor effect on the pattern, and won't appreciably steer it.

Roy Lewallen, W7EL

Terry O'Neill wrote:
> I have tall trees & 5 acres. I am considering an all-band doublet of about
> 550 feet in length (+/-) @ about 50 feet in height. It will be fed with 450
> ohm ladder line & a Johnson Matchbox.
>
> It will be about 16 wavelengths on 10 meters, 12.5 wl on 15, nearly 11 wl on
> 17, 8 wl on 20 meters, 4 on 40, & 2 on 75 & so it should have some gain in
> some directions on all bands of interest.
>
> Has anyone ever used such an antenna & if so was it worth the extra wire?
> Was the gain usable? Were nulls troublesome? Would moving the feedpoint
> along the length (a la' the "clothesline dipole) change the pattern (i.e.
> would the pattern be steerable?) I do not own modeling software so I cannot
> model the antenna. The only references I've found are the ARRL Handbooks.
>
>

1250. Re: Long doublet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 05:32:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va9hfek42ncr03@corp.supernews.com>
Source record: 120299

That's contrary to all theoretical and modeling results I've seen, as
well as my own experience. How did you reach this conclusion?

Roy Lewallen, W7EL

JDer8745 wrote:
> Howdy,
>
> At frequencies where the antenna is "long", i.e., lots of lambdas. There will
> be many lobes. That will almost make you think the antenna is omnidirectional
> in the horizontal plane.
>
> Jack K9CUN

1251. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 05:38:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <va9hq5tm0sab1a@corp.supernews.com>
Source record: 120301

The average value of either a sine wave or a square wave is zero, unless the wave has a DC offset. If it does, the average is equal to the DC offset. The average value of any periodic waveform can be reduced to zero by running it through a capacitor.

Roy Lewallen, W7EL

Richard Harrison wrote:
>
> The relationship between peak and rms volts is independent of frequency.
> It is a function of waveform, however. In a square wave, peak and
> average are the same. Not so in a sinewave. Average volts times average
> amps don`t give average power with sinewaves. RMS volts times RMS amps
> give average power.
>
> If a bulb is to burn as brightly on a-c as it does on d-c, average power
> supplied the bulb must be the same in both cases. For a sinewave,
> average power is peak volts times peak amps, divided by two.
> Intergrating the right waveforms proves this. "RMS power" is not an
> appropriate term. The correct term is "average power" for rms volts
> times rms amps.
>
> Since sqrt 2 (rms volts) times sqrt 2 (rms amps) equals 2 times rms
> volts times rms amps, sqrt 2 is clearly the correct scale factor for
> converting to peak volts and peak amps. Peak power is 2X average power
> for an rms sinewave.
>
> Best regards, Richard Harrison, KB5WZI
>

1252. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 05:49:41 UTC
From: SCREWDRIVER <he20c@swbell.net>
Message-ID: <VJ4pa.363$x86.330716360@newssvr11.news.prodigy.com>
Source record: 120190

There should be a chart that tells how much of the tip to cut off . So it
will tune on 10 meters. cut off small amounts till the swr starts to come
down on the frequency you want to use.Best results with a hacksaw blade.
"Heck" <heck@zoominternet.net> wrote in message
news:3ea34cf5$1_1@corp.newsgroups.com...
> I just purchased an IMAX 2000 vertical for 10 meters. It has rings at the
> base for adjusting the SWR. It comes factory tuned for the CB band and it
> is...flat on the CB band. But I tried to tune it for 28.500 and the best
SWR
> reading I could get is 1.8 and it goes higher as I go up in frequency. I
had
> to turn the adjusting rings all the way to the top to get it this good.
>
> I was wondering if anyone else had this problem...that is if anyone else
has
> one :)
>
> I've seen a many good reports on this antenna.
>
> Thanks, Ed, WB3LKO
>
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1253. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 09:39:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b832k7$e8i$1@hercules.btinternet.com>
Source record: 120303

> Has anyone had any experience with the Barker & Williamson broadband
folded
> dipole antenna?
============================

I've had no experience. But I believe the no-tuner claim. If, relative to
a dipole, it was claimed there's half an S-unit loss at 29 MHz and 4 S-units
loss at 1.9 MHz, then I'd believe that too.

If the designers were VERY clever it could be arranged for the feedline to
take over after the dipole had given up the ghost. Patent Pending ?

Reg.

1254. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 10:11:18 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b834g6$6s6$1@titan.btinternet.com>
Source record: 120304

Doubling the number of turns quadruples the inductance.

Halving the diameter with twice the number of turns also quadruples the HF resistance.

Result - Q tends to remain constant provided overall coil dimensions are unchanged.

Reg

1255. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 10:27:56 UTC
From: richardharrison@webtv.net
Message-ID: <6426-3EA5192C-574@storefull-2311.public.lawson.webtv.net>
Source record: 120305

Roy, W7EL wrote:
"The average value of either a sine wave or a square wave is zero, unless the wave has a DC offset. If it does, the average value of any periodic waveform can be reduced to zero by running it through a capacitor."

Yes. A coupling capacitor blocks d-c and passes a-c, establishing a zsro reference across the coupled load resistance.

A d-c offset means a wave is not symmetrical about the zero volts axis.

One reason a d-c voltmeter reads zero on a-c is that in the period of one cycle it receives two totally conflicting pulses and is too slow to respond to either.

Best regards, Richard Harrison, KB5WZI

1256. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 10:58:36 UTC
From: Michael Grenier <mwgrenier@yahoo.com>
Message-ID: <vaa8309j8uac09@corp.supernews.com>
Source record: 120306

Tim, You have confused me more.

For example, you write:
> In the case of a vertical, adding the extra 1/8 wave really isn't what you
> might think, your not adding more antenna as much as you are changing the
> radiation pattern of the antenna. Look at the radiation pattern of a 1/2
> wave antenna (a vertical) there is some signal going straight up, on vhf for
> example this is totally wasted energy

So I've looked at the radiation pattern of a 1/2 wave vertical and
none of the energy goes straight up. There is a nice picture at the
end of this article:

http://galileo.phys.virginia.edu/classes/312/notes/antenna.pdf

and http://www.phys.ufl.edu/~dorsey/phys6347/worksheets/radiation1.html

As you can see, no energy goes straight up.

What I was asking is why then do companies use 5/8 wave colinear. It appears
to have a poorer radiation pattern then a stacked 1/2 waves.

-Mike KC0IOC
mwgrenier@yahoo.com

1257. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 11:15:12 UTC
From: skuupi@poistele.lakki.iki.fi
Message-ID: <ljwuhmwzpb.fsf@lakki.iki.fi>
Source record: 120307

Michael Grenier <mwgrenier@yahoo.com> writes:

> For a stacked antenna, which is better (has higher gain)?
> A stacked 5/8 wave or a stacked dipole (1/2 wave)?
>
> See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
> and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html

I don't know if a collinear 5/8 j-pole is a good idea, look at this:
http://www.cebik.com/jp4.html, the single 5/8 does not radiate too well.
Two 5/8 sections is probably not any better. I would go for a 1/2 wave
like the one on the page.

--
Hannes ï¿½hman
OH6HGZ

1258. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 11:37:24 UTC
From: Chuck/KE4ETH <chuck_hawks@hotmailNOSPAMORAMA.com>
Message-ID: <eJ9pa.79732$B51.35083@fe09.atl2.webusenet.com>
Source record: 120308

"Michael Grenier" <mwgrenier@yahoo.com> wrote in message
news:vaa8309j8uac09@corp.supernews.com...
> Tim, You have confused me more.
>

SNIP

> So I've looked at the radiation pattern of a 1/2 wave vertical and
> none of the energy goes straight up. There is a nice picture at the
> end of this article:
>
> http://galileo.phys.virginia.edu/classes/312/notes/antenna.pdf
>
> and http://www.phys.ufl.edu/~dorsey/phys6347/worksheets/radiation1.html
>
> As you can see, no energy goes straight up.
>
> What I was asking is why then do companies use 5/8 wave colinear. It
appears
> to have a poorer radiation pattern then a stacked 1/2 waves.

I'm confused. Are we talking 5/8 vertical and 1/2 horizontal or?

Sorry, having problem visualizing.

>
> -Mike KC0IOC
> mwgrenier@yahoo.com
>

--
73,
Chuck
KE4ETH
USA-NA

1259. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 11:41:18 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EA529AB.8D946C95@gte.net>
Source record: 120309

Michael Grenier wrote:

> dumb question time...
>
> For a stacked antenna, which is better (has higher gain)?
> A stacked 5/8 wave or a stacked dipole (1/2 wave)?
>
> See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
> and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html
>

It is exactly the 1/8 wave poortion of the antenna that results in
increased gain- by modifying the radiation pattern.
The added gain of 2 stacked 5/8 over 2 stacked 1/2 waves is perhaps best
seen by looking at how far apart the current maxima are in each section.
The ARRL Antenna Handbook shows a graph of colinear gain of 3 elements
vs center to center spacing.

Dale W4OP

1260. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 11:44:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b839u2bos1@sparta.btinternet.com>
Source record: 120310

A 5/8-wave vertical antenna has the greatest possible pattern-gain in the horizontal plane (ie., at right to the radiator) before any significant minor lobes appear at high angles.

1261. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 11:48:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b83a74$g0a$1@titan.btinternet.com>
Source record: 120311

The average value of ALL alternating currents and voltages, of whatever waveform, is zero.

1262. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 12:28:23 UTC
From: richardharrison@webtv.net
Message-ID: <11165-3EA53567-234@storefull-2318.public.lawson.webtv.net>
Source record: 120312

Mike, KC0IOC wrote:
"It seems like the extra 1/8 wave of a 5/8 would be the wrong polarity so I don`t understand why they obtain higher gain."

The FCC has made the higher gain a part of its rules. That`s why it must comply!

Current in 1/8-wave of the 5/8-wave conductor is carrying current in the wrong direction and this slightly detracts from the main lobe, but this is more than offset by better current distribution.

The extra 1/8-wave gives current more distance to travel. It`s not curtailed so soon by the open circuit at the tip. This effect is a little like end-loading the radiator. It gets the current with its variations farther down the wire away from the drive point. The total effect is beneficial out to a total length of 5/8-wavelength where any added length causes a reduction in gain perpendicular to the conductor, unless a phase inverter is added to put currents back in-phase.

Best regards, Richard Harrison, KB5WZI

1263. Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 12:51:15 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <b83drt$5t7lf$1@ID-155271.news.dfncis.de>
Source record: 120313

Having trouble finding info on setting up the above antenna.
I have very limited space (12m x 6m) and don't want too many antennas up..
Currently I have just a single di-pole tuned for 20m.
Is it possible to add more 'legs' for other bands, I'd like to get onto 40
and 15. Can I just add more legs tuned to the correct frequency, or will it
upset the balance ?

Cheers for any input.

1264. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 12:52:15 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <b83dtp$5trda$1@ID-155271.news.dfncis.de>
Source record: 120314

Without an ATU btw.

"M3***" <happyraveruk@yahoo.com> wrote in message
news:b83drt$5t7lf$1@ID-155271.news.dfncis.de...
> Having trouble finding info on setting up the above antenna.
> I have very limited space (12m x 6m) and don't want too many antennas up..
> Currently I have just a single di-pole tuned for 20m.
> Is it possible to add more 'legs' for other bands, I'd like to get onto 40
> and 15. Can I just add more legs tuned to the correct frequency, or will
it
> upset the balance ?
>
> Cheers for any input.
>
>
>

1265. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 13:02:17 UTC
From: richardharrison@webtv.net
Message-ID: <28870-3EA53D59-515@storefull-2313.public.lawson.webtv.net>
Source record: 120315

Reg, G4FGQ wrote:
"The average of ALL alternating currents and voltages, of whatever waveform is zero."

My dictionary defines alternating current as:
"A flow of electricity which reaches maximum in one direction in one direction, decreases to zero, then reverses itself and reaches maximum in the opposite direction. The cycle is repeated continuously."

It can be argued that waves without symmetry about the 0-volt axis are composed of a-c with a d-c component. In this case Reg is right.

I think the argument is trivial.

Best regards, Richard Harrison, KB5WZI

1266. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 14:32:04 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <6bjaavg89d7tnfl4fjpc6pv22boev0icck@4ax.com>
Source record: 120316

On Tue, 22 Apr 2003 13:51:15 +0100, "M3***" <happyraveruk@yahoo.com>
wrote:

|Having trouble finding info on setting up the above antenna.
|I have very limited space (12m x 6m) and don't want too many antennas up..
|Currently I have just a single di-pole tuned for 20m.
|Is it possible to add more 'legs' for other bands, I'd like to get onto 40
|and 15. Can I just add more legs tuned to the correct frequency, or will it
|upset the balance ?

You can add multiple dipoles, all tied to the same feeder. There will be considerable interaction such that you will have to do a lot of pruning of lenghts to get them all resonant on the desired frequencies. If everything is symmetrical, there will no effect on the balance. (You do use a balun, right?) If you go this route, adjust the longest length first and work up (in frequency) from there.

The interaction is dependent upon the proximity and can be decreased by separating the wires as much as possible. The best you can do in this regard is to have the wires at right angles to each other. Clearly, this limits you to two wires.

But as a practical matter in your case, you don't have the physical space for a full-size 40 meter dipole. I suggest that you consider a trapped dipole. You might get away with just a pair of traps for 20 meters and use the 40 meter resonance on 15, but it usually doesn't work out this nicely.

Plan on two pairs of traps, one for 15 meters and the other for 20 meters. On 40 meters, the inductance of the traps needs to be enough to resonant your limited-length wire. Bandwidth will be narrow on 40 but I believe you operate only the lower end in GB so it should suffice.

Despite your plea for something that works without a tuner, you will no doubt get lots of answers that say something like, "Oh, just put up any old wire and feed it with ladderline and a tuner." Ignore this advice.

1267. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 14:40:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b83jr4jtb1@news.service.uci.edu>
Source record: 120317

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA4B945.1070800@ieee.org...
> Dr. Slick wrote:
> > I don't believe you can reverse the course of a wave through
> > cancellation alone.
>
> If you cancel that wave with another wave of the same magnitude and
> opposite phase, what happens to the intrinsic energy contained in
> those two waves? There are only two possible directions and the
> energy is canceled in one of those directions.

You're diverting away from the point again. The question is not where, but how. Your answer to the latter is wrong.

1268. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 14:41:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b83jt7jtn1@news.service.uci.edu>
Source record: 120318

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA49554.9060409@ieee.org...
> Jim Kelley wrote:
> > Light passes both ways through AR coated glass. If it did not, you
> > wouldn't be able to see your "painting" through it.
>
> And we don't need to cancel any of the light from the painting.

Right, so it's a good thing you were wrong about no being able to see
through it.

1269. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 15:17:44 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <rcidnb9AG8uFwDijXTWcow@comcast.com>
Source record: 120169

I have dipoles for 7, 18 and 24 MHz off a common feedline (8X), and they all work fine. The 7 MHz is out of plane with the others, configured as an inverted V. The separation between the other two is about 6 feet at the ends, with the 18 forming a V (it supports the whole thing), and the 24 straight horizontal. I did a lot of trial and error tuning with EZNEC before stringing wire, starting from lowest frequency. I do not own an antenna tuner.

Tam/WB2TT
"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:6bjaavg89d7tnfl4fjpc6pv22boev0icck@4ax.com...
> On Tue, 22 Apr 2003 13:51:15 +0100, "M3***" <happyraveruk@yahoo.com>
> wrote:
>
> |Having trouble finding info on setting up the above antenna.
> |I have very limited space (12m x 6m) and don't want too many antennas
up..
> |Currently I have just a single di-pole tuned for 20m.
> |Is it possible to add more 'legs' for other bands, I'd like to get onto
40
> |and 15. Can I just add more legs tuned to the correct frequency, or will
it
> |upset the balance ?
>
>
> You can add multiple dipoles, all tied to the same feeder. There will
> be considerable interaction such that you will have to do a lot of
> pruning of lenghts to get them all resonant on the desired
> frequencies. If everything is symmetrical, there will no effect on the
> balance. (You do use a balun, right?) If you go this route, adjust
> the longest length first and work up (in frequency) from there.
>
> The interaction is dependent upon the proximity and can be decreased
> by separating the wires as much as possible. The best you can do in
> this regard is to have the wires at right angles to each other.
> Clearly, this limits you to two wires.
>
> But as a practical matter in your case, you don't have the physical
> space for a full-size 40 meter dipole. I suggest that you consider a
> trapped dipole. You might get away with just a pair of traps for 20
> meters and use the 40 meter resonance on 15, but it usually doesn't
> work out this nicely.
>
> Plan on two pairs of traps, one for 15 meters and the other for 20

> meters. On 40 meters, the inductance of the traps needs to be enough
> to resonant your limited-length wire. Bandwidth will be narrow on 40
> but I believe you operate only the lower end in GB so it should
> suffice.
>
> Despite your plea for something that works without a tuner, you will
> no doubt get lots of answers that say something like, "Oh, just put up
> any old wire and feed it with ladderline and a tuner." Ignore this
> advice.

1270. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 15:39:01 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <saoaavkvpcui2n1ok3d4kv5r4s0d8p2b7j@4ax.com>
Source record: 120171

On Mon, 21 Apr 2003 23:09:15 GMT, "Lee Jarvis"
<ljarvis@tampabay.rr.com> wrote:

>excerpted...
>

About 20 years ago, QST compared one of the B&W folded antennas to
plain 1/2 wave dipoles. At 20 meters and above, the B&W was comparable
to a plain dipole. At lower frequencies, it was much less efficient --
only about 12% as efficient as a regular dipole on 80 meters.

Bob
k5qwg

1271. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 15:39:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <icoaavsnumvnpj7jd967hiaqqbo9lrfdo0@4ax.com>
Source record: 120170

On Tue, 22 Apr 2003 08:02:17 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>I think the argument is trivial.

Especially when breakdown voltage could care less if your meter is
calibrated in peak, average, or RMS.

Amazing how such a simple exercise, when liberally laced with
software, became this albatross.

73's
Richard Clark, KB7QHC

1272. Your opinion about portable antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 16:06:03 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ea5685f_2@news.vo.lu>
Source record: 120172

Hi,

If you have some time left, I would like to know your opinion about this article (of 1 page) about portable antennas, and more, do you have some idea to complete this article (other brands offering performing portable antennas, more unusual systems, etc),
http://www.astrosurf.com/lombry/qsl-portable.htm
(NB.I know some other manufacturers of i.e. small portable beams but can find the brand any more...)

You can answer me directly through the website email page.

NB. Searching data for this article, it permitted me to reduce the scope of my potential HF portable antennas : now it seems this is a battle between Hi-Q (40%) and Hex-beam (60%), excepting if you find me some new great performer (in HF, mainly for DXing in bands 20-10m, at a little bit for ragcheming on 40m or so).

Thierry
ON1SKY

1273. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 16:14:50 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ea56a6e$1_2@news.vo.lu>
Source record: 120173

Hi,

Read this, http://www.astrosurf.com/lombry/qsl-longwire.htm and next page,
than could help as I speak about antennas and their location.

The longer the longwire the best of course, and the highest too (i.e. over
7m above ground for the 14m band, see the related page for a table).

I use one of about 40m that gives my SWR 1:1 from 10 to 80m but not at all
on 160m and 17m where SWR exceeds 4 !
You can tie it across your garden, turn around trees, place it in inverted V
to increase the directivity, etc, without problem. A beverage (longwire over
100m long) works the same way.
Avoid only to place the antenna parallel (so place it perpendical) or near
to any metallic system (fence, gutter, etc) to avoid any coupling.
A good soil (no sand, sandstone, lake, etc) and a good ground are also
mandatory for best result in emission and avoid static, etc.
See http://www.astrosurf.com/lombry/qsl-safety.htm
Hope this helps.

Thierry
ON1SKY

"Rich" <rk911@ANTISPAM.yahoo.com> wrote in message
news:3o2c9vknsnifjsegv4s33smrkaoluu5o3e@4ax.com...
> On Thu, 10 Apr 2003 14:59:31 -0700, Jack Twilley
> <jmt+usenet@twilley.org> wrote:
>
> >-----BEGIN PGP SIGNED MESSAGE-----
> >Hash: SHA1
> >
> >I will have the opportunity to operate from a nice mountainside
> >location. My rig is a TS-520 and I have an antenna tuner from MFJ,
> >and I have been able to receive with a sixty-foot wire thrown out into
> >the backyard at this location. The maximum reasonable wire length I
> >can run is three hundred feet, but that means crawling through brush
> >and I'm trying to avoid doing that unless it's necessary. I'm hoping
> >to operate on 10m and 20m but if one wire can do everything from 10m
> >to 80m, that's worth crawling. Also, is it okay to wrap the wire
> >around a tree every few feet to keep it off the ground, or is that
> >worse than letting it occasionally fall to the ground? Not all the
> >trees are conveniently forked.
> >
> >Jack.
>
> jack, my first hf radio was a TS-520 and my first antenna was a random

> length wire into an MFJ tuner. small world, eh? anyway, the wire was
> maybe 75-80 feet long and was not a straight line...it had 3 doglegs
> in it. i worked a ton of stations on 40m and 15m all over the states
> and some dx. i was a novice and later a tech at the time and so
> didn't work any 20m stations. i had zero problems.
>
> i can't tell you what minimum length you should run but generally
> speaking the longer the better. as for wrapping around trees i would
> probably avoid that but laying the wire through branches to keep it
> off the ground will pose minimum problems for you.
>
> 73 es gud luck
> rich, n9dko
>

1274. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 16:29:27 UTC
From: Tim <Tim-may>
Message-ID: <STOdnUoDEa2E8zijXTWcoA@comcast.com>
Source record: 120174

"Michael Grenier" <mwgrenier@yahoo.com> wrote in message
news:vaa8309j8uac09@corp.supernews.com...
> Tim, You have confused me more.

I hate when that happens, sometimes I hit sometimes I miss.

Reg sums it up nicely at the current end of this thread, 5/8 gives the
highest gain in the horizontal plane.

Go here and look at the comparison between a 1/4 wave and 5/8 wave, this was
all I was trying to say.
http://www.cebik.com/58-1.html

Tim

1275. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 17:33:47 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EA57C70.AF8C5E78@shaw.ca>
Source record: 120175

Lee Jarvis wrote:
>
> Has anyone had any experience with the Barker & Williamson broadband folded
> dipole antenna?
>
> http://www.bwantennas.com/ama/amaindex.htm
>
> They claim "Our field proven broadband HF antennas operate all frequencies
> continuously from 1.8 to 30 Mhz without an antenna tuner, plus 6 meters.
> If you are participating in various programs such as MARS, ARES, RACES or
> CAP these antennas will work all of your frequencies all the time. If your
> frequencies get reassigned, it does not matter."
>
> Now, my name isn't Lewallen, but I have spent a few hours tangling wire and
> burning my fingers with a soldering iron. I'm thinking that the housing
> above the feed point contains a sizable resistor. But because B&W has a
> great reputation and has been around longer than I have, I'm certainly
> intrigued by the ad.
>
> Anybody have any practical experience with this antenna?
>
> I have a friend going to Haiti on a two year mission trip. He's working on
> his general class ticket now. Still, he's a missionary first and a ham...
> well it's a distant second. He needs an antenna installation that simple and
> effective.
>
> I'm thinking that a simple trap dipole might be a better bet.

I used one for a few years and was very happy. I liked the small
overall length. I know it wasn't as effective as a full dipole, but
I worked the world on it with 100w or less! It was nice to be
able to go all over the bands without the need for tuning. A
trap dipole is not a bad compromise except on 40/80 where it
gets a bit narrow.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at

http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1276. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 17:56:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA58246.5050005@ieee.org>
Source record: 120176

Jim Kelley wrote:
> You're diverting away from the point again. The question is not where, but
> how. Your answer to the latter is wrong.

The how is described in the last three paragraphs on the Melles-Griot web page at:

http://www.mellesgriot.com/products/optics/oc_2_1.htm

The following two diagrams are roughly equivalent where 'IOR' is the
index of refraction:

```
Coherent | |
Light Source--------air------|~~~thin-film~~~~|==infinite glass==...
IOR=1.0 | 1.225 | 1.5
```

```
1/4WL
RF Source-----feedline-------+----feedline----+--infinite feedline...
Z0=100 ohms 122.5 ohms 150 ohms
```

Hams would say there are no reflections at the 100 ohm to 122 ohm
transition because the source "sees" a virtual 100 ohms. This is
a shortcut that has turned into an old wives' tale. The virtual 100
ohms is an effect of wave cancellation and is incapable of causing
anything except arguments on r.r.a.a. What actually happens in
reality is well understood in the field of optics.

Physicists say, of course, there is a reflection at the 1.0 to 1.225
IOR transition because the laws of physics require it. Physicists
will tell us that there is another reflection from the 1.225 to 1.5
IOR transition that engages in wave cancellation with the first
reflected wavefront. This is all described on the Melles-Griot web
page.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1277. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:08:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA58522.3010900@ieee.org>
Source record: 120177

Jim Kelley wrote:
> Right, so it's a good thing you were wrong about no being able to see
> through it.

Again, all collection of light by your eyes is local to your eyes. Your eyes are a passive receiver, not an active transmitter of anything through the glass. If you were blind and unable to "see through it", exactly the same thing would be occurring external to your eyes.

The image that you receive at any instant in time is nanoseconds old, certainly a long enough time for wave cancellation to have taken place at the thin film surface. Mother Nature does not require your knowledge, understanding, or consent. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1278. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:11:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA585D5.4D91E764@uci.edu>
Source record: 120180

OC_CAM's Razor wrote:

> Again, all collection of light by your eyes is local to your eyes.

Thanks for sharing what you know about the subject, but most people here are probably already familiar with this. If you like, you can email any other profound insights along these lines directly to me and save a bit of bandwidth.

Thanks,

Jim AC6XG

1279. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:16:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA58719.4050306@ieee.org>
Source record: 120178

Tim wrote:
> Reg sums it up nicely at the current end of this thread, 5/8 gives the
> highest gain in the horizontal plane.

Yes, for single element antennas. But two phased collinear half-wave
elements will beat one 5/8WL element.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1280. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:37:38 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA58BEF.D52705C8@att.net>
Source record: 120179

Cecil,

Ok, I was keeping quiet, but I'll jump in.

First, most shortcuts are "wrong", but they often still work. If a shortcut works in a given situation it would seem that it should not be denigrated as an "old wives' tale". That designation would generally be applied to those shortcuts that are misused or simply give the wrong answer.

As a practicing physicist for many years I beg to differ with your description of the method a physicist would use to solve the reflection problem. I have never seen anything but handwaving descriptions that use the superposition of canceling waves to explain reflection. A physicist sets up the standard Maxwell equations at the interfaces, establishes the boundary conditions, and then solves the resulting equations, either directly or through some matrix manipulations.

If you want to see how this is done check out a reference like "Principles of Optics" by Born and Wolf. I am confident that your adopted experts at Melles-Griot pay daily homage to Born and Wolf.

The bottom line is that once one strays from a rigorous mathematical analysis the opportunity for philosophical argument becomes unlimited. Your method is no better or worse than any other handwaving method if it gives the correct (physical and observable) result.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > You're diverting away from the point again. The question is not where, but
> > how. Your answer to the latter is wrong.
>
> The how is described in the last three paragraphs on the Melles-Griot web page at:
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> The following two diagrams are roughly equivalent where 'IOR' is the
> index of refraction:
>
> Coherent | |
> Light Source--------air------|~~~thin-film~~~~|==infinite glass==...

> IOR=1.0 | 1.225 | 1.5
>
> 1/4WL
> RF Source-----feedline-------+----feedline----+--infinite feedline...
> Z0=100 ohms 122.5 ohms 150 ohms
>
> Hams would say there are no reflections at the 100 ohm to 122 ohm
> transition because the source "sees" a virtual 100 ohms. This is
> a shortcut that has turned into an old wives' tale. The virtual 100
> ohms is an effect of wave cancellation and is incapable of causing
> anything except arguments on r.r.a.a. What actually happens in
> reality is well understood in the field of optics.
>
> Physicists say, of course, there is a reflection at the 1.0 to 1.225
> IOR transition because the laws of physics require it. Physicists
> will tell us that there is another reflection from the 1.225 to 1.5
> IOR transition that engages in wave cancellation with the first
> reflected wavefront. This is all described on the Melles-Griot web
> page.
> --
> 73, Cecil http://www.qsl.net/w5dxp

1281. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:43:42 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304221043.f657a8c@posting.google.com>
Source record: 120181

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA4B945.1070800@ieee.org>...
> Dr. Slick wrote:
> > I don't believe you can reverse the course of a wave through
> > cancellation alone.
>
> If you cancel that wave with another wave of the same magnitude and
> opposite phase, what happens to the intrinsic energy contained in
> those two waves? There are only two possible directions and the
> energy is canceled in one of those directions.
>
> From the Melles-Griot web page: " If the two reflections are of equal
> amplitude, then this amplitude (and hence intensity) minimum will be zero."
> i.e. the two reflections undergo wave cancellation in their direction of
> travel.
>
> "In the absence of absorption or scatter, the principle of conservation of
> energy indicates all "lost" reflected intensity will appear as enhanced
> intensity in the transmitted beam." i.e. the energy in the two canceled
> reflected waves changes direction and joins the forward wave.
>

I'm not sure if this is saying that if you shine two beams of
light (both polarized) in one direction, of the same frequency, that
if you change the phase between the two, that you will somehow be able
to reverse the direction of the waves, due to interference alone.

I don't believe you can do this.

Slick

1282. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 18:54:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA58FF8.9EC1FA9B@uci.edu>
Source record: 120183

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > You're diverting away from the point again. The question is not where, but
> > how. Your answer to the latter is wrong.
>
> The how is described in the last three paragraphs on the > Melles-Griot web page at:
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm

Having originally referred you to that site, you know that I'm quite familiar with it. Since neither the underlying physics, nor the exact mechanism for the phenomenon is revealed by the site, I have persued further investigation. This includes Jackson, Born and Wolf, and other texts, as well as interviews with physicists who are expert on the subject. None of them support your contention that destructive interference 'causes' waves to reverse their direction of propagation. Nowhere is any such phenomenon ever described in such a way, for indeed it does not occur in such a way. One might at most be able to say that is effectively what happens, and it should be assumed that Melles-Griot has taken that approach.

> Physicists say, of course, there is a reflection at the 1.0 to 1.225
> IOR transition because the laws of physics require it.

Except in a case where the laws of physics prevent it. It so happens that's the case you're interested in.

> Physicists
> will tell us that there is another reflection from the 1.225 to 1.5
> IOR transition that engages in wave cancellation with the first
> reflected wavefront. This is all described on the Melles-Griot web
> page.

Melles-Griot tells us that no reflection occurs. Physics tells us that wave cancellation will prevent reflection; that under such conditions waves incident on the film that would otherwise have been reflected instead pass through the film into the glass; and that waves reflected from the glass are re-reflected by the film, thus conserving energy. That's what a physicist would tell you if you ever actually asked one.

73, Jim AC6XG

1283. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:02:58 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304221102.3ca5b5e5@posting.google.com>
Source record: 120182

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0304211909.36444338@posting.google.com>...
are truly sound.
> >

> as they have done with those before me. I have consistently said I
> have never "invented" anything but the term of liar and thief has
> indelibly marked me
> for all time.

Who has marked you as such? and why do you give creedance to
their opinions of you?

>
> > Your enemies strengthen you.
>
> Nice words but ofcourse it is not true! It weakens me and hurts me
> and leaves me somewhat mystified . But fortunately it is not totally
> fatal as long as you retain some courage. I will fully understand any
> decision to withdraw from the thread in the face of what is going on.
> It was nice to have met you, thankyou.
> Regards
> Art
>

But they do strengthen you. What doesn't kill you makes you
stronger, as they say.

Thank you Art,

Slick

1284. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:20:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA595E0.4547A537@uci.edu>
Source record: 120187

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > First, most shortcuts are "wrong", but they often still work. If a
> > shortcut works in a given situation it would seem that it should not be
> > denigrated as an "old wives' tale".

Hi Gene,

I've got 16 pages of hand written derivations from first principles that lead to Cecil's "shortcut". Cecil thinks it's a shortcut. To him it is, because it cuts around the idea he divined from his imagination; that cancelled waves actually reverse their direction of propagation. It's an unsupportable fallacy. Changes in direction of wave propagation can only occur by reflection from a physical boundary. That's the physics he calls a "shortcut".

73, Jim AC6XG

1285. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:32:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA598E7.40006@ieee.org>
Source record: 120184

Gene Fuller wrote:
> First, most shortcuts are "wrong", but they often still work. If a
> shortcut works in a given situation it would seem that it should not be
> denigrated as an "old wives' tale".

I'm not denigrating the shortcut, Gene. I am denigrating the conclusions about reality inferred from the shortcut. Reality does not have to obey shortcuts. Would you infer from your zero bank balance that zero transactions have taken place?

> As a practicing physicist for many years I beg to differ with your
> description of the method a physicist would use to solve the reflection
> problem. I have never seen anything but handwaving descriptions that use
> the superposition of canceling waves to explain reflection. A physicist
> sets up the standard Maxwell equations at the interfaces, establishes
> the boundary conditions, and then solves the resulting equations, either
> directly or through some matrix manipulations.

That's a steady-state shortcut from which nothing can be inferred about reality. Please read the following Melles-Griot web page, especially the last three paragraphs and report back if you agree with it.

http://www.mellesgriot.com/products/optics/oc_2_1.htm

> If you want to see how this is done check out a reference like
> "Principles of Optics" by Born and Wolf. I am confident that your
> adopted experts at Melles-Griot pay daily homage to Born and Wolf.

Our goal here is not a quickie steady-state shortcut. That already exists. Our goal here is to understand reality. That cannot be done by inferring that since reality dictates shortcuts, that shortcuts, in turn, dictate reality. That's a simple confusion of cause and effect.

> The bottom line is that once one strays from a rigorous mathematical
> analysis the opportunity for philosophical argument becomes unlimited.
> Your method is no better or worse than any other handwaving method if it
> gives the correct (physical and observable) result.

The bottom line is that one often doesn't realize that his steady-state shortcut does indeed stray from a rigorous mathematical analysis. If your analysis of a non-glare coating doesn't include the delay through the thin-film, it is not a rigorous mathematical analysis at all.
--
73, Cecil http://www.qsl.net/w5dxp

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1286. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:36:10 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86ist6l3yt.fsf@duchess.twilley.org>
Source record: 120185

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Thierry" == Thierry <- ON1SKY" <lombrytNOSPAM@hotmail.com>> writes:

Thierry> Hi, Read this,
Thierry> http://www.astrosurf.com/lombry/qsl-longwire.htm and next
Thierry> page, than could help as I speak about antennas and their
Thierry> location.

Thierry> The longer the longwire the best of course, and the highest
Thierry> too (i.e. over 7m above ground for the 14m band, see the
Thierry> related page for a table).

Wow. I haven't lived in a place where I could have anything like
that. The mountaintop antenna I used was roughly 20m long and 2m
above the ground, which was covered with brush. The antenna I'm
trying to use at home is a dipole with a total length of 8m suspended
between two metal clothesline poles, but that's because my backyard is
2m deep and 8m wide.

Thierry> I use one of about 40m that gives my SWR 1:1 from 10 to 80m
Thierry> but not at all on 160m and 17m where SWR exceeds 4 ! You can
Thierry> tie it across your garden, turn around trees, place it in
Thierry> inverted V to increase the directivity, etc, without
Thierry> problem. A beverage (longwire over 100m long) works the same
Thierry> way. Avoid only to place the antenna parallel (so place it
Thierry> perpendical) or near to any metallic system (fence, gutter,
Thierry> etc) to avoid any coupling. A good soil (no sand, sandstone,
Thierry> lake, etc) and a good ground are also mandatory for best
Thierry> result in emission and avoid static, etc. See
Thierry> http://www.astrosurf.com/lombry/qsl-safety.htm Hope this
Thierry> helps.

I was able to get a good SWR (1:1) on 20m and a low level of noise on
the mountaintop, but microphone problems kept me from actually
transmitting successfully. At home, I've got way too much noise --
I get up to S4 while connected to the dummy load, and I can't even get
in WWV -- and I'm just too inexperienced at the moment to really
figure it out. So trips to the mountaintop are my only real chance to
do any HF.

Jack.
- --
Jack Twilley
jmt at twilley dot org

```
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.1 (FreeBSD)

iD8DBQE+pZm0GPFSfAB/ezgRAur0AKCv2xKN9pj6rkCo1h6i/Q27XpdLywCgoF6k
YUV1BOFEVAwHyqTIqdYBq0E=
=1hBI
-----END PGP SIGNATURE-----
```

1287. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:44:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA59B92.7000005@ieee.org>
Source record: 120186

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>> From the Melles-Griot web page: " If the two reflections are of equal
>>amplitude, then this amplitude (and hence intensity) minimum will be zero."
>>i.e. the two reflections undergo wave cancellation in their direction of
>>travel.
>>
>>"In the absence of absorption or scatter, the principle of conservation of
>>energy indicates all "lost" reflected intensity will appear as enhanced
>>intensity in the transmitted beam." i.e. the energy in the two canceled
>>reflected waves changes direction and joins the forward wave.
>>
> I'm not sure if this is saying that if you shine two beams of
> light (both polarized) in one direction, of the same frequency, that
> if you change the phase between the two, that you will somehow be able
> to reverse the direction of the waves, due to interference alone.

That's exactly what it says and it has been proven experimentally. Getting the two beams of light to be coherent and collinear is a physical problem. I don't know that it is possible to do using two separate sources. But that is exactly how non-glare glass works. Two separate reflections of the same light beam, displaced in time, are superposed to zero and the energy in the canceled waves reverses direction and joins the forward wave energy. That's also what happens at a Z0-match point in a transmission line.

Note that the wave cancellation can only be done at a physical index of refraction discontinuity plane, i.e. at the origin of one of the reflected waves. One reflected wavefront exists only for a dt of time before it is canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.
--
73, Cecil http://www.qsl.net/w5dxp

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1288. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 19:52:29 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA59D7D.823C6B11@uci.edu>
Source record: 120193

OC_CAM's Razor wrote:
> But the Melles-Griot web page says it has been confirmed experimentally.

Again you confuse the end result with the mechanism which caused it.
The result does not prove any assertion one might make as to how that
result is obtained.

1289. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:01:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA59F94.9020605@ieee.org>
Source record: 120188

Jim Kelley wrote:
> Since neither the underlying physics, nor the exact
> mechanism for the phenomenon is revealed by the site, I have persued
> further investigation. This includes Jackson, Born and Wolf, and other
> texts, as well as interviews with physicists who are expert on the
> subject. None of them support your contention that destructive
> interference 'causes' waves to reverse their direction of propagation.

But the Melles-Griot web page says it has been confirmed experimentally.
I suspect you could run that experiment for yourself. Please consider this
question: Can the magnitude of reflections from a thin-film surface be varied
by varying the thickness of the thin-film? Of course it can. Your mission, if
you agree to accept it, is to explain how varying the thickness of the thin-
film varies the magnitude of the reflections from minimum to maximum without
the existence of the two superposed component reflections.

> Nowhere is any such phenomenon ever described in such a way, for indeed
> it does not occur in such a way. One might at most be able to say that
> is effectively what happens, and it should be assumed that Melles-Griot
> has taken that approach.

Melles-Griot has proven that the phenomenon exists. Your mission is to
explain it, not to deny it's existence.

>>Physicists say, of course, there is a reflection at the 1.0 to 1.225
>>IOR transition because the laws of physics require it.
>
> Except in a case where the laws of physics prevent it. It so happens
> that's the case you're interested in.

The laws of physics prevent a ***NET*** reflection under certain conditions.
The laws of physics do not prevent component reflections. In fact, the laws
of physics *require* component reflections for net reflections to superpose
to zero.

> Melles-Griot tells us that no reflection occurs.

Nelles-Griot tells us that no ***NET*** reflection occurs. Melles-Griot
tells us that two reflections are required to exist in order to achieve
zero net reflection. One reflection exists only as a wavefront for dt
of time before it is canceled, but that is all it takes.
--
73, Cecil http://www.qsl.net/w5dxp

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1290. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:14:33 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA5A2A5.AF10771C@att.net>
Source record: 120191

Cecil,

What on earth are you talking about???

Of course we are talking about steady state conditions. Nothing in your analysis or any part of this endless set of threads deals with transients at all.

I don't need to re-read the Melles-Griot web page. There are no surprises, revelations, or non-standard ideas. That material is simply a convenient practical tutorial for users of optical components. It is not intended or written as the ultimate scientific reference.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > First, most shortcuts are "wrong", but they often still work. If a
> > shortcut works in a given situation it would seem that it should not be
> > denigrated as an "old wives' tale".
>
> I'm not denigrating the shortcut, Gene. I am denigrating the conclusions
> about reality inferred from the shortcut. Reality does not have to
> obey shortcuts. Would you infer from your zero bank balance that zero
> transactions have taken place?
>
> > As a practicing physicist for many years I beg to differ with your
> > description of the method a physicist would use to solve the reflection
> > problem. I have never seen anything but handwaving descriptions that use
> > the superposition of canceling waves to explain reflection. A physicist
> > sets up the standard Maxwell equations at the interfaces, establishes
> > the boundary conditions, and then solves the resulting equations, either
> > directly or through some matrix manipulations.
>
> That's a steady-state shortcut from which nothing can be inferred about
> reality. Please read the following Melles-Griot web page, especially
> the last three paragraphs and report back if you agree with it.
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> > If you want to see how this is done check out a reference like
> > "Principles of Optics" by Born and Wolf. I am confident that your
> > adopted experts at Melles-Griot pay daily homage to Born and Wolf.

>
> Our goal here is not a quickie steady-state shortcut. That already
> exists. Our goal here is to understand reality. That cannot be done
> by inferring that since reality dictates shortcuts, that shortcuts,
> in turn, dictate reality. That's a simple confusion of cause and effect.
>
> > The bottom line is that once one strays from a rigorous mathematical
> > analysis the opportunity for philosophical argument becomes unlimited.
> > Your method is no better or worse than any other handwaving method if it
> > gives the correct (physical and observable) result.
>
> The bottom line is that one often doesn't realize that his steady-state
> shortcut does indeed stray from a rigorous mathematical analysis. If
> your analysis of a non-glare coating doesn't include the delay through
> the thin-film, it is not a rigorous mathematical analysis at all.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
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1291. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:18:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5A3A0.7000101@ieee.org>
Source record: 120192

Jim Kelley wrote:
> I've got 16 pages of hand written derivations from first principles that
> lead to Cecil's "shortcut". Cecil thinks it's a shortcut.

It's obviously a shortcut, Jim. It doesn't contain a single dt or dl.
Do you account for the round trip delay through the thin-film? No.
Do you account for any modulation on the light beam? No.
Any derivation that doesn't account for the dynamic nature of EM
waves is a shortcut. Shortcuts do NOT dictate reality. It is supposed
to be the other way around. Please furnish the differential equations
governing the behavior at the thin-film plane.
--
73, Cecil http://www.qsl.net/w5dxp

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1292. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:32:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5A6CD.3010309@ieee.org>
Source record: 120194

Gene Fuller wrote:
> Of course we are talking about steady state conditions. Nothing in your
> analysis or any part of this endless set of threads deals with
> transients at all.

An EM system is a dynamic system. Nothing stops moving. The average
idea of steady-state conditions is just a simplified snapshot in time.
Nothing actually stops. One simply cannot stop the net reflections from a
thin-film surface without superposing two continuous steady-state out-of-phase
reflected waves. The two reflected waves do not slow down or stop or disappear
during steady-state. They keep existing and dynamically changing phase all the
while. Drawing an arrow on a sheet of paper doesn't have any effect on them.
Posting an equation to a newsgroup doesn't have any effect on them.
--
73, Cecil http://www.qsl.net/w5dxp

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1293. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:39:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5A897.6030501@ieee.org>
Source record: 120195

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>But the Melles-Griot web page says it has been confirmed experimentally.
>
> Again you confuse the end result with the mechanism which caused it.
> The result does not prove any assertion one might make as to how that
> result is obtained.

Ah, but it does beg for an explanation. What's the explanation?
--
73, Cecil http://www.qsl.net/w5dxp

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1294. Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:42:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b849gbals1@titan.btinternet.com>
Source record: 120196

NEW PROGRAM now available.

Analysis of 1/2-wave resonant Inverted-V and dipole antennas with either coaxial or balanced-twin feelines.

Includes all the geometry/trigonometry to ensure it will fit into your back yard.

Download program INV_VEE.exe from website below.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

1295. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 20:57:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA5ACB2.82CEAF23@uci.edu>
Source record: 120197

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>But the Melles-Griot web page says it has been confirmed experimentally.
> >
> > Again you confuse the end result with the mechanism which caused it.
> > The result does not prove any assertion one might make as to how that
> > result is obtained.
>
> Ah, but it does beg for an explanation.

Sure. But you are the one who has undertaken that task, not me. As you know I've always felt you were making a leap of faith on this issue. It didn't come out in the wash, Cecil. No support for waves reversing themselves due to interference. Your conservation of energy analysis is obviously still valid. Just not the mechanism you attribute it to. You're better off to leave speculation out of your paper. That's my advice.

ac6xg

1296. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:35:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA5B58C.4F770936@uci.edu>
Source record: 120202

OC_CAM's Razor wrote:
> Nothing actually stops. One simply cannot stop the net reflections from a
> thin-film surface without superposing two continuous steady-state out-of-phase
> reflected waves. The two reflected waves do not slow down or stop or disappear
> during steady-state.

They do in the reflected direction. Zero net field in the relfected
direction. Once the conditions are established, nothing reflects except
that which is not phase cancelled.

> They keep existing and dynamically changing phase all the
> while.

And cancelling in the reverse direction at every instant.

>Drawing an arrow on a sheet of paper doesn't have any effect on them.

These reflected waves really only exist as arrows on a sheet of paper.

> Posting an equation to a newsgroup doesn't have any effect on them.

Read: They must exist - even in defiance of mathematics to the
contrary!!

ac6xg

1297. SWAP: ATB-34 (Cushcraft) for 6 Mtr Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:41:33 UTC
From: Richard Solomon <w1ksz@tiac.net>
Message-ID: <jndbavkf6t3gor3tunl8v6nfpg6baveo3e@4ax.com>
Source record: 120198

I have a Cushcraft ATB-34 Tri-Bander sitting on the deck.
I'll swap it even for a 6 Meter Beam, 4 - 6 el.
Local deal wanted, I am in Lexington, MA.

73, Dick, W1KSZ

1298. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:48:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sndbavcob9nvun1bhoib4lseibehg9tigh@4ax.com>
Source record: 120199

On Tue, 22 Apr 2003 13:57:22 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

> Your conservation of energy analysis is
>obviously still valid. Just not the mechanism you attribute it to.

Hi Jim,

To quote Feynman
"...[conservation of energy] there is a numerical quantity
which does not change when something happens.
It is not a description of a mechanism or anything
concrete; it is just a strange fact that we can
calculate some number and when we finish
watching nature go through here tricks and
calculate the number again, it is the same."

73's
Richard Clark, KB7QHC

1299. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:54:05 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <1Sipa.37448$4P1.3383093@newsread2.prod.itd.earthlink.net>
Source record: 120200

Hello M3 -

I have three good multi-band systems in a space similar to yours.
Tried to email you about it, but your address was reported invalid.
Drop me a line if you're interested (Take the REMOVE out of my
address if/when replying.)

Ed, W6LOL

"M3***" <happyraveruk@yahoo.com> wrote in message
news:b83drt$5t7lf$1@ID-155271.news.dfncis.de...
> Having trouble finding info on setting up the above antenna.
> I have very limited space (12m x 6m) and don't want too many antennas up..
> Currently I have just a single di-pole tuned for 20m.
> Is it possible to add more 'legs' for other bands, I'd like to get onto 40
> and 15. Can I just add more legs tuned to the correct frequency, or will
it
> upset the balance ?
>
> Cheers for any input.
>
>
>

1300. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:57:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA5BADB.A388BD77@uci.edu>
Source record: 120203

OC_CAM's Razor wrote:
> Please furnish the differential equations
> governing the behavior at the thin-film plane.

I've tried to furnish you with equations that support the notion
you're promoting. You know that. Unfortunately, as it turns out they
do not exist. There is nothing in the nature of waves which supports
the notion that their direction of propagation can be reversed by
anything other than reflection from a physical boundary. The equation I
gave you describes the boundary conditions for the antireflective
coatings at the Melles-Griot site. It's the same basic equation they
use to design their products.

ac6xg

1301. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 21:57:53 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3EA5BADF.8446F4C6@att.net>
Source record: 120201

Reg Edwards wrote:

> > Has anyone had any experience with the Barker & Williamson broadband
> folded
> > dipole antenna?
> ============================
>
> I've had no experience. But I believe the no-tuner claim. If, relative to
> a dipole, it was claimed there's half an S-unit loss at 29 MHz and 4 S-units
> loss at 1.9 MHz, then I'd believe that too.
>
> If the designers were VERY clever it could be arranged for the feedline to
> take over after the dipole had given up the ghost. Patent Pending ?
> -

Aw comeon, Reg, you make it sound as tho the feedline does the radiating, and
that's not so on the B&W.

But if I had to choose an antenna to use most effectively from Haiti it
wouldn't
be a B&W TTFD.

1302. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 22:30:24 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA5C27D.57799D2E@att.net>
Source record: 120204

Oh puleeez,

Steady state is not the same as totally static. If you want to argue
using that line of nonsense then I will declare you the winner by
default.

Bye.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > Of course we are talking about steady state conditions. Nothing in your
> > analysis or any part of this endless set of threads deals with
> > transients at all.
>
> An EM system is a dynamic system. Nothing stops moving. The average
> idea of steady-state conditions is just a simplified snapshot in time.
> Nothing actually stops. One simply cannot stop the net reflections from a
> thin-film surface without superposing two continuous steady-state out-of-phase
> reflected waves. The two reflected waves do not slow down or stop or disappear
> during steady-state. They keep existing and dynamically changing phase all the
> while. Drawing an arrow on a sheet of paper doesn't have any effect on them.
> Posting an equation to a newsgroup doesn't have any effect on them.
> --
> 73, Cecil http://www.qsl.net/w5dxp

1303. Re: Questions From A Re-Tread

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 23:30:48 UTC
From: Tim Richardson <ter@bellsouth.net>
Message-ID: <mmjbavc8lhn00t7c76vsgj0eq4pp4j2bim@4ax.com>
Source record: 120205

On Tue, 22 Apr 2003 01:52:24 GMT, "Greg Queen" <gqueen@sbcglobal.net>
wrote:

>3) Another antenna under consideration is a folded dipole
> (the 65 or 90-foot version from B&W) along the back
> fence (basically an east-west run). The end-points
> would be 20-feet (possibly 25-feet) above ground with
> normal droop to the middle.

Greg,

Have you considered a dipole (as long as you can make it) fed with 450
ohm balanced line to a Trans Match in the shack? I would bet you could
get better performance from that than the B&W folded dipole. I am
using such an antenna with great success.

I would recommend the book 'Lew McCoy on Antennas' by Lew McCoy W1ICP.
It has some great practical information in it and very little antenna
theory. The book goes into great detail about wire antennas,
verticals, baluns, grounds, etc. He even show some easy ways to bring
open line into the shack. Good reading.

Tim W4IOU

1304. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-22 23:42:28 UTC
From: Ryan Stapleton <ryans_linux@yahoo.com>
Message-ID: <Erkpa.37578$4P1.3396438@newsread2.prod.itd.earthlink.net>
Source record: 120206

> UHF signals are often blocked by obstructions which prevent a
> line-of-sight path. The wavelength at Channel 50 is only about 44 cm. It
> does not take a large structure to block such a short wavelength.

> from Arnold B. Bailey`s diamond shaped rhombic antenna in "TV and Other
> Receiving antennas". Bailey`s rhombic is designed for 200 MHz. But, at
> 689 MHz, dimensions are only 0,29X Bailey`s lengths.

I will have to look for the book and try to build one. I guess this is
now a challenge for me. I am not sure if the antenna will help or not
as the signal I can get with some rabbit ears with the loop I get
good sound with some color and movement.

I also found a little mini beam from zenith that is for HDTV/UHF that
I thought about as well, but again concerned about the results.

Thank you for all your help.

-Ryan
KA3WUT

1305. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 00:00:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5D79A.4050604@ieee.org>
Source record: 120207

Jim Kelley wrote:
> No support for waves reversing themselves due to interference.

From the Melles-Griot web page:
"Clearly, if the wavelength of the incident light and the thickness of the film are such that a phase difference exists between reflections of p, then [the two] reflected wavefronts interfere destructively, and overall reflected intensity is a minimum. In the absence of absorption or scatter, the principle of conservation of energy indicates all "lost" reflected intensity will appear as enhanced intensity in the transmitted beam."

[Two] reflected wavefronts interfere destructively which results in all reflected intensity appearing as enhanced intensity in the transmitted beam. I wouldn't call that "no support". The energy components associated with the two canceled waves will flow in the only other direction available.
--
73, Cecil http://www.qsl.net/w5dxp

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1306. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 00:09:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5D9C7.1080109@ieee.org>
Source record: 120208

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>Posting an equation to a newsgroup doesn't have any effect on them.
>
> Read: They must exist - even in defiance of mathematics to the
> contrary!!

:-) It is the math model that requires their existence. Exactly
how does the reflected energy from the load get turned around if
there is no other wave with which it is engaged in destructive
interference?
--
73, Cecil http://www.qsl.net/w5dxp

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1307. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 00:34:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5DF85.9010405@ieee.org>
Source record: 120209

Jim Kelley wrote:
> There is nothing in the nature of waves which supports
> the notion that their direction of propagation can be reversed by
> anything other than reflection from a physical boundary.

And I have said nothing to disagree with that statement. There is reflection#1 from a physical boundary. There is reflection#2 from a different physical boundary. These two reflections arrive at a point with equal magnitudes and opposite phases. The two reflections cancel and their combined energy components change direction. The direction of propagation is reversed by destructive interference between two reflections. It all happens at a physical boundary. That satisfies your statement above.
--
73, Cecil http://www.qsl.net/w5dxp

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1308. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 00:44:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA5E200.6060809@ieee.org>
Source record: 120210

Gene Fuller wrote:
> Steady state is not the same as totally static.

Why are you repeating what I said?
--
73, Cecil http://www.qsl.net/w5dxp

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1309. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 01:11:18 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3EA5E832.633EC4D3@att.net>
Source record: 120211

M3*** wrote:

> Without an ATU btw.
>

Yes, for the limited portion of the band where SWR is low enough to use. For complete band coverage, use an ATU.

>
> "M3***" <happyraveruk@yahoo.com> wrote in message
> news:b83drt$5t7lf$1@ID-155271.news.dfncis.de...
> > Having trouble finding info on setting up the above antenna.
> > I have very limited space (12m x 6m) and don't want too many antennas up..
> > Currently I have just a single di-pole tuned for 20m.
> > Is it possible to add more 'legs' for other bands, I'd like to get onto 40
> > and 15. Can I just add more legs tuned to the correct frequency, or will
> it
> > upset the balance ?
> >
> > Cheers for any input.
> >
> >
> >

1310. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 02:04:42 UTC
From: Michael Grenier <mwgrenier@yahoo.com>
Message-ID: <vabt5s4nd0u2d1@corp.supernews.com>
Source record: 120212

Thanks guys for all of the answers.

I think the information at
http://www.cebik.com/jp4.html
was really remarkable and tends to reinforce the idea
that the stacked (colinear) 1/2 wave is better than the
colinear 5/8 wave in a J-pole configuration.

Note that in a normal ground plan vertical, the 5/8
wave has a little better horitzonal gain as
discussed at http://www.cebik.com/58-1.html

I can't really agrue with the antenna modelling
software.

-Mike KC0IOC

Michael Grenier wrote:
> dumb question time...
>
> For a stacked antenna, which is better (has higher gain)?
> A stacked 5/8 wave or a stacked dipole (1/2 wave)?
>
> See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
> and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html
>
> It seems like the extra 1/8 wave of a 5/8 would be
> the wrong polarity so I don't understand why they
> claim higher gain. Yet companies like Cushcraft use
> stacked 5/8 wave designs - see the Ringo Ranger II
> http://www.cushcraft.com/amateur/details.asp?catid=76
>
> What am I missing?
>
> -Mike KC0IOC
> mwgrenier@yahoo.com
>

1311. Re: 5/8 vs dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 02:06:46 UTC
From: Michael Grenier <mwgrenier@yahoo.com>
Message-ID: <vabt9n65r5qf2a@corp.supernews.com>
Source record: 120213

I agree based on the a simple ground plane model.

However, a 5/8 wave J-pole doesn't seem to
show the same thing.

See http://www.cebik.com/jp4.html

-Mike

Dale Parfitt wrote:
>
> Michael Grenier wrote:
>
>
>>dumb question time...
>>
>>For a stacked antenna, which is better (has higher gain)?
>>A stacked 5/8 wave or a stacked dipole (1/2 wave)?
>>
>>See http://hamgate1.sunyerie.edu/races/antenna/5-8thx2j.jpg
>>and http://www.nemr.net/~aschmitz/antennas/jpolecalc.html
>>
>
>
> It is exactly the 1/8 wave poortion of the antenna that results in
> increased gain- by modifying the radiation pattern.
> The added gain of 2 stacked 5/8 over 2 stacked 1/2 waves is perhaps best
> seen by looking at how far apart the current maxima are in each section.
> The ARRL Antenna Handbook shows a graph of colinear gain of 3 elements
> vs center to center spacing.
>
> Dale W4OP
>

1312. Re: SWAP: ATB-34 (Cushcraft) for 6 Mtr Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 02:21:06 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EA5F87C.8050905@attbi.com>
Source record: 120214

Ah Ha!! Looking for DXCC on 6 metros!!!

W1MCE

Richard Solomon wrote:
> I have a Cushcraft ATB-34 Tri-Bander sitting on the deck.
> I'll swap it even for a 6 Meter Beam, 4 - 6 el.
> Local deal wanted, I am in Lexington, MA.
>
> 73, Dick, W1KSZ

1313. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 02:49:02 UTC
From: Heck <heck@zoominternet.net>
Message-ID: <3ea60066$1_5@corp.newsgroups.com>
Source record: 120215

Thanks to everyone that responded to my post. I will trim the antenna to try
to improve the tuning after the weather improves here. The days of working
on antennas in cold, rainy weather are over for me :)
I basically asked about it to see if any other owner of the IMAX 2000 had
successfully made the adjustment using the tuning rings.

Thanks again.

Ed, WB3LKO

"Heck" <heck@zoominternet.net> wrote in message
news:3ea34cf5$1_1@corp.newsgroups.com...
> I just purchased an IMAX 2000 vertical for 10 meters. It has rings at the
> base for adjusting the SWR. It comes factory tuned for the CB band and it
> is...flat on the CB band. But I tried to tune it for 28.500 and the best
SWR
> reading I could get is 1.8 and it goes higher as I go up in frequency. I
had
> to turn the adjusting rings all the way to the top to get it this good.
>
> I was wondering if anyone else had this problem...that is if anyone else
has
> one :)
>
> I've seen a many good reports on this antenna.
>
> Thanks, Ed, WB3LKO
>
>
>
>
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1314. Re: Questions From A Re-Tread

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 04:50:51 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <LYopa.37977$4P1.3437368@newsread2.prod.itd.earthlink.net>
Source record: 120216

Hi Greg -

I was in a similar situation a couple of years ago, including
the second floor shack. Got everything working very well.

I was going to respond with some comments, but your email
address is NG. Send me a message to my email, if you're
interested in my (relevant) experiences and comments.
(Take out the obvious word in MY address if/when you write.)

Ed, W6LOL

"Greg Queen" <gqueen@sbcglobal.net> wrote in message
news:sf1pa.487$5S.34398302@newssvr21.news.prodigy.com...
> I recently retired and I am about to re-license after a
> 20-year absence from amateur radio. I will re-license as an
> Amateur Extra class operator. The hobby has changed a lot
> since I was last involved. With all the changes, I want to
> get back on the air at a modest cost and then see where I
> want to go in the endeavor. After I blow out the dust and
> clean it up, I will use my 20-year old Yaesu FT901DM as the
> "starter" rig.
>
> The shack will be on the second story of the home.
>
> I have a metal roof. Not sheets of metal. It is metal
> shingles formed and coated to resemble tile, and applied
> much like a composition (asphalt/fiberglass shingles) roof.
> I do not believe the coating is electrically conductive. I
> would not think there was a good electrical bond (either DC
> or RF) between the individual shingles. Viewed from the
> top, this is 1300 square feet of overlapping coated metal.
>
> I am wrestling with decisions regarding the antenna,
> grounding, and effects of my roof and would appreciate
> comment and advice on the following.
>
> 1) I have a 10' ground rod (installed 20-years ago) that
> is about 30-feet (as the copper runs) from the shack.
> There is very little I can do shorten this length with
> the shack's location on the second floor. I am not
> worried from an electrical safety point of view but
> from an rf-ground point of view, I suspect this
> arrangement approaches uselessness. I have seen some
> "ground tuners" that (if I read the material correctly)

> can be used to establish a good rf-ground in the shack.
> Is there value to these? Should I consider them?
>
> 2) The roof has joints (shingle-to-shingle) contact.
> These joints, or at least some of them, may be
> conductive. If the roof is exposed to an RF field
> (i.e., the transmit power) could it become a source of
> RFI? The mechanism that worries me (maybe I am just
> paranoid) is that the joints will act as non-linear
> junctions and generate harmonics and such which are
> then radiated. That is with a perfectly clean waveform
> at the end of the coax, would/could the roof generate
> RFI?
>
> 2) Previously I used a 10m --> 40m trap vertical (Hy-Gain
> 14AV, I think) mounted on the peak of the roof with the
> radials spread across the roof (one of the 40-meter
> radials was "bent" to accommodate the roof dimensions).
> The antenna was removed, and discarded, years ago
> during a re-roofing operation. Though antenna worked
> quite well, I had some pretty strong RF-fields in the
> house when I was transmitting (gauging from what it
> would do to audio equipment). I could "hear" as well
> as anyone in the area. One of the current antenna
> options under considerations is a multi-band vertical.
> This time I would go for one with a "counter-poise" as
> opposed to a radial system (smaller footprint) and
> mount it on a pipe extending upward from a wall at the
> corner of the house. If I go this route, the base of
> the antenna would be about 8' above the roof (the
> pitch of the roof would cause the longest elements of
> the counterpoise to not have as much roof clearance).
> Any thoughts or comments on this antenna approach?
>
> 3) Another antenna under consideration is a folded dipole
> (the 65 or 90-foot version from B&W) along the back
> fence (basically an east-west run). The end-points
> would be 20-feet (possibly 25-feet) above ground with
> normal droop to the middle. Given all the conditions,
> the feed line may actually slant upwards (to a gable
> vent in the house) for entry to the shack. From the
> characteristics of a dipole, I would expect reasonably
> omni-directional performance on the lower bands (due to
> physical ground proximity) and bi-directional
> (north-south) performance on the higher bands. I am
> aware of the loss issues (swamping resistor) and for
> the multi-band convenience would live with the 3-db or
> so penalty. Any thoughts or comments on this antenna
> approach.
>

>
> Thanks in advance for you time, advise, and comments.
>
> Greg Queen
> GregQueen@cal.berkeley.edu
>
>
>

1315. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 05:06:27 UTC
From: tdonaly@aol.com
Message-ID: <20030423010627.04297.00000033@mb-m13.aol.com>
Source record: 120217

Richard Clark wrote,
>
>On Tue, 22 Apr 2003 13:57:22 -0700, Jim Kelley <jwkelley@uci.edu>
>wrote:
>
>> Your conservation of energy analysis is
>>obviously still valid. Just not the mechanism you attribute it to.
>
>Hi Jim,
>
>To quote Feynman
> "...[conservation of energy] there is a numerical quantity
> which does not change when something happens.
> It is not a description of a mechanism or anything
> concrete; it is just a strange fact that we can
> calculate some number and when we finish
> watching nature go through here tricks and
> calculate the number again, it is the same."
>
>73's
>Richard Clark, KB7QHC
>

Hi Richard,
in his book _Quantum Theory_ by David Bohm is the following
statement
about energy:
"We may ask why energy plays a more important role in
mechanics than is
played by other functions, such as mv^2 or arc sinh(mv).
The reason is that
the total energy of any isolated system is conserved,
whereas, in general, no
such conservation laws can be found for most other
functions. This fact
suggests that energy corresponds to a real attribute of
matter. Nevertheless,
it would be wrong to think of it as a substance which is
added to matter, like sugar to
water, because energy, as such is never found in isolated
form. Instead, it is
better to retain the concept that energy is a potential
ability of some
system (such as matter or the electromagnetic field) to

do work. This
potential ability can be transferred to other systems in
the process of
interaction, but the total quantity never changes."
73,
Tom Donaly

1316. Sommer Antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 05:24:05 UTC
From: Grant Killey <gkilley@SePaArMtBhLlOiCnKk.net>
Message-ID: <3EA623E4.7080506@SePaArMtBhLlOiCnKk.net>
Source record: 120218

I'm leaning toward getting a Sommer XP508 antenna. They seem to be very well built and since I live in a high wind area this is VERY important to me. Does anyone have one and would you care to comment on them?

I'm also curious if the 30m/40m and 6m kits are worth getting. Do to covenants I'm limited to 35' so I am real fighting the laws of physics trying to get a good multiband beam on the air and anything with a turing radius beyond 20' would extend outside of my yard.

Thanks in advance for the input.
Grant - W0GSK

1317. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 06:36:54 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304222236.5b5ecdd6@posting.google.com>
Source record: 120119

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA59B92.7000005@ieee.org>...
> >>
> > I'm not sure if this is saying that if you shine two beams of
> > light (both polarized) in one direction, of the same frequency, that
> > if you change the phase between the two, that you will somehow be able
> > to reverse the direction of the waves, due to interference alone.
>
> That's exactly what it says and it has been proven experimentally. Getting
> the two beams of light to be coherent and collinear is a physical problem.
> I don't know that it is possible to do using two separate sources. But that
> is exactly how non-glare glass works. Two separate reflections of the same
> light beam, displaced in time, are superposed to zero and the energy in
> the canceled waves reverses direction and joins the forward wave energy.
> That's also what happens at a Z0-match point in a transmission line.
>

I have agreed with you in the previous example that the two
reflected waves are 180 deg. out of phase, and so the net reflected
wave is 0.

But i'm finding it hard to visualize how you can reverse the
direction. Do you think it's possible to shine two lasers in one
direction, and adjust the phase shift between them, so that at some
point, the combined beam will be in the opposite direction?

Slick
> Note that the wave cancellation can only be done at a physical index of
> refraction discontinuity plane, i.e. at the origin of one of the reflected
> waves. One reflected wavefront exists only for a dt of time before it is
> canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.

1318. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 07:07:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8hecav4mspqgsninjna7qnu31dlqbbngc7@4ax.com>
Source record: 120120

From sheer baloney

>> Note that the wave cancellation can only be done at a physical index of
>> refraction discontinuity plane, i.e. at the origin of one of the reflected
>> waves. One reflected wavefront exists only for a dt of time before it is
>> canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.

To a demand to tap dance on water (consistent with the apocalyptic
claims above):

> Do you think it's possible to shine two lasers in one
>direction, and adjust the phase shift between them, so that at some
>point, the combined beam will be in the opposite direction?
>

It's been fun watching the recruitment.

73's
Richard Clark, KB7QHC

1319. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 10:43:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b85qnt$86n$1@titan.btinternet.com>
Source record: 120121

Another interesting little fact -

Very approximately -

Double the overall dimensions of a coil and coil Q doubles.

Example - double the length and diameter of a solenoid coil former and Q doubles.

This assumes all losses are due to wire skin resistance.

Ultimately, as coil size increases, coupling to adjacent objects, radiation loss and an increase in coil self-capacitance limit the increase in Q.

Doubling coil dimensions also doubles self-capacitance.

Should radio handbooks include a note to this effect?

1320. Which Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 11:46:01 UTC
From: Ameritech <hilbish@ameritech.net>
Message-ID: <Z1vpa.2766$%_3.2181823@newssrv26.news.prodigy.com>
Source record: 120122

All,

I am looking for a good base station antenna to cover 6M /2M / 222MHz/ 444MHz. The dilema is that I live in a golf course community with very specific guide lines for homes.

So while transmission quality and reception is important, the ability to mount is also very critial. I would like a single antenna that would cover those bands but am willing to use 2 if necessary.

Size / mounting is probably the key issue here. Can anyone recommend anything. ?

dhilbish@invosys.com

1321. Antenna Coax Impedance Mis-Matches (for receiving antennas) Quest. ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 12:05:19 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b85vi3ghn1@slb1.atl.mindspring.net>
Source record: 120123

Hello:

Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving 30 MHz to 1.3 GHz.

This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to 75 ohm Balun, apparently).

Of course, my receiver only has a 50 ohm input for this range. (always something)
Let me ask my question two ways for clarity:

a. I already have a 50 ohm coax run from my attic (replacing a R/S Discone) to my receiver input which I
would like to utilize again, if practical.

Can someone please describe the effects of this mis-match, if I just plug the new 75 ohm antenna into this 50 ohm cable?
(about a 50 ft run) I do listening only)

b. If I do go to the trouble of running a new 75 ohm coax line from the new antenna to my receiver, what are the effects of using
this to the 50 ohm receiver input ? "Meaningful losses" ?

What's the best approach for me?

As always, much thanks for help,
Bob

1322. fm antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 12:13:57 UTC
From: chris4 <ccronin@vic.australis.com.au>
Message-ID: <dsvpa.263$J35.9215@nnrp1.ozemail.com.au>
Source record: 120124

looking for diy plans for wireloop type FM antenna to sit inside roof in
medium reception area

--

Regards
Christopher Cronin
ccronin4au@hotmail.com

1323. Re: Antenna Coax Impedance Mis-Matches (for receiving antennas) Quest. ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 12:41:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b861mggrd1@titan.btinternet.com>
Source record: 120125

Pluck up courage, connect your existing 50-ohm cable and see what happens.

==========

> Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving
30
> MHz to 1.3 GHz.
>
> This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to
> 75 ohm Balun, apparently).
>
> Of course, my receiver only has a 50 ohm input for this range. (always
> something)
> Let me ask my question two ways for clarity:
>
> a. I already have a 50 ohm coax run from my attic (replacing a R/S
Discone)
> to my receiver input which I
> would like to utilize again, if practical.
>
> Can someone please describe the effects of this mis-match, if I just
> plug the new 75 ohm antenna into this 50 ohm cable?
> (about a 50 ft run) I do listening only)
>
> b. If I do go to the trouble of running a new 75 ohm coax line from the
new
> antenna to my receiver, what are the effects of using
> this to the 50 ohm receiver input ? "Meaningful losses" ?
>
> What's the best approach for me?
>
> As always, much thanks for help,
> Bob
>

1324. Re: Sommer Antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 12:45:24 UTC
From: Greg Ordy <ordy@seed-solutions.com>
Message-ID: <b861sqpse1@slb2.atl.mindspring.net>
Source record: 120126

Hi Grant,

I tried to reply directly to you via email, but your address appears to be "adjusted", perhaps to remove spam. If you are willing to send me your address, I'll resend my message directly to you.

Greg Ordy, W8WWV

1325. Re: Which Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 12:47:50 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EA68B76.1050101@tampabay.rr.com>
Source record: 120127

look in QST there is a company that makes a log periodic antenna and it
looks like a TV antenna and it covers 50mhz-1300mhz
where you mount it is up to you but performance on any antenna will be
limited if put inside
good luck

Ameritech wrote:
> All,
>
> I am looking for a good base station antenna to cover 6M /2M / 222MHz/
> 444MHz. The dilema is that I live in a golf course community with very
> specific guide lines for homes.
>
> So while transmission quality and reception is important, the ability to
> mount is also very critial. I would like a single antenna that would cover
> those bands but am willing to use 2 if necessary.
>
> Size / mounting is probably the key issue here. Can anyone recommend
> anything. ?
>
> dhilbish@invosys.com
>
>

1326. 160 Inverted L on 80m too?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 13:09:08 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b8639l$6pnrd$1@ID-52642.news.dfncis.de>
Source record: 120128

I have a lanyard extended out about 5' from my HDBX-48 tower to support another wire antenna. The opposite side of the lanyard has a 40m inverted vee on it, which works quite nicely.

I was thinking if I use the free end as a support, I could hang a 160 m inverted L, (a single wire fed against ground about 135' long) from this cross arm. It would be vertical for about 45' and horizontal about 90. This gives the quarter wave on 160. It would seem I could use this same arrangement as a bottom fed 1/2 wave for 80m, and switch the between the two for 160/80m operation from the same wire.

What is the simplest matching network I could use at the bottom of the 135' wire for 80m? I know I could use a tapped coil/cap combo that is a common way to fed the half-square. That involves a coil with a coax section as the capacitor (to make the capacitor easy), and tapping up from the bottom to get the 50 ohm match.

Is there an easier way to do the matching than the tapped coil/cap arrangement?

Since both antennas would show a 50 ohm match, a simple relay to connect the coax to either the wire directly (160m) or the matching network (80m), would make a nice dual band antenna. Suggestions?

(I do realize I will need a nice radial system at the feedpoint.)

--
hasan schiers, N0AN
schiers@netins.net

1327. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 13:17:10 UTC
From: Al <aburzynski@swri.nojunk.edu>
Message-ID: <vad4in4ddjnd8c@corp.supernews.com>
Source record: 120129

Reg, if I am reading this correctly then can I conclude that if I change my toroid from a T50-2 to a T68-2, reduce the number of turns accordingly, then my Q will increase? Is there a formula that I can apply here? Is the Q increase proportional to the diameter or the mass of the core substance? Thank you.

Al
KA5JGV

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:b85qnt$86n$1@titan.btinternet.com...
> Another interesting little fact -
> Very approximately -
> Double the overall dimensions of a coil and coil Q doubles.
> Example - double the length and diameter of a solenoid coil former and Q
> doubles.
> This assumes all losses are due to wire skin resistance.
> Ultimately, as coil size increases, coupling to adjacent objects,
radiation
> loss and an increase in coil self-capacitance limit the increase in Q.
> Doubling coil dimensions also doubles self-capacitance.
> Should radio handbooks include a note to this effect?

1328. Re: GAP Titan-DX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 13:36:31 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <ce5dav8usssh9vgsh5361atnp2b1qmetef@4ax.com>
Source record: 120130

On 21 Apr 2003 23:14:28 GMT, k9sqg@aol.com (K9SQG) wrote:

>Jim,
>
>It is hard to make a small antenna perform as well as a larger one, unless
>somebody has found a way to repeal the laws of physics. The shorter the
>antenna the lower the efficiency and the narrower the bandwidth. I know of no
>way to change that relationship.
>
>73s,
>
>Evan

A quarter wave vertical for 80 meters would be about 60 feet high. The
Gap Titan is only 25 feet. And from what I read it requires "no
radials" when a good vertical probably needs a couple dozen, for
starters.

Bob
k5qwg

1329. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 13:50:52 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030423095052.18984.00000605@mb-m17.aol.com>
Source record: 120131

If you're going to trim the antenna, I'd advise you replace the top element with a 102" whip and trim that instead of the fiberglass. It will work just as well and you'll still have the antenna in it's original form in case you ever need it.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

1330. Re: 160 Inverted L on 80m too?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 14:06:33 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <ob7davcgihob3rui5tlif2idofubrjj4g5@4ax.com>
Source record: 120132

On Wed, 23 Apr 2003 08:09:08 -0500, "hasan schiers"
<schiers@netins.net> wrote:

|I have a lanyard extended out about 5' from my HDBX-48 tower to support
|another wire antenna. The opposite side of the lanyard has a 40m inverted
|vee on it, which works quite nicely.
|
|I was thinking if I use the free end as a support, I could hang a 160 m
|inverted L, (a single wire fed against ground about 135' long) from this
|cross arm. It would be vertical for about 45' and horizontal about 90. This
|gives the quarter wave on 160. It would seem I could use this same
|arrangement as a bottom fed 1/2 wave for 80m, and switch the between the two
|for 160/80m operation from the same wire.
|
|What is the simplest matching network I could use at the bottom of the 135'
|wire for 80m? I know I could use a tapped coil/cap combo that is a common
|way to fed the half-square. That involves a coil with a coax section as the
|capacitor (to make the capacitor easy), and tapping up from the bottom to
|get the 50 ohm match.
|
|Is there an easier way to do the matching than the tapped coil/cap
|arrangement?
|
|Since both antennas would show a 50 ohm match, a simple relay to connect the
|coax to either the wire directly (160m) or the matching network (80m), would
|make a nice dual band antenna. Suggestions?

I suggest you do some modeling, including the tower in the model. I
think you're going to be disappointed.

1331. use of 1/4L GP for weather-sat reception (137 MHz) ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 14:26:37 UTC
From: peter_dingemans@hotmail.com
Message-ID: <195e9be4.0304230626.7645cb0d@posting.google.com>
Source record: 120133

G'day everyone,

I've recently found out that with my scanner (plus 'standard' TV aerial on the roof) I can receive the NOAA/METEOR WX-satellites! Great joy; about 7 years ago I started building a receiver (which is 'almost' finished for about 6 years now...) for the 137 MHz weatherband. The scanner (ICOM IC-R10) works reasonably though. Bandwidth is too small, esp. for IR-images, but still, not bad pictures from 'off the shelf' consumer equipment!

Anyway, now I'm planning on building a proper aerial. I know I should make a circularly polarised antenna (Turnstile, I don't fancy making one of those helixes....), but, as a shortcut, would a 1/4L GP work? Like described in the ARRL-handbook, with a SO-239 connector, if you get my drift?

I know I'd loose some signal (3dB, if I'm correctly informed, for using a linearly polarised antenna on a circularly polarised signal), but still, it can't be much worse than the 40+ m cheap TV-coax and wide-band TV pre-amp (Yuck!) that's now in the signal path. My guess is that a simple 1/4L GP will be enough for the high passes, but maybe also for the lower passes? I know the GP has a higher radiation-angle (more 'upwards') than a slim-jim or vertical dipole; (don't know about the turnstile).

Does anyone have any experience on the matter? If so, I'd really like to hear!

Grtz,

Peter Dingemans.
(entering the satellite-era and enjoying it)

1332. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 14:48:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6A7BC.7050906@ieee.org>
Source record: 120134

Dr. Slick wrote:
> I have agreed with you in the previous example that the two
> reflected waves are 180 deg. out of phase, and so the net reflected
> wave is 0.

Do you agree that by varying the thickness of the thin-film coating
we can vary the magnitude of the net reflected wave between minimum
and maximum values?

> But i'm finding it hard to visualize how you can reverse the
> direction.

It's Mother Nature, not I, that is doing the reversing. :-) The
direction reversal of the energy has been confirmed experimentally.
The energy in the canceled waves must go somewhere. If the net reflected
wave is zero, the energy must go in the only other direction available
and that has been confirmed experimentally.

There are only two choices of direction and we know it's not one of them
through measurements. Process of elimination. We know the following
'1' and 'N' are true so just fill in the blanks. There is an obvious
causal link between '1' and 'N'. What we are missing are the details
of the intermediate steps, if any, that are acceptable to everyone,
i.e. the rules of physics that the energy is following. It is my
opinion that the intermediate step is simply a statement of the
principle of conservation of energy since the choice of directions
is binary. Others are attempting to fill in some more steps.

1. Two reflected waves of equal magnitude and opposite phase undergo
wave cancellation such that the net energy flowing in their original
direction of travel goes to zero (as proven by experiments).

2. _____

3. _____

...

N. The energy in the two canceled reflected waves joins the forward
wave (as proven by experiments).

> Do you think it's possible to shine two lasers in one
> direction, and adjust the phase shift between them, so that at some
> point, the combined beam will be in the opposite direction?

I don't know the answer to that. It seems conceptually possible but
I just don't know if it's physically possible or not. If it is possible,
it would have to occur at some physical boundary, like a prism.

Someone suggested two laser beams orthogonal to each other that cause
both the E and H fields to go to zero at the point of intersection.
I think it is impossible to simultaneously align both E and H fields
when the two beams are orthogonal to each other.
--
73, Cecil http://www.qsl.net/w5dxp

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1333. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 14:53:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6A8FA.1030404@ieee.org>
Source record: 120135

Richard Clark wrote:
> From sheer baloney
>>>Note that the wave cancellation can only be done at a physical index of
>>>refraction discontinuity plane, i.e. at the origin of one of the reflected
>>>waves. One reflected wavefront exists only for a dt of time before it is
>>>canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.
>>
> To a demand to tap dance on water (consistent with the apocalyptic
> claims above):

Richard, your statement must be so highly technical that it is
beyond my comprehension. :-) Exactly what is it about the following
quote from the Melles-Griot web page that you don't understand?

"... the principle of conservation of energy indicates all "lost"
reflected intensity will appear as enhanced intensity in the transmitted
beam. The sum of the reflected and transmitted beam intensities is always
equal to the incident intensity. This important fact has been confirmed
experimentally."
--
73, Cecil http://www.qsl.net/w5dxp

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1334. Re: use of 1/4L GP for weather-sat reception (137 MHz) ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:00:23 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3ea6aa44$0$119$edfadb0f@dtext02.news.tele.dk>
Source record: 120136

Hello Peter

> I know I'd loose some signal (3dB, if I'm correctly informed, for
> using a linearly polarised antenna on a circularly polarised signal),
> but still, it can't be much worse than the 40+ m cheap TV-coax and
> wide-band TV pre-amp (Yuck!) that's now in the signal path. My guess
> is that a simple 1/4L GP will be enough for the high passes, but maybe
> also for the lower passes? I know the GP has a higher radiation-angle
> (more 'upwards') than a slim-jim or vertical dipole; (don't know about
> the turnstile).

The loos between a horizontal and a vertical antenna is 20 dB.
A GP does a very poor job on WX sat's. If you would have a real
good antenna, build a QFH, if that is to complicated you can go
for a Double Loop or a Turnstile. I have been trying the GP and it
is bad, the Double Loop is allright and I will try building a QFH
this summer using 8 mm. copper pipes.

Regards Max

1335. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:10:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f6bdavc4c97h8ic30ohsl8bebeb6gofmnh@4ax.com>
Source record: 120137

On Wed, 23 Apr 2003 09:53:46 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> From sheer baloney
>>>>Note that the wave cancellation can only be done at a physical index of
>>>>refraction discontinuity plane, i.e. at the origin of one of the reflected
>>>>waves. One reflected wavefront exists only for a dt of time before it is
>>>>canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.
>>>
>> To a demand to tap dance on water (consistent with the apocalyptic
>> claims above):
>
>Richard, your statement must be so highly technical that it is
>beyond my comprehension. :-)

I can live with that.

73's
Richard Clark, KB7QHC

1336. Re: use of 1/4L GP for weather-sat reception (137 MHz) ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:14:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6ADC6.9040700@ieee.org>
Source record: 120138

Max wrote:
> The loos between a horizontal and a vertical antenna is 20 dB.
> A GP does a very poor job on WX sat's. If you would have a real
> good antenna, build a QFH, if that is to complicated you can go
> for a Double Loop or a Turnstile. I have been trying the GP and it
> is bad, the Double Loop is allright and I will try building a QFH
> this summer using 8 mm. copper pipes.

Has anyone tried a 2.5WL vertical for satellite work? Most of the
radiation is at take off angles between 25 degrees and 65 degrees.
--
73, Cecil http://www.qsl.net/w5dxp

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1337. Re: use of 1/4L GP for weather-sat reception (137 MHz) ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:24:05 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3ea6afd3$0$148$edfadb0f@dtext02.news.tele.dk>
Source record: 120139

Hello Cecil

> Has anyone tried a 2.5WL vertical for satellite work? Most of the
> radiation is at take off angles between 25 degrees and 65 degrees.

Not me, they would be of no use for WX satellite, for reciving the best signal from them you must have a antenna that work's well when the satellite pass right over you'r head.

Regards Max

1338. Re: Questions From A Re-Tread

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:36:09 UTC
From: Greg Queen <gqueen@cal.berkeley.edu>
Message-ID: <Jpypa.1447$wC2.119567573@newssvr14.news.prodigy.com>
Source record: 120140

I just discovered the "from" address in my posting is invalid (configuration error in Outlook Express). I have corrected the problem and the "from" address of this posting and/or the address in my signature block will (should :) work.

Greg Queen
GregQueen@cal.berkeley.edu

1339. Re: Questions From A Re-Tread - Errata - Again

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:50:17 UTC
From: Greg Queen <GregQueen@cal.berkeley.edu>
Message-ID: <ZCypa.799$Dn.61417611@newssvr21.news.prodigy.com>
Source record: 120143

This is getting embarressing.

Now I have the addresses correct. The "reply" address in my first errata
was bogus; the address in the signature line was good. I have now corrected
things.

Greg Queen
GregQueen@cal.berkeley.edu

1340. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:50:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b86ca4cs1@news.service.uci.edu>
Source record: 120141

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA5D79A.4050604@ieee.org...
> [Two] reflected wavefronts interfere destructively which results in all
> reflected intensity appearing as enhanced intensity in the transmitted
> beam. I wouldn't call that "no support". The energy components associated
> with the two canceled waves will flow in the only other direction
available.

There is no support for your assertion that this description of the end
result comprises a description of the mechanism by which the end result is
achieved. See Born and Wolf, chapter 1.

1341. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 15:54:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b86chrid1@news.service.uci.edu>
Source record: 120142

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA5DF85.9010405@ieee.org...
> Jim Kelley wrote:
> > There is nothing in the nature of waves which supports
> > the notion that their direction of propagation can be reversed by
> > anything other than reflection from a physical boundary.
>
> And I have said nothing to disagree with that statement. There is
> reflection#1 from a physical boundary. There is reflection#2 from
> a different physical boundary. These two reflections arrive at a
> point with equal magnitudes and opposite phases. The two reflections
> cancel and their combined energy components change direction. The
> direction of propagation is reversed by destructive interference
> between two reflections. It all happens at a physical boundary.
> That satisfies your statement above.

Except that you left out the part where a physical boundary causes the
change in direction. In the above you claim interference causes a change in
direction. You're confuscating again.

ac6xg

1342. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 16:07:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b86d9h$11r$1@news.service.uci.edu>
Source record: 120144

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EA5D9C7.1080109@ieee.org...
> Exactly
> how does the reflected energy from the load get turned around if
> there is no other wave with which it is engaged in destructive
> interference?

Relflection, obviously. Transmission of the reflected wave back through the film is prevented by wave cancellation. See Born and Wolf, Principles of Optics, chapter 1, section 1.6.3.

1343. Re: IMAX 2000 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 16:20:28 UTC
From: Heck <heck@zoominternet.net>
Message-ID: <3ea6bec0$1_5@corp.newsgroups.com>
Source record: 120145

Thanks Andy,

Ed

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030423095052.18984.00000605@mb-m17.aol.com...
> If you're going to trim the antenna, I'd advise you replace the top
element
> with a 102" whip and trim that instead of the fiberglass. It will work
just as
> well and you'll still have the antenna in it's original form in case you
ever
> need it.
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

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1344. Re: Antenna Coax Impedance Mis-Matches (for receiving antennas) Quest. ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 16:44:51 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ComdndQdhr-fXjujXTWcpg@comcast.com>
Source record: 120146

Robert,

Forget about the SWR, it is not worth the concern. However, if your 50 ohm coax is RG58, get rid of it; gets pretty lossy above a few MHz. Good RG6 is better, and low loss 50 ohm coax like 9913 or LMR400 is a whole lot better. The 50 ohm input impedance of your receiver does not mean 50.000. Just that on a good day it will be somewhere between 25 and 100 ohms (maybe).

Here are the losses for 50 feet of coax at 1000 MHz:

RG58= 10 db
RG6 = 3.7 db
9913 = 2.2 db
LMR400=2 db

I would vote for the RG6.

Tam/WB2TT
"Robert11" <rgsrose@tiac.net> wrote in message
news:b85vi3ghn1@slb1.atl.mindspring.net...
> Hello:
>
> Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving
30
> MHz to 1.3 GHz.
>
> This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to
> 75 ohm Balun, apparently).
>
> Of course, my receiver only has a 50 ohm input for this range. (always
> something)
> Let me ask my question two ways for clarity:
>
> a. I already have a 50 ohm coax run from my attic (replacing a R/S
Discone)
> to my receiver input which I
> would like to utilize again, if practical.
>
> Can someone please describe the effects of this mis-match, if I just
> plug the new 75 ohm antenna into this 50 ohm cable?
> (about a 50 ft run) I do listening only)
>
> b. If I do go to the trouble of running a new 75 ohm coax line from the
new
> antenna to my receiver, what are the effects of using
> this to the 50 ohm receiver input ? "Meaningful losses" ?

>
> What's the best approach for me?
>
> As always, much thanks for help,
> Bob
>

1345. Re: Which Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 16:50:36 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <6sScnRyOjNbGWTujXTWcpA@comcast.com>
Source record: 120147

Do you want horizontal or vertical polarization (SSB or FM)?
If you have an all mode base, I suspect you will want horizontal on 6, and
some sort of repeater antenna on the other bands.
Tam/WB2TT

1346. Re: Attention Quad Bulders

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 17:18:09 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <lVzpa.17785$pr.3365735@twister.southeast.rr.com>
Source record: 120148

After about 5 or 6 elements you have just about squeezed all the juice out
of a quad.

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:25013-3E9EB6F2-225@storefull-2315.public.lawson.webtv.net...
> Dennis, K4OXG wrote:
> "I want to know how many elements for a 2 meter quad will fit on a 16
> foot boom---."
>
> Get an ARRL Antenna Book, or Bill Orr`s "Cubical Quads". Additional
> information you`ll need is in the books.
>
> Spacing between elements of 0.14 to 0.15 wavelength is OK. It`s not
> critical. At 2 meters, spacing between elements is around one foot.
>
> It`s obvious that a 16-foot boom can accommodate far more elements than
> are worthwhile. Get a book. It will tell you when to quit adding more
> directors, how long to make the wires, how much gain, front to back,
> etc.
>
> Someone warned about coupling with elements for other frequencies. This
> is not too serious because off-resonant wires don`t get very excited.
> There are plenty of successful multiband Quads with close spacing.
>
> Best regards, Richard Harrison, KB5WZI
>

1347. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 17:19:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA6CB26.9CA5C0BF@uci.edu>
Source record: 120153

OC_CAM's Razor wrote:
> The results of the experiments are known. The mechanism is what we are trying
> to figure out. A lack of support is not proof that I am wrong about the mechanism.

It's unwise to make claims about physical phenomenon when they are
unsupported by physical science.

> I suspect Born and Wolf, like most authors, are unconcerned about the delay through
> the thin-film.

Your suspicion is misplaced. Well, it's wrong to be blunt. Obviously.
The equations allow for any delay you wish to have. We happen to be
most interested in a delay equalling 2 times 1/4 of a wavelength. The
time of delay is simply a function of the wavelength, the thickness, and
the index of refraction. ALL OF WHICH ARE CONSIDERED IN BORN AND
WOLF!!

> According to the Melles-Griot web page, the
> reversal of direction of canceled-wave reflected energy can be inferred from
> only the conservation of energy principle and the existing boundary conditions.

You are doing that particular kind of inferring. So was I, until I
researched the background materials from which Melles-Griot is derived.

ac6xg

1348. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 17:30:30 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6CDB6.7070309@ieee.org>
Source record: 120149

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EA5D79A.4050604@ieee.org...
>
>>[Two] reflected wavefronts interfere destructively which results in all
>>reflected intensity appearing as enhanced intensity in the transmitted
>>beam. I wouldn't call that "no support". The energy components associated
>>with the two canceled waves will flow in the only other direction available.
>
> There is no support for your assertion that this description of the end
> result comprises a description of the mechanism by which the end result is
> achieved. See Born and Wolf, chapter 1.

The results of the experiments are known. The mechanism is what we are trying to figure out. A lack of support is not proof that I am wrong about the mechanism. I suspect Born and Wolf, like most authors, are unconcerned about the delay through the thin-film. If so, they are only concerned about end results, not about the actual mechanism. That is the basic problem with all my references. But the end result is dictated by reality, not vice versa. The end *result* is not the *cause* of anything except arguments on r.r.a.a.

When we can find a differential equation in Born and Wolf (or any other physics book) that accurately represents what happens at a thin-film plane, I believe we will be able to infer the actual mechanism involved (assuming no one else has ever performed that mental feat). According to the Melles-Griot web page, the reversal of direction of canceled-wave reflected energy can be inferred from only the conservation of energy principle and the existing boundary conditions.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1349. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 17:43:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6D0C0.8060104@ieee.org>
Source record: 120150

Jim Kelley wrote:
> Except that you left out the part where a physical boundary causes the
> change in direction. In the above you claim interference causes a change in
> direction. You're confuscating again.

I'm sorry, Jim. "Confuscating" is not in my dictionary. Perhaps you
meant "obfuscating"? In any case, "If A then B" and "if B then C",
equates to "if A then C". Basic rules of classical logic.

A. The two physical boundaries cause two sets of reflections.

B. The two sets of reflections engage in destructive interference such
that the two original waves are canceled in the reflected direction.

C. The energy involved in the destructive interference changes direction
and joins the forward energy wave.

A causes B and B causes C. B is the effect of cause A. C is the effect
of cause A. C is the effect of cause B. The two statements are not
mutually exclusive and are both true.
--
73, Cecil http://www.qsl.net/w5dxp

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1350. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 17:46:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA6D18B.4000006@ieee.org>
Source record: 120151

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EA5D9C7.1080109@ieee.org...
>
>>Exactly
>>how does the reflected energy from the load get turned around if
>>there is no other wave with which it is engaged in destructive
>>interference?
>
> Relflection, obviously. Transmission of the reflected wave back through the
> film is prevented by wave cancellation.

Therefore, wave cancellation causes re-reflection. I wish I had said that. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1351. Re: fm antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 18:05:13 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3ea6d597$0$119$edfadb0f@dtext02.news.tele.dk>
Source record: 120152

Hello

> looking for diy plans for wireloop type FM antenna to sit inside roof in
> medium reception area

This might be something for you

http://www.wryr.com/Antenna_instructions.pdf

Max

1352. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 18:14:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA6D7EB.15734FFD@uci.edu>
Source record: 120155

OC_CAM's Razor wrote:
> I'm sorry, Jim. "Confuscating" is not in my dictionary. Perhaps you
> meant "obfuscating"?

Yes. Mrs. Malaprops paid me a visit. :-)

> In any case, "If A then B" and "if B then C",
> equates to "if A then C". Basic rules of classical logic.

> A. The two physical boundaries cause two sets of reflections.

> B. The two sets of reflections engage in destructive interference such
> that the two original waves are canceled in the reflected direction.

Okay so far.

> C. The energy involved in the destructive interference changes direction
> and joins the forward energy wave.

C is incorrect. This is how it should read:

C. The wave comprising energy reflected from the load, re-reflects off
the boundary and constructively interferes with the wave comprising that
portion of energy from the source which, due to destructive
interference, was prevented from reflecting off the boundary.

The end result is that all of the energy from the source reaches the
load without changing directions by supernatural means. Two slightly
different ways of saying the same thing; one of which is supportable by
wave mechanics.

Quiz

What coeffient of reflectivity would be required at the boundary in
order
for all the energy involved in the constructive interference to fulfill
conservation of energy requirements?

73 de AC6XG

1353. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 18:17:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA6D8C0.AF865B1B@uci.edu>
Source record: 120156

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Relflection, obviously. Transmission of the reflected wave back through the
> > film is prevented by wave cancellation.
>
> Therefore, wave cancellation causes re-reflection.

You'll get the right answer when you stop making that logical error.
Destructive interference prevents reflection. It doesn't cause it.

1354. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 18:45:02 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304231045.41b31003@posting.google.com>
Source record: 120154

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<8hecav4mspqgsninjna7qnu31dlqbbngc7@4ax.com>...
> From sheer baloney
>
> >> Note that the wave cancellation can only be done at a physical index of
> >> refraction discontinuity plane, i.e. at the origin of one of the reflected
> >> waves. One reflected wavefront exists only for a dt of time before it is
> >> canceled. Remember that dt is the limit of delta-t as delta-t approaches zero.
>

You are correct, Richard. Just because someone doesn't make any
sense to you, DOES NOT mean that they know what they are talking
about, or are correct. So i try to never assume this.

However, Cecil has pointed out some interesting points to me, and
has changed my thinking of impedance matching networks.

I'm not agreeing with Cecil on our current topic, but he has a
track record with me so far that lends me to give him a bit of the
benefit of the doubt.
Or perhaps i can change HIS mind, and show him where HE is wrong.

You have to be patient will Cecil, because like many intelligent
people who understand a few things, he does not know how to explain or
teach things in a very clear and understandable fashion.
This was the fault of many of my college proffesors! Maybe,
you know what i mean...

So if you didn't understand our previous example, go back and
look at it again...and please ignore our posts.

>
> > Do you think it's possible to shine two lasers in one
> >direction, and adjust the phase shift between them, so that at some
> >point, the combined beam will be in the opposite direction?
> >
>
> It's been fun watching the recruitment.
>
> 73's
> Richard Clark, KB7QHC

I certainly don't believe this is possible, but i want Cecil to
answer in his own way, so i can see where his logic (or lack of) lies.

Slick

1355. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 18:51:41 UTC
From: richardharrison@webtv.net
Message-ID: <9849-3EA6E0BD-27@storefull-2311.public.lawson.webtv.net>
Source record: 120158

CAM wrote:
"But I predict, in the near future, you will support my ideas about what happens at the match point in a transmission line."

If there is something new, I still don`t get it.

Waves course through each other with no reaction. In-phase waves, traveling in the same direction, merge without a trace. They are commingled. In fact, they don`t have to be in-phase. Two waves of the same frequency, traveling in the same direction, are merged. Waves encountering a discontinuity are reflected, under most conditions, on a scale of zero to one, depending upon the severity of the impedance bump. Waves traveling in opposite directions, even if of the same frequency, produce a continuously varying phase relationship.

Cecil chose to talk about his "distructive interference doctrine" (DID?) in this thread about the Yagi, but "Where`s the beef ?". Any new scrap of evidence?

Best regards, Richard Harrison, KB5WZI

1356. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 19:13:29 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304231113.473707b7@posting.google.com>
Source record: 120157

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA6A7BC.7050906@ieee.org>...
> Dr. Slick wrote:
> > I have agreed with you in the previous example that the two
> > reflected waves are 180 deg. out of phase, and so the net reflected
> > wave is 0.
>
> Do you agree that by varying the thickness of the thin-film coating
> we can vary the magnitude of the net reflected wave between minimum
> and maximum values?
>

As i understand your statement, yes, besause this would be akin to
varying the electrical length of the 1/4 wave matching coax in our
previous example, which would certainly control the resulting
reflections.

>
> > Do you think it's possible to shine two lasers in one
> > direction, and adjust the phase shift between them, so that at some
> > point, the combined beam will be in the opposite direction?
>
> I don't know the answer to that. It seems conceptually possible but
> I just don't know if it's physically possible or not. If it is possible,
> it would have to occur at some physical boundary, like a prism.
>

But in essence, this is what you are suggesting is possible!

I don't think you can do this, and i am in agreement with Jim so
far on this one, that reflections can only happen at a physical
discontinuity of the transmitting medium.

Slick

1357. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 19:21:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8kodavcud3bepaqtkm4id038uebejc89b9@4ax.com>
Source record: 120159

On 23 Apr 2003 11:45:02 -0700, radio913@aol.com (Dr. Slick) wrote:
> I certainly don't believe this is possible, but i want Cecil to
>answer in his own way, so i can see where his logic (or lack of) lies.

Hi OM,

You've seen all the logic (at least new or novel to you) there is to
see without repetition (others may forgive my error here).

You would do well to separate belief from this "logic." Either does
not lead to the other.

73's
Richard Clark, KB7QHC

1358. Re: broadcast TV Antenna Help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 19:24:43 UTC
From: richardharrison@webtv.net
Message-ID: <9848-3EA6E87B-81@storefull-2311.public.lawson.webtv.net>
Source record: 120160

Ryan, KA3WUT wrote:
"I guess I`ll have to look for the book (TV and Other Receiving
Antennas) and try to build one."

Unfortunately, the book is out of print. It`s still worth looking for.
I`ve seen nothing like it.

The ARRL Antenna Book is in print and is a book everyone interested in
antennas should have. Edition 19 has a rhombic on page 13-9. If you want
to design your own, I recommend Ed Laport`s "Radio Antenna Engineering".
Arnold B. Bailey`s scaled version should be about optimum for your use.
I`ve posted it before, and got very favorable feedback from TV DXers.

On the other hand, I would try the Zenith minibeam at hand before doing
somthing requiring more effort.

Best regards, Richard Harrison, KB5WZI

1359. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 20:30:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b86t53$16e$1@sparta.btinternet.com>
Source record: 120161

"Al" wrote > Reg, if I am reading this correctly then can I conclude that if I change my
> toroid from a T50-2 to a T68-2, reduce the number of turns accordingly, then
> my Q will increase? Is there a formula that I can apply here? Is the Q
> increase proportional to the diameter or the mass of the core substance?
> Thank you.
==========

I think 50 and 68 refer to Amidon dust-iron toroid core diameters. Diameters are in the ratio 68/50 = 1.36. Assume the thickness of the rings increases in exactly the same proportion.

IF Q depended only on wire loss then Q would increase by 1.36 times because you would need fewer turns of thicker wire for the same inductance. This assumes both single-layer windings just fill their respective cores.

Unfortunately, with dust-iron cores the loss in the core material is probably greater than the copper loss. So you don't get anywhere. Same core material = same Q for the same inductance. Ferrite cores are worse.

Self-capacitance will increase for a bigger core which you might not like in some applications.

If I remember correctly, Amidon data sheets give expected Q values. Q values better than 200, with 2" diameter cores, are good enough for PA tuned-tank coils in 50-100 watt transmitters. Space-saving relative to big air-cored tank coils. I've used them in portable attache-case transmitters.

Yours, Reg, G4FGQ

1360. FS: Rohn 25G tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 22:03:12 UTC
From: Richard Reese <reeser@gemair.com>
Message-ID: <no2eavo7irgnrns4228n7v5quhgdpg04un@4ax.com>
Source record: 120162

I have 70 feet of Rohn 25G tower for sale. Six 10' straight
sections
and one top section.
$225 for all. Pickup only...Dayton,Ohio.

You can pick it up while your at the Hamfest!!

Dick Reese
WA4PLL
937-299-5253

1361. Re: Impedance transformations for Dr Slick

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 22:17:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b873eg$go7$1@hercules.btinternet.com>
Source record: 120163

Dear Richard, I'd be very much obliged if you kept me out of it.

And please try to disgorge the dictionary.

G4FGQ (Alias Punchinello)

1362. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 23:32:11 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b877pr$ec3$1@titan.btinternet.com>
Source record: 120164

> Aw comeon, Reg, you make it sound as tho the feedline does the radiating,
and
> that's not so on the B&W.
==========

Dick, you misunderstand me. I don't think B&W would sell an unbalanced antenna. Just imagine the disastrous effects it would have on nearby equipment and TV receivers.

What I am suggesting is that the infamous loss resistor be inserted somewhere else in the antenna, ie., deliberately unbalance it, such that at the lower frequencies the unbalance current flows along the feeder and so radiates some of the power instead of being lost for ever in the hidden damping resistor.

This would improve radiating efficiency at the lower frequencies where it is really needed without having much effect at the higher frequencies.

Who cares what does the radiating provided the beastly stuff gets away from the transmitter site? Certainly not the unimaginative B&W designers.

But then, the ignorant military purchasers, with 10KW transmitters will buy any bleeding thing at the US taxpayers' and poor starving, no medical supplies, no water, no electricity, bombed back to the stone-age, Iraqi civilians' expense.

Do you think my suggestion is worth a patent application?

(No doubt there's already a mad rush to the Patent Office by inventive, enterprising, get-rich-quick, avid readers of these walls.)

Ian, I see by my local clock it's just struck midnight. Reply not needed.
;o) ;o)

Yours sincerely, Reg, G4FGQ

1363. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-23 23:58:17 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vaea5ookntnc44@corp.supernews.com>
Source record: 120165

I have long thought of this antenna as a balanced hairpin match to a dummy
load.
But Reg, in all honesty, it somewhat predates the (British inspired)
continuing Iraq debacle
(as in the (US inspired) continuing Iran debacle (as in the continuing human
debacle))
Let us forgo the Germans and the French.
Superstition is such a sad thing.
H.
"Power derives from the barrel of a gun." Mao Tse Tung

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b877pr$ec3$1@titan.btinternet.com...
> > Aw comeon, Reg, you make it sound as tho the feedline does the
radiating,
> and
> > that's not so on the B&W.
> ============================
>
> Dick, you misunderstand me. I don't think B&W would sell an unbalanced
> antenna. Just imagine the disastrous effects it would have on nearby
> equipment and TV receivers.
>
> What I am suggesting is that the infamous loss resistor be inserted
> somewhere else in the antenna, ie., deliberately unbalance it, such that
at
> the lower frequencies the unbalance current flows along the feeder and so
> radiates some of the power instead of being lost for ever in the hidden
> damping resistor.
>
> This would improve radiating efficiency at the lower frequencies where it
is
> really needed without having much effect at the higher frequencies.
>
> Who cares what does the radiating provided the beastly stuff gets away
from
> the transmitter site? Certainly not the unimaginative B&W designers.
>
> But then, the ignorant military purchasers, with 10KW transmitters will
buy
> any bleeding thing at the US taxpayers' and poor starving, no medical
> supplies, no water, no electricity, bombed back to the stone-age, Iraqi
> civilians' expense.
>

> Do you think my suggestion is worth a patent application?
>
> (No doubt there's already a mad rush to the Patent Office by inventive,
> enterprising, get-rich-quick, avid readers of these walls.)
>
> Ian, I see by my local clock it's just struck midnight. Reply not needed.
> ;o) ;o)
> ---
> Yours sincerely, Reg, G4FGQ
>
>
>

1364. Re: Nest Of Di-poles

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 00:21:10 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <hjudnVDTi7drsDqjXTWcqg@comcast.com>
Source record: 120166

I ran EZNEC on a 14/21/7 MHz antenna with lengths of 69, 34, and 22 feet. SWR was less than 1.5 at resonance on all bands. I used 45 degrees separation.

Tam/WB2TT

1365. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 00:40:08 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA73268.160D3D0B@cwis.net>
Source record: 120167

Reg,
Yes, I think you should patent it. But put
a variable capacitor in it somewhere so you can
'steer' it...
'Doc

1366. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 00:56:08 UTC
From: dplatt@radagast.org
Message-ID: <vaedh8f6gt0q44@corp.supernews.com>
Source record: 120168

In article <vaea5ookntnc44@corp.supernews.com>,
H. Adam Stevens <solo@totalaccess.net> wrote:

>I have long thought of this antenna as a balanced hairpin match to a dummy
>load.

So, what sort of balun should I use with it?

>> grins, ducks, runs like hell... <<

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1367. Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 01:23:29 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304231723.39c6c72a@posting.google.com>
Source record: 120219

I'm planning on buiding some choke baluns for 8X-fed HF dipoles. I'd like to use fairly large diameter Type 43 cores and loop several turns of the coax thru the bore to take advantage of the n^^2 effect which looks like the minimum weight configuration (vs. strings of smaller beads along the coax). My question is how much choke impedance makes a decent HF balun? I've seen the matter addressesd here but it was quite awhile ago and I forget the recommendations.

Tnx,

w3rv

1368. Re: Which Satellite antenna to use..HELP!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 01:33:18 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <f1Hpa.64871$c42.35424@fe01.atl2.webusenet.com>
Source record: 120220

For low orbit satelites, had great success with 1/4, and 5/8 wave whips, bent to the north, about the different amount from 90 degrees as your latatude, as we off the equator (at 44 degrees , bend toward the north , about 46 degrees) . for the high altitude antenna, probably will need gain, and antenna tracking program, but again, can get SOME action , with a yagi , maybe 2/3 of the elevation given for the whips. and, be sure to find a frequency , and then key your xmitter, then tune the VFO, until you hear your carrier, and keep tracking the vfo to your rx freq, NOT THE OTHER WAY AROUND !!! good luck- and gest-- Jim NN7K

"Bruce" <bruceandkarla@ziggycom.net> wrote in message news:7192d525.0304201042.36741558@posting.google.com...
> Iam getting ready to set up a Satellite Station, but I have know idea
> which way to turn antenna wise. expecitally my 2M and 440. can
> anyone help a OLD man keep from going bald.
>
> Bruce
> KD4PQF

1369. Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 01:41:40 UTC
From: nat.gurumoorthy@ubicom.com
Message-ID: <41325e56.0304231741.750a022e@posting.google.com>
Source record: 120221

Hi All,
What is the best way to attach wires to the Quad spreader? ARRL antenna book advises against drilling and soldering a short wire across the joint. I was thinking of wrapping the wire once around the spreader and then tightening things down with some small black zip ties and then coating it with a layer of epoxy to weather proof it. I don't know if the wire will stay put or is it going to slide as the spreaders flex in the wind. Anybody care to share their experience.
Regards
Nat Gurumoorthy AB6SJ

1370. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 01:53:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA743AC.9000708@ieee.org>
Source record: 120222

Jim Kelley wrote:
> It's unwise to make claims about physical phenomenon when they are
> unsupported by physical science.

Good thing Copernicus, Galileo, and Einstein didn't listen to you. Actually,
10,000 years ago everything we know today was unsupported by physical science.

> You are doing that particular kind of inferring. So was I, until I
> researched the background materials from which Melles-Griot is derived.

So when are you going to reveal the secret, Jim? What causes 100% re-reflection
of the reflected energy? Conventional wisdom says that only a short, open, or
pure reactance can cause that.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1371. Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:00:22 UTC
From: inbox@mail.com
Message-ID: <3449d144.0304231800.18d89cb6@posting.google.com>
Source record: 120223

I'm thinking of trying a Yagi antenna for my cell phone in a remote location. There is a considerable distance between me and the tower and the heavily forested terrain does get in the way starting on the other side of the small lake I'm next to. I currently get one or two bars on my analog bag phone when it's outside and about 6 feet off the ground (using the stock antenna). Since the Yagi is so directional I'm wondering if it will be of any real benefit in this case since I do not have a direct line of sight to the tower.

Anyone have any experience with a similar senario?

Thanks in advance

1372. Re: OutBacker for an Apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:00:38 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <0rHpa.64895$c42.19855@fe01.atl2.webusenet.com>
Source record: 120224

One other possibility , for bot antennas, is LENGTHEN your counter poise so not just the balconey. can be easily done, get some wire from rip-off shack, and let it "dangle down " from the balconey , over either the right , or left edge (to avoid the neighabors below you from noticeing!) for 20 meters, a 1/4 wave (15-17 foot) piece of wire should be sufficient, hook at the antenna base that holds your antenna. 2 might be even better (one off EACH SIDE of your balconey) in the morning, simply roll up the wire("s"), and then pay them out the next evening!. another thought, use a fishing weight (2-3 oz) at the bottom of each line to force them down! as an idea-- jim nn7k

"'Doc" <w5lz@cwis.net> wrote in message news:3EA43C9D.CE4CF863@cwis.net...
> Cecil,
> I wouldn't doubt that a bit, but swap antennas
> and places, and I'll bet the same thing is true.
> 'Doc

1373. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:07:17 UTC
From: richardharrison@webtv.net
Message-ID: <28146-3EA746D5-189@storefull-2316.public.lawson.webtv.net>
Source record: 120228

Reg, G4FGQ wrote:
"Do you think my suggestion is worth a patent application?"

Do you want a patent for prestige, profit, or both?

A terminated antenna may be just a wide spot in a transmission line. As such, it can have a flat impedance over a wide frequency range. This, it seems to me, is the idea behind B&W`s terminated folded dipole. This idea as represented in the rhombic is very old indeed. The terminated rhombic is the subject of E.Bruce in Proc. I.R.E., Vol. 19, p. 1406, August 1931.

The rhombic of 4 or 5 wavelengths per side has a gain of about 14 dBd. The terminated folded dipole may have a loss of about 3 dBd. But the rhombic may be 12X the length of the folded dipole. It may also be highly directive where a dipole would accept signals over a wide angular range.

Small size and wide angle azimuths in addition to a flat impedance over a wide frequency range may make the B&W antenna a logical choice in some military applications. Frequency hopping may be required without adjustments.

My WW-2 warship had a lousy Marconi low inverted L antenna. Only the vertical segment was an effective radiator over sea water. The horizontal part served only to load the vertical segment. Sea water short-circuits horizontally polarized radiation. That was exactly what the planners wanted, a near vertical incidence radiator. They wanted no DX transmissions to give us away to the enemy or to interfere with communications in another theater. Efficiency may be undesirable in some cases. Disadvantage for us was that we had to be within about a day of port (about 250 miles) before we could report in and make arrival arrangements. Our main transmitter was the wonderful Collins TCS, not much of an aether shaker anyway.

We could use the Marconi which required tuning and loading because we had trained radio operators. Some military users may have no trained operators and yet need to use a wide range frequencies in widely varying directions. For them the B&W antenna may be a good choice.

Best regards, Richard Harrison, KB5WZI

1374. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:07:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA746EC.4020604@ieee.org>
Source record: 120225

Jim Kelley wrote:
> C. The wave comprising energy reflected from the load, re-reflects off
> the boundary and constructively interferes with the wave comprising that
> portion of energy from the source which, due to destructive
> interference, was prevented from reflecting off the boundary.

You have accounted for Pref2(Rho^2) and Pfwd1. What happened to
Pref(1-Rho^2)? What physical phenomenon exists to cause 100% reflection
of the reflected energy? Conventional wisdom says it must be a short,
open, or pure reactance. I don't see any of those.

> The end result is that all of the energy from the source reaches the
> load without changing directions by supernatural means.

There is nothing supernatural about the wave reflection model.

You are saying there is no reflection from the air to thin-film
interface where the index of refraction changes from 1.0 to 1.225.
I'm sure most physicists would like to know how you accomplish that
supernatural feat. Every physics book in the world shows that
initial reflection parallel (or collinear) with the second reflection
pointed back toward the source.
--
73, Cecil http://www.qsl.net/w5dxp

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1375. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:09:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vaehq5br51pa9@corp.supernews.com>
Source record: 120226

500 - 1000 ohms is a good rule of thumb for a reasonably matched antenna. You can find the impedance of most cores at the Fair-Rite web site, or you can measure it with an impedance meter or antenna analyzer.

Roy Lewallen, W7EL

Brian Kelly wrote:
> I'm planning on buiding some choke baluns for 8X-fed HF dipoles. I'd
> like to use fairly large diameter Type 43 cores and loop several turns
> of the coax thru the bore to take advantage of the n^^2 effect which
> looks like the minimum weight configuration (vs. strings of smaller
> beads along the coax). My question is how much choke impedance makes a
> decent HF balun? I've seen the matter addressesd here but it was quite
> awhile ago and I forget the recommendations.
>
> Tnx,
>
> w3rv

1376. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:12:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA747FE.8030703@ieee.org>
Source record: 120227

Jim Kelley wrote:
> You'll get the right answer when you stop making that logical error.
> Destructive interference prevents reflection. It doesn't cause it.

"Optics" by Hecht says that anything that prevents reflections through
destructive interference causes constructive interference in the
opposite direction. Sorry about that.
--
73, Cecil http://www.qsl.net/w5dxp

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1377. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:16:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA7490B.3070503@ieee.org>
Source record: 120229

Dr. Slick wrote:
> I'm not agreeing with Cecil on our current topic, but he has a
> track record with me so far that lends me to give him a bit of the
> benefit of the doubt.
> Or perhaps i can change HIS mind, and show him where HE is wrong.

I'm all ears. You say you are not agreeing. Does that mean you are
disagreeing? If so, where? I have a ghost writer who can put things
into words better than I can.
--
73, Cecil http://www.qsl.net/w5dxp

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1378. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:24:59 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b87htr$73o$1@hercules.btinternet.com>
Source record: 120230

Doc, good idea! We could fix a steering wheel on the capacitor spindle with
a pointer to compass bearings. A vernier would be even more attractive to
the British military.

Reg

==========

"'Doc" wrote ->
> Reg,
> Yes, I think you should patent it. But put
> a variable capacitor in it somewhere so you can
> 'steer' it...
> 'Doc

1379. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:29:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA74BF9.8050103@ieee.org>
Source record: 120231

Richard Harrison wrote:
> Waves course through each other with no reaction.

When they are traveling in opposite directions or when they
are not coherent.

> In-phase waves,
> traveling in the same direction, merge without a trace. They are
> commingled.

And if coherent waves undergo 100% wave cancellation, what happens
to their energy components and why? That's what the present argument
is all about.

> Cecil chose to talk about his "distructive interference doctrine" (DID?)
> in this thread about the Yagi, but "Where`s the beef ?". Any new scrap
> of evidence?

The point is that there's nothing new there, Richard. Everyone has
forgotten the basics and been seduced by the steady-state model which
doesn't 100% represent reality. I learned all this stuff during my physics
major days at Texas A&M in the 50's. To summarize: There are presently
three schools of ham thought about 100% re-reflection of reflected energy
in a matched system with reflections.

1. Walter Maxwell's virtual short caused by wave interference.
The virtual short, in turn, causes 100% re-reflection.

2. Steve Best's denial of 100% re-reflection happening at all.
His canceled rearward traveling waves 1 and 2 apparently just
disappear from the universe along with their energy components.

3. My apparently new idea of the 100% re-reflection being caused
by wave interference and supported by the Melles-Griot web page.
--
73, Cecil http://www.qsl.net/w5dxp

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1380. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:30:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b87i7a$3ae$1@sparta.btinternet.com>
Source record: 120232

> My question is how much choke impedance makes a
> decent HF balun? I've seen the matter addressesd here but it was quite
> awhile ago and I forget the recommendations.
==========
There were probably none.

Nobody has the courage to specify a number in case it's wrong.

1381. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:34:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA74D1C.9060407@ieee.org>
Source record: 120233

Dr. Slick wrote:
> I don't think you can do this, and i am in agreement with Jim so
> far on this one, that reflections can only happen at a physical
> discontinuity of the transmitting medium.

I agree 100% and have never said otherwise. In fact, I am on record
as saying that reflections cannot happen at a virtual impedance in
the absence of a physical discontinuity. Beware of people trying
to attribute assertions to me that I have never made.
--
73, Cecil http://www.qsl.net/w5dxp

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1382. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 02:42:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b87ivh$42e$1@sparta.btinternet.com>
Source record: 120234

> My WW-2 warship had a lousy Marconi low inverted L antenna. Only the
> vertical segment was an effective radiator over sea water. The
> horizontal part served only to load the vertical segment. Sea water
> short-circuits horizontally polarized radiation. That was exactly what
> the planners wanted, a near vertical incidence radiator.

==========

That's funny. I always thought a short vertical top-capacitance loaded
antenna over sea water produced an excellent low-angle, DX, signal with
nothing at all going upwards.

Reg.

1383. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 03:06:30 UTC
From: gmz79@aol.comnospam
Message-ID: <20030423230630.18914.00000489@mb-m16.aol.com>
Source record: 120235

I bounce my sig off a metal barn roof,then a water tower.

went from 1 bar to 5 bars. direct path vs reflected path
Gotta think outside the envelope sometimes.

KC8VIF
Greg Z
to thine own sound be true

1384. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 03:07:35 UTC
From: richardharrison@webtv.net
Message-ID: <11182-3EA754F7-139@storefull-2317.public.lawson.webtv.net>
Source record: 120236

P.J. at Inbox wrote:
"I`m thinking of trying a Yagi antenna for my cell phone in a remote location."

Why not try a reflecting metal sheet behind the existing antenna? If the frequency is about 900 MHz, 1/4-wave to 1/2 wave spacing between antenna and reflector may be about 3 to 6 inches if my mental calculations are right. That might be a place to begin experiments for maximum signal. I gather the "bars" are signal strength indicators.

Chapter 18 of the 19th edition of the ARRL Antenna Book has a number of corner and trough reflector antennas. It also has a variety of other UHF atennas that can be tried. But a simple reflector, flat, curved, or cornered can be tried with your existing antenna.

Best regards, Richard Harrison, KB5WZI

1385. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 03:19:41 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030423231941.18835.00000432@mb-m18.aol.com>
Source record: 120237

> What is the best way to attach wires to the Quad spreader? ARRL
>antenna book advises against drilling and soldering a short wire
>across the joint.

What I use is black cable ties wrapped around the wire two times and loop the tie around the small hose clamp and close it. Hose clamp then goes around the spreader. Leave about 1/2" distance between the wire and hose clamp. This provide good insulation and adjustability.
You don't want to wrap the wire around the spreader, especially bamboo, it could burn it off when it gets wet or in salty air environment.

73 Yuri, K3BU

1386. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 03:49:12 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <2OadnRBbWIYkwzqjXTWcrg@comcast.com>
Source record: 120238

Provided there is a way to hook up an external antenna to your cellphone, you could try a UHF TV antenna on the roof. Just don't forget to turn it on its side so it is vertically polarized. The fact that the Yagi (or corner reflector) is directional is what makes it work. Aim it at the tower that works best.

Tam/WB2TT
"pjwlk" <inbox@mail.com> wrote in message
news:3449d144.0304231800.18d89cb6@posting.google.com...
> I'm thinking of trying a Yagi antenna for my cell phone in a remote
> location. There is a considerable distance between me and the tower
> and the heavily forested terrain does get in the way starting on the
> other side of the small lake I'm next to. I currently get one or two
> bars on my analog bag phone when it's outside and about 6 feet off the
> ground (using the stock antenna). Since the Yagi is so directional
> I'm wondering if it will be of any real benefit in this case since I
> do not have a direct line of sight to the tower.
>
> Anyone have any experience with a similar senario?
>
> Thanks in advance

1387. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 04:03:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f4oeavc0b86egc02ab1kltkujvrk9293r1@4ax.com>
Source record: 120239

On Wed, 23 Apr 2003 21:07:40 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>You are saying there is no reflection from the air to thin-film
>interface where the index of refraction changes from 1.0 to 1.225.
>I'm sure most physicists would like to know how you accomplish that
>supernatural feat.

Physicists, and good engineers, can accomplish it good enough.

> Every physics book in the world shows that
>initial reflection parallel (or collinear) with the second reflection
>pointed back toward the source.

"Every?"

Were they both colored in already?

You need to read one straight through, Cecil, before you wander out
into the multitude of "Every."

For any other readers that are looking for some redemption from this
academic malarkey, Cecil has missed out on one of the principle
Optical effects that relates directly to the loss of low angle
radiation performance for a vertical over real ground.

Can YOU guess? Write your answer on the back of a $20 bill and send
it to:

73's
Richard Clark, KB7QHC

1388. Re: B&W 160M-6M antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 04:16:25 UTC
From: richardharrison@webtv.net
Message-ID: <20562-3EA76519-103@storefull-2312.public.lawson.webtv.net>
Source record: 120242

Reg, G4FGQ wrote:
"That`s funny. I always thought a short vertical top capacitance over sea water produced an excellent low-angle DX with nothing going upwards."

That is essentially correct. Unfortunately for our DX attempts, our inverted L was far too low, expending much energy in high angle radiation from its horizontal segment. It was too short in the vertical department to deliver a lot of energy at low angles. A low-powered transmitter produced the results I reported. I was there and observed same. Had more of that total wire length been upright, the results would have been different. But that wasn`t what was desired. The powers that be really didn`t want us DXing.

A vertical antenna, even when short, has a null at its tip and over sea water there is maximum radiation along the surface. At the higher frequencies where our antenna height began to be significant, ground wave doesn`t amount to much. At lower frequencies, our antenna didn`t amount to much. Broadcast stations could be heard on the medium waves from one side of the ocean or the other on our "RBO" receiver almost anywhere at anytime. Even so, recorded music was the usual program wired into most compartments, most of the time. We had a turntable in the chart room. Lots of V-Discs, too.

Best regards, Richard Harrison, KB5WZI

1389. Re: use of 1/4L GP for weather-sat reception (137 MHz) ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 04:20:35 UTC
From: Howard <mensch90249@yahoo.com>
Message-ID: <tcpeavo6amvj8h93f0uubes8qgn8dran3c@4ax.com>
Source record: 120240

On Wed, 23 Apr 2003 17:24:05 +0200, "Max" <Max_Jens@post9.tele.dk>
wrote:

>Hello Cecil
>
>> Has anyone tried a 2.5WL vertical for satellite work? Most of the
>> radiation is at take off angles between 25 degrees and 65 degrees.
>
>Not me, they would be of no use for WX satellite, for reciving the best
>signal from them you must have a antenna that work's well when the
>satellite pass right over you'r head.
>
>Regards Max
>
How about an egg-beater? Here's a site with instructions for
homebrew, could be scaled to 137 MHz.
http://members.aol.com/k5oe/eggbeater.htm

Good Luck,
Howard

1390. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 04:41:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA76B03.5020702@ieee.org>
Source record: 120241

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Every physics book in the world shows that
>>initial reflection parallel (or collinear) with the second reflection
>>pointed back toward the source.
>
> "Every?"

Every one that I have ever seen and I saw about 30 of them today in
the Texas A&M library. Have you ever seen a physics book that
asserted there is no reflection at the plane of a change in
index of refraction?
--
73, Cecil http://www.qsl.net/w5dxp

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1391. Re: Which Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 05:20:06 UTC
From: "Ryan Lughermo, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <b88nti$71657$1@ID-189073.news.dfncis.de>
Source record: 120251

Look into the PVC pipe option. You can make a "flag pole" with the antennas built inside of the pole. Also you can make a similar, smaller one that is attached to the "stink pipe/vent pipe" coming out of the roof where it looks like a part of the stink pipe, just longer than normal.

Obviously there might be some deed/covenant restrictions from the sound of it. Look into what possible restrictions may be there for the property first would be my first step.

Good luck,

--
Ryan, KC8PMX
FF/MFR
REMOVE "NOSPAM" in email address to reply.
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...

"Ameritech" <hilbish@ameritech.net> wrote in message
news:Z1vpa.2766$%_3.2181823@newssrv26.news.prodigy.com...
> All,
>
> I am looking for a good base station antenna to cover 6M /2M / 222MHz/
> 444MHz. The dilema is that I live in a golf course community with very
> specific guide lines for homes.
>
> So while transmission quality and reception is important, the ability to
> mount is also very critial. I would like a single antenna that would
cover
> those bands but am willing to use 2 if necessary.
>
> Size / mounting is probably the key issue here. Can anyone recommend
> anything. ?
>
> dhilbish@invosys.com
>
>

1392. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 05:50:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tlueav818aehkkmtdtr7dvhjfptf3kktos@4ax.com>
Source record: 120243

On Wed, 23 Apr 2003 23:41:39 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Every physics book in the world shows that
>>>initial reflection parallel (or collinear) with the second reflection
>>>pointed back toward the source.
>>
>> "Every?"
>
>Every one that I have ever seen and I saw about 30 of them today in
>the Texas A&M library. Have you ever seen a physics book that
>asserted there is no reflection at the plane of a change in
>index of refraction?

More's the question why you cannot seem to find a simple engineering
solution to that query.

As I offered, submit your answer on the back of a $20 bill instead of
taking these cheap shots at fame.

73's
Richard Clark, KB7QHC

1393. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 06:28:50 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304232228.5884dd12@posting.google.com>
Source record: 120244

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<8kodavcud3bepaqtkm4id038uebejc89b9@4ax.com>...
> On 23 Apr 2003 11:45:02 -0700, radio913@aol.com (Dr. Slick) wrote:
> > I certainly don't believe this is possible, but i want Cecil to
> >answer in his own way, so i can see where his logic (or lack of) lies.
>
> Hi OM,
>
> You've seen all the logic (at least new or novel to you) there is to
> see without repetition (others may forgive my error here).
>

If you can't stand the repetition, skip it! It's easy!

Slick

1394. 2 el yagi..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 07:51:34 UTC
From: "jani.haivala" <oh8jix@sral.fi>
Message-ID: <b884u8mrb1@news1.songnet.fi>
Source record: 120245

Hello!!
I need to find 3/4 wave dipole radiation angles....
I think it's possible to make 2el portable 10m yagi 3/4 wave elements,
but how about the radiation...(at least more gain).
On 0.22 spacing normal size yagi has ab. 50ohms impedance, maybe 3/4 is
not so simply...

--
Jani

1395. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 10:34:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vaffessslmp313@corp.supernews.com>
Source record: 120246

I've been really busy with other projects, so haven't had time to give this thread much attention until now. It looks like most of the questions have been sort of answered, but I'll add a little.

It's important to realize that the article you reference deals with only a very narrow range of inductors. I'm mostly interested in maximizing the Q of inductors used for VFOs and HF filters, and concentrated on inductors of that general type and inductance. You shouldn't generalize the results for other inductors, since they don't hold true in general. A BCB filter is likely to require more inductance than I was working with, and you'll be at a lower frequency, so it's very possible that you might do better with ferrite. Some of the Fair-Rite 60 series ferrites would be good candidates. There are a lot of variables involved, so it's hard to make hard and fast rules to follow. I did come up with some observations, but as Wes pointed out in his response, they're not quite what you said. And again, what observations I did make can't be extrapolated very far from the frequency and inductances I was dealing with. For example, if you require a large inductance on a small core, there's undoubtedly a point where going to multiple layers will give you better Q than using the tiny wire that would be required for fitting it all on a single layer.

If you require quite a bit of inductance, you might find a pot or EI core more convenient to wind, and the different cross sectional area and magnetic path length of a pot core might produce higher Q than a toroid.

As Reg pointed out, core loss tends to dominate, so changing wire size seldom has much effect within reasonable bounds. There are several factors affecting the Q on a magnetic (powdered iron or ferrite) which I looked into some years ago and abandoned as being too approximate. Micrometals used to publish a book of Q curves for a variety of inductances on various powdered iron cores. Each of them has a Q peak at some frequency and declines on both sides. Differing numbers of turns on the same core result in different peak frequencies and different peak Qs at the peak. I assume that ferrites would have more-or-less similar characteristics despite their quite different nature.

I highly recommend making a setup for measuring the Q. There are a number of methods. The one I've used consists of a high amplitude signal generator, a frequency counter (since the generator doesn't have a good digital readout), and an oscilloscope for a detector. The inductor under test is connected in parallel with an air variable capacitor, and coupled to the signal generator and scope through 1 pF capacitors. (The parallel LC is connected between the junction of the two 1 pF capacitors and ground.) The capacitor is tuned to peak the response at the

frequency of interest. Then the 3 dB bandwidth (indicated by the points where the response drops to 71% of the peak value) and center frequency are measured with the counter. The Q is calculated as the center frequency divided by the bandwidth. I've found the results to be within 5 - 10% of a commercial Q meter, just about always on the low side, indicating some system loss or signal blowby, but plenty good for my purposes and for comparative measurements.

One final thought is that you can make a fairly sharp filter with a fairly low Q inductor if you're willing to put up with considerable insertion loss. If the purpose of the filter is AM listening, you can tolerate a lot of loss, so you should be able to get by with an inductor of moderate Q.

Roy Lewallen, W7EL

AL KA5JGV wrote:
> I'm getting gutsy! Instead of buying a BCB high pass filter I decided to
> build my own. I must wind three toroid's and have the turns and toroid type
> I need (T50-2) but I need a bit more information on controlling (improving)
> the Q of the coil. The only information I have is compiled from a good
> article by Mr. Lewallen (W7EL) at http://www.qrp.pops.net/w7el.htm and is
> summarized as follows:
>
> 1. Larger gage wire improves the Q.
> 2. Keep windings on one layer. Even a partial second layer reduces the Q.
> 3. There is a slight improvement in leaving a 30 degree gap on the toroid,
> but a small one.
> 4. Keep turns evenly distributed across 330 degrees of the toroid.
> 5. There is a slight improvement in regressive winding.
>
> If you have any comments on these tips, or about winding toroid's, or have a
> source of additional info about the Q of a toroid I would greatly appreciate
> it. Thank you.
>
> Al
> KA5JGV
>
>

1396. newbie question Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 10:55:22 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3EA7C29B.2020300@rochester.rr.com>
Source record: 120247

I know that balun is balanced-unbalanced. does this mean equal
impedance (reisitance) if balanced or unbal not equal.
and what do the numbers 4:1 or 1:1 mean
Can you recommend a reference book I should get that explaihs things
like this?
Thanks in advance!@
~Wedge

1397. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 11:03:01 UTC
From: k1bqt@aol.com
Message-ID: <20030424070301.08145.00000001@mb-m03.aol.com>
Source record: 120248

>Nobody has the courage to specify a number in case it's wrong.<

Take your pick, Reg:

1. Roy's answer.
2. Ten times the feedpoint resistance.
3. All you can get.
4. All of the above.

If you have a sensitive RF current meter and a signal generator, you can measure the attenuation you're getting from what you've installed.

1398. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 11:22:30 UTC
From: k1bqt@aol.com
Message-ID: <20030424072230.08145.00000002@mb-m03.aol.com>
Source record: 120249

>His canceled rearward traveling waves....disappear from the universe along with their energy components.<

Dr. Phil says, "There's no reality, only perception". Apparently Dr. Cecil shares this view--along with my chiropractor, who also believes "imaginary" constructs have "real" enegy components. Aura, I think she calls it. Bent any spoons lately, Cecil?

Rick K1BQT

1399. Re: 2 el yagi..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 12:16:08 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EA7D4D5.FDE9B00D@gte.net>
Source record: 120250

"jani.haivala" wrote:

> Hello!!
> I need to find 3/4 wave dipole radiation angles....
> I think itï¿½s possible to make 2el portable 10m yagi 3/4 wave elements,
> but how about the radiation...(at least more gain).
> On 0.22 spacing normal size yagi has ab. 50ohms impedance, maybe 3/4 is
> not so simply...
>
> --
> Jani

Look at the Moxons on W4RNL site. Small footprint, 50 Ohm natural feed, great F/B.

Dale W4OP

1400. Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 13:15:43 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <krRpa.4660$Qg2.676100@news20.bellglobal.com>
Source record: 120252

Our local club will be running a few multiband verticals for 20m and up, I have acquired an SGC230 tuner and am wondering what would the best wire antenna be for 160-40m??

Ideas?

Thanks,
Max

1401. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 13:28:19 UTC
From: richardharrison@webtv.net
Message-ID: <241-3EA7E673-212@storefull-2313.public.lawson.webtv.net>
Source record: 120254

CAM, W5DXP wrote:
"There are presently three schools of ham thought about 100%
re-reflection of reflected energy in a matched system."

A reflection only occurs at an impedance bump caused by a change at that spot in the medium as the wave travels through.

A virtual short in W2DU`s jargon is a point where a reflected waves is totally re-reflected. Seems a reasonable proposition as a short eliminates the E-field on a transmission line at a point and at points 1/2-wavelength and multiples thereof back from the short. My interpretation of W2DU`s writings in Reflections 1 and 2 is only hearsay as I`ve never laid eyes on either.

If Steve Best denies total re-reflection, how does he explain, for example, a 1/2-wave of strange transmission line, full of reflection, inserted between a matched generator and load?. Zero reflected energy is presented to the generator. Obviously re-reflection is complete in the 1/2-wave of mismatched transmission line. I havenn`t seen Steve`s QEX article or articles either.

The Melles-Griot web page leaves me cold too. I haven`t pursued optics recently.

I know what happens if two identical secondaries are connected out-of-phase and you apply power to the transformer. Lots of current flows. Conservation of energy is not violated. Much heat is quickly produced.

You can demonstrate absence of EM interaction (constructive/destructive interference) with two spotlights. Make a spot on a surface. With the second spotlight, intersect the beam from the first. Nothing happens to the first spot. Make a second spot near the first. With beams intersecting, turn off either spot. Nothing happens to the remaining spot. A reflector is needed to see the beam. It could be dust, smoke, vapor, etc. You need a reflector to make things happen.and light change directions.

Beams are formed at reflecting surfaces, not in free-space. The spotlight beam is formed at its reflector surface. That is also the place where inefficiency shows up. Not to say the medium cam`t be lossy too.

Best regards, Richard Harrison, KB5WZI

1402. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 13:44:08 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA7EA28.993C01E0@cwis.net>
Source record: 120253

Max,
How about a 1/2 wave on 160 meters? Or, the longest
wire you can run, as high as you can possibly get it?
'Doc

1403. Re: newbie question Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 13:54:40 UTC
From: John Adamson <josttech@attbi.com>
Message-ID: <3EA7EC90.80903@attbi.com>
Source record: 120255

Start with either the Amateur Radio Hand Book or the Antenna Book.

The 4:1 or 1:1 is a ratio of impedance. If you were trying to feed
open line (450 ohms say) then using the 4:1 would allow the xmitter
to see 112 ohms or about 2:1 swr. It also allows you to unbalanced
line with balanced line. The 1:1 would be used on things like a
inverted dipole, Tri band beam and other antennas that will be close
to 50 ohms without a balum.

This is the short version. Get one of the books I talked about up
front and they have good insite for you.

Good luck, John W5CGU (first call/date: K4CGU - 1960)

Wedgew wrote:
> I know that balun is balanced-unbalanced. does this mean equal
> impedance (reisitance) if balanced or unbal not equal.
> and what do the numbers 4:1 or 1:1 mean
> Can you recommend a reference book I should get that explaihs things
> like this?
> Thanks in advance!@
> ~Wedge
>

1404. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 14:37:28 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b88sr8irg1@titan.btinternet.com>
Source record: 120256

"Rick Littlefield" wrote

> Take your pick, Reg:
>
> 1. Roy's answer.
> 2. Ten times the feedpoint resistance.
> 3. All you can get.
> 4. All of the above.
>
==========

Roy's dare-devil reply is sufficiently vague.

But add to the list -

5. Look up Terman.
6. Look up the Antenna Book.
7. Stop winding when there's enough turns.
8. What makes you think you need one anyway?

Reg.

1405. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 14:52:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA7FA26.5090205@ieee.org>
Source record: 120257

Richard Clark wrote:
> More's the question why you cannot seem to find a simple engineering
> solution to that query.

I probably saw the engineering solution at the library yesterday.
There were numerous partial differential equations covering the
subject. I need a return visit to attempt to understand them.
--
73, Cecil http://www.qsl.net/w5dxp

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1406. Re: Improving the Q of a Toroid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 14:59:06 UTC
From: Al <aburzynski@swri.nojunk.edu>
Message-ID: <vafutqhg957rc9@corp.supernews.com>
Source record: 120258

Thank you to all who responded to my request.

There are many good programs that help in choosing filters and loop antenna designs. I have used RJELOOP (Reg Edwards) and Elsie by WB6BLD and they have been very helpful. I appreciate the work you put into this software and making it available to the ham community. I have built a loop antenna using RJELOOP that does exactly what I want (after a few trials). My next project was filters. I want a BCB block filter that passes all above 2MHz and attenuates below. Elsie gave me the values I needed.

The one problem I find in most cases is that I'm left with a value of needed inductance and capacitance and that's it. And that's where my problems begin. I can generalize on capacitors much better than inductors. If I need a quality capacitor in a tight situation, silver mica type are great. But if I need a 3uH inductor, where do I even begin? Elsie gives me inductance, formulas give me turns ratios, but the core type, diameter, winding style, all appear to be a bit of magic. So that's what I was trying to do was to come up with some generalized rules of thumb on how to choose a core and how to wind a toroid. I realize that rules of thumb cannot be applied solidly in all situations, but they are a start.

I summarize (generalize, rule of thumb, etc.) from information that I have collected from others that the Q of a toroid may be increased (within reason) by:

1. Using larger gauge wire.
2. Using a larger core diameter (while keeping core losses in mind).
3. Winding on one layer.
4. Keeping turns evenly distributed over 330 degrees of the core (I found a few disagreeing with this. They say use 360.).
5. Keeping turns tight on the core.
6. Praying and hoping for the best.

Once again thanks to all, particularly Roy and Reg, for all the information and software provided.

Al
KA5JGV

1407. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:01:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA7FC3F.4070009@ieee.org>
Source record: 120259

Rick Littlefield wrote:
>>His canceled rearward traveling waves....disappear from the universe along
>
> with their energy components.<
>
> Dr. Phil says, "There's no reality, only perception". Apparently Dr. Cecil
> shares this view--along with my chiropractor, who also believes "imaginary"
> constructs have "real" enegy components. Aura, I think she calls it. Bent any
> spoons lately, Cecil?

From the wave reflection model: For each separate wave, V*I=P, V/I=Z0,
i.e. the intrinsic energy/sec associated with each wave is volts times
amps and the ratio of the volts to amps equals the characteristic impedance.

If you don't accept the wave reflection model, that's perfectly OK.
But you are not allowed to use the rules of the wave reflection model
to discredit the wave reflection model. That's a logical contradiction.

So following your line of reasoning, please prove that you exist. But
first, please prove that existence exists.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1408. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:14:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA7FF3C.8080008@ieee.org>
Source record: 120260

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "There are presently three schools of ham thought about 100%
> re-reflection of reflected energy in a matched system."
>
> A reflection only occurs at an impedance bump caused by a change at that
> spot in the medium as the wave travels through.

Yes, that's true.

> A virtual short in W2DU`s jargon is a point where a reflected waves is
> totally re-reflected. Seems a reasonable proposition as a short
> eliminates the E-field on a transmission line at a point and at points
> 1/2-wavelength and multiples thereof back from the short. My
> interpretation of W2DU`s writings in Reflections 1 and 2 is only hearsay
> as I`ve never laid eyes on either.

In a Z0-matched system with reflections:

W2DU sez: wave cancellation ==> virtual short ==> 100% re-reflection

I think a virtual impedance cannot cause anything and that everything
happens because of the physical impedance discontinuity which does
not possess a reflection coefficient of 1.0. In a one dimensional
system, like a transmission line, if dynamic energy flow is arrested
in one direction, there is only one other direction it can take. So
to the list of shorts, opens, and pure reactances, I have added wave
cancellation (destructive interference) to the list of things that
can cause 100% re-reflection. The Melles-Griot web page agrees.

> If Steve Best denies total re-reflection, how does he explain, for
> example, a 1/2-wave of strange transmission line, full of reflection,
> inserted between a matched generator and load?. Zero reflected energy is
> presented to the generator. Obviously re-reflection is complete in the
> 1/2-wave of mismatched transmission line. I havenn`t seen Steve`s QEX
> article or articles either.

Here's a quote: "The misconception is that a total re-reflection of
the reflected power occurs at a matching network or match point as a
result of an impedance match being established there." I asked Steve:
Since the reflected energy doesn't reach the source and it is also
not re-reflected, where does it go? No answer after two years.

> The Melles-Griot web page leaves me cold too. I haven`t pursued optics
> recently.

What happens at a thin-film plane is well understood within the field
of optics. The same thing happens at a Z0-match point in a transmission
line but most RF gurus seem to be ignorant of the knowledge from the
field of optics. Thus this discussion.

> I know what happens if two identical secondaries are connected
> out-of-phase and you apply power to the transformer. Lots of current
> flows. Conservation of energy is not violated. Much heat is quickly
> produced.

What happens when two EM waves of the same magnitude and opposite phase
traveling in the same direction in a transmission line are superposed?

> You can demonstrate absence of EM interaction (constructive/destructive
> interference) with two spotlights. Make a spot on a surface. With the
> second spotlight, intersect the beam from the first. Nothing happens to
> the first spot. Make a second spot near the first. With beams
> intersecting, turn off either spot. Nothing happens to the remaining
> spot. A reflector is needed to see the beam. It could be dust, smoke,
> vapor, etc. You need a reflector to make things happen.and light change
> directions.

I agree 100%. Beware of posters trying to attribute words to me that
I have never uttered. It's the old, "Have you stopped beating your
wife?", ploy.
--
73, Cecil http://www.qsl.net/w5dxp

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1409. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:19:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b88v9n$2j7$1@hercules.btinternet.com>
Source record: 120261

For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
balloon ?

Reg, G4FGQ

> Max,
> How about a 1/2 wave on 160 meters? Or, the longest
> wire you can run, as high as you can possibly get it?
> 'Doc

1410. Re: Antenna for the office

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:22:51 UTC
From: fccinfo@fcc.gov
Message-ID: <93677F2B9FCC@216.168.3.44>
Source record: 120262
Cross-posted to: rec.radio.amateur.antenna,alt.radio.scanner,rec.radio.scanner

To easy http://www.grove-ent.com/ANT22.html
price ain't bad ether :-)

George

reply.to@group (A) wrote in <7J2dnRbAMY7gy_GjXTWc-g@speakeasy.net>:

>I want to purchase/build an antenna to use in my office scanner. I'm on
>the first floor of my building. I'd prefer something that Radio Shack
>carries or I can build myself, as my BC250D came without an antenna (it
>won't arrive for a while I'm betting). I mostly need 800 mhz trunking.
>(~860 mhz) Infact that alone would be enough for me. There is a real
>ham store, but I don't want to deal with the crummy Seattle traffic to
>get to HamMall or ABC Communications. If they have something that would
>be "perfect" for a reasonable price, then I'll go for it.
>
>The only other things I am interested in (having these would be nice,
>but not a deal breaker):
>150-158 mhz
>~450 mhz (more important than 150)
>
>Thompson

1411. PSE HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:31:46 UTC
From: Andrea <IZ0EHOtogliquesto@libero.it>
Message-ID: <MPG.191221d195b0970f9896b4@news.fastwebnet.it>
Source record: 120263

Please let me know where i can download on the web the service manual for
transceiver ATLAS
Thank you
--
IZ0EHO Andrea
www.qsl.net/iz0eho
rimuovere TOGLIQUESTO dall'indirizzo per rispondermi

1412. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:40:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8t0gav0nh4vg86qt97f9pmu4d2nvqpdhho@4ax.com>
Source record: 120264

On Thu, 24 Apr 2003 09:52:22 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> More's the question why you cannot seem to find a simple engineering
>> solution to that query.
>
>I probably saw the engineering solution at the library yesterday.
>There were numerous partial differential equations covering the
>subject. I need a return visit to attempt to understand them.

Partial diffie-Q's? Boy if that don't beat the band. I well know
your penchant for elaborate embroidery, but the point of my comment is
that the solution to your query is a simple commonplace of vertical
antenna characteristics. Think you can fill in the blank?

Hint no.2: It is also an elementary Optical principal. High school
Trig is more than adequate.

73's
Richard Clark, KB7QHC

1413. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:41:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA805A5.324F7F39@uci.edu>
Source record: 119972

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > It's unwise to make claims about physical phenomenon when they are
> > unsupported by physical science.
>
> Good thing Copernicus, Galileo, and Einstein didn't listen to you.
And since they were right, you must be right. Hey, it's worth a try.

> > You are doing that particular kind of inferring. So was I, until I
> > researched the background materials from which Melles-Griot is derived.
>
> So when are you going to reveal the secret, Jim?

The unrevealed secret has been posted to this thread, over, and over,
and over, and over again. Maybe somebody else here has noticed my
postings. I thought you had too, since you're the only one arguing with
them.

> What causes 100% re-reflection
> of the reflected energy? Conventional wisdom says that only a short, open, or
> pure reactance can cause that.

It's not 100% reflected, because less than 100% of the energy reflected
from the load is involved in the interference that's taking place.
There are two components involved. One is the amount of reflection that
occurs directly by reflection (1-rho1). The other is due to the
cancellation of rho1 reflection. These two components contructively
interfere. Since rho + (1-rho) = 1, all of the energy reflected from
the load is accounted for.

The amount of re-reflection is dependent upon and determined by the
coefficient of reflectivity at the load and the coefficient of
reflectivity at the discontinuity, with the contraint that any reflected
energy from the source is cancelled at the discontinuity. As you know,
you are forcing me to do the work you set out to do here, and I still
haven't completed it yet. But preliminarily, it looks as though some
kind of relationship similar to the following will hold:

rho1 = (1 - rho1) - rho2, or rho1 = rho2 - (1 - rho1)

In other words in order to cancel the energy reflections from the first
boundary, that amount of energy must be equal the difference between the
energy reflected by the load and the energy re-reflected by the back
side of the boundary.

That's as far as I've gotten.

73 de ac6xg

1414. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:42:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <me1gavsgroadflh253bl2nntopmupefq6u@4ax.com>
Source record: 120265

I have.

73's
Richard Clark, KB7QHC

1415. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:45:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA80687.7000903@ieee.org>
Source record: 120266

Richard Harrison wrote:
> You can demonstrate absence of EM interaction (constructive/destructive
> interference) with two spotlights. Make a spot on a surface. With the
> second spotlight, intersect the beam from the first. Nothing happens to
> the first spot. Make a second spot near the first. With beams
> intersecting, turn off either spot. Nothing happens to the remaining
> spot. A reflector is needed to see the beam. It could be dust, smoke,
> vapor, etc. You need a reflector to make things happen.and light change
> directions.

This whole discussion started two years ago when information about a future QEX article was posted on this newsgroup. I explained destructive and constructive interference to the author but he ignored it. Here's what he missed, from "Optics" by Hecht:

"The superposition of coherent waves generally has the effect of altering the spatial distribution of the energy but NOT THE TOTAL AMOUNT [OF ENERGY] present. If there are regions where the flux density is greater than the sum of the individual flux densities, there will be regions where it is less than that sum."

In the QEX article, the forward total wave flux density (PFtot) is greater than the sum of the two component wave flux densities (P1+P2) on the load side of the Z0-match point. That means that the reflected total wave flux density will be less than the sum of its two component wave flux densities by exactly that same amount, i.e. The constructive interference energy on one side of the Z0-match point must exactly equal the destructive interference energy on the other side of the Z0-match point.

Hecht says that the 2 Sqrt(P1) Sqrt(P2) energy term in the QEX article must be matched by a -2 Sqrt(P1) Sqrt(P2) energy term somewhere else but there's absolutely no mention of such a term in the QEX article.
--
73, Cecil http://www.qsl.net/w5dxp

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1416. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:46:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA806DE.EB8CF84B@uci.edu>
Source record: 119973

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > You'll get the right answer when you stop making that logical error.
> > Destructive interference prevents reflection. It doesn't cause it.
>
> "Optics" by Hecht says that anything that prevents reflections through
> destructive interference causes constructive interference in the
> opposite direction. Sorry about that.

One thing is for sure. They didn't say that energy changed direction.
It's too bad you're unable to discern this distinction. It would save
so much time and trouble.

73 ac6xg

1417. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:46:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA806EB.303@ieee.org>
Source record: 120267

Richard Clark wrote:
> Partial diffie-Q's? Boy if that don't beat the band. I well know
> your penchant for elaborate embroidery, but the point of my comment is
> that the solution to your query is a simple commonplace of vertical
> antenna characteristics. Think you can fill in the blank?
>
> Hint no.2: It is also an elementary Optical principal. High school
> Trig is more than adequate.

Why the tease? Lay it on us. I only learn something new when I
am wrong.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1418. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:48:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hm1gavsd7e92n55q7mphiepo3919m9a5j7@4ax.com>
Source record: 120268

On Thu, 24 Apr 2003 10:14:04 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>W2DU sez:
>
>The Melles-Griot web page agrees.
>
>Here's a quote
>
>I agree 100%. Beware of posters trying to attribute words to me that
>I have never uttered. It's the old, "Have you stopped beating your
>wife?", ploy.

Uh-Huh

1419. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 15:54:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA808B7.F6ABE700@uci.edu>
Source record: 119974

OC_CAM's Razor wrote:
>
> Richard Harrison wrote:
> > CAM, W5DXP wrote:
> > "There are presently three schools of ham thought about 100%
> > re-reflection of reflected energy in a matched system."
> >
> > A reflection only occurs at an impedance bump caused by a change at that
> > spot in the medium as the wave travels through.
>
> Yes, that's true.

If you agree, the you should not imply otherwise. When you claim that destructive interference causes energy to reverse course you are in fact explicitly claiming otherwise.

ac6xg

1420. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 16:22:26 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <eaSdnW5_3c7ZkjWjXTWcog@comcast.com>
Source record: 119969

Somebody posted the below on one of the other newsgroups. Appears to be a cellphone antenna.

Tam/WB2TT

From: "Its Me!" <grburke@adelphia.net>
Subject: FS 9 db 6 Element 896-970 mhz Yagis
Date: Wednesday, April 23, 2003 6:11 PM

I have 8 of these Yagis that are well built.The model number is Y8966.I know they are made in USA but thats all I know.They cover 896-970 Mhz.They are 6 element and have a 9db gain.I don't have a clue as to what they are worth so I am asking here.If you are interested I can send you picts of them.Make me a resonable offer on one or all 8.I also do swaps for something that may interest me.Email me n1rsp@qsl.net

1421. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 16:34:54 UTC
From: richardharrison@webtv.net
Message-ID: <20565-3EA8122E-27@storefull-2312.public.lawson.webtv.net>
Source record: 119971

CAM, W5DXP wrote:
"What happens when two EM waves of the same magnitude and opposite phase traveling in the same direction are superposed?"

Superposition theorem:
"When a nunber of voltages (distributed in any manner throughout a linear network) are supplied to the network simultaneously, the current that flows is the sum of the component currents that would flow if the currents acted individually. Likewise, the potential difference that exists between any two points is the component potential difference that would exist there under the same conditions."

Don`t know the author but it sounds right to me.

The difference from low-frequencies in a linear network and r-f in the same net is the phase change that can occur in a short distance with r-f in the net.

But, if two waves of the same frequency and magnitude, but of opposite phase, are fed to the feedpoint of a transmission line, for them, that point is a short-circuit. The superposed waves are as a sine and a cosine wave having the same maguitude and starting point in degrees and locked in phase rotation. Their sum is always zero.

Energy in the component waves does not disappear from the universe. It is likely converted to heat in their sources. The network in this instance is not significant if it is apparently shunted with a short-circuit. Superposition applies to the energy which makes it into the network

Best regards, Richard Harrison, KB5WZI

1422. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 16:39:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA8132B.EE2BD771@uci.edu>
Source record: 119984

OC_CAM's Razor wrote:
> If wave cancellation occurs on the source side of an impedance
> discontinuity point in a transmission line, it follows that constructive
> interference must occur on the load side of that same point. I assume
> that Hecht assumed his readers were smart enough to figure out if there
> were only two directions existing and the energy didn't take one of the
> two directions, that it would naturally have to take the other direction.
> Guess Hecht was wrong about that assumption.

When all else fails, resort to obfuscation. As I've said to you at least a dozen times. Your understanding is correct about the end result, but your understanding is incorrect about exactly how it happens.

Please read the following very carefully: your concept that interference between waves is a cause for a reversal in the direction of propagation is unsupported by the underlying physics. The two relevant things which do occur in nature are phase cancellation, and reflection. The energy that is directed toward the load never existed as a wave travelling in the opposite direction, therefore it didn't change direction, it didn't have to change direction, and furthermore it couldn't have changed direction.

Is this coming through clearly to you yet?

1423. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 16:42:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bq2gav82unbkf936skuc3dhubv3v1d7a0r@4ax.com>
Source record: 119970

On 23 Apr 2003 18:23:29 -0700, kelly@dvol.com (Brian Kelly) wrote:

>I'm planning on buiding some choke baluns for 8X-fed HF dipoles. I'd
>like to use fairly large diameter Type 43 cores and loop several turns
>of the coax thru the bore to take advantage of the n^^2 effect which
>looks like the minimum weight configuration (vs. strings of smaller
>beads along the coax). My question is how much choke impedance makes a
>decent HF balun? I've seen the matter addressesd here but it was quite
>awhile ago and I forget the recommendations.
>
>Tnx,
>
>w3rv

Hi Brian,

Your solution and the reasons for it are sound, even if I would ponder the contribution of the actual weight benefit (I bet it's a wash).

I have several choke designs so I will offer some simple relationships through illustration. By and large, there are some 2,3, or 4 ferrite formulations (the chemical soup that is eventually rendered into this ceramic) that can be employed in the HF region. I won't bother to enumerate, except to say each distinguishes itself from the other through its dissipative resistance v. frequency characteristic. This, of course, is of primary interest and the choice of formula is application driven (what frequency answers what formula).

For one particular choke I use at the bench for testing, I selected a formulation that peaked around 20 MHz with a bead size that offered roughly 25 Ohms of resistance and fit around RG-58. I used only a foot of that cable to support 40 beads (about $15-$20 in parts cost at the time from the candy store).

This means that as a rough, nominal value, the choke presents 1,000 Ohms resistance. As this occurs at a peak, and I do not use this at that peak; and further given that the dissipative resistance v. frequency characteristic is a very broad curve; then I am generally guaranteed of obtaining at least 500 Ohms resistance over a large spectrum.

Wanting 500 Ohms (instead of, say, 100 Ohms) is a function of my application toward measurements. Anticipating a 50 Ohm load (again, a simple first pass approximation) this means that my choke shows a 10:1 relationship which argues that I can approach measurements with a fair amount of accuracy available. This 10:1 is an expression of

isolation, but this amount of isolation is more a measure of degree than it is a measure of need. Having 5:1 does not reduce a choke's suitability, except for precise measurements. Even 3:1 is useful for common full-time applications like holding Common Mode off the coax of coax fed dipoles.

3:1 (which from my own choke design, suggests about a dozen beads) may not be much, but it may be enough. If we are speaking of 3:1 delivered by my 40 beads, then the power my choke can dissipate will probably be adequate to a standard rig. However, if we speak of 3:1 arrived through the best of circumstances from 10 or a dozen beads, there may be some heat issue at high (100W) power levels.

73's
Richard Clark, KB7QHC

1424. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:02:45 UTC
From: richardharrison@webtv.net
Message-ID: <11182-3EA818B5-246@storefull-2317.public.lawson.webtv.net>
Source record: 119977

CAM, W5DXP wropte:
"The constructive interference energy on one side of the Zo-match point must exactly equal the destructive interference energy on the other side of the Zo-match point."

Radios are mostly specified to work with a 50-ohm coaxial load. So, I suppose 50-ohms is what you mean by a Zo-match point.

Where does constructive / destructive interference come from?

Best regards, Richard Harrison, KB5WZI

1425. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:04:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <te5gavo4fqvjqi5bgahqvj8g93706io94i@4ax.com>
Source record: 119975

On Thu, 24 Apr 2003 10:46:51 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Partial diffie-Q's? Boy if that don't beat the band. I well know
>> your penchant for elaborate embroidery, but the point of my comment is
>> that the solution to your query is a simple commonplace of vertical
>> antenna characteristics. Think you can fill in the blank?
>>
>> Hint no.2: It is also an elementary Optical principal. High school
>> Trig is more than adequate.
>
>Why the tease? Lay it on us. I only learn something new when I
>am wrong.

Wrong? Cecil, you just don't get it at all. The blank is still
blank. You don't have an answer to be wrong in the first place.

I'll tell ya' what. I will sign off your practical factors for
Apprentice Optical Technician when you come up with the answer
suitable to that level (seeing you need more hints: the solution is
known by any optics installer).

Even more, I will give you a week - and I won't even mention it at the
end of the week. Only one small change, tho'. Instead of writing the
solution on the back of a $20 bill, write your request for additional
details there instead [translation: no more hints, this is too simple
already].

73's
Richard Clark, KB7QHC

1426. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:11:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA81AC8.9070600@ieee.org>
Source record: 119976

Jim Kelley wrote:
> The unrevealed secret has been posted to this thread, over, and over,
> and over, and over again. Maybe somebody else here has noticed my
> postings. I thought you had too, since you're the only one arguing with
> them.

I'm not arguing with them. They fit perfectly with my ideas. What I
am arguing with is the lack of demonstration of a reflection coefficient
equal to 1.0.

> It's not 100% reflected, because less than 100% of the energy reflected
> from the load is involved in the interference that's taking place.
> There are two components involved. One is the amount of reflection that
> occurs directly by reflection (1-rho1). The other is due to the
> cancellation of rho1 reflection. These two components contructively
> interfere. Since rho + (1-rho) = 1, all of the energy reflected from
> the load is accounted for.

If it's not 100% re-reflected and no reflected energy reaches the source,
where does the balance of the reflected energy go?

> The amount of re-reflection is dependent upon and determined by the
> coefficient of reflectivity at the load and the coefficient of
> reflectivity at the discontinuity, with the contraint that any reflected
> energy from the source is cancelled at the discontinuity.

Energy that is canceled in one direction will appear as a reflection in
the other direction. Energy cannot be destroyed. Where did you say the
canceled energy goes?

> In other words in order to cancel the energy reflections from the first
> boundary, that amount of energy must be equal the difference between the
> energy reflected by the load and the energy re-reflected by the back
> side of the boundary.

Of course, I presented those equations two years ago. Here they are again.
Reflections from the first boundary = Pfwd1(Rho^2)
Reflections from the load that are not re-reflected outright = Pref2(1-Rho^2)
The voltage-current sums of these two waves equals zero because of wave
cancellation when Pfwd1(Rho^2)=Pref2(1-Rho^2) and Vfwd1 is 180 degrees out
of phase with Vref2. The energy in those two waves changes direction and
joins the forward wave according to the Melles-Griot web page.

Energy cannot actually be canceled. In a transmission line, it can
only be canceled in one direction. If that happens, it must appear as
an equal magnitude of energy traveling in the opposite direction. The
Conservation of Energy Principle will not allow anything else.

--
73, Cecil http://www.qsl.net/w5dxp

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1427. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:15:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA81BC7.7010901@ieee.org>
Source record: 119978

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>
>>>You'll get the right answer when you stop making that logical error.
>>>Destructive interference prevents reflection. It doesn't cause it.
>>
>>"Optics" by Hecht says that anything that prevents reflections through
>>destructive interference causes constructive interference in the
>>opposite direction. Sorry about that.
>
> One thing is for sure. They didn't say that energy changed direction.
> It's too bad you're unable to discern this distinction.

If wave cancellation occurs on the source side of an impedance
discontinuity point in a transmission line, it follows that constructive
interference must occur on the load side of that same point. I assume
that Hecht assumed his readers were smart enough to figure out if there
were only two directions existing and the energy didn't take one of the
two directions, that it would naturally have to take the other direction.
Guess Hecht was wrong about that assumption.
--
73, Cecil http://www.qsl.net/w5dxp

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1428. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:20:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA81CD3.3060700@ieee.org>
Source record: 119979

Richard Harrison wrote:
> Energy in the component waves does not disappear from the universe. It
> is likely converted to heat in their sources.

Or if the wave cancellation happens in the opposite direction, it is
likely converted into work in the load. That's what is being discussed.
--
73, Cecil http://www.qsl.net/w5dxp

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1429. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:22:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mi6gavsbi1p6bs035tsbuodakec5b111k6@4ax.com>
Source record: 119980

On Thu, 24 Apr 2003 08:41:25 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>> So when are you going to reveal the secret, Jim?
>
>The unrevealed secret has been posted to this thread, over, and over,
>and over, and over again. Maybe somebody else here has noticed my
>postings. I thought you had too, since you're the only one arguing with
>them.

Hi Jim,

Yes there are other readers. Yes they appreciate your dilemma. They
(or at least I) also learned that
>over, and over, and over, and over again
are three over's too many... Have you?

But I have enjoyed Cecil's novel form of "frag the volunteers." It's
almost better than reality TV.

73's
Richard Clark, KB7QHC

1430. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:24:39 UTC
From: nat.gurumoorthy@ubicom.com
Message-ID: <41325e56.0304240924.73f97267@posting.google.com>
Source record: 119981

Hi Yuri,
How reliable are these cable ties from the standpoint of
weathering? How do you prevent the wire from sliding around in the
loop as the spreaders flex in the wind? What I am afraid of is that
the wire will eventually saw through the cable ties?
Regards
Nat

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030423231941.18835.00000432@mb-m18.aol.com>...
> > What is the best way to attach wires to the Quad spreader? ARRL
> >antenna book advises against drilling and soldering a short wire
> >across the joint.
>
> What I use is black cable ties wrapped around the wire two times and loop the
> tie around the small hose clamp and close it. Hose clamp then goes around the
> spreader. Leave about 1/2" distance between the wire and hose clamp. This
> provide good insulation and adjustability.
> You don't want to wrap the wire around the spreader, especially bamboo, it
> could burn it off when it gets wet or in salty air environment.
>
> 73 Yuri, K3BU

1431. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:30:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA81F1C.44F40B2F@uci.edu>
Source record: 119990

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > The unrevealed secret has been posted to this thread, over, and over,
> > and over, and over again. Maybe somebody else here has noticed my
> > postings. I thought you had too, since you're the only one arguing with
> > them.
>
> I'm not arguing with them.

Now you're arguing about whether you argued with me. Get back to me
later, when you become a little more receptive.

ac6xg

1432. Boat Antenna for 2 meters????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:34:49 UTC
From: Ted Nugent <eclip01@hotmail.com>
Message-ID: <01c30a88$565be980$82878685@clip>
Source record: 119982

I am looking to put a 2 meter mobile rig on my boat
(aluminum hull) and am undecided on using a
regular VHF Marine antenna, or a standard 2 meter
mobile antenna with an NMO mount and mounting
it on the rear of the deck. Anyone here have any
experiences or recommendations on what to use?
Thanks .....

1433. Re: newbie question Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:37:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vag87266v3p32d@corp.supernews.com>
Source record: 119983

You might take a look at the following articles:

"Some Aspects of the Balun Problem", _QST_, March 1983; and
"Baluns: What They Do and How They Do It", _ARRL Compendium_, Vol. 1.
Walt Maxwell, W2DU wrote the first article, I wrote the second.

Roy Lewallen, W7EL

1434. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:47:23 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA8232B.1D34EDFA@uci.edu>
Source record: 119993

OC_CAM's Razor wrote:
> > It's not 100% reflected, because less than 100% of the energy reflected
> > from the load is involved in the interference that's taking place.
> > There are two components involved. One is the amount of reflection that
> > occurs directly by reflection (1-rho1). The other is due to the
> > cancellation of rho1 reflection. These two components contructively
> > interfere. Since rho + (1-rho) = 1, all of the energy reflected from
> > the load is accounted for.
>
> If it's not 100% re-reflected and no reflected energy reaches the source,
> where does the balance of the reflected energy go?

The answer is in the paragraph above your automatic gain-saying type of response. It's an answer that has never been in contention throughout any of our discussions over the past several weeks.

Would you like to redirect the discussion back to the point of contention? Or do you intend to continue trying to argue with things that I haven't said.

> Energy cannot actually be canceled. In a transmission line, it can
> only be canceled in one direction. If that happens, it must appear as
> an equal magnitude of energy traveling in the opposite direction. The
> Conservation of Energy Principle will not allow anything else.

On this much, we have always agreed. As I've said repeatedly, you are correct about this much. It's the way you get there that's getting you into trouble.

73 de ac6xg

1435. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 17:48:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA8237A.D8E54512@uci.edu>
Source record: 119994

"Dr. Slick" wrote:
> Fine, Cecil, as long as you agree that reflections can only
> happen at a physical discontinuity of the transmitting medium, I'm
> happy to end the discussion here.
>
> Slick

You're a wiser man than I.

ac6xg

1436. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:07:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA827DC.B4A6B674@uci.edu>
Source record: 119995

OC_CAM's Razor wrote:
> You are saying there is no reflection from the air to thin-film
> interface where the index of refraction changes from 1.0 to 1.225.

I thought we were talking about antireflective coatings. Those require
two reflective boundaries, and you get field cancellation in the
reflected direction.

What is it you want to talk about now?

ac6xg

1437. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:15:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA829B8.5000606@ieee.org>
Source record: 119985

Richard Clark wrote:
> But I have enjoyed Cecil's novel form of "frag the volunteers." It's
> almost better than reality TV.

And your postings remind me of the Catholic Church's attitude
toward Galileo. However, his work persisted in dripping and wore
away the stone.
--
73, Cecil, W5DXP

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1438. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:16:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA82A1A.9020107@ieee.org>
Source record: 119986

Nat Gurumoorthy wrote:
> How reliable are these cable ties from the standpoint of
> weathering? How do you prevent the wire from sliding around in the
> loop as the spreaders flex in the wind? What I am afraid of is that
> the wire will eventually saw through the cable ties?

Those ties come in all sizes. Use black ones big enough to last for
the rest of your life and stop worrying.
--
73, Cecil, W5DXP

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1439. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:18:02 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Lop4l9CapCq+EAiw@ifwtech.co.uk>
Source record: 119999

Reg Edwards wrote:
>For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
>balloon ?

See www.qsl.net/g4vgo - balloons, kites, the lot!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1440. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:33:35 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304241033.403ad0ff@posting.google.com>
Source record: 119987

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EA74D1C.9060407@ieee.org>...
> Dr. Slick wrote:
> > I don't think you can do this, and i am in agreement with Jim so
> > far on this one, that reflections can only happen at a physical
> > discontinuity of the transmitting medium.
>
> I agree 100% and have never said otherwise. In fact, I am on record
> as saying that reflections cannot happen at a virtual impedance in
> the absence of a physical discontinuity. Beware of people trying
> to attribute assertions to me that I have never made.

Well, with all due respect, you often don't make yourself very
clear!

You wrote this, " The number 3 answer is that both numbers 1 and
2 are incorrect. There is
no virtual short that causes anything. Wave cancellation causes
reflections
and in a matched system, 100% of the reflected energy reverses
direction and
flows toward the load. There is simply no other place for it to go.
This
has been verified experimentally in the field of optics but appears to
be politically incorrect at the ARRL and on this newsgroup. "

Fine, Cecil, as long as you agree that reflections can only
happen at a physical discontinuity of the transmitting medium, I'm
happy to end the discussion here.

Slick

1441. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:36:17 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA82EA0.20150007@att.net>
Source record: 119988

Hi Cecil (or is it Galileo now?)

If you can prove that (classical) EM waves in free space interact with each other, under any circumstances of direction, coherency, or anything else, then I would make the following recommendation.

Press your tux, polish your shoes, prepare your speech, and book your flight to Stockholm. The Nobel Foundation will be calling shortly.

Hint: Each example you have provided, including transmission lines, AR glass, two-slit diffraction, and many others, depends on something in addition to electromagnetic waves to demonstrate its magic. That "something" may be important.

(I am excluding those phenomena strongly influenced by general relativity and gravitational effects. However, I believe that classical explanations will work for most amateur radio purposes.)

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Richard Harrison wrote:
> > Waves course through each other with no reaction.
>
> When they are traveling in opposite directions or when they
> are not coherent.
>
> > In-phase waves,
> > traveling in the same direction, merge without a trace. They are
> > commingled.
>
> And if coherent waves undergo 100% wave cancellation, what happens
> to their energy components and why? That's what the present argument
> is all about.
>
> > Cecil chose to talk about his "distructive interference doctrine" (DID?)
> > in this thread about the Yagi, but "Where`s the beef ?". Any new scrap
> > of evidence?
>
> The point is that there's nothing new there, Richard. Everyone has
> forgotten the basics and been seduced by the steady-state model which
> doesn't 100% represent reality. I learned all this stuff during my physics
> major days at Texas A&M in the 50's. To summarize: There are presently

> three schools of ham thought about 100% re-reflection of reflected energy
> in a matched system with reflections.
>
> 1. Walter Maxwell's virtual short caused by wave interference.
> The virtual short, in turn, causes 100% re-reflection.
>
> 2. Steve Best's denial of 100% re-reflection happening at all.
> His canceled rearward traveling waves 1 and 2 apparently just
> disappear from the universe along with their energy components.
>
> 3. My apparently new idea of the 100% re-reflection being caused
> by wave interference and supported by the Melles-Griot web page.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1442. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:39:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8pbgav4053pihmantqkta0bp3bap5umcqd@4ax.com>
Source record: 119989

On Thu, 24 Apr 2003 11:15:20 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> But I have enjoyed Cecil's novel form of "frag the volunteers." It's
>> almost better than reality TV.
>
>And your postings remind me of the Catholic Church's attitude
>toward Galileo. However, his work persisted in dripping and wore
>away the stone.

Like I said, Cecil, no more hints. So what if it takes more than a
week.

73's
Richard Clark, KB7QHC

1443. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:41:33 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA82FDB.BE14EF38@att.net>
Source record: 119991

Cecil,

Like you, I am always trying to learn.

Could you point out the page where Hecht says what you attribute below?
I would like to better understand the context.

73,
Gene
W4SZ

OC_CAM's Razor wrote:

[snip]

>
> Hecht says that the 2 Sqrt(P1) Sqrt(P2) energy term in the QEX article
> must be matched by a -2 Sqrt(P1) Sqrt(P2) energy term somewhere else but
> there's absolutely no mention of such a term in the QEX article.
> --
> 73, Cecil http://www.qsl.net/w5dxp

1444. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 18:43:52 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <hkbgav4co0g1gj5vlskddpt966no00fuk1@4ax.com>
Source record: 119992

On Tue, 22 Apr 2003 20:42:51 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>NEW PROGRAM now available.
>
>Analysis of 1/2-wave resonant Inverted-V and dipole antennas with either
>coaxial or balanced-twin feelines.
>
>Includes all the geometry/trigonometry to ensure it will fit into your back
>yard.
>
>Download program INV_VEE.exe from website below.
>---
>=======================
>Regards from Reg, G4FGQ
>For Free Radio Design Software
>go to http://www.g4fgq.com
>=======================
>

Reg, your program input data calls for my Soil Resistivity in
ohm-meters. I have fairly okay black-moisty soil; according the the
ARRL Antenna Book map on page 3-7, my area has Ground Conductivity of
about 15 millisiemens per meter, or possibly 30 mS/m.

Is there any way to easily convert conductivity in mS/m to resistivity
in ohm-meters?

Thanks,

Bob
k5qwg

1445. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 20:09:13 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EA84455.7050308@attbi.com>
Source record: 119996

Divide 1 by the conductivity.

1/0.015 to 1/0.030
66.7 ohm meters, or 33.3 ohm meters

DD

Bob Miller wrote:
> On Tue, 22 Apr 2003 20:42:51 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
>
>>NEW PROGRAM now available.
>>
>>Analysis of 1/2-wave resonant Inverted-V and dipole antennas with either
>>coaxial or balanced-twin feelines.
>>
>>Includes all the geometry/trigonometry to ensure it will fit into your back
>>yard.
>>
>>Download program INV_VEE.exe from website below.
>>---
>>=======================
>>Regards from Reg, G4FGQ
>>For Free Radio Design Software
>>go to http://www.g4fgq.com
>>=======================
>>
>
>
> Reg, your program input data calls for my Soil Resistivity in
> ohm-meters. I have fairly okay black-moisty soil; according the the
> ARRL Antenna Book map on page 3-7, my area has Ground Conductivity of
> about 15 millisiemens per meter, or possibly 30 mS/m.
>
> Is there any way to easily convert conductivity in mS/m to resistivity
> in ohm-meters?
>
> Thanks,
>
> Bob
> k5qwg
>
>

1446. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 20:09:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b89ga8$3fe$1@sparta.btinternet.com>
Source record: 119997

Ohm-metres = 1000 / millisiemens.

Resistivity in Ohm-metres is the resistance measured in ohms between two opposite faces of a 1-metre cube of the material. Nice and simple, eh?

30mS = 33 ohm-metres.

15mS = 67 ohm-metres.

That's pretty good soil in your back yard, Bob.

Most of the world thinks in terms of volts and amps and resistance in ohms. An Ohm is a more practical, meaningful measurement unit than millimhos and millisiemens. And the Ohm fits in nicely with the actual values of soil resistance and resistivity found on this Earth.

PhD's use millisiemens - it sounds very learned, scientific, designed to impress. It indicates they've never actually held an ohmeter in their soft hands to make soil resistance measurements.

Who's ever heard of a mhometer or a milliseimensmeter?

Reg.

============================

--
> Reg, your program input data calls for my Soil Resistivity in
> ohm-meters. I have fairly okay black-moisty soil; according the the
> ARRL Antenna Book map on page 3-7, my area has Ground Conductivity of
> about 15 millisiemens per meter, or possibly 30 mS/m.
>
> Is there any way to easily convert conductivity in mS/m to resistivity
> in ohm-meters?
>
> Thanks,
>
> Bob
> k5qwg
>
>

1447. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 20:50:33 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304241250.61860cad@posting.google.com>
Source record: 119998

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b88sr8irg1@titan.btinternet.com>...
> "Rick Littlefield" wrote
>
> > Take your pick, Reg:
> >
> > 1. Roy's answer.
> > 2. Ten times the feedpoint resistance.
> > 3. All you can get.
> > 4. All of the above.
> >
> ==========
>
> Roy's dare-devil reply is sufficiently vague.
>
> But add to the list -
>
> 5. Look up Terman.
> 6. Look up the Antenna Book.
> 7. Stop winding when there's enough turns.
> 8. What makes you think you need one anyway?
>
> ---
> Reg.

I think what I enjoy most about dot antennas is that it's one of the
few places one can find really decent voodoo physics.

w3rv

1448. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:03:12 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <b89jeg$28q9$1@news1.tribune.com>
Source record: 120000

On my quad, the poles are drilled and the wire goes through the holes. Then a second piece of wire is
wrapped, not soldered to the antenna wire on each side of the boom. I don't know how reliable it is as it has only been up 2 years and probably only been subjected to 70 mph winds twice.

KA9CAR

"Nat Gurumoorthy" <nat.gurumoorthy@ubicom.com> wrote in message news:41325e56.0304231741.750a022e@posting.google.com...
> Hi All,
> What is the best way to attach wires to the Quad spreader? ARRL
> antenna book advises against drilling and soldering a short wire
> across the joint. I was thinking of wrapping the wire once around the
> spreader and then tightening things down with some small black zip
> ties and then coating it with a layer of epoxy to weather proof it. I
> don't know if the wire will stay put or is it going to slide as the
> spreaders flex in the wind. Anybody care to share their experience.
> Regards
> Nat Gurumoorthy AB6SJ

1449. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:29:35 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304241329.4a69be57@posting.google.com>
Source record: 120001

Roy Lewallen <w7el@eznec.com> wrote in message news:<vaehq5br51pa9@corp.supernews.com>...
> 500 - 1000 ohms is a good rule of thumb for a reasonably matched
> antenna. You can find the impedance of most cores at the Fair-Rite web
> site, or you can measure it with an impedance meter or antenna analyzer.

OK, I'll shoot for 750 ohms. Some day I'd like to understand how one
measures the impedance of a choke balun with MFJ analyzers but for now
I'll diddle the slide rule, buy the cores and get on the air.

Tnx.

> Roy Lewallen, W7EL

w3rv

1450. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:31:06 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b89l2t$7v25b$1@ID-134747.news.dfncis.de>
Source record: 120002

I put up a element log periodic dipole cut for 3.5 mhz - pointed east (advantage of living in Delaware). 160 is a no/no on field day, or is my age hanging out again, and if I can hear 'em I can work 'em from 80 to 10.

BTW can only put antenna up at Field Day sites - I only dream about owning enough real estate to fly it all year round.

--
73 es cul

wb3fup
a Salty Bear

"Max" <ts850_guy@cogeco.ca> wrote in message news:krRpa.4660$Qg2.676100@news20.bellglobal.com...
> Our local club will be running a few multiband verticals for 20m and up, I
> have acquired an SGC230 tuner and am wondering what would the best wire
> antenna be for 160-40m??
>
> Ideas?
>
> Thanks,
> Max
>
>

1451. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:32:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8580A.5040608@ieee.org>
Source record: 120003

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>You are saying there is no reflection from the air to thin-film
>>interface where the index of refraction changes from 1.0 to 1.225.
>
> I thought we were talking about antireflective coatings. Those require
> two reflective boundaries, and you get field cancellation in the
> reflected direction.

I have said it takes two reflections to get the net reflections
to zero. Those two reflections either exist or they don't. I
understood you to say one of them doesn't exist. If that is true,
then field cancellation is not possible since it takes both the
reflections I predicted to cause the field cancellation. A single
field cannot cancel itself.
--
73, Cecil, W5DXP

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1452. Re: Boat Antenna for 2 meters????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:39:59 UTC
From: "Richard C. Ferryman" <Richard.Ferryman@btinternet.com>
Message-ID: <uepgavgplo31qdcl37ue23de95dm95e0v8@4ax.com>
Source record: 120004

On a boat - what type of boat?
If a yacht with mast then get the aerial well up the mast around the crosstrees. Water is normally the lowest point wherever you are so an aerial near the deck is virtually at sea level, often below wave level and certainly not line of site to anything!
Also do't use a large colinear; as you roll it will alternately beam your signal to the water or up to the sky. A 1/2 wave or 1/4 wave will be fine. If on salt water do use a fibreglass encased version. Even stainless steel gets etched and suffers from electrolytic action in the presence of salt air / water.
If on a motor boat mount the aerial as high as practical.
Don't use a marine aerial for 2m or vice verce as the match will be horrendous. Anyway you will probably require both marine aand amateur simultaneously.
Richard
"Ted Nugent" <eclip01@hotmail.com> wrote:

>I am looking to put a 2 meter mobile rig on my boat
>(aluminum hull) and am undecided on using a
>regular VHF Marine antenna, or a standard 2 meter
>mobile antenna with an NMO mount and mounting
>it on the rear of the deck. Anyone here have any
>experiences or recommendations on what to use?
>Thanks .....

1453. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:41:05 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA859F1.2080401@ieee.org>
Source record: 120005

Dr. Slick wrote:
> You wrote this, " The number 3 answer is that both numbers 1 and
> 2 are incorrect. There is
> no virtual short that causes anything. Wave cancellation causes
> reflections
> and in a matched system, 100% of the reflected energy reverses
> direction and
> flows toward the load. There is simply no other place for it to go.
> This
> has been verified experimentally in the field of optics but appears to
> be politically incorrect at the ARRL and on this newsgroup. "

All that is true. The wave cancellation occurs at a physical
impedance discontinuity. For the Nth time, reflections do not
occur except at a physical impedance discontinuity.

> Fine, Cecil, as long as you agree that reflections can only
> happen at a physical discontinuity of the transmitting medium, I'm
> happy to end the discussion here.

I have NEVER said otherwise. What I have said is that you cannot
get 100% reflection from a physical reflection coefficient of 0.5.
If we are getting 100% reflection from a point where the physical
reflection coefficient is 0.5, wave interference is occurring to
make that possible.
--
73, Cecil, Moore

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1454. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:48:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA85BB6.9060407@ieee.org>
Source record: 120006

Jim Kelley wrote:
> Would you like to redirect the discussion back to the point of
> contention? Or do you intend to continue trying to argue with things
> that I haven't said.

Your postings have left me completely in the dark about what you
think. You say there aren't any reflections then you say there are.
How about giving me your latest thoughts in 20 words or less.

> On this much, we have always agreed. As I've said repeatedly, you are
> correct about this much. It's the way you get there that's getting you
> into trouble.

I am not aware of being in any trouble. All I have heard so far are
contradictions and violations of the laws of physics. I suspect you
simply do not understand what I have been saying. So how do you get
there without any trouble?
--
73, Cecil, W5DXP

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1455. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 21:57:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA85DB2.5070901@ieee.org>
Source record: 120007

Gene Fuller wrote:
> If you can prove that (classical) EM waves in free space interact with
> each other, under any circumstances of direction, coherency, or anything
> else, then I would make the following recommendation.

Please cease and desist with the straw men, Gene. That's an unethical
method of debate. Everything I have said requires a physical impedance
discontinuity. So it is up to you to prove that nothing happens when
EM waves encounter a physical impedance discontinuity.

> Hint: Each example you have provided, including transmission lines, AR
> glass, two-slit diffraction, and many others, depends on something in
> addition to electromagnetic waves to demonstrate its magic. That
> "something" may be important.

That something is a physical impedance discontinuity, and I have
emphasized that as a requirement over and over. And it's not magic. It
is fully understood in the field of optics.

> However, I believe that classical
> explanations will work for most amateur radio purposes.)

So do I, but it seems most hams (including the ARRL) are opposed
to importing classical explanations from the related field of optics.
--
73, Cecil, W5DXP

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1456. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 22:04:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA85F7B.3050404@ieee.org>
Source record: 120008

Gene Fuller wrote:
> Like you, I am always trying to learn.
> Could you point out the page where Hecht says what you attribute below?
> I would like to better understand the context.

Did you see my quote from Hecht in another post? I didn't write down
the page but I believe it is in the "superposition" section. I will
get the info the next time I am at the Texas A&M library.

In a nutshell, The QEX article's PFtotal=P1+P2+2Sqrt(P1)Sqrt(P2) comes
from the superposition of two waves contain intrinsic energy components
of P1 and P2. Since P1 and P2 don't add up to PFtotal, constructive
interference is occurring. If constructive interference is occurring,
destructive interference must also be occurring. That's what Hecht says.

>>Hecht says that the 2 Sqrt(P1) Sqrt(P2) energy term in the QEX article
>>must be matched by a -2 Sqrt(P1) Sqrt(P2) energy term somewhere else but
>>there's absolutely no mention of such a term in the QEX article.
--
73, Cecil, W5DXP

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1457. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 22:10:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA860CE.1010402@ieee.org>
Source record: 120009

Jim Kelley wrote:
> Now you're arguing about whether you argued with me.

Your postings are just fine and haven't given me any
reason to change my mind. That leads me to believe you
don't understand what I am saying. Exactly what is it
about your postings that you think disagrees with what
I have said? Perhaps you have been confused by the
straw man attempts.
--
73, Cecil, W5DXP

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1458. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 22:38:39 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA8676D.C03565EF@att.net>
Source record: 120010

Cecil,

Your memory must be going.

I was specifically responding to your objection to Richard Harrison. He said that two EM waves can pass through each other (or something like that) and you responded that this was true only if the waves were not coherent.

My message to you was perhaps a bit tongue in cheek, but it was not at all a strawman.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > If you can prove that (classical) EM waves in free space interact with
> > each other, under any circumstances of direction, coherency, or anything
> > else, then I would make the following recommendation.
>
> Please cease and desist with the straw men, Gene. That's an unethical
> method of debate. Everything I have said requires a physical impedance
> discontinuity. So it is up to you to prove that nothing happens when
> EM waves encounter a physical impedance discontinuity.
>
> > Hint: Each example you have provided, including transmission lines, AR
> > glass, two-slit diffraction, and many others, depends on something in
> > addition to electromagnetic waves to demonstrate its magic. That
> > "something" may be important.
>
> That something is a physical impedance discontinuity, and I have
> emphasized that as a requirement over and over. And it's not magic. It
> is fully understood in the field of optics.
>
> > However, I believe that classical
> > explanations will work for most amateur radio purposes.)
>
> So do I, but it seems most hams (including the ARRL) are opposed
> to importing classical explanations from the related field of optics.
> --
> 73, Cecil, W5DXP
>
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1459. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 22:52:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA86ACA.3040406@ieee.org>
Source record: 120011

Gene Fuller wrote:
> I was specifically responding to your objection to Richard Harrison. He
> said that two EM waves can pass through each other (or something like
> that) and you responded that this was true only if the waves were not
> coherent.

I seriously doubt I said that, Gene. I certainly didn't mean to.
What I was trying to say is that, in a transmission line, coherent
waves traveling in the same direction have an effect of each other.
--
73, Cecil, W5DXP

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1460. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 22:57:51 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA86BED.28ECAC09@att.net>
Source record: 120012

Cecil,

OK, this *was* a strawman. You know as well as I that Hecht never said any such thing. About 99% of all the arguments on this topic are based on your interpretations and extrapolations of the writings of Melles-Griot, Hecht, and others. These writings are completely standard stuff, and there is no argument with any of it.

One more time, absolutely no one believes that conservation of energy is violated. There is no disagreement about anything that can actually be observed or measured. The only thing that causes disagreement is your particular version of the underlying mechanisms.

For the record:

Walt Maxwell's description of the transmission line problem is valid and correct.

Steve Best's description (in QEX) of the transmission line problem is valid and correct. Steve's criticism of Walt is not correct.

Cecil Moore's description of the transmission line problem may be valid and correct, but it is not clear to me just what the description really is.

There are many examples of two or more correct approaches to the solution of a given problem. As long as a solution method is not mis-applied to a different problem, and as long as it gives physically correct observable results, it's fine.

Any argument about the ultimate correctness or purity of one method over another for the solution of an application problem is simply a philosophical argument.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > Like you, I am always trying to learn.
> > Could you point out the page where Hecht says what you attribute below?
> > I would like to better understand the context.
>
> Did you see my quote from Hecht in another post? I didn't write down
> the page but I believe it is in the "superposition" section. I will

> get the info the next time I am at the Texas A&M library.
>
> In a nutshell, The QEX article's PFtotal=P1+P2+2Sqrt(P1)Sqrt(P2) comes
> from the superposition of two waves contain intrinsic energy components
> of P1 and P2. Since P1 and P2 don't add up to PFtotal, constructive
> interference is occurring. If constructive interference is occurring,
> destructive interference must also be occurring. That's what Hecht says.
>
> >>Hecht says that the 2 Sqrt(P1) Sqrt(P2) energy term in the QEX article
> >>must be matched by a -2 Sqrt(P1) Sqrt(P2) energy term somewhere else but
> >>there's absolutely no mention of such a term in the QEX article.
> --
> 73, Cecil, W5DXP
>
> ----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
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1461. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:09:17 UTC
From: k1bqt@aol.com
Message-ID: <20030424190917.21879.00000036@mb-m11.aol.com>
Source record: 120013

>...please prove that existence exists.<

If I were in Texas, I'd prove existance by buying beers and tequilla in a heart-felt effort to get you rip-roaring drunk. Unfortunately, real proof of existance would comes later....the next morning.

Rick K1BQT

1462. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:17:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA87082.10909@ieee.org>
Source record: 120014

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Richard Harrison wrote:
>>
>>>CAM, W5DXP wrote:
>>>"There are presently three schools of ham thought about 100%
>>>re-reflection of reflected energy in a matched system."
>>>
>>>A reflection only occurs at an impedance bump caused by a change at that
>>>spot in the medium as the wave travels through.
>>
>>Yes, that's true.
>
> If you agree, the you should not imply otherwise. When you claim that
> destructive interference causes energy to reverse course you are in fact
> explicitly claiming otherwise.

You are confused about what I have said. Wave cancellation AT
AN IMPEDANCE DISCONTINUITY causes energy to reverse course. Impedance
discontinuities cause reflections which can cause destructive interference.
I don't know what you think I implied. Complete wave cancellation can
ONLY occur at an impedance discontinuity.
--
73, Cecil http://www.qsl.net/w5dxp

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1463. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:21:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8717C.4010103@ieee.org>
Source record: 120015

Richard Harrison wrote:
> Where does constructive / destructive interference come from?

If two voltage phasors are added and the relative phase angle between them is less than 90 degrees, the interference between them is constructive. If the relative phase angle between them is greater than 90 degrees and 180 degrees or less, the interference between them is destructive.
--
73, Cecil http://www.qsl.net/w5dxp

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1464. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:26:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA872B6.60507@ieee.org>
Source record: 120016

Gene Fuller wrote:
> OK, this *was* a strawman. You know as well as I that Hecht never said
> any such thing.

Of course he did, Gene. I will provide you chapter and verse next time
I go to the Texas A&M library. I am sorry that I can't remember the
page number for you.

> Walt Maxwell's description of the transmission line problem is valid and
> correct.

Walt says that all the reflected power is re-reflected.

> Steve Best's description (in QEX) of the transmission line problem is
> valid and correct.

Steve says that all the reflected power is not re-reflected. How can
both of those statements be correct?
--
73, Cecil http://www.qsl.net/w5dxp

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1465. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:32:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA87413.8030902@ieee.org>
Source record: 120017

Gene Fuller wrote:
> Cecil, Your memory must be going.

Nope, it's yours as proven by this quote:

"Richard Harrison wrote:"
"Waves course through each other with no reaction."
"
"When they are traveling in opposite directions or when they"
"are not coherent."

> I was specifically responding to your objection to Richard Harrison. He
> said that two EM waves can pass through each other (or something like
> that) and you responded that this was true only if the waves were not
> coherent.

As you can see, I never said that. Coherent waves often do not "course
through each other with no reaction". Sometimes coherent waves cancel
each other. Maybe you should review the difference between an inclusive
statement and an exclusive statement.
--
73, Cecil http://www.qsl.net/w5dxp

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1466. Re: 706 tune

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:34:47 UTC
From: Mark <blockspam@spamblock.com>
Message-ID: <g0tgav4vmt5k626a3vo04nfv5ogbr6nath@4ax.com>
Source record: 120018

In looking at the schematic and comments from the previous posting, is
the connection dot shown on your schematic in error? It seems that
only the TKEY line needs to be grounded by the relay contacts and that
the TSTR line should be pulled up by the resistor.

Am I correct in my assumptions?

Mark
WA4KFZ

--
On Fri, 18 Apr 2003 11:53:45 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>jlevine wrote:
>> I have a 706 and want to place it into 10 watt tune mode .
>> I see 706 tune controls and it can't be to difficult to build
>> one myself.
>> Does anyone have a schematic for the above mentioned
>
>Here's what I did for my screwdriver antenna. Replacing the
>relay with a toggle/pushbutton switch will put the 706 in
>tune mode.
>
>http://www.qsl.net/w5dxp/706screw.htm

--
PCB Milling
http://www.pcbmilling.com
Be sure to "unblock" the address to reply.
Your source for information on prototype
PC board fabrication, rapid prototyping
and related topics.

1467. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:39:13 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <fqsgav4tehl9iuvkmpfv4cchr8lsr9ta1g@4ax.com>
Source record: 119919

On Thu, 24 Apr 2003 14:37:28 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

|"Rick Littlefield" wrote
|
|> Take your pick, Reg:
|>
|> 1. Roy's answer.
|> 2. Ten times the feedpoint resistance.
|> 3. All you can get.
|> 4. All of the above.
|>
|================================
|
|Roy's dare-devil reply is sufficiently vague.

What's vague about it? With a 50 ohm antenna, a common mode impedance
20 to 40 times the feedpoint impedance should certainly be enough.

1468. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:46:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8776B.20304@ieee.org>
Source record: 119920

Jim Kelley wrote:
> Please read the following very carefully: your concept that
> interference between waves is a cause for a reversal in the direction of
> propagation is unsupported by the underlying physics.

I disagree with that. Hint: So does the Melles-Griot web page experiments.
They don't say why the experiments turn out that way, just that they do.

> The two relevant
> things which do occur in nature are phase cancellation, and reflection.

Please define "phase cancellation".

> The energy that is directed toward the load never existed as a wave
> travelling in the opposite direction, therefore it didn't change
> direction, it didn't have to change direction, and furthermore it
> couldn't have changed direction.

Of course it existed for an infinitesimally small amount of time, Jim.
Or are you going to reject the concept of a 'dt' in calculus? It was
reflected and engaged in wave interference with a wave that was of
equal magnitude and 180 degrees out of phase, something it could not
do if it were traveling in the opposite direction. Of course, it didn't
survive for more than an infinitesimally small amount of time. Are
you incapable of conceiving of a 'dt' of time just because you are
incapable of measuring a 'dt' of time?

> Is this coming through clearly to you yet?

Loud and clear, Jim - you are disagreeing with calculus! Your argument
shoots down integral and differential calculus. Do you really believe
that you are up to that task? If you don't accept calculus, you might
as well reject the reflection model while you are at it. The reflection
model falls apart if you reject the calculus concept of a 'dt'.
--
73, Cecil http://www.qsl.net/w5dxp

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1469. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-24 23:50:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA87861.20104@ieee.org>
Source record: 119921

Richard Clark wrote:

> ... write your request for additional details there instead ...

I have no idea what the above means. I know the definition of all the
words, but the paragraph makes absolutely no sense. Where is "there"?
--
73, Cecil http://www.qsl.net/w5dxp

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1470. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:03:23 UTC
From: nat.gurumoorthy@ubicom.com
Message-ID: <41325e56.0304241603.361ae2fc@posting.google.com>
Source record: 119922

I have one more question: What is the best wire to build the antenna with. Davis RF has some fine antenna wires to choose from. What to pick? The choices are a) #14 7 strand Copper clad steel b) #18 Solid Copper Clad Steel
c) #14 7 Strand hard drawn copper d) #12 19 strand tinned copper clad steel and so on.
Regards
Nat

nat.gurumoorthy@ubicom.com (Nat Gurumoorthy) wrote in message news:<41325e56.0304231741.750a022e@posting.google.com>...
> Hi All,
> What is the best way to attach wires to the Quad spreader? ARRL
> antenna book advises against drilling and soldering a short wire
> across the joint. I was thinking of wrapping the wire once around the
> spreader and then tightening things down with some small black zip
> ties and then coating it with a layer of epoxy to weather proof it. I
> don't know if the wire will stay put or is it going to slide as the
> spreaders flex in the wind. Anybody care to share their experience.
> Regards
> Nat Gurumoorthy AB6SJ

1471. Re: 706 tune

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:04:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA87B71.5030305@ieee.org>
Source record: 119923

Mark wrote:
> In looking at the schematic and comments from the previous posting, is
> the connection dot shown on your schematic in error? It seems that
> only the TKEY line needs to be grounded by the relay contacts and that
> the TSTR line should be pulled up by the resistor.
>
> Am I correct in my assumptions?

I don't know. My circuit works as presented.
--
73, Cecil http://www.qsl.net/w5dxp

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1472. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:18:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vagvm12atq0417@corp.supernews.com>
Source record: 119924

By all means, the slide rule is fine.

To measure the common mode impedance of a choke balun, simply wind a piece of wire on the core with the same number of turns as you'll use for the actual balun. Connect one end of the wire to the center conductor of the antenna analyzer connector and the other to the connector shell. Read the impedance at the frequency of interest. Or if you prefer, you can wind it with a short piece of the actual coax you'll be using. Connect the two coax conductors together on each end of the winding, and measure as you would with a single wire. If the impedance is out of the analyzer's range, you can use a different number of turns and the relationship that the impedance is proportional to the square of the number of turns.

Use the same method to measure a W2DU type balun (ferrite cores slipped over a coax line). If the measurement is out of range, measure a different number of cores and extrapolate -- the impedance is directly proportional to the number of cores.

Roy Lewallen, W7EL

Brian Kelly wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vaehq5br51pa9@corp.supernews.com>...
>
>>500 - 1000 ohms is a good rule of thumb for a reasonably matched
>>antenna. You can find the impedance of most cores at the Fair-Rite web
>>site, or you can measure it with an impedance meter or antenna analyzer.
>
>
> OK, I'll shoot for 750 ohms. Some day I'd like to understand how one
> measures the impedance of a choke balun with MFJ analyzers but for now
> I'll diddle the slide rule, buy the cores and get on the air.
>
> Tnx.
>
>
>>Roy Lewallen, W7EL
>
>
> w3rv

1473. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:20:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mpvgav0fd0rctful3tkqo4smintc2eackj@4ax.com>
Source record: 119925

On Thu, 24 Apr 2003 18:50:57 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> ... write your request for additional details there instead ...
>
>I have no idea what the above means. I know the definition of all the
>words, but the paragraph makes absolutely no sense. Where is "there"?

Like I said, no more hints, it is already too simple.

73's
Richard Clark, KB7QHC

1474. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:40:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vah10cjgrbe679@corp.supernews.com>
Source record: 119926

Reg Edwards wrote:
> . . .
> Who's ever heard of a mhometer or a milliseimensmeter?
> ---

I have. I've used a mho meter. If you'd taken a moment to do even a quick web search, you would have found a number of mho meters and siemens meters for sale, applications for them, and descriptions of their use. Then you could have joined the exclusive club of us old wives who have heard of one.

Roy Lewallen, W7EL

1475. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:45:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8a0ef$r1o$1@hercules.btinternet.com>
Source record: 119927

"Richard Harrison" wrote -
> My dictionary defines alternating current as:
> "A flow of electricity which reaches maximum in one direction in one
> direction, decreases to zero, then reverses itself and reaches maximum
> in the opposite direction. The cycle is repeated continuously."

==========

Let's get this straight -

Disregarding the morocco binding, the average value of ANY alternating waveform, assymetrical or not, over a complete cycle is zero. The waveform may cross over the line any number of times during a complete cycle.

Graphically, if a horizontal line is drawn through the waveshape versus time, and the area enclosed between the waveshape and the line when the wave is above the line is the same as the area enclosed between the line and the waveshape when the wave is below the line, then that line is defined as the mean value.

In the case of electric currents, ampere-seconds in one direction of current equals ampere-seconds in the other direction. And so a moving coil DC meter will indicate zero amps.

It takes many times longer to describe what it's all about in plain English, or plain Chinese or Iraqi, than it does to grasp the idea.

Other measures associated with waveforms are peak-values, (if assymetrical, either +ve or -ve relative to zero), rectified mean values, and rms-values.

For the most simple of all waveforms, the sinewaveform, the relationships between peak, rectified mean and rms values are well known and defined.

But anyone using an ordinary multirange meter should be aware that although an instrument indicates rms values (such that P = I*V)it actually responds to mean rectified values. SO, IF THE WAVEFORM OF THE ALTERNATING QUANTITY IS NOT A SINEWAVE, AS IT VERY OFTEN ISN'T, THEN YOU WILL CERTAINLY GET THE WRONG ANSWERS.

Many radio amateurs and professional engineers, ie., paid for their services, suffer from delusions of accuracy and sometimes draw the wrong conclusions. Obtaining money under false pretences ? On the other hand, with radio, anything will work. ;o)

Ah well, it's long struck midnight and I've been sipping Maori "White Cloud" New Zealand medium white.

Yours, Reg, G4FGQ

1476. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:51:25 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030424205125.27207.00000034@mb-m26.aol.com>
Source record: 119928

> How reliable are these cable ties from the standpoint of
>weathering? How do you prevent the wire from sliding around in the
>loop as the spreaders flex in the wind? What I am afraid of is that
>the wire will eventually saw through the cable ties?
>Regards
>Nat
>

Never had any problems with black ties.
You just bend the wire 90 degrees (corner of the loop) through the looped tie area and it ain't going anywhere looped (one or two turns) tie grips it tight too.
I used #10, 12 or 14 solid Electrical wire, insulated, in hope to reduce rain static, but I think the difference is negligible. Never had any breaks. You need to account for insulation by shortening the loops by abt 5%.
I keep spreaders in one plane perpendicular to boom and tighten the loops by sliding the hose clamps, or by pushing the spreaders out at the boom area (fine tuning the tension)
I pretention the wire by pulling it straight befor folding. That also hardens the copper a bit and reduces any further stretching. If I can, I use one fatest spreader at the top, in diamond shape loops, it holds the rest of them.
The best antennas, no corrosion in the joints, nothing to burn.

GL and have fun!

Yuri, K3BU

1477. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:54:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8874C.20803@ieee.org>
Source record: 119929

Richard Clark wrote:
> On Thu, 24 Apr 2003 18:50:57 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:
>>>... write your request for additional details there instead ...
>>
>>I have no idea what the above means. I know the definition of all the
>>words, but the paragraph makes absolutely no sense. Where is "there"?
>
> Like I said, no more hints, it is already too simple.

So what happens to the energy in canceled waves?
--
73, Cecil http://www.qsl.net/w5dxp

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1478. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:56:20 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030424205620.27207.00000035@mb-m26.aol.com>
Source record: 119930

>
>Who is Nathan Cohen?

One of the personalities of "famous" freakin scientwiphic fractal antenna
genius.
You have not heard of him? Shame on you :-)

Bada BUm

1479. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:56:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8a14c$1h5$1@sparta.btinternet.com>
Source record: 119931

Wes, Roy hardly needs any support for your imagined criticism.

1480. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 00:58:45 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030424205845.27207.00000036@mb-m26.aol.com>
Source record: 119932

>I pretention

ooops, that's pretension :-)

1481. Re: PSE HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 01:15:35 UTC
From: Steve <steve_lyon@prodigy.net>
Message-ID: <X_%pa.202$E_5.126@newssvr19.news.prodigy.com>
Source record: 119933

"Andrea" <IZ0EHOtogliquesto@libero.it> wrote in message
news:MPG.191221d195b0970f9896b4@news.fastwebnet.it...
> Please let me know where i can download on the web the service manual for
> transceiver ATLAS
> Thank you
> --
> IZ0EHO Andrea
> www.qsl.net/iz0eho
> rimuovere TOGLIQUESTO dall'indirizzo per rispondermi

Your post does not mention which model of Atlas you are looking for. If it
is the 210X or 215X, take a look here.

http://www.qsl.net/on6ab/Atlas.html

I hope this is what you are looking for.

73, Steve

1482. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 01:16:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8a2a9krp1@titan.btinternet.com>
Source record: 119934

Dear Roy, I was pushing my luck about mhometers. I didn't realise there were more than one in a million who had ever heard of one.

But have you ever heard of a milliseimensmeter ? Presumably you didn't have much luck with Google.

Don't you think you are getting away from the point because for some reason you prefer the impractical scientific mS unit of measurement.

Please go ahead and have the last say. ;o)

Reg.

1483. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 01:29:15 UTC
From: nat.gurumoorthy@ubicom.com
Message-ID: <41325e56.0304241729.4a61c301@posting.google.com>
Source record: 119935

Bob,
Resistivity = 1/Condutivity
= 1000/15 ohm-meter
Regards
Nat

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<hkbgav4co0g1gj5vlskddpt966no00fuk1@4ax.com>...
> On Tue, 22 Apr 2003 20:42:51 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
> >NEW PROGRAM now available.
> >
> >Analysis of 1/2-wave resonant Inverted-V and dipole antennas with either
> >coaxial or balanced-twin feelines.
> >
> >Includes all the geometry/trigonometry to ensure it will fit into your back
> >yard.
> >
> >Download program INV_VEE.exe from website below.
> >---
> >=======================
> >Regards from Reg, G4FGQ
> >For Free Radio Design Software
> >go to http://www.g4fgq.com
> >=======================
> >
>
> Reg, your program input data calls for my Soil Resistivity in
> ohm-meters. I have fairly okay black-moisty soil; according the the
> ARRL Antenna Book map on page 3-7, my area has Ground Conductivity of
> about 15 millisiemens per meter, or possibly 30 mS/m.
>
> Is there any way to easily convert conductivity in mS/m to resistivity
> in ohm-meters?
>
> Thanks,
>
> Bob
> k5qwg

1484. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 01:48:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7c4hav4pf20l7o3aosjqmbevcf86ek2mpc@4ax.com>
Source record: 119936

On Thu, 24 Apr 2003 19:54:36 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> On Thu, 24 Apr 2003 18:50:57 -0500, OC_CAM's Razor
>> <Cecil.A.Moore@ieee.org> wrote:
>>
>>>Richard Clark wrote:
>>>>... write your request for additional details there instead ...
>>>
>>>I have no idea what the above means. I know the definition of all the
>>>words, but the paragraph makes absolutely no sense. Where is "there"?
>>
>> Like I said, no more hints, it is already too simple.
>
>So what happens to the energy in canceled waves?

Still trying to squeek out another hint, hmmm?

73's
Richard Clark, KB7QHC

1485. Re: PSE HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:14:32 UTC
From: Chuck/KE4ETH <chuck_hawks@hotmailNOSPAMORAMA.com>
Message-ID: <RI0qa.47504$y84.17546@fe09.atl2.webusenet.com>
Source record: 119937

Try

http://www.davepick.btinternet.co.uk/atlas/

or try the following at http://groups.yahoo.com

atlas210x-215x

atlas_radio

check the files sections for manuals and schematics.

--
73,
Chuck
KE4ETH
USA-NA

"Andrea" <IZ0EHOtogliquesto@libero.it> wrote in message
news:MPG.191221d195b0970f9896b4@news.fastwebnet.it...
> Please let me know where i can download on the web the service manual for
> transceiver ATLAS
> Thank you
> --
> IZ0EHO Andrea
> www.qsl.net/iz0eho
> rimuovere TOGLIQUESTO dall'indirizzo per rispondermi

1486. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:31:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA89DEE.9010904@ieee.org>
Source record: 119938

Yuri Blanarovich wrote:
>>Who is Nathan Cohen?
>
> One of the personalities of "famous" freakin scientwiphic fractal antenna
> genius. You have not heard of him? Shame on you :-)

Who is John Galt?
--
73, Cecil http://www.qsl.net/w5dxp

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1487. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:36:12 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA89F1C.9090803@ieee.org>
Source record: 119939

Jim Kelley wrote:
> As you know, I'm still looking for the proof that a wave can be reversed
> simply by cancellation. As we've discussed, physical discontinuities
> are required in order for waves to reverse their course. I can find no
> exceptions to that in the physics. Both yours and Walter's ideas seem
> to be at odds with that fact.

That is absolutely false, Jim. Both my wave cancellation and Walt's
virtual short can happen *ONLY* at a physical impedance discontinuity.
Where on earth did you come up with this straw man of yours? Is this
an extension of your April Fool's joke?
--
73, Cecil http://www.qsl.net/w5dxp

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1488. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:37:37 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <dc7hav09fj8b2uo9un5uvt4ua3daekgi7q@4ax.com>
Source record: 119941

On Thu, 24 Apr 2003 17:40:45 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Reg Edwards wrote:
>> . . .
>> Who's ever heard of a mhometer or a milliseimensmeter?
>> ---
>
>I have. I've used a mho meter. If you'd taken a moment to do even a
>quick web search, you would have found a number of mho meters and
>siemens meters for sale, applications for them, and descriptions of
>their use. Then you could have joined the exclusive club of us old wives
>who have heard of one.
>
>Roy Lewallen, W7EL

Thanks to all for the very complete answers on siemens/ohms
conversions.

For the heck of it, I just took my VOM multitester out to the back
yard, jammed the probes into the earth to measure the ohms, and, of
course, the meter needle didn't budge. I guess that would have been
too easy.

No wonder they have mho and siemens meters!

Bob
k5qwg

1489. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:41:08 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA8A042.DFAC3BC4@att.net>
Source record: 119940

Cecil,

A large part of the disagreement between Steve and Walt, and apparently you, is that the various terms are not defined exactly the same in each treatment.

If you work through the exact derivations, accepting all of the definitions of the author and adding none of your own spin, you will find that both Steve's and Walt's methods are internally self consistent, they give the right (and same) answer, and they do not violate any physical laws.

If you try to fit one set of definitions into the other derivation there will certainly be conflicts.

What the heck is a "re-reflection" anyway? For a steady state condition this is just a convenience for making models. (If you insist the problem is not steady state then none of this analysis is complete enough.)

If one works the problem using standard EM equations with correct boundary conditions, the conventional setup would be to establish forward and reverse waves on each side of discontinuity and then solve the resulting equations. No re-reflection would ever appear in the formalism.

I do not have the slightest problem with the disagreement you note below, since re-reflection is simply part of a handwaving solution to the problem. Different folks wave differently.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:

[snip]

>
> > Walt Maxwell's description of the transmission line problem is valid and
> > correct.
>
> Walt says that all the reflected power is re-reflected.
>
> > Steve Best's description (in QEX) of the transmission line problem is
> > valid and correct.

>
> Steve says that all the reflected power is not re-reflected. How can
> both of those statements be correct?
> --
> 73, Cecil http://www.qsl.net/w5dxp

1490. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 02:55:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8A38E.7050104@ieee.org>
Source record: 119942

OC_CAM's Razor wrote:
> Jim Kelley wrote:
>
>> As you know, I'm still looking for the proof that a wave can be reversed
>> simply by cancellation. As we've discussed, physical discontinuities
>> are required in order for waves to reverse their course. I can find no
>> exceptions to that in the physics. Both yours and Walter's ideas seem
>> to be at odds with that fact.
>
> That is absolutely false, Jim. Both my wave cancellation and Walt's
> virtual short can happen *ONLY* at a physical impedance discontinuity.
> Where on earth did you come up with this straw man of yours? Is this
> an extension of your April Fool's joke?

Jim, I have gone on record as saying that nothing happens
except at a physical impedance discontinuity. I believe that I was the
first person on this newsgroup to assert that a physical discontinuity
is required in order for reflections to even exist and I have never said
otherwise.

It is an *absolute necessity* that there exist a physical impedance
discontinuity. I have said that at least a dozen times.
Given the forward waves and the reflected waves, the two impedance
discontinuities cause two reflections which interfere with each other.
The resulting 100% wave cancellation causes a reversal in direction
of the reflected energy. If it's not flowing one direction, it has
to flow the only other direction available. The impedance discontinuity
causes the reflections which lead to wave cancellation which causes the
energy direction reversal. I have been saying that for almost two years.
--
73, Cecil http://www.qsl.net/w5dxp

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1491. Outbacker Stealth + Tripod

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 03:04:59 UTC
From: Harv Nelson <ha.nelson@centurytel.net>
Message-ID: <pan.2003.04.25.03.04.59.298028@centurytel.net>
Source record: 119943

I'm planning to build a "plumber's delight" tripod of 1/2 inch hard copper tubing. The legs will be about 6ft long (max) and knock down for easy packing/carrying. I plan to mount an "Outbacker - Stealth" multi-band mobile whip atop the tripod and add a bunch of 16 guage copper wire radials for each band to each leg of the tripod (= 3 radials for each band).

I plan to use this thing this summer in camping/portable opreations with a FT-897 multiband rig. Battery powered. Solar charged.

Any no-no's, cautions, suggestions, precepts you'd care to pass along would be of great help.

Thanks

Harv/AI9NL

1492. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 03:13:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA8A7EB.7010101@ieee.org>
Source record: 119944

Gene Fuller wrote:
> If you work through the exact derivations, accepting all of the
> definitions of the author and adding none of your own spin, you will
> find that both Steve's and Walt's methods are internally self
> consistent, they give the right (and same) answer, and they do not
> violate any physical laws.

They arrive at opposite conclusions which cannot both be correct.
Steve's conclusions are obviously a slap at Walt's conclusions.
Steve doesn't say, "Depending upon the model being used, 100%
re-reflection may be considered to be a moot point." He says 100%
re-reflection *IS* a FALLACY and a MISCONCEPTION. Why Steve is
allowed to assert such nonsense without having to worry about
criticism and rebuttals from the subscribers appearing in QEX
is a question that only QEX can answer.

> What the heck is a "re-reflection" anyway?

A change in direction of reflected energy from flowing toward
the source to flowing toward the load. That happens to all the
reflected energy in a matched system.
--
73, Cecil http://www.qsl.net/w5dxp

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1493. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 04:16:42 UTC
From: "Ryan, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <b8bkg4$80rdi$3@ID-189073.news.dfncis.de>
Source record: 119960

If your Field Day is actually going to be used as a PR function as well as a so-called emergency preparedness test, try coming up with something incredible unconventional. Saw one time, where a guy made an antenna out of 2 sets of bed springs, and a support structure to hold it.

I can't remember what frequency it actually was resonant on, but he did use an antenna tuner. Definitely was an "eye-catcher!" Wish I would have taken a picture of it! :)

--
Ryan, KC8PMX
FF/MFR
REMOVE "NOSPAM" in email address to reply.
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...

"Max" <ts850_guy@cogeco.ca> wrote in message
news:krRpa.4660$Qg2.676100@news20.bellglobal.com...
> Our local club will be running a few multiband verticals for 20m and up, I
> have acquired an SGC230 tuner and am wondering what would the best wire
> antenna be for 160-40m??
>
> Ideas?
>
> Thanks,
> Max
>
>

1494. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 04:36:01 UTC
From: richardharrison@webtv.net
Message-ID: <2430-3EA8BB31-125@storefull-2314.public.lawson.webtv.net>
Source record: 119945

Reg, G4FGQ wrote:
"---the average value of ANY alternating waveform, assymetrical or not, over a complete cycle is zero."

I agree with Reg if we use Roy`s criterion. Roy . if I recall, says an assymetrical waveform may be in effect a composite of an a-c and d-c parts.

Now, let`s consider the reality of electronic amplification. An undistorted sine wave has two half-cycles. Both are sine-wave-shaped. Often, after amplification, one half of a cycle is flattened to some extent and the other half-cycle remains sine-wave-shaped (as an oscilloscope image). This wave, with one half flattened, lacks symmetry about the zero-volt axis. These distorted waveforms are showing on oscilloscopes everywhere. Their average value is not quite zero volts until further processing.

Best regards, Richard Harrison, KB5WZI

1495. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 05:24:20 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <behhav8btoq97apkt7e4282iadu86319rk@4ax.com>
Source record: 119946

On Fri, 25 Apr 2003 00:56:44 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

|Wes, Roy hardly needs any support for your imagined criticism.
|

Me criticize? <g>

I simply asked a question, "What's vague about it?

So what is your answer?

ps. You should really go back to California wines.

1496. Re: Question about HF Quad building

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 05:43:32 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA8CB04.F209F270@cwis.net>
Source record: 119947

Nat,
It really isn't going to make a lot of difference
unless you really put some tension of the wire. I'd
pick something fairly light, you don't need any more
weight than necessary...
'Doc

1497. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 06:11:00 UTC
From: tdonaly@aol.com
Message-ID: <20030425021100.02864.00000064@mb-m13.aol.com>
Source record: 119948

Wes wrote,
>On Fri, 25 Apr 2003 00:56:44 +0000 (UTC), "Reg Edwards"
><g4fgq.regp@btinternet.com> wrote:
>
>|Wes, Roy hardly needs any support for your imagined criticism.
>|
>
>Me criticize? <g>
>
>I simply asked a question, "What's vague about it?
>
>So what is your answer?
>
>
>ps. You should really go back to California wines.
>
>
>

He already destroyed the California wine industry when he stopped
drinking California wine in favor of the French. It'll never be the
same again.
73,
Tom Donaly, KA6RUH

1498. hear station on back of hill too

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 07:15:02 UTC
From: Dan Jacobson <jidanni@dman.ddts.net>
Message-ID: <87d6jbgia1.fsf@jidanni.org>
Source record: 120049

On the north side of the hill I can receive FM89.9, the intellectual station, "UFO radio", on the south side of the hill, and the ridgeline, 89.9, cud chewer radio. My goal is to bring intellectual value to my life when on the south side.

In nooks around the house on the south side, I can sometimes get 89.9 barely. The hill is 30 m high.

I suppose if I string coax over the top of the hill and back down the north side, I can pull 89.9 unadulterated back over.

Or if I get some slightly more discriminatory FM receivers, but lets pretend that all I have is kitchen tools.

Perhaps I can put a short antenna inside a metal box with one side open and point that around, finding just the right angle where I get some 89.9's rays while excluding 89.7, from all the reflections.

89.9 is 20 km E, and 89.7 is 40 km SE of here, both not line of sight.

OK, with a Sangean SR-15, I am able to get 88.9 clearly. However, the radio must be placed in front of the front door of the (metal siding) house, at waist height. i.e. the only spot with good reception is right on a major traffic way. Also running a speaker wire from the radio causes it to partially pull in other stations...
--
http://jidanni.org/ Taiwan(04)25854780

1499. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 10:22:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA90C77.6080707@ieee.org>
Source record: 119949

Tdonaly wrote:
> He already destroyed the California wine industry when he stopped
> drinking California wine in favor of the French. It'll never be the
> same again.

I'm trying to compensate for Reg. I bought 10 liters of Franzia yesterday.
--
73, Cecil http://www.qsl.net/w5dxp

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1500. No, look at this one....it really is spam.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 10:58:14 UTC
From: listener <listener@here.net>
Message-ID: <ax8qa.274965$S14.10786@news1.central.cox.net>
Source record: 119950

This is not obscene. Full details at the bottom.

Fuck off.

Testimonials:

The Pope: It really works!!

Simon from American Idol: After reading this I just had to fuck off!

Fred Savage: Although there wasn't anything in it for me I just had to do it. Consider me well and truly fucked off - Thanks Geritol.

George W. Bush: All spammers should take this opportunity and fuck off. You'll be glad you did.

1501. Follow Up Quest. re Antenna To Receiver Impedance Mis-Match ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 12:08:40 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b8b8gdime1@slb3.atl.mindspring.net>
Source record: 119951

Hello:

A few days ago, I posted a question (appended below for info.) regarding the impedance mis-match for a
new Scantenna ST2 antenna I've ordered and my receiver.

As always, replies and info were great, and am glad to learn that there's nothing to be concerned about.

But, as I will be ordring new coax, I do have the option of getting 75 ohm (that will match the receive-only antenna)
or 50 ohm that will match the receivers input.

Will of course try to get the larger diameter, lower loss stuff, in either case.
Might as well try and pull in all those micro-db's as possible, although difference is probably not meaningful.

What should I buy: 50 ohm or 75 ohm ? Why ? (I do listening only.
About a 50 ft run)

Thanks,
Bob

Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving 30 MHz to 1.3 GHz.

This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to 75 ohm Balun, apparently).

Of course, my receiver only has a 50 ohm input for this range. (always something)

Let me ask my question two ways for clarity:

a. I already have a 50 ohm coax run from my attic (replacing a R/S Discone) to my receiver input which I would like to utilize again, if practical.

Can someone please describe the effects of this mis-match, if I just plug the new 75 ohm antenna into this 50 ohm cable?

b. If I do go to the trouble of running a new 75 ohm coax line from the new antenna to my receiver, what are the effects of using
this to the 50 ohm receiver input ? "Meaningful losses" ? What's the best approach for me?

1502. Re: Follow Up Quest. re Antenna To Receiver Impedance Mis-Match ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:43:37 UTC
From: richardharrison@webtv.net
Message-ID: <16008-3EA93B89-309@storefull-2315.public.lawson.webtv.net>
Source record: 119957

Robert 11 wrote:
"---I do have the option of getting 75 ohm (that will match the receive only antenna) or 50 ohm that will match the receiver input."

It`s no big deal. Either coax choice is almost as good as the other.

SWR slightly increases cable loss. SWR is determined by mismatch between cable and load. Load for the cable is the receiver. If the receiver is matched to the cable, there are no standing waves on the cable. If the receiver is really 50-ohms at all frequencies, it should be fed with a 50-ohm coax for 1:1 SWR.

There is not much difference in loss between 50-ohm and 75-ohm cable of similar size and construction, but at 1-GHz, RG-58 may be 10 db lossier than RG-8. These are both 50-ohm cables and the loss is for 100 ft of cable. For 50 feet, the RG-8 advantage is 5 db.

A Scantenna is not going to have 75 ohms as a source impedance from 30 MHz to 1.3 GHz. The input impedance of the receiver won`t look like a 50-ohm resistor over the range of 30 MHz to 1.3 GHz, either. So, the better coax choice is likely determined by experiment. It won`t be RG-58 or RG-59.

Best regards, Richard Harrison, KB5WZI

1503. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:47:58 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EA93E2E.1FFF5CC8@uwe.ac.uk>
Source record: 119953

Richard Harrison wrote:
>
> Reg, G4FGQ wrote:
> "---the average value of ANY alternating waveform, assymetrical or not,
> over a complete cycle is zero."
>
> I agree with Reg if we use Roy`s criterion. Roy . if I recall, says an
> assymetrical waveform may be in effect a composite of an a-c and d-c
> parts.
>
> Now, let`s consider the reality of electronic amplification. An
> undistorted sine wave has two half-cycles. Both are sine-wave-shaped.
> Often, after amplification, one half of a cycle is flattened to some
> extent and the other half-cycle remains sine-wave-shaped (as an
> oscilloscope image). This wave, with one half flattened, lacks symmetry
> about the zero-volt axis. These distorted waveforms are showing on
> oscilloscopes everywhere. Their average value is not quite zero volts
> until further processing.
>
> Best regards, Richard Harrison, KB5WZI

So the signals aren't pure AC any more, but AC with a DC offset, as
per Roy. If the average value is not zero it isn't pure AC.
Your amplifier produces a DC offset. Further processing is
presumably a DC blocking capacitor.

vy 73

Andy, M3ABC

1504. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:49:17 UTC
From: inbox@mail.com
Message-ID: <3449d144.0304250549.310d8378@posting.google.com>
Source record: 119952

Hey thanks for the info guys. I think I'll try the reflector idea with the original phone antenna before I buy one. I'll check the local library for info on how to build one. I'm looking at about 30' of cable to reach the top of the tower, would RG58 or RG8X be a good cable to use for this? Any better suggestions?

Thanks
PW

1505. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:52:54 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EA93F57.18549FFD@uwe.ac.uk>
Source record: 119955

Brian Kelly wrote:
>
> I think what I enjoy most about dot antennas is that it's one of the
> few places one can find really decent voodoo physics.
>

ROTFLMAO. Thanks, Brian.

vy 73

Andy, M3ABC

p.s. If you need more there is a golden on news:sci.physics ;-)

1506. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:56:01 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EA94012.108B590A@uwe.ac.uk>
Source record: 119956

Brian Kelly wrote:
>
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vaehq5br51pa9@corp.supernews.com>...
> > 500 - 1000 ohms is a good rule of thumb for a reasonably matched
> > antenna. You can find the impedance of most cores at the Fair-Rite web
> > site, or you can measure it with an impedance meter or antenna analyzer.
>
> OK, I'll shoot for 750 ohms. Some day I'd like to understand how one
> measures the impedance of a choke balun with MFJ analyzers but for now
> I'll diddle the slide rule, buy the cores and get on the air.
>
> Tnx.
>
> > Roy Lewallen, W7EL
>
> w3rv

10 or 11 turns of coax, about a foot across seems to work. Heavy though.

vy 73

'golden' should have been 'goldmine' in my last. Speel chucker got me.

1507. 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 13:59:11 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <rdfiavokh41sm90vmn2v1o3ihj6ur5h0v6@4ax.com>
Source record: 119954

Hi Group,

The situation:

I have just built a DCTL antenna for 80M that I will be putting in the attic. It won't be as good as an outside antenna I know but it's worth a go, as I don't have space for anything outside and want to try 80M.

If you are familiar with this design it is fed with 300Ohm ribbon. The problem is that last time I ran some 300Ohm ribbon out of the attic to the shack I got RF everywhere, the TVI was back etc... If I feed with coax into the attic everything is ok.

I now have 2 choices:

a) Build a 4:1 Balun and use 75 ohm coax (I'd rather not as it's not good quality) and have a little mis-match at the rig, or use 50 ohm coax and have a little mis-match at the balun.

b) Build a 6:1 balun, use 50 ohm cable and be done with it.

Now I would prefer to do b) but I don't mind which gets done.

My question:

Does anyone have some info about winding a Balun, either 4:1 or 6:1 on a ferrite rod. I have seen mention in other articles but not seen any constructional info. The rod is about 12cm long and 1cm diameter.

Thanks in advance

Iain M0PCB

1508. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 14:10:52 UTC
From: richardharrison@webtv.net
Message-ID: <16009-3EA941EC-116@storefull-2315.public.lawson.webtv.net>
Source record: 119959

T. Donaly, KA6RUH wrote:
"He already destroyed the California wine industry when he stopped
drinking California wine in favor of the French."

Seen the French Army Knife?

It`s just like the Swiss, except all the pull-outs are various
corkscrews save one, a long spike equipped with a white flag.

Best regards, Richard Harrison, KB5WZI

1509. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 14:45:11 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EA949F4.29B00D2D@att.net>
Source record: 119958

Cecil,

They arrive at opposite conclusions about something that is not physical and cannot be measured. The disagreement is simply due to internal artifacts of the respective models. The measurable conclusions are the same.

Probably time to go quiet again.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > If you work through the exact derivations, accepting all of the
> > definitions of the author and adding none of your own spin, you will
> > find that both Steve's and Walt's methods are internally self
> > consistent, they give the right (and same) answer, and they do not
> > violate any physical laws.
>
> They arrive at opposite conclusions which cannot both be correct.
> Steve's conclusions are obviously a slap at Walt's conclusions.
> Steve doesn't say, "Depending upon the model being used, 100%
> re-reflection may be considered to be a moot point." He says 100%
> re-reflection *IS* a FALLACY and a MISCONCEPTION. Why Steve is
> allowed to assert such nonsense without having to worry about
> criticism and rebuttals from the subscribers appearing in QEX
> is a question that only QEX can answer.

1510. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 15:11:56 UTC
From: richardharrison@webtv.net
Message-ID: <2429-3EA9503C-435@storefull-2314.public.lawson.webtv.net>
Source record: 119963

PW wrote:
"Any better suggestions?"

Ordinary RG-8 is 4 to 10 db less lossy per 100 ft at 1 GHz than the coax PW suggested. For 30 feet, his loss is only 30% of the loss of 100 feet. 900 MHz loses less energy than 1 GHz, but the difference is small. The table on page 24-19 of edition 19 of the ARRL Antenna Book is my reference.

Best regards, Richard Harrison, KB5WZI

1511. Degen Designs at DAYTON HAMVENTION

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 15:23:14 UTC
From: G&R <spam@limbo.hell>
Message-ID: <xpcqa.4645$2g5.679875@news20.bellglobal.com>
Source record: 119961

Fellow Amateurs,

We are please to annouce that we will be accepting VISA and MASTERCARD at Dayton.

Please drop by and visit our booth (details on our site).

www.degendesigns.com

Thank you for taking the time to read this posting and helping our company along.

73

Guenther Schweigl VE3CVS
info@degendesigns.com

1512. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 15:42:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA95755.9000806@ieee.org>
Source record: 119962

Gene Fuller wrote:
> They arrive at opposite conclusions about something that is not physical
> and cannot be measured.

How come QEX publishes one set of conclusions and refuses
to publish the others?
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
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1513. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 15:46:20 UTC
From: Greg Queen <GregQueen@cal.berkeley.edu>
Message-ID: <gLcqa.1132$2e.32785651@newssvr14.news.prodigy.com>
Source record: 119964

"Ryan, KC8PMX" <kc8pmx@diamondcs.net> wrote in message
news:b8bkg4$80rdi$3@ID-189073.news.dfncis.de...
> If your Field Day is actually going to be used as a PR function as well as
a
> so-called emergency preparedness test, try coming up with something
> incredible unconventional. Saw one time, where a guy made an antenna out
of
> 2 sets of bed springs, and a support structure to hold it.
>
> I can't remember what frequency it actually was resonant on, but he did
use
> an antenna tuner. Definitely was an "eye-catcher!" Wish I would have
taken
> a picture of it! :)
>

And in the days when beverage containers were not aluminum, there was always
the "beer can vertical".
In the spirit of community service, a number of college fraternities
volunteered to remove the liquid
from the cans. I will never forget the look on my mother's face when
33-feet of "Brew 102" rose from
the roof of the house. It did not stay up long :)

Greg Queen
GregQueen@cal.berkeley.edu

1514. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 16:33:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b1niavkvubq5atqj2nvcdt14sbi5jfh0dn@4ax.com>
Source record: 119965

On Fri, 25 Apr 2003 08:42:13 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Gene Fuller wrote:
>> They arrive at opposite conclusions about something that is not physical
>> and cannot be measured.
>
>How come QEX publishes one set of conclusions and refuses
>to publish the others?

Condolences Cecil,

Who needed one set in the first place? Two would have been doubly idiotic, three would have distorted the space-time continuum. Perhaps your loss was due to the needs of National Security, and you have yet to come to terms with that.

Your doe-eyed regret at having lost the chance of becoming the next Pulitzer of Antenna publishing is showing. By-the-by, I don't suppose your finished work that you stood us off from for 6 or 7 months is posted yet is it? You know, the one you wanted me to keep secret from the others here in the group. I find it hard to follow the logic of how a paper "finished for publication" requires another 4 month re-write for a fairly simple page inclusion on the net (or why a public paper needed so much secrecy - did the "publisher's" refusal follow your own request for a non-disclosure agreement? Now THAT would make sense all around).

It seemed your stock response with not answering questions was in regard to the "publishers" which kept you from offering specifics to your outrageous claims. Offhand, given the "publishers" having declined the honor of spilling ink in the shape of your letters, I would have imagined that this "finished piece of work" would have simply gone straight to a page. However, you did express some puzzlement out of doing this from Word (and I recall that I had mentioned using Word since 1995 to publish several hundred web pages) and I can well imagine that you are still at a loss.

Correct me with a link if that is no longer a problem. TIA ;-)

73's
Richard Clark, KB7QHC

1515. Re: Follow Up Quest. re Antenna To Receiver Impedance Mis-Match ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 16:35:25 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EA963CD.2040207@mwci-news>
Source record: 119966

Robert11 wrote:
> Hello:
>
> A few days ago, I posted a question (appended below for info.) regarding the
> impedance mis-match for a
> new Scantenna ST2 antenna I've ordered and my receiver.
>
> As always, replies and info were great, and am glad to learn that there's
> nothing to be concerned about.
>
> But, as I will be ordring new coax, I do have the option of getting 75 ohm
> (that will match the receive-only antenna)
> or 50 ohm that will match the receivers input.
>
> Will of course try to get the larger diameter, lower loss stuff, in either
> case.
> Might as well try and pull in all those micro-db's as possible, although
> difference is probably not meaningful.
>
> What should I buy: 50 ohm or 75 ohm ? Why ? (I do listening only.
> About a 50 ft run)
>
> Thanks,
> Bob
> ----------------------
>
> Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving 30
> MHz to 1.3 GHz.
>
> This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to 75
> ohm Balun, apparently).
>
> Of course, my receiver only has a 50 ohm input for this range. (always
> something)
>
> Let me ask my question two ways for clarity:
>
> a. I already have a 50 ohm coax run from my attic (replacing a R/S Discone)
> to my receiver input which I would like to utilize again, if practical.
>
> Can someone please describe the effects of this mis-match, if I just plug
> the new 75 ohm antenna into this 50 ohm cable?
>
> b. If I do go to the trouble of running a new 75 ohm coax line from the new

> antenna to my receiver, what are the effects of using
> this to the 50 ohm receiver input ? "Meaningful losses" ? What's the
> best approach for me?
>

Receivers are designed to operate from a certain
value of source impedance, for example 50 ohms or
75 ohms. Old vacuum tube rcvrs often used 200
ohms. The exact value of receiver "input
impedance" is seldom, if ever, known or specified.

If a 75 ohm antenna is connected to a receiver
that was designed for a 50 ohm source, a small
signel loss may occur. Attempting to correct for
this is usually not worthwhile, except possibly at
UHF or microwave frequencies.

My suggestion, "forget about it".

Bill W0IYH

1516. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 16:37:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cvoiav4sg9j5hpo1f014st7far1hoocpm9@4ax.com>
Source record: 119967

On Fri, 25 Apr 2003 10:11:56 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>PW wrote:
>"Any better suggestions?"
>
>Ordinary RG-8 is 4 to 10 db less lossy per 100 ft at 1 GHz than the coax
>PW suggested. For 30 feet, his loss is only 30% of the loss of 100 feet.
>900 MHz loses less energy than 1 GHz, but the difference is small. The
>table on page 24-19 of edition 19 of the ARRL Antenna Book is my
>reference.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard, All,

There's a simpler way. Move the scanner to the antenna, and run
audio/control lines back to the shack. No issue of cable loss or
cable selection. No need to ponder the noise issues of an amplifier.

73's
Richard Clark, KB7QHC

1517. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 17:37:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9726B.4090802@ieee.org>
Source record: 119968

Richard Clark wrote:
> You know, the one you wanted me to keep secret from
> the others here in the group.

Reviewers are usually sworn to secrecy before an article is
published, Richard. I offered you a copy if you wouldn't
release the details of my article ahead of me. You refused
to agree to that.

> Offhand, given the "publishers" having
> declined the honor of spilling ink in the shape of your letters, I
> would have imagined that this "finished piece of work" would have
> simply gone straight to a page.

It could have but it went straight to another publisher instead.
It is presently undergoing another review process.
--
73, Cecil, W5DZXP

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1518. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:14:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <05tiavc7rgrlac5299fmm28hpm2samsrad@4ax.com>
Source record: 120019

On Fri, 25 Apr 2003 10:37:47 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>It is presently undergoing another review process.

Well then my condolences were misplaced, you have no link to offer and
you still don't know how to publish from Word.

Is it at another vanity rag, or one dedicated to fractal challenges?
Whoops, I'm sure that the "publishers," pondering the risk of being
defamed through association, have restrained you from answering this
question too. I presume this is why you are being so coy about it
(you sure gushed on about QEX).

Are you using your own name (any blackball issues we should know
about, or does that come later with the future refusal?)? You didn't
poison the well with these new "publishers" with your claim of being a
mincing continental fop harassed by the vatican did you? We can
believe it (within bounds of course) but these stiff and heartless
souls that so condemn your opus are unlikely to follow this foolish
notion of yours.

73's
Richard Clark, KB7QHC

1519. G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:18:13 UTC
From: bob <news@elinkusa.com>
Message-ID: <FZeqa.41731$4P1.3808380@newsread2.prod.itd.earthlink.net>
Source record: 120020

Got me a new MFJ-259B at a recent hamfest and have been giving it a workout. For anyone interested, I made measurements on my G5RV "all band" antenna and they are listed below. I've never seen this data anywhere before, but I'm sure it's been around somewhere. It sure shows that this antenna is good primarily for it's all band "capabilities." By the way, mine is a straight dipole about 32' high and the ladder line comes off at an angle so that its end is about 8' off the ground (the ladder line is 31' and the dipole is 103' so this is the 3.5 to 30 MHz model, not the 160 meter model.) All measurements were done at the coax connector at the end of the ladder line. Bear in mind that these readings would all change at the transmitter location because of the impedance transformation of the coax line, unless it is an exact multiple of a half wavelength (velocity factor taken into consideration) for the frequency of the measurement. -Bob K8GNZ
(check out www.HW-101.com)

Frequency	R	X	SWR
3.5	14	22	3.4
3.75	17	62	5.2
4.0	13	155	17.8
7.0	20	110	10.3
7.2	24	78	5.9
7.3	26	63	4.3
14.0	64	112	4.7
14.1	75	89	3.3
14.2	91	75	2.8
14.225	93	69	2.6
14.3	97	75	2.9
21.2	66	258	14.4
29.0	0	272	25+
29.5	0	238	25+

1520. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:28:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <r5ednQ5p4rn44zSjXTWcqw@comcast.com>
Source record: 120021

Richard,
He has a cell phone (seems to imply analog), not scanner. Bigest question
may be whether there is any way to connect an external antenna to it.

Tam/WB2TT

> Hi Richard, All,
>
> There's a simpler way. Move the scanner to the antenna, and run
> audio/control lines back to the shack. No issue of cable loss or
> cable selection. No need to ponder the noise issues of an amplifier.
>
> 73's
> Richard Clark, KB7QHC

1521. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:29:52 UTC
From: mark <beschm@charter.net>
Message-ID: <vaivlpn47g1pbc@corp.supernews.com>
Source record: 120022

Iain,

Go with the solution to wind a transformer that will match 50:300 ohms. I highly reccomend Transmission Line Transformers, by Jerry Sevick, W2FMI. It's an ARRL publication and will tell you all you could want to know about the subject. Important to winding the transformer is the permeability of the the material that the ferrite rod is made of. Once you know this, along with the physical measurements that you have, you can address the actual construction of the balun. Hope this helps.

mark
ns1v

"Iain Kelly" <no.spam@m0pcb.co.uk> wrote in message
news:rdfiavokh41sm90vmn2v1o3ihj6ur5h0v6@4ax.com...
> Hi Group,
>
> The situation:
>
> I have just built a DCTL antenna for 80M that I will be putting in the
> attic. It won't be as good as an outside antenna I know but it's worth
> a go, as I don't have space for anything outside and want to try 80M.
>
> If you are familiar with this design it is fed with 300Ohm ribbon. The
> problem is that last time I ran some 300Ohm ribbon out of the attic to
> the shack I got RF everywhere, the TVI was back etc... If I feed with
> coax into the attic everything is ok.
>
> I now have 2 choices:
>
> a) Build a 4:1 Balun and use 75 ohm coax (I'd rather not as it's not
> good quality) and have a little mis-match at the rig, or use 50 ohm
> coax and have a little mis-match at the balun.
>
> b) Build a 6:1 balun, use 50 ohm cable and be done with it.
>
> Now I would prefer to do b) but I don't mind which gets done.
>
> My question:
>
> Does anyone have some info about winding a Balun, either 4:1 or 6:1 on
> a ferrite rod. I have seen mention in other articles but not seen any
> constructional info. The rod is about 12cm long and 1cm diameter.
>
> Thanks in advance

>
> Iain M0PCB

1522. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:33:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA97F63.9630E137@uci.edu>
Source record: 120023

OC_CAM's Razor wrote:
> > Is this coming through clearly to you yet?
>
> Loud and clear, Jim - you are disagreeing with calculus!

No, but please try and illustrate.

1523. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:39:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA980E6.B642605B@uci.edu>
Source record: 120024

OC_CAM's Razor wrote:
> I have said it takes two reflections to get the net reflections
> to zero.

What you get it zero. If don't get zero, you get reflection. This is the point you refuse to accept. You can't have reflections in a case where reflections are prevented. You don't get to have both. That's just the way it works.

> Those two reflections either exist or they don't.

That's RIGHT!! If they would cancel on reflection, then they won't reflect.
Special case though. Usually there will be some reflection due to the fact that perfect cancellation almost never occurs.

ac6xg

1524. Re: My Name Is Arthur Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:43:26 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030425144326.21092.00000067@mb-m18.aol.com>
Source record: 120025

>
>Not only have I heard of him, he sent me this letter!
>
>

Yep, I am a pround recipient of said "legal" mumbo-jumbo letter too!
One day it will fetch fortune on eBay.

BUm

1525. Re: Help needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 18:50:32 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8c01r$8hd7o$1@ID-134747.news.dfncis.de>
Source record: 120026

Obtain transmatch that will accommodate log-wire,
and run a length of #12 insulated wire from the
transmatch to the apartments rain gutter
downspout. Be sure to drive an earth ground, but
since your apartment in ground level this should
not be a problem. The gutter should work the
world for you an any band you are interested in.
Had a friend in similar circumstances WAS in nine
months and he was well on his way to DXCC in the
same period. The period was 1976-1977, the
apartment building was 150' long and 50' deep, and
the rain gutter rain continuously around the
perimeter. The only "damage" you MAY do, if you
cannot find an existing screw to attach your wire
to the downspout is the size of the single screw
hole needed.

--
73 es cul

wb3fup
a Salty Bear

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
message
news:b7sfv2$1ke$1@slb6.atl.mindspring.net...
>
> "listener" <listener@here.net> wrote in message
>
news:tWioa.193115$S14.132164@news1.central.cox.net...
> > I'm living in a ground floor apartment and
have tried most of the indoor
> HF
> > antennae with poor results.
> >
> > Here is my plan:
> > 25' from the back of the apartment is a wooded
area with trees up to 60'
> > high. My receiver is in my front room and my
bedroom is inbetween the rear
> > of the apartment and my receiver.
> >
> > My questions are, I have a length of feedwire
from RadioShack (I know, not
> > the best), if I ran that outside to the 25' of

grassed area between the
> > apartment and woods, buried it and connected
it to a longwire would that
> > work?
> >
> > My 2nd question is, how long a wire should I
use? I'm planning on tying a
> > stone to the end (Multi stranded copper) and
throwing it as far as
> possible
> > over a tree or two. I'm mainly listening to
1MHz up to around 27MHz
> however
> > it's the lower freqs of 2-8MHz I'm mainly
interested in, I have around 50
> or
> > 60' of wire for the antenna, I could get more
without a problem.
> >
> > Last question, If I run another wire beside
the feedline to the longwire
> can
> > I attatch it to the ground rod at the back of
the apartment for the ground
> > screw on my receiver? (Icom PCR-1000)
> >
> > Here's a bad picture of what I'm trying to do:
> >
> > http://members.cox.net/xboxemulation/ant.bmp
> > 24k in size
> >
> > Thanks for any answers anybody may have, it's
appreciated.
> >
> >
> >
> >
> >
>
> The wire you run underground should be
insulated. Or use coaxial cable
> (prefered).
>
> I see no real need in running a ground wire to
the outside ground rod.
>
> It should work alright for receiving.
>
> Basically the more wire the better.
>

> Dan/W4NTI
>
>
>

1526. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:06:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA98720.4060609@ieee.org>
Source record: 120027

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>>Is this coming through clearly to you yet?
>>
>>Loud and clear, Jim - you are disagreeing with calculus!
>
> No, but please try and illustrate.

You don't believe a reflected wavefront can exist for
a 'dt' of time before being canceled. That's disagreeing
with calculus.
--
73, Cecil, W5DXP

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1527. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:09:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8t1javs4n6ankuu21lr6scif42su4jkptp@4ax.com>
Source record: 120028

On Fri, 25 Apr 2003 12:06:08 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>
>You don't believe a reflected wavefront can exist for
>a 'dt' of time before being canceled. That's disagreeing
>with calculus

Hi Cecil,

Obviously you're suffering from the dt's and he isn't.

73's
Richard Clark, KB7QHC

1528. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:26:32 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <iWSdna8r8dp1FjSjXTWcoQ@comcast.com>
Source record: 120029

Bob,

Very interesting. Just for kicks, I was going to duplicate your measurements on my 75 meter loop. Could not use the MFJ on any frequency when checking the 75 m antenna because of BC interference! Showed an SWR of infinity. (The MFJ works on every other antenna). So, resorted to the Kenwood SWR/power meter. Here are the readings I got:

frequency SWR

3.5 + 2.8
3.8 1.2
3.98 1.8
7.2 >10
14.2 3.1
18.15 1.8
21.3 3.0
24.95 2.0
28.3 2.2

The antenna wass cut for 3.8 MHz. I could not get any reading on 40 meters because I couldn't get enough drive to calibrate the SWR meter. There is a 1/4 wave section at 3.8 Mhz of RG11, plus another 75 feet of 50 ohm coax in the line.

It's not obvious to me why this is a single band antenna and the G5RV is "multiband".

Tam/WB2TT

"bob" <news@elinkusa.com> wrote in message
news:FZeqa.41731$4P1.3808380@newsread2.prod.itd.earthlink.net...
> Got me a new MFJ-259B at a recent hamfest and have been giving it a
workout.
> For anyone interested, I made measurements on my G5RV "all band" antenna
and
> they are listed below. I've never seen this data anywhere before, but I'm
> sure it's been around somewhere. It sure shows that this antenna is good
> primarily for it's all band "capabilities." By the way, mine is a
straight
> dipole about 32' high and the ladder line comes off at an angle so that
its
> end is about 8' off the ground (the ladder line is 31' and the dipole is
> 103' so this is the 3.5 to 30 MHz model, not the 160 meter model.) All
> measurements were done at the coax connector at the end of the ladder
line.

> Bear in mind that these readings would all change at the transmitter
> location because of the impedance transformation of the coax line, unless
it
> is an exact multiple of a half wavelength (velocity factor taken into
> consideration) for the frequency of the measurement. -Bob K8GNZ
> (check out www.HW-101.com)
>
> Frequency R X SWR
> ------------ ---- ---- -------
> 3.5 14 22 3.4
> 3.75 17 62 5.2
> 4.0 13 155 17.8
>
> 7.0 20 110 10.3
> 7.2 24 78 5.9
> 7.3 26 63 4.3
>
> 14.0 64 112 4.7
> 14.1 75 89 3.3
> 14.2 91 75 2.8
> 14.225 93 69 2.6
> 14.3 97 75 2.9
>
> 21.2 66 258 14.4
>
> 29.0 0 272 25+
> 29.5 0 238 25+
>
>
>
>
>
>
>
>

1529. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:27:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA98C08.736874FE@uci.edu>
Source record: 120030

OC_CAM's Razor wrote:
> Everything I have said requires a physical impedance
> discontinuity.

What physical discontinuity do your destructively interfering waves
encounter after they reflect and interfere, and when they change
direction and head toward the load?

ac6xg

1530. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:34:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA98DBA.262B6954@uci.edu>
Source record: 120033

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > As you know, I'm still looking for the proof that a wave can be reversed
> > simply by cancellation. As we've discussed, physical discontinuities
> > are required in order for waves to reverse their course. I can find no
> > exceptions to that in the physics. Both yours and Walter's ideas seem
> > to be at odds with that fact.
>
> That is absolutely false, Jim. Both my wave cancellation and Walt's
> virtual short can happen *ONLY* at a physical impedance discontinuity.

According to you, it happens dt after they encounter an impedance discontinuity, which would place it dx away from that impedance discontinuity. Does it happen by force at a distance?

You have yet to describe the reflection mechanism by which the phase canceled wave reverses direction - something which you continue to insist actually occurs, and which appears in the paper you sent to a publication I won't name out of courtesy to you.

ac6xg

1531. SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:35:15 UTC
From: Blake McBride <blake@mcbride.name>
Message-ID: <vaj3fk9soe361c@news.supernews.com>
Source record: 120031

Greetings,

I am new to SW radios and was hoping I could get some pointers on
an antenna. Given the following facts what would you recommend?

I have a Grundig 800
I'd like to have a pretty good antenna
I live near Nashville, TN
I have a lot of outdoor space
Money is not a big issue
I am not good with my hands and don't like building projects
Ground rod may be difficult because of the amount of rock

It seems to me that some sort of really good pre-packaged, everything
included kit
would be best. I could find someone in the area to help me. Perhaps there
is someone
in the Nashville area who knows what they are doing.

Thanks for the help.

Blake McBride
blake@mcbride.name

1532. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:36:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA98E3C.4050504@ieee.org>
Source record: 120032

Jim Kelley wrote:
> What you get it zero. If don't get zero, you get reflection. This is
> the point you refuse to accept. You can't have reflections in a case
> where reflections are prevented. You don't get to have both. That's
> just the way it works.

You have to have two reflections before they can engage in wave
cancellation. It's all explained on the Melles-Griot web page.
IOR is index of refraction.

```
| |
Light-->--air---|~~~thin-film~~~|===infinite glass===...
| |
IOR=1.0 IOR=1.225 IOR=1.5
```

There is one reflection at the 1.0 to 1.225 discontinuity.

There is another reflection at the 1.225 to 1.5 discontinuity.

Those two reflected waves superpose to a ***NET*** reflected
wave of zero. Unless there are two reflected waves in the first
place, reflections cannot be canceled. In other words, you have
to first have two reflections in order to eliminate reflections.
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

1533. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:39:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA98F07.EEA30C70@uci.edu>
Source record: 120034

OC_CAM's Razor wrote:
> Jim, I have gone on record as saying that nothing happens
> except at a physical impedance discontinuity. I believe that I was the
> first person on this newsgroup to assert that a physical discontinuity
> is required in order for reflections to even exist and I have never said
> otherwise.

Yes, you just forgot about it for a while - until I hammered it back into you. But, you still haven't provided the mechanism for the reversal in direction of energy. You keep saying that destructive interference causes it after the waves reflect back toward the source. Those waves, if they do reflect back toward the source are travelling in the wrong direction, Cecil. I've explained how it is that energy actually does end up going the right direction, and you've yelled at me about it every step of the way.

You need to turn the squelch down a few notches.

ac6xg

1534. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:50:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA9919F.73583E53@uci.edu>
Source record: 120037

OC_CAM's Razor wrote:
> You have to have two reflections before they can engage in wave
> cancellation.

Here's the thing you don't understand, Cecil. Cancellation isn't something that takes shape, or forms, or 'exists'. It's in fact a case when something doesn't exist. Try to see the difference. The reflections never occur in the first place because of cancellation. The surfaces a which reflection could take places exist, the incident energy exists, but in the case of a matched impedance, or an antireflective coating, the reflections don't actually take place. They are cancelled. They don't have to reflect "first" in order to cancel. They cancel in the reverse direction - period.

jk

1535. Intel Yagi antenna and Access point 2011b vs Weather

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:51:15 UTC
From: joval99@hotmail.com
Message-ID: <dbfc21b3.0304251151.b554511@posting.google.com>
Source record: 120035

Hello all and thanks for reading this post.

I've installed wireless connection to some of my clients. Apparently, Yagi antenna is able to handle distance up to 5 miles or 12 kilometers and is supposed to not be affected by weather. Well all specialist told me this. How good specialist they are or are they real specialist ??? hehe i have no clue but for sure they are more than I (but something I start to wonder now ;)).

In fact, each time temperature goes colder, let's say close to 0 Celcius (32 Farenheit) or below, or each time it's raining or if there's a lot of humidity in the air, my APs (access point) lost their connection. I first though that maybe cold and humidity had reaction with microwave. Now I wonder if the problem comes from antennas. It depends on the distance also though. More the distance is high more the slighty weather change will have affect. For exemple: At one site, there's about 3 kilometers (1.8 miles) between the 2 hosts. I had a RF signal at about 7/31 or 8/31 RSSI so about 15 -20% of connection quality when I did the installation weather was like sunny and at about 10 Celcius degres. After about 2 weeks we got few days of rain and temperature goes colder. Result : Unable to connect no more. I'm even not able to do a RF test since the test module told me that it can't find the host ! (RF test module is build in access point)

I could tell many other examples about the same kind of situation but i'll not talk about them all. But please, don't tell me that there's nothing relative to weather; I saw that problem too often, but I agree that maybe the problem could come, not from the radio signal or microwave, but from maybe the Intel Yagi antenna it self (affect by the weather) or even the access point (2011b) that can't provide the power to a frozen and hungry Intel Yagi antenna.

Well in fact, I'm a newbie in this field since my field is more relative to network infrastructure, you all guys probably know more antenna than I. Situation is almost under control now since warm days comming soon but i'm worring about next winter. So please reply and don't be shy to share your ideas, your ideas will be always welcome.

Thanks in advance

P.S. Oh! btw, i'm from Montreal, Canada. (a last hint for people that know the weather here)

Joval

1536. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 19:53:44 UTC
From: bob <news@elinkusa.com>
Message-ID: <cngqa.41829$4P1.3814900@newsread2.prod.itd.earthlink.net>
Source record: 120036

Tam, I'm not familiar with the "75 meter loop" you have. What is that? A folded dipole perhaps, or something else. The SWRs look pretty good, except for 40, but I understand that is at your transmit position. Unless that stub and coax length transform the antenna SWR unchanged to the end at the transmitter, your readings may not be actual SWR at the antenna. Thanks for your input. -Bob K8GNZ

1537. Re: Intel Yagi antenna and Access point 2011b vs Weather

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:05:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ot4javc1t61k03u9vq47283q8ktlsrjo6l@4ax.com>
Source record: 120038

On 25 Apr 2003 12:51:15 -0700, joval99@hotmail.com wrote:

>Hello all and thanks for reading this post.
>
>I've installed wireless connection to some of my clients. Apparently,
>Yagi antenna is able to handle distance up to 5 miles or 12 kilometers
>and is supposed to not be affected by weather. Well all specialist
>told me this. How good specialist they are or are they real specialist
>??? hehe i have no clue but for sure they are more than I (but
>something I start to wonder now ;)).
>
>In fact, each time temperature goes colder, let's say close to 0
>Celcius (32 Farenheit) or below, or each time it's raining or if
>there's a lot of humidity in the air, my APs (access point) lost their
>connection. I first though that maybe cold and humidity had reaction
>with microwave. Now I wonder if the problem comes from antennas. It
>depends on the distance also though. More the distance is high more
>the slighty weather change will have affect. For exemple: At one site,
>there's about 3 kilometers (1.8 miles) between the 2 hosts. I had a RF
>signal at about 7/31 or 8/31 RSSI so about 15 -20% of connection
>quality when I did the installation weather was like sunny and at
>about 10 Celcius degres. After about 2 weeks we got few days of rain
>and temperature goes colder. Result : Unable to connect no more. I'm
>even not able to do a RF test since the test module told me that it
>can't find the host ! (RF test module is build in access point)
>
>I could tell many other examples about the same kind of situation but
>i'll not talk about them all. But please, don't tell me that there's
>nothing relative to weather; I saw that problem too often, but I agree
>that maybe the problem could come, not from the radio signal or
>microwave, but from maybe the Intel Yagi antenna it self (affect by
>the weather) or even the access point (2011b) that can't provide the
>power to a frozen and hungry Intel Yagi antenna.
>
>Well in fact, I'm a newbie in this field since my field is more
>relative to network infrastructure, you all guys probably know more
>antenna than I. Situation is almost under control now since warm days
>comming soon but i'm worring about next winter. So please reply and
>don't be shy to share your ideas, your ideas will be always welcome.
>
>Thanks in advance
>
>P.S. Oh! btw, i'm from Montreal, Canada. (a last hint for people that
>know the weather here)

>
>Joval

Hi Joval,

If it is a temperature/weather issue, it may be one of tolerances on the direction antennas are pointed. Your range seems OK, and loss due to atmospherics (rain/snow/etc.) shouldn't be too much of a problem (unless you cannot see through this muck).

Now, as to these others who want to connect and your antenna(s), especially if they are all yagis. You may be suffering from too much antenna, not too little. Yagis offer gain and focus, but they do this by robbing other directions of radiation. If your service feeds a yagi, that yagi will have to see ALL subscribers in roughly the same region, or on the same line of sight. If your subscribers are located all around you, some MUST suffer, or merely operate off of marginal signal strength that becomes poorer with bad weather.

73's
Richard Clark, KB7QHC

1538. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:19:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bl5javsenq9q5j3pf4abjgcvqp877eo3t0@4ax.com>
Source record: 120039

On Fri, 25 Apr 2003 14:35:15 -0500, "Blake McBride"
<blake@mcbride.name> wrote:

>Greetings,
>
>I am new to SW radios and was hoping I could get some pointers on
>an antenna. Given the following facts what would you recommend?
>
>I have a Grundig 800
>I'd like to have a pretty good antenna
>I live near Nashville, TN
>I have a lot of outdoor space
>Money is not a big issue
>I am not good with my hands and don't like building projects
>Ground rod may be difficult because of the amount of rock
>
>It seems to me that some sort of really good pre-packaged, everything
>included kit
>would be best. I could find someone in the area to help me. Perhaps there
>is someone
>in the Nashville area who knows what they are doing.
>
>Thanks for the help.
>
>Blake McBride
>blake@mcbride.name
>
>

Hi Blake,

You can certainly spend as much money as some might demand; but
results may not be in proportion.

30 feet of wire out the window, tossed into a nearby tree, and the
set's ground connected to an outside water bib will get you 80% of the
way for about as cheap as you can get by.

Beyond that you can accessorize with tuners, preselectors, audio
filters (DSP) and so forth too if you feel compelled to lighten your
wallet of its burden.

If you want to step up into the big league (more bucks), add a tower
and a Log Periodic Antenna (others will not perform nearly as well for
SW as they do for Ham activities). OR If you have a particularly
large lot (several hundred feet long in an auspicious direction) you

might want to try a Rhombic antenna (also wideband like the Log Periodic).

73's
Richard Clark, KB7QHC

1539. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:20:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA998A5.7080603@ieee.org>
Source record: 120040

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim, I have gone on record as saying that nothing happens
>>except at a physical impedance discontinuity. I believe that I was the
>>first person on this newsgroup to assert that a physical discontinuity
>>is required in order for reflections to even exist and I have never said
>>otherwise.
>
> Yes, you just forgot about it for a while - until I hammered it back
> into you.

I didn't forgot that, Jim. You obviously misunderstood something.

> But, you still haven't provided the mechanism for the
> reversal in direction of energy.

Of course I have, Jim. It's called conservation of energy. If dynamic
RF energy is canceled in one direction in a transmission line, there
is only one thing that can possibly happen. It goes the only other
direction that exists. Energy cannot be destroyed in a transmission
line.

> You keep saying that destructive
> interference causes it after the waves reflect back toward the source.
> Those waves, if they do reflect back toward the source are travelling in
> the wrong direction, Cecil.

That's why those two rearward-traveling reflected waves need to completely
cancel each other through superposition by having equal magnitudes and opposite
phases.

> I've explained how it is that energy
> actually does end up going the right direction, and you've yelled at me
> about it every step of the way.

You must have me confused with someone else. I don't remember you
explaining anything like that and I certainly don't remember yelling
at you about it. All I have yelled at you about is misquoting me.

Please humor me and tell me again. We have 33.33 joules/sec of
rearward-traveling reflected energy incident upon the Z0-match
point after being reflected from the load. Exactly what is it
that provides a reflection coefficient of 1.0 and re-reflects
it back toward the load?
--

73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1540. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:23:34 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <4c6cnTWssMXYBDSjXTWcoA@comcast.com>
Source record: 120041

Bob,

It's a vertically hung full wave closed loop. 260+ feet of wire topping out at 75 feet, and fed at one of the bottom corners. Theoretically it should be 65 x 65 x 65 x 65 feet, but I made the bottom wire longer (sides shorter) to get the bottom wire higher off the ground, about 15 -20 feet. So, it is shaped like a trapazoid.

The 75 Ohm RG11 is part of the antenna. The other coax is making it look better than it is, but not all that much. Oddly enough, I have used it on 40 meters. The pi network in the Amritron AL800 will tune it. I have also used it barefoot on 18 and 24 MHz, and once, accidentally, on 20 meters.

For a sanity check, you might want to check the SWR of the G5RV with an SWR meter. It might be better than the MFJ is telling you, especially if you have any 50KW AM stations within 50 miles of you. When measuring a large antenna, I found the MFJ sometimes works during the day, but never at night. I am going to build a 2 MHz highpass filter for it.

Tam/WB2TT
"bob" <news@elinkusa.com> wrote in message
news:cngqa.41829$4P1.3814900@newsread2.prod.itd.earthlink.net...
> Tam, I'm not familiar with the "75 meter loop" you have. What is that? A
> folded dipole perhaps, or something else. The SWRs look pretty good,
except
> for 40, but I understand that is at your transmit position. Unless that
> stub and coax length transform the antenna SWR unchanged to the end at the
> transmitter, your readings may not be actual SWR at the antenna. Thanks
for
> your input. -Bob K8GNZ
>
>
>

1541. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:26:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA999FC.6040100@ieee.org>
Source record: 120042

Jim Kelley wrote:
> The reflections never occur in the first place because of cancellation.

If they never occur in the first place, cancellation cannot happen.
You have a definite chicken and egg logic problem. You simply cannot
say that cancellation takes place between two things that never
existed. This is an extension of your April Fool's joke, isn't it?

Cancellation cannot happen between two waves traveling in opposite
directions. In that case, standing waves occur.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1542. Re: Follow Up Quest. re Antenna To Receiver Impedance Mis-Match ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 20:27:32 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <V9acnT7DDdCoBzSjXTWcqg@comcast.com>
Source record: 120043

You can't beat the price of RG6, and it is a lot lower loss than 58.

Tam/WB2TT

1543. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 21:08:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA9A3C1.6FB60CE@uci.edu>
Source record: 120044

OC_CAM's Razor wrote:
> > But, you still haven't provided the mechanism for the
> > reversal in direction of energy.
>
> Of course I have, Jim. It's called conservation of energy. If dynamic
> RF energy is canceled in one direction in a transmission line, there
> is only one thing that can possibly happen. It goes the only other
> direction that exists. Energy cannot be destroyed in a transmission
> line.

And after that you STILL haven't described the mechanism by which energy
is conserved. The mechanism you describe in your paper is not entirely
correct.

> > You keep saying that destructive
> > interference causes it after the waves reflect back toward the source.
> > Those waves, if they do reflect back toward the source are travelling in
> > the wrong direction, Cecil.

> That's why those two rearward-traveling reflected waves need to completely
> cancel each other through superposition by having equal magnitudes and opposite
> phases.

No rearward traveling waves, except when they don't cancel.

> > I've explained how it is that energy
> > actually does end up going the right direction, and you've yelled at me
> > about it every step of the way.

> You must have me confused with someone else.

Oh. Are there other w5dxp's posting to this newsgroup? Must have been
some other Cecil Moore emailing his preprints to me.

> Please humor me and tell me again.

The discourse with you has left me humorless. Simply move your cursor
back up the thread for a review.

> Exactly what is it
> that provides a reflection coefficient of 1.0 and re-reflects
> it back toward the load?

The premise of your question is faulty, as I have pointed out to you
twice before. The reflection coefficient is NOT 1.0 and the energy does
appear at the load - without turning around in mid-air. The problems
works out using only phase cancellation and reflection.

1544. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 21:19:09 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <i79javkehcqsb6v7vgntcibujcc0nspj0l@4ax.com>
Source record: 120045

On Fri, 25 Apr 2003 14:35:15 -0500, "Blake McBride"
<blake@mcbride.name> wrote:

>Greetings,
>
>I am new to SW radios and was hoping I could get some pointers on
>an antenna. Given the following facts what would you recommend?
>
>I have a Grundig 800
>I'd like to have a pretty good antenna
>I live near Nashville, TN
>I have a lot of outdoor space
>Money is not a big issue
>I am not good with my hands and don't like building projects
>Ground rod may be difficult because of the amount of rock
>
>It seems to me that some sort of really good pre-packaged, everything
>included kit
>would be best. I could find someone in the area to help me. Perhaps there
>is someone
>in the Nashville area who knows what they are doing.
>
>Thanks for the help.
>
>Blake McBride
>blake@mcbride.name

An easy project would be Radio Shack's Outdoor Antenna Kit, part #
278-758. It includes 70 feet of bare copper antenna wire, insulated
lead-in wire, insulators, and window feed-thru strip. Only costs about
$10, and would give you nice reception. String it up as high as you
can.

Bob
k5qwg

>
>

1545. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 21:35:02 UTC
From: bob <news@elinkusa.com>
Message-ID: <aShqa.40466$ey1.3691872@newsread1.prod.itd.earthlink.net>
Source record: 120046

Wow, quite a large array! Probably has a little gain over a single dipole.
Sounds sort of like a vertical rhombic.

I do get different readings on the SWR meters in the shack but that's mostly
because of the impedance transformation by the coax feedline. Some are
better, some are worse than the MFJ readings outside. There is a 50 kw AM
in the area, but I think it's 30+ miles away and off the end of the antenna.
Readings were done in the middle of the day and seemed to be consistent.

My trusty old HW-101 loads into about anything too. Can't say that for the
transistor rigs (w/o a tuner). I don't know whether to believe the readings
I got on 10 meters, but I don't plan on working 10 anyway. 73s, Bob

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:4c6cnTWssMXYBDSjXTWcoA@comcast.com...
> Bob,
>
> It's a vertically hung full wave closed loop. 260+ feet of wire topping
out
> at 75 feet, and fed at one of the bottom corners. Theoretically it should
be
> 65 x 65 x 65 x 65 feet, but I made the bottom wire longer (sides shorter)
> to get the bottom wire higher off the ground, about 15 -20 feet. So, it is
> shaped like a trapazoid.
>
> The 75 Ohm RG11 is part of the antenna. The other coax is making it look
> better than it is, but not all that much. Oddly enough, I have used it on
40
> meters. The pi network in the Amritron AL800 will tune it. I have also
used
> it barefoot on 18 and 24 MHz, and once, accidentally, on 20 meters.
>
> For a sanity check, you might want to check the SWR of the G5RV with an
SWR
> meter. It might be better than the MFJ is telling you, especially if you
> have any 50KW AM stations within 50 miles of you. When measuring a large
> antenna, I found the MFJ sometimes works during the day, but never at
night.
> I am going to build a 2 MHz highpass filter for it.
>

1546. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 21:38:57 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <ahajav8m23l90lk0hg31gb8fo1ko5ie37f@4ax.com>
Source record: 120047

On Fri, 25 Apr 2003 13:29:52 -0500, "mark" <beschm@charter.net> wrote:

>Iain,
>
> Go with the solution to wind a transformer that will match 50:300 ohms. I
>highly reccomend Transmission Line Transformers, by Jerry Sevick, W2FMI.
>It's an ARRL publication and will tell you all you could want to know about
>the subject. Important to winding the transformer is the permeability of the
>the material that the ferrite rod is made of. Once you know this, along with
>the physical measurements that you have, you can address the actual
>construction of the balun. Hope this helps.
>
>mark
>ns1v

Hi Mark,

That was my preferred option I must admit. I will try and locate a
copy of the book you mentioned. I'm sure a local ham will have a copy
I can look at! (I'm in practice for being a student, not spending huge
amounts of money - hence the build rather than buy approach!! hi!!)

ISTR the end of the rod was green, will have to look up the info.
There might even be a bit in "RF Circuits and Components" by the late
Joe Carr (K4IPV I think!)...

Thanks for the pointer. I just thought there might be some info on the
net but it'll do me good to stop looking at the monitor and get a
book!!!

Cheers,

Iain M0PCB

73, Iain
(the operator of M0PCB)

1547. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 22:06:47 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <Xjiqa.40504$ey1.3695365@newsread1.prod.itd.earthlink.net>
Source record: 120048

Hi Blake -

If you're going to be an SWL, you're going to NEED
the SWL bible: Passport to World Band Radio.
Get one without delay. Among many other useful
things, they have a review section on various
commercial SWL antennas.

"Blake McBride" <blake@mcbride.name> wrote in message
news:vaj3fk9soe361c@news.supernews.com...
> Greetings,
>
> I am new to SW radios and was hoping I could get some pointers on
> an antenna. Given the following facts what would you recommend?
>
> I have a Grundig 800
> I'd like to have a pretty good antenna
> I live near Nashville, TN
> I have a lot of outdoor space
> Money is not a big issue
> I am not good with my hands and don't like building projects
> Ground rod may be difficult because of the amount of rock
>
> It seems to me that some sort of really good pre-packaged, everything
> included kit
> would be best. I could find someone in the area to help me. Perhaps
there
> is someone
> in the Nashville area who knows what they are doing.
>
> Thanks for the help.
>
> Blake McBride
> blake@mcbride.name
>
>
>
>

1548. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 22:28:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA9B677.FD313B2@uci.edu>
Source record: 120050

OC_CAM's Razor wrote:

> You are confused about what I have said. Wave cancellation AT
> AN IMPEDANCE DISCONTINUITY causes energy to reverse course.

Okay. Describe exactly how the energy "reverses course". Provide the equation that shows interference directly changing the direction of propagation of that wave. Write the expression for this cancelled wave, and show how its mirror image appears on the other side of the boundary. (Maybe you could argue that its antiparticle tunnels there.)

Better yet, tell us exactly how the electromagnetic energy reflected from the load returns to the load, but use only basic physical phenomena. No hand waving generalities - use specific physics. If you ever do actually explain exactly what's going on, it will sound a lot like what I have been trying to tell you for the past week or two.

Conservation of energy is a general law that physical properties of nature must adhere to. But it does not describe any specific physical property of nature. You'll have to be considerably more specific in your description of wave reversal than you have been to this point. I'm not talking about more power equations. Power, voltage, and current don't propagate, just as grams, moles, and degrees don't propagate. I mean wave equations. Conservation of energy does not in and of itself "reverse the direction" of energy. Interference does not reverse the direction of waves. It's no coincidence that in this instance interference happens to have a physical boundary associated with it. The physical boundaries (two are required in our case) and their effect on waves are in fact responsible for the entire physical effect.

There is no such thing as wave reversal due to interference. If you want to be precisely correct here, you should stop saying that. If you disagree, please prove otherwise. Inference is not proof. Interference can cancel fields or it can enhance them, but it cannot change their direction of propagation. In our case we have wave cancellation in one direction, and wave reflection and enhancement in the other direction. The physical boundary causes the change in direction. Destructive interference prevents energy from returning to the source. Constructive interference enhances the intensity in the direction of the load. You need to describe the effect in those terms only. In my opinion.

Rattle on at will. I'm done here.

Regards,

Jim Kelley, AC6XG

1549. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 22:29:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9B6D6.2080808@ieee.org>
Source record: 120051

Jim Kelley wrote:
> And after that you STILL haven't described the mechanism by which energy
> is conserved. The mechanism you describe in your paper is not entirely
> correct.

Nothing could be simpler logic than a binary decision tree of where
the energy has to go given that it doesn't go one of two possible
directions.

> No rearward traveling waves, except when they don't cancel.

No rearward traveling waves from a mismatched load?

> The premise of your question is faulty, as I have pointed out to you
> twice before. The reflection coefficient is NOT 1.0 and the energy does
> appear at the load - without turning around in mid-air. The problems
> works out using only phase cancellation and reflection.

Conventional wisdom says there cannot be 100% re-reflection of reflected
waves unless the reflection coefficient is 1.0. That's why Walter Maxwell
needed to come up with the concept of a "virtual short", to cause that
necessary 1.0 reflection coefficient. Therefore, you are going against
conventional wisdom while ragging on me for going against conventional
wisdom.
--
73, Cecil http://www.qsl.net/w5dxp

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1550. Re: Antenna Coax Impedance Mis-Matches (for receiving antennas) Quest. ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 22:55:29 UTC
From: "Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au>
Message-ID: <b8ce0c$t10$1@austar-news.austar.net.au>
Source record: 120052

As Reg says - connect the 50 ohm cable and see!!

With receive only, you should not have any problems with the mis-match. It certainly wont hurt anything! It's only when you come to transmit that the 50/75/300 ohm matching really becomes an issue worth serious consideration. I've ran 75 ohm cable from my 50 ohm receiver straight into a 300 ohm antenna without any type of matching numerous times, and so far the received signal has made it through the right way around every time!! ;-)

Cheers
--
Martin Howells, VK2UMJ, ACBRO #470
Lightning Ridge, NSW, Australia
E-Mail: vk2umj@yahoo.com.au
Web: www.qsl.net/vk2umj

"Robert11" <rgsrose@tiac.net> wrote in message
news:b85vi3ghn1@slb1.atl.mindspring.net...
> Hello:
>
> Will be purchasing a new Antennacraft Scantenna ST2 antenna for receiving
30
> MHz to 1.3 GHz.
>
> This antenna is quoted as having a 75 ohm output (comes with a 300 ohm to
> 75 ohm Balun, apparently).
>
> Of course, my receiver only has a 50 ohm input for this range. (always
> something)
> Let me ask my question two ways for clarity:
>
> a. I already have a 50 ohm coax run from my attic (replacing a R/S
Discone)
> to my receiver input which I
> would like to utilize again, if practical.
>
> Can someone please describe the effects of this mis-match, if I just
> plug the new 75 ohm antenna into this 50 ohm cable?
> (about a 50 ft run) I do listening only)
>
> b. If I do go to the trouble of running a new 75 ohm coax line from the
new
> antenna to my receiver, what are the effects of using
> this to the 50 ohm receiver input ? "Meaningful losses" ?
>

> What's the best approach for me?
>
> As always, much thanks for help,
> Bob
>

Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.474 / Virus Database: 272 - Release Date: 18/04/2003

1551. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-25 23:38:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EA9C6F7.9418E888@uci.edu>
Source record: 120053

OC_CAM's Razor wrote:
> If they never occur in the first place, cancellation cannot happen.
> You have a definite chicken and egg logic problem.

Any propagation in that direction is prevented. Period. Zero field.
No wave. Can't go. There's nothing there - by definition. They don't
disappear - they never appear. They can't appear. For any field at any
instant, there is an opposing field. They cancel at every instant.
Always. Neither chicken, nor egg. Must go elsewhere to find them.

> Cancellation cannot happen between two waves traveling in opposite
> directions.

You get constructive and destructive interference in either case. The
interference 'pattern' simply ends up looking different in each of the
two cases.

1552. Measurements and Empty Bottles.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 00:21:23 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8cje3hhd1@titan.btinternet.com>
Source record: 120054

> For a sanity check, you might want to check the SWR of the G5RV with an SWR
> meter. It might be better than the MFJ is telling you, especially if you
> have any 50KW AM stations within 50 miles of you. When measuring a large
> antenna, I found the MFJ sometimes works during the day, but never at night.

> I am going to build a 2 MHz highpass filter for it.
>
> Tam/WB2TT
==========

Hi Tam,

You intend to build and connect the highpass filter between the MFJ and the input of the transmission line. Where else can you locate it?

The $50,000 question is what do you think the Zo of the highpass filter should be?

In its passband the filter will behave as yet another, very long, lumps of L&C, transmission line between the meter and whatever antenna input impedance you are hoping to analyse. I am afraid to report ridiculous results are guaranteed.

At my QTH I am surrounded, within a radius of 20 miles, by at least 4 medium-wave medium-power transmitters and 2 high-power transmitters. On long-wave there's the BBC's Radio-1, 500 KW flagship which covers the whole of Europe, west and east. All operate 24 hours a day. I can pick up 9 or more volts of spurious RF on my 150-feet, 160m inverted-L. Even the intermod products, due to miscellaneous rusty connections in the vicinity, come in at S9. (Yes Roy, I've calibrated the S-meter.)

Some years back, after acquiring an Autek analyser and then in desparation an MFJ, I too had the brilliant inspiration of making a highpass filter. But even before switching on the soldering iron and looking at the size of the coils and capacitors, it dawned on me that I was about to build a long transmission of grossly uncertain HF characteristics which would render both meters useless. So I switched off the iron, and together with my initial enthusiasm, allowed it go cold.

On the other hand, the analysers have come in very handy at measuring component values in the shack (at present on the kitchen sink) and measuring the RF input impedance of shallow-buried ground radials and rods while lying on my stomach in the back yard.

It's past midnight. I must make time to clear away some of these empty bottles.

This technical paper is hopefully presented to fellow radio amateurs as a warning rather than an example.

Reg, G4FGQ

1553. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 00:32:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA9D3B6.10C6C0AE@cwis.net>
Source record: 120055

Bob,
Your numbers show me that it isn't much good
on any band. So the 'all band' characteristics
are about as 'good' as I figured they were...
'Doc

1554. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 00:40:37 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA9D585.B11A9955@cwis.net>
Source record: 120056

Tarmo,
Sounds like a typical vertical full wave loop
for 80 meters, using an RG-11 'linear' transformer
(which, by the way is not part of the antenna, but
is part of the feed line). The measured results
also sound 'typical', and at least as 'good' as
the G5RV's.
'Doc

1555. Re: Follow Up Quest. re Antenna To Receiver Impedance Mis-Match ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 00:48:35 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EA9D763.24DA330C@cwis.net>
Source record: 120057

Robert,
It won't make any difference as far as a mismatch (SWR). The only difference being 'where' the mis-match is, at the feed line antenna junction, or at the receiver feed line juction. The overal mismatch will be the same for both, and no 'big deal' in either case. The 'big' difference would be in the amount of loss for the length of the feed line. I'd select a cable that yielded the least loss. The impedance of the cable just isn't going to make much difference at all in your case...
'Doc

1556. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 00:58:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8clki$129$1@hercules.btinternet.com>
Source record: 120058

> > Ground rod may be difficult because of the amount of rock

==========

No need to lose any sleep. A solitary ground rod is practically useless unless it's the only thing you have room for.

There's an exception - you have a good RF ground connection if the 'ground' consists of salt sea water or you are fortunate enough to have available an expanse of salty, polluted mud.

1557. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 01:13:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9DD54.7080304@ieee.org>
Source record: 120059

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>You are confused about what I have said. Wave cancellation AT
>>AN IMPEDANCE DISCONTINUITY causes energy to reverse course.
>
> Okay. Describe exactly how the energy "reverses course".

It ain't rocket science, Jim. Energy in a transmission line can only flow in two directions. We measure no reflected energy flowing toward the source. Therefore, all reflected energy in the rest of the system must change direction and flow toward the load. It happens at the Z0-match impedance discontinuity accompanied by wave cancellation. There is simply no other direction for the energy to go except back toward the load. I don't believe that I have ever said the canceled reflected waves change direction. Even if canceled waves changed direction, what possible effect can canceled waves have? Absolutely none! The canceled reflected waves are just that - canceled and gone. I have said the energy in those canceled waves changes directions, is re-reflected, and joins the forward wave and it obviously does.

> Better yet, tell us exactly how the electromagnetic energy reflected
> from the load returns to the load, ...

Again, not rocket science. It returns to the load because we know that it never reaches the source and has to keep moving and go somewhere. You can view the ghosting on a TV to prove it to yourself.

> Conservation of energy is a general law that physical properties of
> nature must adhere to. But it does not describe any specific physical
> property of nature. You'll have to be considerably more specific in
> your description of wave reversal than you have been to this point.

I have not described wave reversal. I have described a reversal of direction of the energy in the canceled waves. What good would be a wave reversal of canceled waves that have disappeared?

> Conservation of energy does not in and of itself
> "reverse the direction" of energy.

Most times it doesn't. Sometimes there is no other choice. In a lossless system, if there are only two possible directions and RF stops flowing in one direction, it ***WILL*** flow in the other direction, guaranteed.

> Interference does not reverse the direction of waves.

I haven't said it reverses the direction of waves. It would be silly to talk about reversing the direction of canceled waves. What would

be the point? I have said that wave cancellation reverses the direction of flow of energy in the two canceled waves. The waves cancel and are gone. The energy survives and changes direction because there is no other possibility.

> There is no such thing as wave reversal due to interference.

I agree. The waves don't reverse. The waves cancel, i.e. they disappear. The ***ENERGY*** in the waves remains after the waves disappear and that ***ENERGY*** is what reverses direction. The wave cancellation doesn't cause a wave reversal. Those waves are canceled and gone forever. Even if those waves were reversed, it would be impossible to tell that it happened. The wave cancellation causes a reflection of the energy in those canceled waves.

Exactly what happens to the energy involved in wave cancellation in a transmission line? Does the energy continue in the same direction? No! Does the energy disappear? No! Does the energy stand still? No! Does the energy flow up or down? No! Does the energy flow sideways? No! I sure wish I knew where that darn energy goes. :-)

> In our case we have wave cancellation in one
> direction, and wave reflection and enhancement in the other direction.
> The physical boundary causes the change in direction.

That's exactly what I have said. But since the physical boundary does NOT possess a reflection coefficient of 1.0, the situation needs a little help from wave cancellation. Walter Maxwell proposed a virtual short. What are you proposing? Please don't insult our intelligence by proposing that waves traveling in opposite directions can cause wave cancellation. They are unaffected by each other and instead cause standing waves.
--
73, Cecil http://www.qsl.net/w5dxp

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1558. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 01:27:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9E077.7050603@ieee.org>
Source record: 120060

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>If they never occur in the first place, cancellation cannot happen.
>>You have a definite chicken and egg logic problem.
>
> Any propagation in that direction is prevented. Period. Zero field.
> No wave. Can't go. There's nothing there - by definition. They don't
> disappear - they never appear. They can't appear. For any field at any
> instant, there is an opposing field.

One of those two fields is known to be propagating toward the source. Only a complementary field also propagating toward the source can cancel that first field. If you are relying on fields propagating in opposite directions canceling each other, you are mentally violating the laws of physics.

>>Cancellation cannot happen between two waves traveling in opposite
>>directions.

> You get constructive and destructive interference in either case. The
> interference 'pattern' simply ends up looking different in each of the
> two cases.

Of course, you can have constructive and destructive interference without wave cancellation. But wave cancellation CANNOT happen between two waves traveling in opposite directions. What you get is standing waves. The standing waves are caused by constructive and destructive interference but NO wave cancellation occurs unless the impedance discontinuity sets two waves traveling in the same direction.
--
73, Cecil http://www.qsl.net/w5dxp

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1559. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 01:32:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9E1CB.5010504@ieee.org>
Source record: 120061

'Doc wrote:
> Your numbers show me that it isn't much good
> on any band. So the 'all band' characteristics
> are about as 'good' as I figured they were...

If you calculate the losses on 80m and 40m, you will find
that they are negligible.
--
73, Cecil http://www.qsl.net/w5dxp

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1560. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 01:53:08 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304251753.491cca5e@posting.google.com>
Source record: 120062

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b88v9n$2j7$1@hercules.btinternet.com>...
> For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
> balloon ?

Low angle radiators are the least desirable antennas for use in the
U.S. Field Day event, for the most part it's about Yanks working
Yanks, no hero points for working DX in this one. Field Day is NVIS
antenna country, horizontal loops close to the ground, inverted vees,
etc.

> ---
> Reg, G4FGQ

w3rv

1561. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 02:09:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8cppm$fn5$1@sparta.btinternet.com>
Source record: 120063

Forget about books. Forget about 6-to-1, A 4-to-1 is perfectly near enough to being able to detect no practical operating difference.

Just wind a pair of wires, like 20 gauge, clear-plastic, figure-of-8, twin speaker wire or similar, along the length of the rod.

Connect the end of one wire to the start of the other, via a single wire along the length of the transformer, and the job is done.

It takes no longer than the time waiting for the soldering iron to heat up. Unless, as usually happens in my case, I'm fresh out of solder. Whereas, by the time it takes to beg, borrow, steal, or find a book-seller and order a book, which eventually turns out to be out of print, the constructor has lost all interest in the project and has advanced to one where a balun or whatever is not needed. That's if one was needed in the first place!

Some of the the advice dished out to learners on this newsgroup is truly painful. But then I'm just a Limey intruder. ;o)

For those considering an invitation to another tea party in Boston, please note the smiley.

For design and performance of 4-to-1 baluns wound on a ferrite ring (which is just a rod bent to form a circle) download program BALUN4 from website below. Free to impoverished USA citizens.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

1562. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 02:37:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EA9F0F7.9020904@ieee.org>
Source record: 120064

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Everything I have said requires a physical impedance
>>discontinuity.
>
> What physical discontinuity do your destructively interfering waves
> encounter after they reflect and interfere, and when they change
> direction and head toward the load?

They encounter the physical discontinuity, then they reflect,
and then they cancel all within a differential calculus 'dt'.
They don't change direction. The energy in the two canceled
waves changes direction as stated on the Melles-Griot web page.
Step by step for a matched system:

1A. Wave(Vfwd1,Ifwd1) encounters the Z0-match point and
Vfwd1*Rho is the resulting voltage wavefront reflected
back toward the source.

1B. Wave(Vref2,Iref2) simultaneously encounters the Z0-match
point from the other direction. Vref2*Rho is re-reflected back
toward the load. Vref2[2Z01/(Z01+Z02)] flows through the
discontinuity toward the source.

2A. At the impedance discontinuity point, Vfwd1*Rho encounters
Vref2[2Z01/(Z01+Z02)] and they are superposed. These two
voltages are equal in magnitude, 180 degrees out of phase, and
flowing in the same direction. The total voltage resulting from
this superposition is zero.

2B. Simultaneously, the same thing happens to the two associated
equal-magnitude, out-of-phase currents. The total current resulting
from this superposition is zero.

3. The two rearward-traveling waves cancel to zero at the discontinuity.
The sum of their two energy components changes direction, joins the
forward wave, and flows toward the load.
--
73, Cecil http://www.qsl.net/w5dxp

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1563. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 03:48:06 UTC
From: richardharrison@webtv.net
Message-ID: <11182-3EAA0176-508@storefull-2317.public.lawson.webtv.net>
Source record: 120066

CAM, W5DXP wrote:
"Exactly what is it that provides a reflection coefficient of 1.0 and re-reflects it toward the load?"

Must be rhetorical. An open, short, or a pure reactance cause a complete re-reflection.

Best regards, Richard Harrison, KB5WZI

1564. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 04:01:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vak15gsqfmiba5@corp.supernews.com>
Source record: 120065

I find that elevation angles as low as two degrees are desirable for
Field Day antennas. The antennas I use are designed about the same as
for DX. Most of the population of the U.S. is between 2000 and 3000
miles from here. Seattle and Portland are the only major cities in NVIS
range. San Francisco is about 500 miles, Los Angeles 900, Denver about 1000.

But NVIS is great for Spokane, Boise, and maybe even Reno.

Roy Lewallen, W7EL

Brian Kelly wrote:
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b88v9n$2j7$1@hercules.btinternet.com>...
>
>>For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
>>balloon ?
>
>
> Low angle radiators are the least desirable antennas for use in the
> U.S. Field Day event, for the most part it's about Yanks working
> Yanks, no hero points for working DX in this one. Field Day is NVIS
> antenna country, horizontal loops close to the ground, inverted vees,
> etc.
>
>
>
>>---
>>Reg, G4FGQ
>
>
> w3rv

1565. Re: Intel Yagi antenna and Access point 2011b vs Weather

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 04:27:05 UTC
From: ray gaschk <rgaschk@ca.astound.net>
Message-ID: <b8d1tdepb1@news.astound.net>
Source record: 120067

Joval,

Do you know the model of the antenna you are using? It is possible that it may have too limited bandwidth,
have marginal response at the edges of the band. If it is a high gain antenna its directional pattern may be
too tight (have a narrow acceptance angle) and require precision aiming, although I doubt that is the problem. Contrary to what some people say, there are weather related effects that I have observed. But usually the power and gain used is great and these effects are not a factor.

I designed and built log periodic antennas for similar applications here in California, we mounted the antennas
inside a length of thinwalled PVC tubing when they had to be used in mountainous country to prevent snow
and ice damage.

You live in a beautiful city and although the winter weather is severe, the rest of the year is usually quite nice.

Bon Chance de ray w6fya

"Richard Clark" <kb7qhc@attbi.com> wrote in message news:ot4javc1t61k03u9vq47283q8ktlsrjo6l@4ax.com...
> On 25 Apr 2003 12:51:15 -0700, joval99@hotmail.com wrote:
>
> >Hello all and thanks for reading this post.
> >
> >I've installed wireless connection to some of my clients. Apparently,
> >Yagi antenna is able to handle distance up to 5 miles or 12 kilometers
> >and is supposed to not be affected by weather. Well all specialist
> >told me this. How good specialist they are or are they real specialist
> >??? hehe i have no clue but for sure they are more than I (but
> >something I start to wonder now ;)).
> >
> >In fact, each time temperature goes colder, let's say close to 0
> >Celcius (32 Farenheit) or below, or each time it's raining or if
> >there's a lot of humidity in the air, my APs (access point) lost their
> >connection. I first though that maybe cold and humidity had reaction
> >with microwave. Now I wonder if the problem comes from antennas. It
> >depends on the distance also though. More the distance is high more
> >the slighty weather change will have affect. For exemple: At one site,
> >there's about 3 kilometers (1.8 miles) between the 2 hosts. I had a RF
> >signal at about 7/31 or 8/31 RSSI so about 15 -20% of connection
> >quality when I did the installation weather was like sunny and at
> >about 10 Celcius degres. After about 2 weeks we got few days of rain

> >and temperature goes colder. Result : Unable to connect no more. I'm
> >even not able to do a RF test since the test module told me that it
> >can't find the host ! (RF test module is build in access point)
> >
> >I could tell many other examples about the same kind of situation but
> >i'll not talk about them all. But please, don't tell me that there's
> >nothing relative to weather; I saw that problem too often, but I agree
> >that maybe the problem could come, not from the radio signal or
> >microwave, but from maybe the Intel Yagi antenna it self (affect by
> >the weather) or even the access point (2011b) that can't provide the
> >power to a frozen and hungry Intel Yagi antenna.
> >
> >Well in fact, I'm a newbie in this field since my field is more
> >relative to network infrastructure, you all guys probably know more
> >antenna than I. Situation is almost under control now since warm days
> >comming soon but i'm worring about next winter. So please reply and
> >don't be shy to share your ideas, your ideas will be always welcome.
> >
> >Thanks in advance
> >
> >P.S. Oh! btw, i'm from Montreal, Canada. (a last hint for people that
> >know the weather here)
> >
> >Joval
>
> Hi Joval,
>
> If it is a temperature/weather issue, it may be one of tolerances on
> the direction antennas are pointed. Your range seems OK, and loss due
> to atmospherics (rain/snow/etc.) shouldn't be too much of a problem
> (unless you cannot see through this muck).
>
> Now, as to these others who want to connect and your antenna(s),
> especially if they are all yagis. You may be suffering from too much
> antenna, not too little. Yagis offer gain and focus, but they do this
> by robbing other directions of radiation. If your service feeds a
> yagi, that yagi will have to see ALL subscribers in roughly the same
> region, or on the same line of sight. If your subscribers are located
> all around you, some MUST suffer, or merely operate off of marginal
> signal strength that becomes poorer with bad weather.
>
> 73's
> Richard Clark, KB7QHC

1566. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 04:32:24 UTC
From: richardharrison@webtv.net
Message-ID: <11182-3EAA0BD8-516@storefull-2317.public.lawson.webtv.net>
Source record: 120068

CAM, W5DXP wrote:
"Cancellation cannot happen between two waves traveling in opposite directions."

Suppose then that the voltage on a transmission line requires 360-degrees in time, reflection included, to make a round-trip from sender to load and return to sender.

The reflection occurs due to a mismatched load. But, if the load takes some but not all of the energy, the reflection is weaker than the incident energy. At the sender, reflected voltage is in the same phase as the sender. All the flow at the sender is toward the load as the reflection is not strong enough to force entry to the sender. The reflection has caused an increase in the impedance presented to the sender because only voltage output in excess of the reflection causes current into the transmission line.

Best regards, Richard Harrison, KB5WZI

1567. Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 05:06:42 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0304252106.69e9c0a1@posting.google.com>
Source record: 120069

Anyone know what the parabolic dish on the Placebo video (The Bitter End) is? It looks pretty big so I figure it shouldn't be too hard to place.

It could be CG, doesn't look CG though. But then again, CG has come a long way since the Dire Straits videos :)

//\/\ario //\/\elendez- TI2DLL
mmelendez@celeridad.net

1568. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 05:30:32 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EAA1978.B0719126@cwis.net>
Source record: 120070

Cecil,
Who was talking about losses?
'Doc

1569. Re: Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 06:57:26 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3EAA2DD1.3060006@get.lost>
Source record: 120071

Q wrote:
> Anyone know what the parabolic dish on the Placebo video (The Bitter
> End) is? It looks pretty big so I figure it shouldn't be too hard to
> place.
>
> It could be CG, doesn't look CG though. But then again, CG has come a
> long way since the Dire Straits videos :)

:-) You gotta be kidding, Mario. Don't you realize that 99% of hams today are geezers who have never heard of Dire Straits, let alone Placebo? Now, if you asked about Rosemary Clooney or Pat Boone, you'd maybe get an answer... Hell, most of the people in this ng were around when Alessandro Volta dissected frog legs.

73 ... Zoran WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

1570. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 09:05:03 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304260105.144a035@posting.google.com>
Source record: 120072

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<b89l2t$7v25b$1@ID-134747.news.dfncis.de>...
> I put up a element log periodic dipole cut for 3.5
> mhz - pointed east (advantage of living in
> Delaware).

East?? You operate in the All-Africa FD event?

> 160 is a no/no on field day, or is my
> age hanging out again, and if I can hear 'em I can
> work 'em from 80 to 10.

Nobody home on 160 or ten on FD.

> BTW can only put antenna up at Field Day sites - I
> only dream about owning enough real estate to fly
> it all year round.
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear

w3rv

1571. Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 12:43:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8dup1$8rok4$1@ID-150848.news.dfncis.de>
Source record: 120073

I cannot get the same results with the same parameters.

Parameters:

Frequency: 7.059 Mhz
R load: 1485.5 Ohms
X load (jx) 1455.3 Ohms

C1 max: 950 pF
C1 Q : 1500
C2 max : 950 pF
C2 Q : 1500
L Q : 300

Input resistance: 50 Ohms

W9CF's T-Network on automatic tune gives:

C1: 61 pF
C2: 950 pF
L : 9.70 uH

I was just trying to get T_Tuner to read same figures, but I don't seem to be able to. I change "A", but no joy.

I know, the T network tuner offers such flexibility in settings, and I guess it's hard to pin down the best settings. But, I just wanted to try to match the settings with both these programs.

In any event, should I always seek to set C2, capacitor connected to antenna, to the highest value possible?

TIA. Rich.

1572. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 12:44:18 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8duqu$8r8tj$1@ID-150848.news.dfncis.de>
Source record: 120074

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8dup1$8rok4$1@ID-150848.news.dfncis.de...
> I cannot get the same results with the same parameters.
>
> Parameters:
>
> Frequency: 7.059 Mhz

That should be 7.050 Mhz.

1573. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:08:33 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8e08i$8c01a$1@ID-150848.news.dfncis.de>
Source record: 120075

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8dup1$8rok4$1@ID-150848.news.dfncis.de...

> W9CF's T-Network on automatic tune gives:
>
> C1: 61 pF
> C2: 950 pF
> L : 9.70 uH

> In any event, should I always seek to set C2, capacitor connected to
> antenna, to the highest value possible?

Actually I notice that endfeed.exe for the L Network gives:

```
\ | /
TX___C1_____________|
|
|
Shunt L
|
|
GND
```

C1: 60pF
L : 10uH

So, best really to just have an L Network set up on 7.050 Khz.

1574. kenwoord th26e

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:09:55 UTC
From: patoemba <ikke@hier.com>
Message-ID: <Dyvqa.63126$t_2.5580@afrodite.telenet-ops.be>
Source record: 120076

Can somebody recommand me the portofon kenwoord th26e?

What is the price of the th26e?

Thx,
patoemba

1575. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:14:55 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8e0oj$8t8q9$1@ID-134747.news.dfncis.de>
Source record: 120077

details, details, details - west OK

--
73 es cul

wb3fup
a Salty Bear
"Brian Kelly" <kelly@dvol.com> wrote in message
news:d22b54c3.0304260105.144a035@posting.google.com...
> "WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in
message
news:<b89l2t$7v25b$1@ID-134747.news.dfncis.de>...
> > I put up a element log periodic dipole cut for
3.5
> > mhz - pointed east (advantage of living in
> > Delaware).
>
> East?? You operate in the All-Africa FD event?
>
> > 160 is a no/no on field day, or is my
> > age hanging out again, and if I can hear 'em I
can
> > work 'em from 80 to 10.
>
> Nobody home on 160 or ten on FD.
>
> > BTW can only put antenna up at Field Day
sites - I
> > only dream about owning enough real estate to
fly
> > it all year round.
> >
> > --
> > 73 es cul
> >
> > wb3fup
> > a Salty Bear
>
> w3rv

1576. Re: Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:18:47 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <YGvqa.5423$2g5.802848@news20.bellglobal.com>
Source record: 120078

"Q"
> Anyone know what the parabolic dish on the Placebo video
> (The Bitter End) is? It looks pretty big so I figure it shouldn't
> be too hard to place. It could be CG, doesn't look CG though.
> But then again, CG has come a long way since the Dire Straits
> videos :)

Easy....Jodrell Bank.

Jodrell Bank homepage
http://www.jb.man.ac.uk/

Music Video in question available at (for example)...
http://www.dotmusic.com/news/March2003/news28620.asp
(older folks may want to mute audio...)

1577. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:39:33 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <p_vqa.3531$Cm3.1419@news1.central.cox.net>
Source record: 120079

Blake:
My favorite antenna if you have the space is the center fed Zep. It's essentially an untuned antenna, fed from the center with, say, 300 ohm twinlead, and attached with an antenna tuner. An antenna tuner (from, say MFJ enterprises) will help with receiving as well as transmitting and will help to tune out some noise and interference.
Even if you just use 70' of wire an antenna tuner will help with noise and interference and will match your receiver to the antenna better..

SpiRo has antennas that are cheap, pre asembled, and work on all bands:
http://spiromfg.com/all_band.htm .
MFJ sells reasonably priced antenna tuners
http://www.mfjenterprises.com/products.php?catid=37 or you can make one pretty easily.

Bob, AB0OD

"Blake McBride" <blake@mcbride.name> wrote in message
news:vaj3fk9soe361c@news.supernews.com...
> Greetings,
> I have a lot of outdoor space
> Money is not a big issue
> I am not good with my hands and don't like building projects
> Ground rod may be difficult because of the amount of rock

1578. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 13:45:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8e2co$8qa75$1@ID-150848.news.dfncis.de>
Source record: 120080

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8e08i$8c01a$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b8dup1$8rok4$1@ID-150848.news.dfncis.de...
>
> > W9CF's T-Network on automatic tune gives:
> >
> > C1: 61 pF
> > C2: 950 pF
> > L : 9.70 uH
>
> > In any event, should I always seek to set C2, capacitor connected to
> > antenna, to the highest value possible?
>
> Actually I notice that endfeed.exe for the L Network gives:
>
> \ | /
> TX___C1_____________|
> |
> |
> Shunt L
> |
> |
> GND
>
> C1: 60pF
> L : 10uH
>
> So, best really to just have an L Network set up on 7.050 Khz.

Still don't know why I cannnot reconcile T_TUNER.EXE and T-Network Tuner
of W9CF on 7.050 Mhz, but on the issue of L tuner or T tuner, clearly
sometimes the L tuner is the best circuit and the extra capacitor in the
T tuner is just "getting in the way". But, of course, you may have to
use T tuner if you wanted to match a wide frequency range.

Given the results of endfeed.exe it looks like :

C1: 61 pF
C2: 950 pF
L : 9.70 uH

is the best T tuner match, because it comes closest to the optimal
circuit, which is the L tuner with L: 10 uH, C: 60pF. (Me thinks).

1579. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:04:04 UTC
From: inbox@mail.com
Message-ID: <3449d144.0304260604.cdde2e5@posting.google.com>
Source record: 120081

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<r5ednQ5p4rn44zSjXTWcqw@comcast.com>...
> Richard,
> He has a cell phone (seems to imply analog), not scanner. Bigest question
> may be whether there is any way to connect an external antenna to it.
>
> Tam/WB2TT
>
>
> > Hi Richard, All,
> >
> > There's a simpler way. Move the scanner to the antenna, and run
> > audio/control lines back to the shack. No issue of cable loss or
> > cable selection. No need to ponder the noise issues of an amplifier.
> >
> > 73's
> > Richard Clark, KB7QHC

Yeah sorry, here's some more info. I'm new at the antenna thing so
please bear with my ignorance on the subject.

- Motarola Bag Cell Phone 825 - 896 Mhz
- My location: Remotely located trailer in densely forested area
- 25-30' steel pole beside the trailer for antenna use which (top of
tree line)
- Phone works now but is very staticy and isn't alway seen by cell
system when someone is calling in.

What I'm really concerned about is whether or not a directional
antenna will be better in my case instead of an omnidirectional since
I don't have a line of sight to the cell tower and if the losses in
the 30' of cable will offset the gain of the antenna. Any advice is
appreciated.

Thanks,
Paul W.

1580. Re: Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:09:56 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3eaa92ef$0$135$edfadb0f@dtext02.news.tele.dk>
Source record: 120082

Hello Zoran

> :-) You gotta be kidding, Mario. Don't you realize that 99% of hams
> today are geezers who have never heard of Dire Straits, let alone
> Placebo? Now, if you asked about Rosemary Clooney or Pat Boone, you'd
> maybe get an answer... Hell, most of the people in this ng were around
> when Alessandro Volta dissected frog legs.

But some of us still recognize a god piece of music, Dire Straits is one
of them, but Placebo is absolute not.

Regards Max

1581. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:19:48 UTC
From: gmz79@aol.comnospam
Message-ID: <20030426101948.21641.00000081@mb-m17.aol.com>
Source record: 120083

Go for it, If you only have a 30' run of coax, use a good rg/8, a yagi,
your 25' pole and you will be pleasantly surprised with the results.
If you have any sig at all now ,the the increase in elevation and gain of the
yagi will more than offset the feedline loss. Just don't try to use rg/58 or
rg/174 or you will be beating a dead horse.
greg
Greg Z
to thine own sound be true

1582. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:31:01 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304260631.67002ed5@posting.google.com>
Source record: 120084

Roy Lewallen <w7el@eznec.com> wrote in message news:<vagvm12atq0417@corp.supernews.com>...
> By all means, the slide rule is fine.
>
> To measure the common mode impedance of a choke balun, simply wind a
> piece of wire on the core with the same number of turns as you'll use
> for the actual balun. Connect one end of the wire to the center
> conductor of the antenna analyzer connector and the other to the
> connector shell. Read the impedance at the frequency of interest. Or if
> you prefer, you can wind it with a short piece of the actual coax you'll
> be using. Connect the two coax conductors together on each end of the
> winding, and measure as you would with a single wire. If the impedance
> is out of the analyzer's range, you can use a different number of turns
> and the relationship that the impedance is proportional to the square of
> the number of turns.
>
> Use the same method to measure a W2DU type balun (ferrite cores slipped
> over a coax line). If the measurement is out of range, measure a
> different number of cores and extrapolate -- the impedance is directly
> proportional to the number of cores.

Well those are certainly simple enough methods. The 259B "quits" above
600+jï¿½ but your methods will allow me to beat that limitation. Tnx
Roy.

>
> Roy Lewallen, W7EL
>
w3rv

1583. Re: Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:34:05 UTC
From: Ralf Ballis <rballis@consult.m.uunet.de>
Message-ID: <20030426.14340500@viviana.santiagosoft.de>
Source record: 120085

> :-) You gotta be kidding, Mario. Don't you realize that 99% of hams
> today are geezers who have never heard of Dire Straits, let alone
> Placebo? Now, if you asked about Rosemary Clooney or Pat Boone, you'd
> maybe get an answer... Hell, most of the people in this ng were around
> when Alessandro Volta dissected frog legs.

Clichés Clichés Clichés.

Vy 73 es 55 de Ralf, DL2MRB

1584. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:38:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAA99D2.7030307@ieee.org>
Source record: 120086

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "Exactly what is it that provides a reflection coefficient of 1.0 and
> re-reflects it toward the load?"
>
> Must be rhetorical. An open, short, or a pure reactance cause a complete
> re-reflection.

And therein lies the problem. There's not any of those present.
(Z02-Z01)/(Z02+Z01) is NOT 1.0 at a Z0-match point.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1585. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:42:12 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAA9AC4.1010403@ieee.org>
Source record: 120087

'Doc wrote:
> Who was talking about losses?

Don't losses enter into the judgment of whether
an antenna is good or bad?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1586. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 14:50:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAA9C9F.2010001@ieee.org>
Source record: 120088

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "Cancellation cannot happen between two waves traveling in opposite
> directions."
>
> Suppose then that the voltage on a transmission line requires
> 360-degrees in time, reflection included, to make a round-trip from
> sender to load and return to sender.
>
> The reflection occurs due to a mismatched load. But, if the load takes
> some but not all of the energy, the reflection is weaker than the
> incident energy. At the sender, reflected voltage is in the same phase
> as the sender. All the flow at the sender is toward the load as the
> reflection is not strong enough to force entry to the sender. The
> reflection has caused an increase in the impedance presented to the
> sender because only voltage output in excess of the reflection causes
> current into the transmission line.

There is a physical impedance discontinuity at the 50 ohm to not-50
ohm impedance discontinuity. Reflections occur in both directions
at that physical impedance discontinuity. That results in some waves
traveling in the same direction and wave cancellation can only happen
between waves traveling in the same direction. Wave cancellation is
permanent. Destructive interference may or may not result in wave
cancellation. It doesn't result in wave cancellation if the two waves
are traveling in opposite directions. Reflections at the physical
impedance discontinuity are what make that point different from
any other point up and down the transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1587. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 15:33:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304260733.7e3e04c5@posting.google.com>
Source record: 120089

kelly@dvol.com (Brian Kelly) wrote in message
news:<d22b54c3.0304251753.491cca5e@posting.google.com>...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b88v9n$2j7$1@hercules.btinternet.com>...
> > For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
> > balloon ?
>
> Low angle radiators are the least desirable antennas for use in the
> U.S. Field Day event, for the most part it's about Yanks working
> Yanks, no hero points for working DX in this one. Field Day is NVIS
> antenna country, horizontal loops close to the ground, inverted vees,
> etc.

That would fit my case, being I'm usually on 80/40 cw at night. But I
could see a lower overall angle being useful on the high bands. Not
real critical though...We use beams for 20-10 meters. We'll probably
have two seperate tribanders again this year I imagine. I bring one of
them myself. They use a 6m yagi also usually on a mast. At the fairly
low heights we have the beams, "31 ft for mine, and appx 35-40 ft for
the other", our average takeoff angle is low, but not ultra low except
for maybe 10m...We dog dipole users none the less...It's like we are
running amps to the coasts compared to dipoles. We all run 100w. No
amps. And we do work dx also if they call. "We are in the middle of
the country in TX. "
160 and 10m? Both are fairly lively on FD. Two years ago, the other
guys supposably won "10m" using my beam. I don't really keep track
though. I don't even use the beam much myself. I just bring it to
bolster the score of my FD buddies and buddetts. I use dipoles for the
low bands. I'll work 40m until I start duping too much and then I'll
hop to 80m. And visa versa...Heck, I might even throw up a 160 antenna
this year. I've never worked 160 on FD, but I'm sure there are a few
out there. I'll use a dipole and go for the close in stuff if I do
it.. MK

1588. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 15:49:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <llalav4uv8dmhujt62rq0ijckg7c0s6mko@4ax.com>
Source record: 120090

On Sat, 26 Apr 2003 09:38:10 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>> Must be rhetorical.
>
>And therein lies the problem.

Don't we know.

1589. Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 15:54:02 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8e9vg$98aah$1@ID-150848.news.dfncis.de>
Source record: 120091

Making a remote ATU for inverted L. Should I use a metal enclosure or a plastic one?

What about plastic but covering outside with foil?

Probably I'll pick some kind of enclosure from this selection (cannot think of a better place for enclosures) , rated IP65 (waterproof):

http://makeashorterlink.com/?G69742954

I'll probably need a box about 250mm x 250mm x 200mm.

TIA. Rich.

1590. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 16:04:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0dblavgu8aughq9u4pcbs97mirnn7ce847@4ax.com>
Source record: 120092

On Sat, 26 Apr 2003 09:42:12 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>'Doc wrote:
>> Who was talking about losses?
>
>Don't losses enter into the judgment of whether
>an antenna is good or bad?

Do you confess their sins too?

Bad antenna! Bad! Say 5 Ohm's Law and keep your software zipped up.

73's
Richard Clark, KB7QHC

1591. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 16:09:12 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <bgblav0b6b3juhl29akukoafknrou79sj7@4ax.com>
Source record: 120093

On Sat, 26 Apr 2003 16:54:02 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>Making a remote ATU for inverted L. Should I use a metal enclosure or a
>plastic one?
>
>What about plastic but covering outside with foil?
>
>Probably I'll pick some kind of enclosure from this selection (cannot
>think of a better place for enclosures) , rated IP65 (waterproof):
>
>http://makeashorterlink.com/?G69742954
>
>I'll probably need a box about 250mm x 250mm x 200mm.
>
>TIA. Rich.

Or, drop by your local military surplus store and buy an "ammo box."
All metal, waterproof. Easy to drill.

I kept my Leica iif in one, when shooting the rapids.

Bob
k5qwg

1592. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 16:12:34 UTC
From: richardharrison@webtv.net
Message-ID: <2429-3EAAAFF2-546@storefull-2314.public.lawson.webtv.net>
Source record: 120095

CAM, W5DXP wrote:
"Reflections occur in both directions at that physical discontinuity."

In my example, at the sender there is a total re-reflection of load reflected energy back toward the load because the sender volts are always greater than the reflected volts.

As seen by the sender, the impedance was 50 ohms until the reflection came back to the sender, opposing the output and thus boosting the impedance seen by the sender.

Because the transmission line enforces Zo, the incident signal has a V/I of 50 ohms. So too does the reflection.

Had the reflection been out-of-phase, the reflection would have lowered the inpedance seen by the sender.

360-degrees of cable and a reflection produce a complete phase reversal.

At an EM wave reflection point the wave is redirected and its phase is shifted by 180-degrees.

Best regards, Richard Harrison, KB5WZI

1593. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 16:18:16 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <omblavsmep08rtr6bnq8dq1pl2dr120ee0@4ax.com>
Source record: 120094

On Sat, 26 Apr 2003 09:42:12 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

|'Doc wrote:
|> Who was talking about losses?
|
|Don't losses enter into the judgment of whether
|an antenna is good or bad?

Of course. Higher loss gives a flatter SWR curve thus:

More loss = lower swr = "good"

Less loss = narrow BW = "bad"

Example:

Six element Yagi: Narrow swr BW, only works on one band = "bad"

B&W dipole: Wide swr BW, works many bands = "good"

1594. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 16:58:47 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3eaaba82$0$134$edfadb0f@dtext02.news.tele.dk>
Source record: 120096

Hello Richard

> What about plastic but covering outside with foil?

No problem, but put the foil inside the box, then it is
protectet to.

Regards Max

1595. Re: Measurements and Empty Bottles.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 17:29:08 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <GwCdncNsZZp-XDejXTWcoA@comcast.com>
Source record: 120097

Reg,

If I build the HPF for 50 ohms, it should work for the cases where the SWR is near 1:1. As you imply, the shunt inductors are going to have an effect on any frequency where the impedance is high, as they calculate out to 2.2 uH. The smallest series cap is 620 pF, which will affect low impedance readings. I ran SWCAD on it, and looks good into 50 Ohms. MFJ does sell one, but I would rather roll my own. I plan to use shielded inductors, and put it in the smallest size Minibox.

BTW, I hooked up the antenna coax to a 'scope, and am seeing about .5V p-p. Complete garbage, but a strong component near 600 KHz.

Here is what the filter came out to: series cap on each end of 1000PF, connected to shunt inductors of 2.2uH. 620 PF series cap between the two inductors.

Tam/WB2TT

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8cje3hhd1@titan.btinternet.com...
> > For a sanity check, you might want to check the SWR of the G5RV with an
> SWR
> > meter. It might be better than the MFJ is telling you, especially if you
> > have any 50KW AM stations within 50 miles of you. When measuring a large
> > antenna, I found the MFJ sometimes works during the day, but never at
> night.
>
> > I am going to build a 2 MHz highpass filter for it.
> >
> > Tam/WB2TT
> ========================
>
> Hi Tam,
>
> You intend to build and connect the highpass filter between the MFJ and
the
> input of the transmission line. Where else can you locate it?
>
> The $50,000 question is what do you think the Zo of the highpass filter
> should be?
>
> In its passband the filter will behave as yet another, very long, lumps of
> L&C, transmission line between the meter and whatever antenna input
> impedance you are hoping to analyse. I am afraid to report ridiculous
> results are guaranteed.

>
> At my QTH I am surrounded, within a radius of 20 miles, by at least 4
> medium-wave medium-power transmitters and 2 high-power transmitters. On
> long-wave there's the BBC's Radio-1, 500 KW flagship which covers the
whole
> of Europe, west and east. All operate 24 hours a day. I can pick up 9 or
> more volts of spurious RF on my 150-feet, 160m inverted-L. Even the
intermod
> products, due to miscellaneous rusty connections in the vicinity, come in
at
> S9. (Yes Roy, I've calibrated the S-meter.)
>
> Some years back, after acquiring an Autek analyser and then in desparation
> an MFJ, I too had the brilliant inspiration of making a highpass filter.
But
> even before switching on the soldering iron and looking at the size of the
> coils and capacitors, it dawned on me that I was about to build a long
> transmission of grossly uncertain HF characteristics which would render
both
> meters useless. So I switched off the iron, and together with my initial
> enthusiasm, allowed it go cold.
>
> On the other hand, the analysers have come in very handy at measuring
> component values in the shack (at present on the kitchen sink) and
measuring
> the RF input impedance of shallow-buried ground radials and rods while
lying
> on my stomach in the back yard.
>
> It's past midnight. I must make time to clear away some of these empty
> bottles.
>
> This technical paper is hopefully presented to fellow radio amateurs as a
> warning rather than an example.
> ---
> Reg, G4FGQ
>
>
>

1596. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 17:43:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Eu2dnZUqBLy7WDejXTWcoQ@comcast.com>
Source record: 120098

Doc,

Didn't mean to imply anything else then a normal loop, except for the odd shape. I considered the 75 Ohm coax as part of the antenna, because SWR readings without it will be different.

I ran EZNEC on it at a bunch of frequencies, and they are a whole lot worse then what I measured, except in the 75 m DX window. The model does include 43 feet of RG11.

Tam/WB2TT
"'Doc" <w5lz@cwis.net> wrote in message news:3EA9D585.B11A9955@cwis.net...
>
>
> Tarmo,
> Sounds like a typical vertical full wave loop
> for 80 meters, using an RG-11 'linear' transformer
> (which, by the way is not part of the antenna, but
> is part of the feed line). The measured results
> also sound 'typical', and at least as 'good' as
> the G5RV's.
> 'Doc

1597. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 17:46:45 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <36hlavs9212g64cfceig26kjc8bosd1bdt@4ax.com>
Source record: 120099

On Sat, 26 Apr 2003 02:09:58 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

Hi Reg,

>Forget about books. Forget about 6-to-1, A 4-to-1 is perfectly near enough
>to being able to detect no practical operating difference.

Done... what are these books to which you refer??? ;-)

>Just wind a pair of wires, like 20 gauge, clear-plastic, figure-of-8, twin
>speaker wire or similar, along the length of the rod.
>
>Connect the end of one wire to the start of the other, via a single wire
>along the length of the transformer, and the job is done.
>
>It takes no longer than the time waiting for the soldering iron to heat up.
>Unless, as usually happens in my case, I'm fresh out of solder. Whereas, by
>the time it takes to beg, borrow, steal, or find a book-seller and order a
>book, which eventually turns out to be out of print, the constructor has
>lost all interest in the project and has advanced to one where a balun or
>whatever is not needed. That's if one was needed in the first place!

I'll do that, I am sure I have plenty of solder!!! and point taken
about the book theory!!

>Some of the the advice dished out to learners on this newsgroup is truly
>painful. But then I'm just a Limey intruder. ;o)

Well I've only started reading this group recently when I've had
questions about antennas. Beats the flaming I would get on
uk.radio.amateur :-)

>For those considering an invitation to another tea party in Boston, please
>note the smiley.
>
>For design and performance of 4-to-1 baluns wound on a ferrite ring (which
>is just a rod bent to form a circle) download program BALUN4 from website
>below. Free to impoverished USA citizens.

Does this also extend to impoverished citizens of the UK as well? :-)

Cheers,

Iain M0PCB (just too late for a G call!!)

73, Iain
(the operator of M0PCB)

1598. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 18:16:46 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8eiaj$98vip$1@ID-150848.news.dfncis.de>
Source record: 120100

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
> Making a remote ATU for inverted L. Should I use a metal enclosure or
a
> plastic one?
>
> What about plastic but covering outside with foil?
>
> Probably I'll pick some kind of enclosure from this selection (cannot
> think of a better place for enclosures) , rated IP65 (waterproof):
>
> http://makeashorterlink.com/?G69742954
>
> I'll probably need a box about 250mm x 250mm x 200mm.
>
> TIA. Rich.

Thing is, if it's plastic and you do not sheild, you can probably go for
a smaller box. Getting a box without paying a forune is pretty
important.

1599. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 19:03:51 UTC
From: Floyd Sense <sentek@sprintmail.com>
Message-ID: <rKAqa.43076$4P1.3970462@newsread2.prod.itd.earthlink.net>
Source record: 120101

No reason to shield it. I use a large gray plastic box designed for outdoor electrical use and it's just a bit bigger than you mentioned. Home depot sells them in their electrical department. They are completely waterproof.

K8AC

"Richard" <nearlynews_email@ntlworld.com> wrote in message news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
> Making a remote ATU for inverted L. Should I use a metal enclosure or a
> plastic one?
>
> What about plastic but covering outside with foil?
>
> Probably I'll pick some kind of enclosure from this selection (cannot
> think of a better place for enclosures) , rated IP65 (waterproof):
>
> http://makeashorterlink.com/?G69742954
>
> I'll probably need a box about 250mm x 250mm x 200mm.
>
> TIA. Rich.
>

1600. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 19:40:25 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <WwydnTrDRbk0fTejXTWcpQ@comcast.com>
Source record: 120102

Paul,

I don't know what a bag cell phone is, but the name seems to imply it might have an antenna connector. I beleve most cellphones do not. Here is what I would do. Get a UHF TV antenna and TV balun. Connect the balun to the phone with a piece of RG6 TV coax. Standing in your yard, hold the antenna in your hand, oriented so it is vertically polarized, and slowly point it around in a cirle along the horizon to see if you can pick out the best tower. Be sure to make a whole 360 degree circle . If it works, mount the antenna up on your pole.

BTW, the other antenna I sent you info on is too high in frequency, and for a different cellular band. The directional antenna will work a whole lot better than an omni, but only in that one direction. From what you say, you probably only have one tower in range anyhow

If you don't own, and can't borrow a UHF Yagi antenna, it migh be worthwhile to try one of the UHF loops that comes with TV sets, 20 feet or more in the air. They are also directional, so you still have to orient it. Also, turn it so the wire comes off the side, not the bottom.

Tam/WB2TT

1601. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 20:11:21 UTC
From: richardharrison@webtv.net
Message-ID: <20565-3EAAE7E9-72@storefull-2312.public.lawson.webtv.net>
Source record: 120106

I wrote:
"At an EM wave reflection point the wave is redirected and its phase is shifted by 180-degrees."

Consider the metal insulstor. It is a 1/4-wave short-circuit stub. There is 90-degrees of phase shift in the distance between the connection points and the short. There is another 180-degrees of phase shift in the short. Then, there is another 90-degrees in the return of the reflection to the connection points. The total phase shift in the round-trip is 360 degrees.

The result is a counter-emf generation in the lossless 1/4-wave short-circuit stub. It equals the strength and phase of the applied signal. There is a standoff between the imposed voltage and the counter-emf.

There was a recent dispute in this newsgroup as to how much reactive current flows in a metal insulator. I`ve never tried to measure it myself, but: I = E / Z.

Best regards, Richard Harrison, KB5WZI

1602. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 20:21:25 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EAAEA6B.2010707@adelphia.net>
Source record: 120104

Wes Stewart wrote:

> More loss = lower swr = "good"
>
> Less loss = narrow BW = "bad"
>
> Example:
>
> Six element Yagi: Narrow swr BW, only works on one band = "bad"
>
> B&W dipole: Wide swr BW, works many bands = "good"

I took your advice and soldered a 50 ohm resistor across my antenna connector. Darn! What an antenna! Perfect SWR from 160-10 meters. No one will talk to me now though. I think they are all jealous of my great antenna.....

- Mike KB3EIA ;^)

1603. Re: SW Antenna Suggestions Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 20:30:31 UTC
From: Francois Pare <seguinpare@ANTISPAMglobetrotter.net>
Message-ID: <3EAAECFA.60306@ANTISPAMglobetrotter.net>
Source record: 120103

Blake McBride a ï¿½crit:
> Greetings,
>
> I am new to SW radios and was hoping I could get some pointers on
> an antenna. Given the following facts what would you recommend?
>
> I have a Grundig 800
> I'd like to have a pretty good antenna
> I live near Nashville, TN
> I have a lot of outdoor space
> Money is not a big issue
> I am not good with my hands and don't like building projects
> Ground rod may be difficult because of the amount of rock
>
> It seems to me that some sort of really good pre-packaged, everything
> included kit
> would be best. I could find someone in the area to help me. Perhaps there
> is someone
> in the Nashville area who knows what they are doing.
>
> Thanks for the help.
>
> Blake McBride
> blake@mcbride.name
>
>
>
Bonjour Blake ...

Indeed you have a marvelous radio.
I've looked at the shematic for the antenna ports on your receiver.
You have one choice for a high impedance (long wire) type of antenna and
a connector for coaxial low impedance antenna.
You have indicated to us that you prefer to buy everything already
assembled and ready to use.

1. - If you go with the long wire port ... (for high impedance) the wire
antenna would be a very nice way to start. Like one of our colleagues
has said, the Radio Shack kit is a good start. (Thow electricly speaking
on some frequencys, it will not be a true long wire but you will have
fun with it.)
For the reception of very powerfull stations, this is going to be more
than enough.

2. - Then you could try something different wich is, as you said no money is an objet, a coaxial connected antenna. Let say in aluminium tubing or cupper wire, but with the capacity of giving you a bigger amount of frequency's in mind for that kind of hardware.
a. For a step one - a multiband vertical or wire dipole, wich can be assembled and put in a high place, or if you prefer a vertical without any radials in the type of cushcraft R6, R7, R8. www.cushcraft.com or other similar from highgain www.hy-gain.com. Some of the kits of multiband dipole are directly cut for raisonnace on specific frequency's that might interest you. Like the Alpha Delta DX-SWL sloper or DX-Ultra dipole. Look at www.universal-radio.com in the online catalog ... hf antennas.

b. More money needed, but more hardware too, would be a tower with horizontal multiband directional beem or log-periodic + rotator. (I'm not sure if this spending would be nice for starting short-wave listening advice, but it can make you dream of catching some of the very rare and week stations in HF.)
You have some examples at cushcraft and hy-gain but there's also a nice company called RaiBeam www.raibeam.com that you could look at.

The b paragraphe is for maniacs ... but i should tell you to start with simple and go till you find you have enough for you use of the airwaves. You can always keep your first wire antenna's for reference in comparing for your new aluminium one.

Maybe other folks can suggest othe url's for nice antenna companies.

Francois
VE2 FFP

* by the way: I have always used and builded wire antenna's and communicated in all the world ... {:^)

Have a lot of fun.
... and o-yes buy that (Passport to world band radio) its a great reference for radio, sw-antennas and hf frequencys.

1604. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 20:43:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8er1fber1@titan.btinternet.com>
Source record: 120105

"Iain Kelly" sed -

> point taken about the book theory!!
==========
There's a long-time advert on British TV in which somebody says "I don't know - but I know a man who does."
==========
> Well I've only started reading this group recently when I've had
> questions about antennas. Beats the flaming I would get on
> uk.radio.amateur :-)
==========
You will find lots of superior-quality advice most of which arises from the natural generosity of USA citizens. They can't help it. It's in their genes. Time appears to be of no consequence. The main problem is how to distinguish wheat from chaff. It is often useful to know a good bookseller. Books of certain authors are treated as infallible - even sacred.

If invited to a tea party there's no need to bring your own tea pot.
==========
> Does this also extend to impoverished citizens of the UK as well? :-)
==========
Of course. In any case all programs are issued with a money-back guarantee.

By the way, adhering to topic, if the balun I described doesn't work quite so well on 160m then use a longer rod to accommodate more turns. Takes only a minute or two to rewind it. But if it doesn't work so well you probably wouldn't notice it anyway.

The only restriction on length of winding wire is that it should not exceed about 1/10th or 1/15th of a wavelength at the highest frequency of operation. That's something I don't think the sacred bibles will tell you.

Another tip, ignore suggestions to wind the balun with coax just because it says so in books. For several good reasons 'twin speaker cable' not only works better, less lossy, it is easier and neater to construct.

Regards, Reg, G4FGQ

1605. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 20:49:03 UTC
From: jgboyles@aol.com
Message-ID: <20030426164903.01639.00000206@mb-m28.aol.com>
Source record: 120107

>In any event, should I always seek to set C2, capacitor connected to
>antenna, to the highest value possible?

In this instance yes.

>I was just trying to get T_Tuner to read same figures, but I don't seem
>to be able to. I change "A", but no joy.

I just did a quick look on the Smith Chart, and I got a shunt inductance of 7.6uh, and a series capacitance of 60 pf for an L network, and if a T then the other C would be set at maximum.
Part of the problem is you are trying to match a very high impedance to 50 ohms. On the Smith Chart, the curve for a shunt inductance, starting at the point of your antenna's Z is almost concentric to the Z=50 ohm circle. It intersects Z=50 ohms at a very small angle, so it makes the determination of the shunt inductance difficult. I guess W9CF's and Reg's calculating engines have similar difficulties.
I have compared the two programs before, with a more reasonable antenna impedance, and found them to be in agreement.
73 Gary N4AST

1606. Re: Intel Yagi antenna and Access point 2011b vs Weather

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 21:30:04 UTC
From: joval99@hotmail.com
Message-ID: <dbfc21b3.0304261330.36ff9abf@posting.google.com>
Source record: 120108

"ray gaschk" <rgaschk@ca.astound.net> wrote in message
news:<b8d1tdepb1@news.astound.net>...
> Joval,
>
> Do you know the model of the antenna you are using? It is possible that it
> may have too limited bandwidth,
> have marginal response at the edges of the band. If it is a high gain
> antenna its directional pattern may be
> too tight (have a narrow acceptance angle) and require precision aiming,
> although I doubt that is the problem. Contrary to what some people say,
> there are weather related effects that I have observed. But usually the
> power and gain used is great and these effects are not a factor.
>
> I designed and built log periodic antennas for similar applications here in
> California, we mounted the antennas
> inside a length of thinwalled PVC tubing when they had to be used in
> mountainous country to prevent snow
> and ice damage.
>
> You live in a beautiful city and although the winter weather is severe, the
> rest of the year is usually quite nice.
>
> Bon Chance de ray w6fya
>
>
>
>
> "Richard Clark" <kb7qhc@attbi.com> wrote in message
> news:ot4javc1t61k03u9vq47283q8ktlsrjo6l@4ax.com...
> > On 25 Apr 2003 12:51:15 -0700, joval99@hotmail.com wrote:
> >
> > >Hello all and thanks for reading this post.
> > >
> > >I've installed wireless connection to some of my clients. Apparently,
> > >Yagi antenna is able to handle distance up to 5 miles or 12 kilometers
> > >and is supposed to not be affected by weather. Well all specialist
> > >told me this. How good specialist they are or are they real specialist
> > >??? hehe i have no clue but for sure they are more than I (but
> > >something I start to wonder now ;)).
> > >
> > >In fact, each time temperature goes colder, let's say close to 0
> > >Celcius (32 Farenheit) or below, or each time it's raining or if
> > >there's a lot of humidity in the air, my APs (access point) lost their
> > >connection. I first though that maybe cold and humidity had reaction

> > >with microwave. Now I wonder if the problem comes from antennas. It
> > >depends on the distance also though. More the distance is high more
> > >the slighty weather change will have affect. For exemple: At one site,
> > >there's about 3 kilometers (1.8 miles) between the 2 hosts. I had a RF
> > >signal at about 7/31 or 8/31 RSSI so about 15 -20% of connection
> > >quality when I did the installation weather was like sunny and at
> > >about 10 Celcius degres. After about 2 weeks we got few days of rain
> > >and temperature goes colder. Result : Unable to connect no more. I'm
> > >even not able to do a RF test since the test module told me that it
> > >can't find the host ! (RF test module is build in access point)
> > >
> > >I could tell many other examples about the same kind of situation but
> > >i'll not talk about them all. But please, don't tell me that there's
> > >nothing relative to weather; I saw that problem too often, but I agree
> > >that maybe the problem could come, not from the radio signal or
> > >microwave, but from maybe the Intel Yagi antenna it self (affect by
> > >the weather) or even the access point (2011b) that can't provide the
> > >power to a frozen and hungry Intel Yagi antenna.
> > >
> > >Well in fact, I'm a newbie in this field since my field is more
> > >relative to network infrastructure, you all guys probably know more
> > >antenna than I. Situation is almost under control now since warm days
> > >comming soon but i'm worring about next winter. So please reply and
> > >don't be shy to share your ideas, your ideas will be always welcome.
> > >
> > >Thanks in advance
> > >
> > >P.S. Oh! btw, i'm from Montreal, Canada. (a last hint for people that
> > >know the weather here)
> > >
> > >Joval
> >
> > Hi Joval,
> >
> > If it is a temperature/weather issue, it may be one of tolerances on
> > the direction antennas are pointed. Your range seems OK, and loss due
> > to atmospherics (rain/snow/etc.) shouldn't be too much of a problem
> > (unless you cannot see through this muck).
> >
> > Now, as to these others who want to connect and your antenna(s),
> > especially if they are all yagis. You may be suffering from too much
> > antenna, not too little. Yagis offer gain and focus, but they do this
> > by robbing other directions of radiation. If your service feeds a
> > yagi, that yagi will have to see ALL subscribers in roughly the same
> > region, or on the same line of sight. If your subscribers are located
> > all around you, some MUST suffer, or merely operate off of marginal
> > signal strength that becomes poorer with bad weather.
> >
> > 73's
> > Richard Clark, KB7QHC

Thanks a lot guys for all these infos, it's really, really appreciate.
I have to find some documentations to reply to some of your questions
or statements. I can't find the info at home right now, but i have
these infos at work. I'll give these infos and answers this week,
probably on Monday.

Again, thanks a lot !!

Joval

1607. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 22:13:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d00mavcuunpg3os7tfurac30lon0u1dgob@4ax.com>
Source record: 120109

On Sat, 26 Apr 2003 20:43:27 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>The only restriction on length of winding wire is that it should not exceed
>about 1/10th or 1/15th of a wavelength at the highest frequency of
>operation. That's something I don't think the sacred bibles will tell you.

In point of fact, this advice is a commonplace discussion. Even in
the literature of the unclean.

>
>Another tip, ignore suggestions to wind the balun with coax just because it
>says so in books.

Few actually say it is necessary. Fewer still actually demand
(actually - none). And those few that suggest it, don't wring their
hands at the same time. Those that suggest it, also offer a
description of how to construct your own custom transmission line
(coax, wire-pair, or flat lead). They also tell you why (missing from
the critique, and the coverage) - which by the way, is another
commonplace discussion.

Hi Iain,

A sample of the inherent regeneration of old-wives myths appears in
the quoted statements above (which would not persist if the books
being criticized had actually been read - or if someone who knew was
asked ;-).

The only real advice missing is that you in all likelihood will NEVER
be able to tell the difference between any of these BalUns UNLESS they
"successfully" perform the more compelling service of choking unwanted
common mode currents (for SWLers that is generally residential noise).
Unfortunately the design offered above is the wrong type to do that
(or let's just say that you could easily do far better for as much
work and material and probably faster).

73's
Richard Clark, KB7QHC

1608. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 22:56:12 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAB0E8C.7080208@ieee.org>
Source record: 120110

Richard Harrison wrote:
> Had the reflection been out-of-phase, the reflection would have lowered
> the impedance seen by the sender.

Think about it, Richard. The sender has no eyes so it cannot "see" anything. Sounds like a joke, huh? Consider our transmitters that "want" to "see" 50 ohms. This is called "personification" in psychology, assigning human characteristics to inanimate objects, e.g. "My car hates me!"

Consider that even if a transmitter had eyes, it wouldn't see 50 ohms. There are no reflections when the virtual impedance is 50 ohms and reflections are all a transmitter could see even if it had eyes, which it doesn't. All it means when a transmitter "sees" 50 ohms is that incident reflections have been eliminated. The transmitted signal may have "seen" 1000 ohms but the reflections were absorbed by a circulator+load sitting right next to the transmitter.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1609. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 22:56:59 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <uKxRtnB76wq+EAkq@ifwtech.co.uk>
Source record: 120111

Floyd Sense wrote:
>"Richard" <nearlynews_email@ntlworld.com> wrote in message
>news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
>> Making a remote ATU for inverted L. Should I use a metal enclosure or a
>> plastic one?
>>
>> What about plastic but covering outside with foil?
>>
>> Probably I'll pick some kind of enclosure from this selection (cannot
>> think of a better place for enclosures) , rated IP65 (waterproof):
>>
>> http://makeashorterlink.com/?G69742954
>>
>> I'll probably need a box about 250mm x 250mm x 200mm.
>>
>No reason to shield it. I use a large gray plastic box designed for outdoor
>electrical use and it's just a bit bigger than you mentioned. Home depot
>sells them in their electrical department. They are completely waterproof.
>
Agreed - no reason to shield it.

There are two schools of thought about waterproofing - one is to seal
the whole thing completely, and the other is to protect against rainfall
but leave an air hole to prevent condensation collecting. Both ways
work, with different advantages and risks.

For many years I used an old motorbike carrier box for a remote ATU. It
was made of fibreglass with a well-fitting rainproof lid. Various holes
were drilled in the bottom of the box, including one large enough to
pass the PL259 on the incoming coax. The ATUs for various bands were
thrown together on a large sheet of copper-clad board, with space for
half a brick to hold everything down.

The box sat on two small concrete blocks at the base of the antenna
(33ft vertical) and the whole thing worked just fine... apart from
attracting comments like "So the rest of the motorbike is buried
underground, is it?"

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1610. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 23:06:53 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8f3cg$98b5q$1@ID-150848.news.dfncis.de>
Source record: 120112

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030426164903.01639.00000206@mb-m28.aol.com...
> >In any event, should I always seek to set C2, capacitor connected to
> >antenna, to the highest value possible?
>
> In this instance yes.
>
> >I was just trying to get T_Tuner to read same figures, but I don't
seem
> >to be able to. I change "A", but no joy.
>
> I just did a quick look on the Smith Chart, and I got a shunt
inductance of
> 7.6uh, and a series capacitance of 60 pf for an L network, and if a T
then the
> other C would be set at maximum.
> Part of the problem is you are trying to match a very high impedance
to 50
> ohms. On the Smith Chart, the curve for a shunt inductance, starting
at the
> point of your antenna's Z is almost concentric to the Z=50 ohm circle.
It
> intersects Z=50 ohms at a very small angle, so it makes the
determination of
> the shunt inductance difficult. I guess W9CF's and Reg's calculating
engines
> have similar difficulties.
> I have compared the two programs before, with a more reasonable
antenna
> impedance, and found them to be in agreement.
> 73 Gary N4AST

Yep, I think that is partly a nuisance in more ways than one, that my
antenna is pretty much an exact halfwave on 7.050 Mhz.

A T network I suppose can be tricky if there are several settings that
can give the same kind of match. Somewhow W9CF's program zero's in on I
suppose the best, if indeed there is one best.

Like you probably did at the time, I was just trying to get the same
result with both programs, sort of taking the view, sensibly or not,
that W9CF's program was giving the best match of the two programs.
Heck, I don't know what to do with "A" in Reg's program. I thought if I
can get the same match, I'd note what "A" turned out to be and I'd use
it thereafter with T_TUNER.EXE. But, I could not seem to alter "A" to

get the figures W9CF's program gave. All the other parameters were identical (except I don''t know what input resistance is supposed to be with W9CF's program, obviously 50 or 75 Ohms).

So, I've still not reconciled the two programs.

I think C2 is max rotational travel in this case. Now there are two senses of max, a general rule that C2 should always be turned to max capacitance (end stop of C2), or a general rule that C2 should be at max possible value, constrained by circuit demands, which could be anywhere from a few pF to end stop max. In this case before us, C2 should be right to end stop max, max rotational travel. But in other cases the max that can be tolerated might be when C2 is mid position (say). But whatever the case, whether C2 max is limited by physical endstop or circuit demands, C2 should be at either kind of maximum. (I think).

As I say, in this case it's best if C2 was not there, and we just had an L network. But, that does not mean the T network is redundant, it has it's uses or advantages in certain situations.

1611. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 23:32:50 UTC
From: AGRAY6 <AGRAY6@neo.rr.com>
Message-ID: <CGEqa.162821$JI.37502868@twister.neo.rr.com>
Source record: 120113

Do NOT use steel. Aluminum is much better...

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
> Making a remote ATU for inverted L. Should I use a metal enclosure or a
> plastic one?
>
> What about plastic but covering outside with foil?
>
> Probably I'll pick some kind of enclosure from this selection (cannot
> think of a better place for enclosures) , rated IP65 (waterproof):
>
> http://makeashorterlink.com/?G69742954
>
> I'll probably need a box about 250mm x 250mm x 200mm.
>
> TIA. Rich.

1612. Re: Which Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-26 23:38:24 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <QLEqa.12442$xB4.425595@news2.east.cox.net>
Source record: 120114

look at the KMA log antennas, and also at the CushCraft log periodic.

Peter

"Ameritech" <hilbish@ameritech.net> wrote in message
news:Z1vpa.2766$%_3.2181823@newssrv26.news.prodigy.com...
> All,
>
> I am looking for a good base station antenna to cover 6M /2M / 222MHz/
> 444MHz. The dilema is that I live in a golf course community with very
> specific guide lines for homes.
>
> So while transmission quality and reception is important, the ability to
> mount is also very critial. I would like a single antenna that would
cover
> those bands but am willing to use 2 if necessary.
>
> Size / mounting is probably the key issue here. Can anyone recommend
> anything. ?
>
> dhilbish@invosys.com
>
>

1613. Re: Capacitor vane spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 00:08:49 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <d6KdndgiHpQTgjajXTWcpA@comcast.com>
Source record: 120115

Guys,

I think that usually when people talk about the average value of a sin wave, they mean the half cycle average, not the trivial case. The half cycle average is 2Vpeak/Pi. The ratio of rms to half cycle average is called the form factor.

Tam/WB2TT
"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message news:3EA93E2E.1FFF5CC8@uwe.ac.uk...
> Richard Harrison wrote:
> >
> > Reg, G4FGQ wrote:
> > "---the average value of ANY alternating waveform, assymetrical or not,
> > over a complete cycle is zero."
> >
> > I agree with Reg if we use Roy`s criterion. Roy . if I recall, says an
> > assymetrical waveform may be in effect a composite of an a-c and d-c
> > parts.
> >
> > Now, let`s consider the reality of electronic amplification. An
> > undistorted sine wave has two half-cycles. Both are sine-wave-shaped.
> > Often, after amplification, one half of a cycle is flattened to some
> > extent and the other half-cycle remains sine-wave-shaped (as an
> > oscilloscope image). This wave, with one half flattened, lacks symmetry
> > about the zero-volt axis. These distorted waveforms are showing on
> > oscilloscopes everywhere. Their average value is not quite zero volts
> > until further processing.
> >
> > Best regards, Richard Harrison, KB5WZI
>
> So the signals aren't pure AC any more, but AC with a DC offset, as
> per Roy. If the average value is not zero it isn't pure AC.
> Your amplifier produces a DC offset. Further processing is
> presumably a DC blocking capacitor.
>
> vy 73
>
> Andy, M3ABC

1614. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 00:16:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EAB2156.FA112574@cwis.net>
Source record: 120116

Richard,
Won't make much difference one way of the other.
Do you happen to have an old ice chest laying around?
'Doc

1615. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 01:12:46 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304261712.6179de0a@posting.google.com>
Source record: 120117

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<bq2gav82unbkf936skuc3dhubv3v1d7a0r@4ax.com>...
> On 23 Apr 2003 18:23:29 -0700, kelly@dvol.com (Brian Kelly) wrote:
>

> Hi Brian,
>
> Your solution and the reasons for it are sound, even if I would ponder
> the contribution of the actual weight benefit (I bet it's a wash).

Probably! But it looks like I can get more pounds of ferrite per
dollar if I buy larger cores. Does that count?

> I have several choke designs so I will offer some simple relationships
> through illustration. By and large, there are some 2,3, or 4 ferrite
> formulations (the chemical soup that is eventually rendered into this
> ceramic) that can be employed in the HF region. I won't bother to
> enumerate, except to say each distinguishes itself from the other
> through its dissipative resistance v. frequency characteristic. This,
> of course, is of primary interest and the choice of formula is
> application driven (what frequency answers what formula).

I'm planning on using Bytemark's Type 43 ferrite cores so I don't have
a lot of control over the specific recipe.

> For one particular choke I use at the bench for testing, I selected a
> formulation that peaked around 20 MHz with a bead size that offered
> roughly 25 Ohms of resistance and fit around RG-58. I used only a
> foot of that cable to support 40 beads (about $15-$20 in parts cost at
> the time from the candy store).
>
> This means that as a rough, nominal value, the choke presents 1,000
> Ohms resistance. As this occurs at a peak, and I do not use this at
> that peak; and further given that the dissipative resistance v.
> frequency characteristic is a very broad curve; then I am generally
> guaranteed of obtaining at least 500 Ohms resistance over a large
> spectrum.

I'm with you.

> Wanting 500 Ohms (instead of, say, 100 Ohms) is a function of my
> application toward measurements. Anticipating a 50 Ohm load (again, a
> simple first pass approximation) this means that my choke shows a 10:1
> relationship which argues that I can approach measurements with a fair
> amount of accuracy available. This 10:1 is an expression of
> isolation, but this amount of isolation is more a measure of degree

> than it is a measure of need. Having 5:1 does not reduce a choke's
> suitability, except for precise measurements. Even 3:1 is useful for
> common full-time applications like holding Common Mode off the coax of
> coax fed dipoles.

Right there seems to be the problem with "engineering" choke baluns.
One can tweak a choke to some reasonably precise value of impedance
via the material behavior curves at some specific frequency and verify
the results on the bench but there is no apparent "correct value" to
target in the first place. Ergo my "voodoo physics" comment. I'll
shoot for 750 ohms first and from there I'll make the compromises from
that starting point.

I've put up a lot of dipoles over a lot of years and they all worked,
most of them without chokes. Actually, I'm not particularly adverse to
some feedline radiation, it tends to fill in the nulls off the ends of
dipoles. But in most of those cases I was able to pull the coax off at
angles approximating 90 degrees for at least a quarter wave. Now I'm
in a situation where there is no way for the coax to drop away
perpendicular to the feedpoint, the coax will run straight down only a
few feet then start to loop more or less parallel with one leg of the
dipole to the second-story shack. I'm under the impression that a
choke on the braid will reduce the interaction between the coax and
the leg of the dipole. And since the shack is on a second floor I
don't have a decent ground and the choke should also reduce the amount
of RF floating around loose in the shack.

> 3:1 (which from my own choke design, suggests about a dozen beads)
may
> not be much, but it may be enough. If we are speaking of 3:1
> delivered by my 40 beads, then the power my choke can dissipate will
> probably be adequate to a standard rig. However, if we speak of 3:1
> arrived through the best of circumstances from 10 or a dozen beads,
> there may be some heat issue at high (100W) power levels.

I run 100w and then some on HF and I'll make sure I have some thermal
capacity headroom.

Tnx Richard.

>
> 73's
> Richard Clark, KB7QHC

w3rv

1616. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 01:24:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vamca62ni0cc9d@corp.supernews.com>
Source record: 120118

If you're planning on using plastic, you need to be very careful in choosing it. A mention was made of outdoor electrical boxes, which should be fine. But a great number of plastics will deteriorate very quickly when exposed to sunlight. An ice chest might be better than some, but I'll bet that a year or two in constant sun would reduce most of them to a brittle mess in a couple of years.

I used plastic food storage boxes for a while, but they're definitely in the UV-susceptible class and don't last long -- even here in Oregon, where the exposure isn't nearly as great as a lot of other places.

I picked up a couple of surplus ammo boxes a while ago and plan on using them for this sort of thing. They've got a rubber seal at the lid, so if I take care with the input and output connectors, I should be able to keep the stuff inside pretty dry. And they should last just about forever.

Roy Lewallen, W7EL

'Doc wrote:
>
> Richard,
> Won't make much difference one way of the other.
> Do you happen to have an old ice chest laying around?
> 'Doc

1617. Re: PSE HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 01:48:16 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <AFGqa.37412$RE3.3335306@twister.southeast.rr.com>
Source record: 119869

Try the Boat Anchor Manual site:

bama.sbc.edu

A search for Boat Anchor Manuals will get a few more sites also.

Good luck,

Bill, W4WNT

"Andrea" <IZ0EHOtogliquesto@libero.it> wrote in message
news:MPG.191221d195b0970f9896b4@news.fastwebnet.it...
> Please let me know where i can download on the web the service manual for
> transceiver ATLAS
> Thank you
> --
> IZ0EHO Andrea
> www.qsl.net/iz0eho
> rimuovere TOGLIQUESTO dall'indirizzo per rispondermi

1618. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 02:00:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ticmavo2heefspocnl4vgs3pntbth769sr@4ax.com>
Source record: 119870

On 26 Apr 2003 18:12:46 -0700, kelly@dvol.com (Brian Kelly) wrote:

>Richard Clark <kb7qhc@attbi.com> wrote in message
news:<bq2gav82unbkf936skuc3dhubv3v1d7a0r@4ax.com>...
>> On 23 Apr 2003 18:23:29 -0700, kelly@dvol.com (Brian Kelly) wrote:
>>
>
>> Hi Brian,
>>
>> Your solution and the reasons for it are sound, even if I would ponder
>> the contribution of the actual weight benefit (I bet it's a wash).
>
>Probably! But it looks like I can get more pounds of ferrite per
>dollar if I buy larger cores. Does that count?

Sure, just like every calorie counts for a dieter. Were you hoping to
maximize the weight/dollar benefit or the weight/cost benefit?

>

>
>I'm planning on using Bytemark's Type 43 ferrite cores so I don't have
>a lot of control over the specific recipe.

Type 43 peaks in the 2M band, but it does serve as a resistance well
down into HF (down to half value at 10MHz); it also holds up well
beyond 70cM and 1GHz. Compared to the formulation I use, the
difference is only a factor of 0.5 or less around 10 MHz but about
0.33 below (give or take). As such, for a choke comparable to mine,
you would need 2 to 3 times as much ferrite (be it beads or turns
through a larger core) by weight or volume.
>
>> ... Even 3:1 is useful for
>> common full-time applications like holding Common Mode off the coax of
>> coax fed dipoles.
>
>Right there seems to be the problem with "engineering" choke baluns.
>One can tweak a choke to some reasonably precise value of impedance
>via the material behavior curves at some specific frequency and verify
>the results on the bench but there is no apparent "correct value" to
>target in the first place. Ergo my "voodoo physics" comment. I'll
>shoot for 750 ohms first and from there I'll make the compromises from
>that starting point.

The "correct" value is the one where you no longer are caused care by
the problem - no more and no less. This is the professional approach

to design. Being amateurs, we present far more variation from one situation to the next and one "correct" value is exceedingly unlikely to be universally useful.

However, 750 Ohms is no less arbitrary than 1000 Ohms (or is t'other way 'round?), but at what frequency do you plan to design this value to? HF is a large region, and the characteristic of this curve is a downhill run from 2M as I indicated.

>
>I've put up a lot of dipoles over a lot of years and they all worked,
>most of them without chokes. Actually, I'm not particularly adverse to
>some feedline radiation, it tends to fill in the nulls off the ends of
>dipoles. But in most of those cases I was able to pull the coax off at
>angles approximating 90 degrees for at least a quarter wave.

I suppose that is handy from a visual balance, but the "third" leg is always attached no matter what angle you choose, and it is far more significant as a determiner of balance. Basically, from your experience, it appears that balance is of no importance and if you suffer no RF in the shack, this becomes an intellectual exercise. You anticipate much of this in the following:

> Now I'm
>in a situation where there is no way for the coax to drop away
>perpendicular to the feedpoint, the coax will run straight down only a
>few feet then start to loop more or less parallel with one leg of the
>dipole to the second-story shack. I'm under the impression that a
>choke on the braid will reduce the interaction between the coax and
>the leg of the dipole. And since the shack is on a second floor I
>don't have a decent ground and the choke should also reduce the amount
>of RF floating around loose in the shack.
>

>I run 100w and then some on HF and I'll make sure I have some thermal
>capacity headroom.
>

Hi Brian,

I doubt you will suffer any heat issues.

One last item: a "turn" consists of the passage of the conductor(s) THROUGH the hole of the donut NOT the number of wraps seen around its edge. Not much consequence in the use of beads; but for large cores, this can lead to an under count and when turnsï¿½ count, you want every "turn" to count. There is no such thing as a partial turn through a torus.

73's
Richard Clark, KB7QHC

1619. Re: Inverted-V antenna - New Program

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 02:11:49 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <uTGqa.4270$Bx2.1719@fe01.atl2.webusenet.com>
Source record: 119871

Bob try finding a "Megger" ! If this beast wont find your Soil resistance
(or conductivity), at least has another benefit: If you are into fishing,
it makes nightcrawlers come out of the ground! Jim NN7K

Bob- K5QWG wrote:
> For the heck of it, I just took my VOM multitester out to the back
> yard, jammed the probes into the earth to measure the ohms, and, of
> course, the meter needle didn't budge. I guess that would have been
> too easy.
>
> No wonder they have mho and siemens meters!
>
> Bob
> k5qwg
>
>

1620. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 02:38:07 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eab4314_1@news1.prserv.net>
Source record: 119872

You want cheap? And permanent? Use a Prestone antifreeze bottle. I don't know what plastic they have to use to survive the ethylene glycol, but they last at least 25 years in the South Texas UV. I have found no other plastic which will last half as long. Even fiberglass starts to break down and shed fibers.

In my specific design, I cut the top off at the first seam, and cut the bottom 2 inches from a second one. I inverted the bottom, mounted the components on it, and slipped it into the inverted bottle, fastening with 4 sheet metal screws. Strap it to a mount with UV resistant Ty-Wraps. RF characteristics seem adequate.
--
Crazy George
Remove NO and SPAM from return address

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
> Making a remote ATU for inverted L. Should I use a metal enclosure or a
> plastic one?
>
> What about plastic but covering outside with foil?
>
> Probably I'll pick some kind of enclosure from this selection (cannot
> think of a better place for enclosures) , rated IP65 (waterproof):
>
> http://makeashorterlink.com/?G69742954
>
> I'll probably need a box about 250mm x 250mm x 200mm.
>
> TIA. Rich.

1621. FRS Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 02:57:38 UTC
From: ValleyArts1@webtv.net
Message-ID: <26538-3EAB4722-644@storefull-2173.public.lawson.webtv.net>
Source record: 119874

Are any of the frs type radios employing phase modulation instead of fm?

1622. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 03:04:25 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EAB48B9.1090203@oda.com.au>
Source record: 119873

Richard wrote:
> I cannot get the same results with the same parameters.
>
> Parameters:
>
> Frequency: 7.059 Mhz
> R load: 1485.5 Ohms
> X load (jx) 1455.3 Ohms
>
> C1 max: 950 pF
> C1 Q : 1500
> C2 max : 950 pF
> C2 Q : 1500
> L Q : 300
>
>
> Input resistance: 50 Ohms
>
> W9CF's T-Network on automatic tune gives:
>
> C1: 61 pF
> C2: 950 pF
> L : 9.70 uH
>
> I was just trying to get T_Tuner to read same figures, but I don't seem
> to be able to. I change "A", but no joy.
>
> I know, the T network tuner offers such flexibility in settings, and I
> guess it's hard to pin down the best settings. But, I just wanted to
> try to match the settings with both these programs.
>
> In any event, should I always seek to set C2, capacitor connected to
> antenna, to the highest value possible?
>
> TIA. Rich.
>

Kevin's 'Autotune' function does not find the lowest loss match for the values you provided. If you play with the thing, you will get lower loss with values like 85pF / 6.3uH / 16pF. It seems to me that his 'Autotune' algorithm will alows set one of the capcitors to maximum and find the other values for match, but in this case lower loss match is achieved with both capacitors well below maximum. Whilst the difference is performance in this case is minor, it does indicate that the

conventional wisdom that you will not get lowest loss unless one capacitor is at maximum does not apply at least to the simple way in which the circuit losses are modelled in Kevin's calculator.

Interestingly, Reg's calculator will not use the maximum C in your example, but does show a quite low loss config with low values of A at 85pF / 6uH / 13pF, and the match and loss figures are pretty consistent with Kevin's calculator when set manually.

I am embarking on writing a set of library functions for Excel, for T and pi configurations (which will also include the simpler L configuration, and a bit bewildered by an analytical solution, will try an iterative one. I note one of the purveyors of auto tuners claiming multiple algorithms, I don't know whether this is hype, done for speed or whether some algorithms don't converge on a solution for some impedances, where other algorithms may.

I would be interested in any thoughts.

Owen

1623. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 06:51:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0tumav4ikc7fd5vhv0cg63hdcjatq28uat@4ax.com>
Source record: 119875

On Sun, 27 Apr 2003 13:04:25 +1000, Owen Duffy <owen@oda.com.au>
wrote:

>
>I am embarking on writing a set of library functions for Excel, for T
>and pi configurations (which will also include the simpler L
>configuration, and a bit bewildered by an analytical solution, will try
>an iterative one. I note one of the purveyors of auto tuners claiming
>multiple algorithms, I don't know whether this is hype, done for speed
>or whether some algorithms don't converge on a solution for some
>impedances, where other algorithms may.
>
>I would be interested in any thoughts.
>
>Owen

Hi Owen,

This sounds like the classic problem of the solution becoming trapped
in a local minima. There are a number of standard tests to break free
(look-aheads and look-behinds) that are described in the Calculus
texts if you wish to stick with conventions. This treatment often
occurs early in the text concerned with derivatives. There are also a
number of genetic-algorithm type approaches that attempt to do the
same thing holistically; however, as far as I am concerned, that
avenue is strictly academic, and having been academic for nearly two
decades suggests it doesn't really work that effectively in the first
place.

In those days when computers ran in the 10's of MHz, it paid to be
smart (but smart was not always achievable). Today with machines
running at 100 times that speed with 1000 times as much memory, brute
force has a satisfying way of dealing with what were "intractable"
problems.

73's
Richard Clark, KB7QHC

1624. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 08:16:13 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EAB91CD.22E97F3C@cwis.net>
Source record: 119876

Cecil,
Only if you can get the thing to load to start
with. Most of the newer solid state transmitters
wouldn't load very well into any of the 'numbers'
quoted, so why worry about the antenna's losses?
'Doc

1625. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 09:49:16 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8g8ul$9desn$1@ID-150848.news.dfncis.de>
Source record: 119877

"Owen Duffy" <owen@oda.com.au> wrote in message
news:3EAB48B9.1090203@oda.com.au...

> Kevin's 'Autotune' function does not find the lowest loss match for
the
> values you provided. If you play with the thing, you will get lower
loss
> with values like 85pF / 6.3uH / 16pF. It seems to me that his
'Autotune'
> algorithm will alows set one of the capcitors to maximum and find the
> other values for match, but in this case lower loss match is achieved
> with both capacitors well below maximum. Whilst the difference is
> performance in this case is minor, it does indicate that the
> conventional wisdom that you will not get lowest loss unless one
> capacitor is at maximum does not apply at least to the simple way in
> which the circuit losses are modelled in Kevin's calculator.
>
> Interestingly, Reg's calculator will not use the maximum C in your
> example, but does show a quite low loss config with low values of A at
> 85pF / 6uH / 13pF, and the match and loss figures are pretty
consistent
> with Kevin's calculator when set manually.

Okay thanks for that information. I did not know what Kevin's program
was doing. I thought maybe calculating *the best" match, but not so.
Perhaps his page should state that the autotune function will find *a*
match, but not necessarily *the best* match. I think folks like me who
don't know a whole lot, will tend to assume autotune is giving the
single best match, and seek to set their tuner accordingly.

Of course, this is fairly academic because the differences in losses
will be insignificant between good matches.

Also, Reg's program, it's more thinkable that it is not necessarily
calculating the best match because you have to mess with "A". Perhaps
that is a bit like turning the controls with Kevin's program, but then
again maybe not. I must look at Reg's program and see how to use it,
I'm not sure how to right now.

It must be said, one wonders how these programs help that much. Take
Reg's program. I mess with "A". Well it seems just an academic
exercise, unless "A" relates to something that is knowable about my
components/system. Of course these programs do help, but I am unsure
exactly how. If I mess with "A", lets say I can get the best match.
Well, that's fine, but the calculated values are meaningless unless the
value of "A" is an actual parameter of my system. IOW, I don't think

either program can give you the values for the best match for your system, Kevins probably because it sets C2 to max, and Reg's because "A" is not derived from your components or system. It's just some figure you mess with. But of course, even capicitor Q is all a guess anyway. So, it's clear the values you get you should just treat them as in the ball-park. But I'm not even sure if they can produce an "in the ball-park" figure for one's system one is contemplating building (tuner and antenna), because of the unknowable parameter that effects the computed values. In Reg's program it's "A". You don't know what "A" is in your system.

I could be talking nonsense, if I am, I'm sure someone will put me right.

Seems like there is still an opening for some academic work to be done on the T network problem regarding an algorithm that will produce the best match. That is if it's solvable.

1626. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 11:26:49 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8gepo$j8f$1@titan.btinternet.com>
Source record: 119878

> Seems like there is still an opening for some academic work to be done
> on the T network problem regarding an algorithm that will produce the
> best match. That is if it's solvable.
==========

Richard, T-network analysis was taken to its ultimate conclusion long before Marconi.

But before you start what is YOUR definition of "The best match" ?

Reg

1627. Wanted: Telrex TB6EM or 20 meter monobander beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 12:18:33 UTC
From: el34guy@aol.com
Message-ID: <20030427081833.21057.00000156@mb-m18.aol.com>
Source record: 119879

Im travelling to Dayton this year through Iowa, Illinois, Indiana, and Ohio. If anyone has a good Telrex TB6EM or a good 3-5 element 20 meter monobander beam in good shape along the way let me know. I have a trailer and can pick it up at Dayton or along the way. 73 and thanks.

Mark
W0NCL

1628. Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 13:43:54 UTC
From: aokd5fxt@aol.com
Message-ID: <20030427094354.21021.00000154@mb-m18.aol.com>
Source record: 119880

I have a 2 meter antenna (glass mount). It is on the van I am selling. I want to remove it and use it on another vehicle. I don't have a clue how to do it w/o damaging it. Any help? Pls email me at aokd5fxt@aol.com.

Thanks
Bill

1629. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:06:05 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EABE3CD.40804@ieee.org>
Source record: 119881

'Doc wrote:
> Only if you can get the thing to load to start
> with. Most of the newer solid state transmitters
> wouldn't load very well into any of the 'numbers'
> quoted, so why worry about the antenna's losses?

Is an antenna good if the built-in autotuners will
tune it and bad if they won't? Seems to me, if one
already has an external tuner, the problem is solved
for a G5RV on 80m and 40m. I'll bet the G5RV outperforms
the T2FD on 80m and maybe even on 40m.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1630. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:24:55 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8gp45$9b5h5$1@ID-150848.news.dfncis.de>
Source record: 119882

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8gepo$j8f$1@titan.btinternet.com...

> But before you start what is YOUR definition of "The best match" ?

Because it seems that any of the suitable matches are likely to have insignificant practical differences in terms of strength of signal recieved at either destination or receiving end, I'm not that hung up about what might be *the* best match. So, in a sense, we can say to ourselves don't worry about whether the match is the best loss-wise, they are all okay from that angle.

However, when it comes to designing your antenna system that is a different kettle of fish, because what interests you are component values. Although even here there is no big problem, because you set the component values and the programs tell you whether you can get a match or not with the values given. If you cannot get a match then you need to get a new inductor or capacitor, so eventually you get a match with the new component values. So that's the usefulness of the programs, just in telling you whether you can get a match with the components you have, or they tell you what components you might have to buy. The programs do work out the match values, and take into consideration the component values. Lets face it, a program need not take into consideration the value of your components, it could just work out what the values should be, but that might not be as useful.

Anyhow you have components to hand at C1 & C2 950pF; L 30 uH. You want to transmit on 7050 Khz.

You use W9CF's program and it tells you can get a match: Use C1: 61 pF;C2: 950 pF;L : 9.70 uH.

You say, that's great, my components will tune up, I'll look to set my components to around those values. Now with W9CF's program you initially think, wow I need to use all 950 pF of C2 capacitance, glad I got 950 pF. But of course you could set C1 and C2 to less than 950 pF and I'm sure you would get a match.

Then you stumble on Reg's program and it tells you that you can also match. You set "A" to 1.
to get: C1: 83.8 pF; C2: 13 pF; L : 6.08 uH. Minimum losses in network.

When you see Reg's values you say at first, I don't understand it, the values are so different. Then after getting to know not to bother about that, you say, wow I can get by with capacitors under 100 pF. Also you think, how can I get 13 pF for C2. Also, with "A" being 1, C2 is probably the maximum; change "A" to 1.5 and C2 goes to 6.3pF. Actually

Reg's values are unrealisable.*

Okay so which is best? Well from received signal strength angle it does not matter. And perhaps it does not matter heat-wise in the components. But, W9CF's values are realiseable, whilst Reg's are not.

So a significant difference has resulted from using W9CF's program and Reg's. At least it looks that way intially. Only because C2 with Reg's program is not realiaeable. Well, might not be.

* Of course you can seek to find a different match combination manually in practice, or with W9CF's program. Or alter your antenna length.

The thing is with Reg's program, even though you specfy C1 and C2 as 950 pF the program does not seek to use the max value of C2. It just comes out with what the best match is. With W9CF's, that program seems to want to use the full value of C2 in autotune. I think that might lead to more losses, but again probably is insignificant signal strength-wise or any other wise. Although you might have to use a value of L that's just bigger than what you got. :c) But, this is autotune, and perhaps it's best you should mess manually with the controls.

Summary of sorts:

So, it seems using T_TUNER, it gives a really efficient match, but you cannot realise C2, unless you change antenna length a tad. That is the significant difference from using W9CF T Tuner and T_TUNER.EXE.

"A" is variable from 1 to 20. For a given Z match, when A = 1 capacitor values are largest and power loss is least. As "A" increases so does coil inductance, capacitor sizes decrease and, most important, component power losses increase. When the program user sets a limit to capacitor size the program automatically increases "A" and the inductance value such that a Z-match is obtainable with smaller capacitors. But a compromise versus power efficiency must be made.

As per Reg.

1631. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:25:24 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304270625.6921c186@posting.google.com>
Source record: 119883

Roy Lewallen <w7el@eznec.com> wrote in message news:<vak15gsqfmiba5@corp.supernews.com>...
> I find that elevation angles as low as two degrees are desirable for
> Field Day antennas. The antennas I use are designed about the same as
> for DX. Most of the population of the U.S. is between 2000 and 3000
> miles from here. Seattle and Portland are the only major cities in NVIS
> range. San Francisco is about 500 miles, Los Angeles 900, Denver about 1000.
>
> But NVIS is great for Spokane, Boise, and maybe even Reno.

I leaped before I looked as far as an NVIS antenna being an
all-inclusive FD antenna goes. However I'm in the Philly area and if
one assumes that an NVIS antenna is particularly effective for use
within 300 miles of the station that means that I'd cover an area from
northern North Carolina to above Boston and west beyond Pittsburgh.
Deserts are a tad scarce here in the NE coridor, a big chunk of
humanity lives in this anthill. Ditto the total number of FD
operations which are conducted within that circle. I've never been
able to work many if any W1's 2's, 3's, 4's and 8's on FD on 20/15
with more conventional antennas.

But I'll stick with my jaundiced view of very low angle radiators for
FD. I had a half-wave 20m vertical for awhile and it was on average a
lot easier to work JAs and VKs than it was to work W5's, 7's & ï¿½'s.

In the end I'll put up nice simple dipoles "beamed" E-W and go at it
in June.

>
> Roy Lewallen, W7EL

w3rv

>
> Brian Kelly wrote:
> > "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b88v9n$2j7$1@hercules.btinternet.com>...
> >
> >>For REAL DX what about a 5/8-wave near-vertical on 160m suspended by a
> >>balloon ?
> >
> >
> > Low angle radiators are the least desirable antennas for use in the
> > U.S. Field Day event, for the most part it's about Yanks working
> > Yanks, no hero points for working DX in this one. Field Day is NVIS
> > antenna country, horizontal loops close to the ground, inverted vees,
> > etc.

> >
> >
> >
> >>---
> >>Reg, G4FGQ
> >
> >
> > w3rv

1632. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:37:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8gprf$9n36s$1@ID-150848.news.dfncis.de>
Source record: 119884

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8gp45$9b5h5$1@ID-150848.news.dfncis.de...
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message

> Summary of sorts:
>
> So, it seems using T_TUNER, it gives a really efficient match, but
> you cannot realise C2, unless you change antenna length a tad. That is
the
> significant difference from using W9CF T Tuner and T_TUNER.EXE.

I think also that the values that W9CF's program gave in autotune, and
what Reg's program gave are not reconsilable. Because W9CF wants to set
C2 to max.

1633. Re: Remote ATU box: Plastic or metal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:49:04 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <bYKcnY5XB_x4cDajXTWcog@comcast.com>
Source record: 119885

Richard,

You might want to consider a Minibox inside a NEMA type plastic box. In any case, if you make a drain hole in the box, put some kind of screen over the hole, or the box will become a home for bugs.

Tam/WB2TT
"Richard" <nearlynews_email@ntlworld.com> wrote in message news:b8e9vg$98aah$1@ID-150848.news.dfncis.de...
> Making a remote ATU for inverted L. Should I use a metal enclosure or a
> plastic one?
>
> What about plastic but covering outside with foil?
>
> Probably I'll pick some kind of enclosure from this selection (cannot
> think of a better place for enclosures) , rated IP65 (waterproof):
>
> http://makeashorterlink.com/?G69742954
>
> I'll probably need a box about 250mm x 250mm x 200mm.
>
> TIA. Rich.

1634. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 14:50:44 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <9lqnav0fgjd677cjg30pce3uehau85f4gb@4ax.com>
Source record: 119886

On Sun, 27 Apr 2003 13:04:25 +1000, Owen Duffy <owen@oda.com.au>
wrote:

[snip]

|
|I am embarking on writing a set of library functions for Excel, for T
|and pi configurations (which will also include the simpler L
|configuration, and a bit bewildered by an analytical solution, will try
|an iterative one. I note one of the purveyors of auto tuners claiming
|multiple algorithms, I don't know whether this is hype, done for speed
|or whether some algorithms don't converge on a solution for some
|impedances, where other algorithms may.
|
|I would be interested in any thoughts.
|

Before reinventing the wheel, you might look at xlzizl.xls found at:

www.qsl.net/ac6la

It will find a lower loss solution that Kenvin's.

Another point; the component Q's given in the example are a bit
optimistic in my mind.

1635. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:09:09 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <4asnavohctjtfvnofi3olu0ov2jass1eok@4ax.com>
Source record: 119887

I just took a Larsen off our Jeep after 10 years. It wasn't easy, but
it did come off. I used a putty knife about 1" wide and held it as
flat as I could against the glass. Then I tapped it gently with a
plastic hammer, working around the perimeter until I could get it
started. I just kept going around the edges until it finally popped
off. I used a razor scraper to get most of the adhesive off, followed
by some glue remover. Haven't got it off the antenna yet, but that
can wait. BTW, Larsen sells a kit for re-installation for about $6.

Dick - W6CCD

On 27 Apr 2003 13:43:54 GMT, aokd5fxt@aol.com (AO KD5FXT) wrote:

>I have a 2 meter antenna (glass mount). It is on the van I am selling. I want
>to remove it and use it on another vehicle. I don't have a clue how to do it
>w/o damaging it. Any help? Pls email me at aokd5fxt@aol.com.
>
>Thanks
>Bill

1636. RG 6 vs LMR 400: Differences Meaningful ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:26:49 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b8gstp$v0m$1@slb5.atl.mindspring.net>
Source record: 119888

Hello:

Will be putting up a new antenna in attic (for receiving only) which has
about a 50 foot run to receiver.
Freq's of interest are 30 MHz to perhaps 1 GHz.

Debating between RG 6 and LMR 400

At 1 GHz, the differences in loss have been reported as:

RG6 = 3.7 db
LMR400=2 db

Is this 1.7 db difference meaningful ?

Thanks,
Bob

1637. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:32:37 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EABF83B.7070405@adelphia.net>
Source record: 119889

Brian Kelly wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vak15gsqfmiba5@corp.supernews.com>...
>
>>I find that elevation angles as low as two degrees are desirable for
>>Field Day antennas. The antennas I use are designed about the same as
>>for DX. Most of the population of the U.S. is between 2000 and 3000
>>miles from here. Seattle and Portland are the only major cities in NVIS
>>range. San Francisco is about 500 miles, Los Angeles 900, Denver about 1000.
>>
>>But NVIS is great for Spokane, Boise, and maybe even Reno.
>
>
> I leaped before I looked as far as an NVIS antenna being an
> all-inclusive FD antenna goes. However I'm in the Philly area and if
> one assumes that an NVIS antenna is particularly effective for use
> within 300 miles of the station that means that I'd cover an area from
> northern North Carolina to above Boston and west beyond Pittsburgh.
> Deserts are a tad scarce here in the NE coridor, a big chunk of
> humanity lives in this anthill. Ditto the total number of FD
> operations which are conducted within that circle. I've never been
> able to work many if any W1's 2's, 3's, 4's and 8's on FD on 20/15
> with more conventional antennas.
>
> But I'll stick with my jaundiced view of very low angle radiators for
> FD. I had a half-wave 20m vertical for awhile and it was on average a
> lot easier to work JAs and VKs than it was to work W5's, 7's & ï¿½'s.
>
> In the end I'll put up nice simple dipoles "beamed" E-W and go at it
> in June.

I'll second that, Brian. Last year a club member made a nice elevated
radial antenna for our GOTA station. Worked great for DX, but we had NO
local stuff at all. Not one in-state QSO.

- Mike KB3EIA -

1638. Re: RG 6 vs LMR 400: Differences Meaningful ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:41:31 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <JRidndsBz_SxZzajXTWcow@ctc.net>
Source record: 119890

> Will be putting up a new antenna in attic (for receiving only) which has
> about a 50 foot run to receiver.
> Freq's of interest are 30 MHz to perhaps 1 GHz.
>
> Debating between RG 6 and LMR 400
>
> At 1 GHz, the differences in loss have been reported as:
>
> RG6 = 3.7 db
> LMR400=2 db
>
> Is this 1.7 db difference meaningful ?
>
Probably not too noticiable in your application.

1639. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:50:57 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3eabfc1b$0$125$edfadb0f@dtext02.news.tele.dk>
Source record: 119891

Hello

> I just took a Larsen off our Jeep after 10 years. It wasn't easy, but
> it did come off. I used a putty knife about 1" wide and held it as
> flat as I could against the glass. Then I tapped it gently with a
> plastic hammer, working around the perimeter until I could get it
> started. I just kept going around the edges until it finally popped
> off. I used a razor scraper to get most of the adhesive off, followed
> by some glue remover. Haven't got it off the antenna yet, but that
> can wait. BTW, Larsen sells a kit for re-installation for about $6.

It is easier if the glue is heatet first by the means of a hair dryer.

Regards Max

1640. Re: Boat Antenna for 2 meters????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 15:52:19 UTC
From: Ron <who.me@null.com>
Message-ID: <83vnavs7l9rooetn7r85nja52ibq1ppeah@4ax.com>
Source record: 119892

On Thu, 24 Apr 2003 17:34:49 GMT, "Ted Nugent" <eclip01@hotmail.com>
wrote:

>I am looking to put a 2 meter mobile rig on my boat
>(aluminum hull) and am undecided on using a
>regular VHF Marine antenna, or a standard 2 meter
>mobile antenna with an NMO mount and mounting
>it on the rear of the deck. Anyone here have any
>experiences or recommendations on what to use?
>Thanks .....

Check HRO or AES for a Marine mount 2-Meter antenna.
A VHF Marine antenna is a poor choice for 2 meter work.
A normal mobile antenna will not last long in a Salt Water
environment.

Ron

1641. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 16:10:44 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304270810.61e433d2@posting.google.com>
Source record: 119893

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<ticmavo2heefspocnl4vgs3pntbth769sr@4ax.com>...
> On 26 Apr 2003 18:12:46 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
> >
> >Probably! But it looks like I can get more pounds of ferrite per
> >dollar if I buy larger cores. Does that count?
>
> Sure, just like every calorie counts for a dieter. Were you hoping to
> maximize the weight/dollar benefit or the weight/cost benefit?

Absolute minimum weight, cost aside. Minimizes the catenary stresses
on the wires & supports, etc.

> >I'm planning on using Bytemark's Type 43 ferrite cores so I don't have
> >a lot of control over the specific recipe.
>
> Type 43 peaks in the 2M band, but it does serve as a resistance well
> down into HF (down to half value at 10MHz); it also holds up well
> beyond 70cM and 1GHz. Compared to the formulation I use, the
> difference is only a factor of 0.5 or less around 10 MHz but about
> 0.33 below (give or take). As such, for a choke comparable to mine,
> you would need 2 to 3 times as much ferrite (be it beads or turns
> through a larger core) by weight or volume.

That's no good, it appears that Type 43 is not the way to go. Type 77?
Or more to the point what is this "magic recipe" you use and where do
you get the stuff?

> >Right there seems to be the problem with "engineering" choke baluns.
> >One can tweak a choke to some reasonably precise value of impedance
> >via the material behavior curves at some specific frequency and verify
> >the results on the bench but there is no apparent "correct value" to
> >target in the first place. Ergo my "voodoo physics" comment. I'll
> >shoot for 750 ohms first and from there I'll make the compromises from
> >that starting point.
>
> The "correct" value is the one where you no longer are caused care by
> the problem - no more and no less. This is the professional approach
> to design. Being amateurs, we present far more variation from one
> situation to the next and one "correct" value is exceedingly unlikely
> to be universally useful.

100% agreed

> However, 750 Ohms is no less arbitrary than 1000 Ohms (or is t'other
> way 'round?), but at what frequency do you plan to design this value
> to? HF is a large region, and the characteristic of this curve is a
> downhill run from 2M as I indicated.

The specific antennas I'd like to build would be two two-band dipoles
using the parallel wires configuration with a common feedpoint and fed
with 8X coax (0.260" diameter jacket). One would be an 80/40 antenna
the other for 20/15. At least initially I'll shoot for 750 ohms on
80 for the 80/40 antenna which would be overkill for 40 but that's
OK. I'd take the same approach to the 20/15 antenna. I'm not targeting
duz-it-all 1.8-30Mhz chokes.

> >I've put up a lot of dipoles over a lot of years and they all worked,
> >most of them without chokes. Actually, I'm not particularly adverse to
> >some feedline radiation, it tends to fill in the nulls off the ends of
> >dipoles. But in most of those cases I was able to pull the coax off at
> >angles approximating 90 degrees for at least a quarter wave.
>
> I suppose that is handy from a visual balance, but the "third" leg is
> always attached no matter what angle you choose, and it is far more
> significant as a determiner of balance. Basically, from your
> experience, it appears that balance is of no importance and if you
> suffer no RF in the shack, this becomes an intellectual exercise.

Yes I've basically ignored the balance issue in the past because there
wasn't a practical way to achieve balance. A number of those dipoles
went up long before there was any such thing as ferrite beads/cores,
the only baluns in use then were a pair of big air-wound bifilar coils
and in general nobody bothered with those except in the case of beams
where the additional balun weight & size usually don't matter. But we
do have ferrite beads and cores available today so there's not much
excuse for not using them to get better balance and eliminate the
pesky RF-in-the-shack problem to boot. So it's more than just
intellectual pushups.

> One last item: a "turn" consists of the passage of the conductor(s)
> THROUGH the hole of the donut NOT the number of wraps seen around its
> edge. Not much consequence in the use of beads; but for large cores,
> this can lead to an under count and when turnsï¿½ count, you want every
> "turn" to count. There is no such thing as a partial turn through a
> torus.

Understood 100%. Given the minimum bend radius of 8X and a 0.750"dia.
bore core (four full turns thru the bore, 4^^2=16x) I'd have lot of
coax involved. It just might be that all that coax plus the big
core(s) could weigh more than significantly fewer feet of coax plus a
string of beads. Particularly with the 20/15 dipole.

>
> 73's
> Richard Clark, KB7QHC

Brian w3rv

1642. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 16:14:03 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304270814.6825dcc4@posting.google.com>
Source record: 119894

"Richard" <nearlynews_email@ntlworld.com> wrote in message
>
> I think C2 is max rotational travel in this case. Now there are two
> senses of max, a general rule that C2 should always be turned to max
> capacitance (end stop of C2), or a general rule that C2 should be at max
> possible value, constrained by circuit demands, which could be anywhere
> from a few pF to end stop max. In this case before us, C2 should be
> right to end stop max, max rotational travel. But in other cases the
> max that can be tolerated might be when C2 is mid position (say). But
> whatever the case, whether C2 max is limited by physical endstop or
> circuit demands, C2 should be at either kind of maximum. (I think).
>
> As I say, in this case it's best if C2 was not there, and we just had an
> L network. But, that does not mean the T network is redundant, it has
> it's uses or advantages in certain situations.

There are cases where I prefer the L network, but the T network is not
too bad as long as you are careful tuning. In real world power
measurements, I found using the least inductance seemed to be the most
important for the least loss. In about 95% of cases where least coil
is used, C2 will be at maximum. So they tend to go hand in hand. But I
see a few cases , probably with severe hi Z mismatches where C2 will
not be all the way at max. Pretty close though. And you are right, a
T net tuner will tune a certain load in about 29 positions. But here,
I found carefully using the least inductance needed is a pretty sure
way to have the least amount of loss.
Using settings that didn't use least inductance, I noticed losses of
up to about 20 %. When using least inductance, and "usually" max C2,
the losses were nearly unreadable on a garden variety watt meter. In
this case, C1 can end up about anywhere...Usually about in the middle
of the range. MK

1643. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 17:52:24 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <j36oav4kgkhqvih001lravj8v4lf8hl6kq@4ax.com>
Source record: 119895

Good point Max. I used that trick a lot to remove decals. You do
have to be careful if you also have after-market tinting around the
mount area. In my case I didn't so could have used the dryer. Just
didn't think about it.

Dick

On Sun, 27 Apr 2003 17:50:57 +0200, "Max" <Max_Jens@post9.tele.dk>
wrote:

>Hello
>
>> I just took a Larsen off our Jeep after 10 years. It wasn't easy, but
>> it did come off. I used a putty knife about 1" wide and held it as
>> flat as I could against the glass. Then I tapped it gently with a
>> plastic hammer, working around the perimeter until I could get it
>> started. I just kept going around the edges until it finally popped
>> off. I used a razor scraper to get most of the adhesive off, followed
>> by some glue remover. Haven't got it off the antenna yet, but that
>> can wait. BTW, Larsen sells a kit for re-installation for about $6.
>
>It is easier if the glue is heatet first by the means of a hair dryer.
>
>Regards Max
>

1644. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 18:08:24 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <GI479lPYyBr+EA5V@ifwtech.co.uk>
Source record: 119903

Mark Keith wrote:
>There are cases where I prefer the L network, but the T network is not
>too bad as long as you are careful tuning. In real world power
>measurements, I found using the least inductance seemed to be the most
>important for the least loss.

That will always be true for the T-network. Always start from lowest inductance, and increase L in small steps until you can find a match. Then stop.

>In about 95% of cases where least coil is used, C2 will be at maximum.
>So they tend to go hand in hand.

Again, true. If you can use an L-network, it will always have lower loss than a T (made from the same components). On the other hand, the T has a wider matching range.

This points to an interesting solution devised by G3LNP: he modified an existing T tuner by mounting a simple cam switch on each capacitor shaft, which would short out the capacitor when turned to maximum. That gives the options of a normal T-network, plus two different configurations of L-network by shorting either C1 or C2.

The operating instructions are: use one of the L configurations if you can, and if neither will match, switch to the T and use the lowest possible inductance.

The only slight disadvantage is that the L-network requires a precise value of L, as well as a precise value of C, so it's more suited to a roller coil than to a switched inductor. On the other hand, the switchable arrangement offers lots of options for homebrewers. If you don't want to use cam switches, you could short out C1 and C2 by separate switches. Also, you could plan a switched inductor that is more finely adjustable than is normally necessary in a T-network.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1645. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 18:16:09 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8h6pc$9rtpb$1@ID-134747.news.dfncis.de>
Source record: 119896

They will come off. Obtaining the reinstall kit
can be the major problem, though most major
manufacturers have them available. You need to
use the kit for the antenna.

--
73 es cul

wb3fup
a Salty Bear
"AO KD5FXT" <aokd5fxt@aol.com> wrote in message
news:20030427094354.21021.00000154@mb-m18.aol.com...
> I have a 2 meter antenna (glass mount). It is
on the van I am selling. I want
> to remove it and use it on another vehicle. I
don't have a clue how to do it
> w/o damaging it. Any help? Pls email me at
aokd5fxt@aol.com.
>
> Thanks
> Bill

1646. triband J pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 18:45:59 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EAC255A.5030208@tampabay.rr.com>
Source record: 119897

hello everyone
i have seen the dual band copper Jpoles around and i was wondering if it would be possible to make a 6 2 440 Jpole with 3 seperate feedlines just put the 3 tuning stubs off the long side of the J or would that cause interferance or what give me details if you have it
thanks

1647. Re: Outbacker Stealth + Tripod

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 18:49:00 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <wCVqa.40410$ij4.2972094@twister.southeast.rr.com>
Source record: 119898

I'd suggest a little search on the term HFPack. there are several
backpacking ham sites that come up under this term. I'd try it with a set
of four radials cut for the lowest frequency. If that works satisfactorily
on the higher bands, you'd save some weight.

Good luck,

Bill, W4WNT

"Harv Nelson" <ha.nelson@centurytel.net> wrote in message
news:pan.2003.04.25.03.04.59.298028@centurytel.net...
> I'm planning to build a "plumber's delight" tripod of 1/2 inch hard copper
> tubing. The legs will be about 6ft long (max) and knock down for easy
> packing/carrying. I plan to mount an "Outbacker - Stealth" multi-band
> mobile whip atop the tripod and add a bunch of 16 guage copper wire
> radials for each band to each leg of the tripod (= 3 radials for each
> band).
>
> I plan to use this thing this summer in camping/portable opreations with a
> FT-897 multiband rig. Battery powered. Solar charged.
>
> Any no-no's, cautions, suggestions, precepts you'd care to pass along
would
> be of great help.
>
> Thanks
>
> Harv/AI9NL

1648. Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 19:02:36 UTC
From: gg <gg@net.com>
Message-ID: <3EAC294C.FF00BFB0@net.com>
Source record: 119899

.

1649. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 19:25:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC2EA5.7020604@ieee.org>
Source record: 119900

Saddam Hussein used them. One of them was taken out
by a GPS missile. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1650. Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 20:19:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC3B5B.3020403@ieee.org>
Source record: 119901

The reflection coefficient looking into a Z01==>Z02 junction from the source side in a transmission line is Rho = (Z02-Z01)/(Z02+Z01). Looking backwards into that same junction, Rho = (Z01-Z02)/(Z01+Z02). How do we subscript those two Rho's to differentiate them from each other? Rho(+) Vs Rho(-) where Rho(-) = -Rho(+)??? The problem is worse when we are talking about transmission coefficients where not only is the sign different, but the magnitude is also different looking in different directions. I've looked through all my reference books and cannot find an answer. Is TAU(v+) a good way to represent the voltage transmission coefficient for forward waves Vs TAU(v-) for reflected waves???
--
Thanks & 73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1651. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 20:42:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <74eoav0nr77qp36p87auvn1sdl8r71me7j@4ax.com>
Source record: 119902

On 27 Apr 2003 09:10:44 -0700, kelly@dvol.com (Brian Kelly) wrote:

>> Type 43 peaks in the 2M band, but it does serve as a resistance well
>> down into HF (down to half value at 10MHz); it also holds up well
>> beyond 70cM and 1GHz. Compared to the formulation I use, the
>> difference is only a factor of 0.5 or less around 10 MHz but about
>> 0.33 below (give or take). As such, for a choke comparable to mine,
>> you would need 2 to 3 times as much ferrite (be it beads or turns
>> through a larger core) by weight or volume.
>
>That's no good, it appears that Type 43 is not the way to go. Type 77?
>Or more to the point what is this "magic recipe" you use and where do
>you get the stuff?
>

Hi Brian,

To answer the last question first, I got this material from a local
(now closed) Amateur radio outlet. The materials were Amidon, but
Amidon (at least a couple of years ago) does not sell directly to the
public, but rather through commercial outlets. There is one that is
on the web, consult:
http://bytemark.com/

As for any particular recipe, the #43 is down to 0.25 of its 2M peak
when used in the 80M band. You say that is unacceptable (I thought
you had no choice?) so I will describe the others generally.

#75 (also called J) Material peaks at 5MHz and holds its nominal value
within 0.7 throughout the entire HF region.

#73 & #77 Material peaks at 25MHz and is down by 0.5 going down into
80M. Needless to say, out to 30MHz it holds its value easily.

#43 Material, already described, falls into this line-up here.

#64 Material peaks at 500MHz and drops to 0.4 before it sees 10M.

Now, as to the relative peak sizes between these materials. Each of
the materials, in the order above, shows a slight increase in
Impedance through the progression. The variation progresses from
28Ohms to 35Ohms in relatively even spaced curves (28-30-32-35). They
all show roughly the same wide bandwidth (in proportion to frequency
across a log plot).

Now understand that ALL these nominal values are determined from an
ad-hoc standard of the bead 101 size (OD 0.138 ID 0.051 H 0.128).

Other form factors have "multipliers" specified such that if I were to consider a bead 901 size (0.25 0.05 0.417) I would then apply a factor of 7.5 to obtain a good deal more than 200Ohms. From these specifications I draw the conclusion that the Impedance is a product of bulk and that as long as you obtain enough bulk, you will find enough Impedance regardless of the style of construction. That is, be it bead stringing or loop through a large core (hence my original misgiving comment on there being any weight advantage). Popular advice in the Shortwave boards is to scout out dead monitors and strip the ferrite from the beam deflection coils. I cannot report on the applicability of that source as I am unaware of the formulation generally used in those applications.

73's
Richard Clark, KB7QHC

1652. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:13:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fdhoavsvvkj3pl62v8mtb8vbdcjtfckp8u@4ax.com>
Source record: 119904

On Sun, 27 Apr 2003 19:08:24 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>
>The only slight disadvantage is that the L-network requires a precise
>value of L, as well as a precise value of C, so it's more suited to a
>roller coil than to a switched inductor. On the other hand, the
>switchable arrangement offers lots of options for homebrewers. If you
>don't want to use cam switches, you could short out C1 and C2 by
>separate switches. Also, you could plan a switched inductor that is more
>finely adjustable than is normally necessary in a T-network.
>
>--
>73 from Ian G3SEK

Hi Ian;

Sorry for posting through you, but it seems this discussion about
tuners is for - uh - tuners.

Didn't this all start out as a fixed match for a dedicated radiator?
I see a lot of hand wringing over minutia that certainly might plague
an operator in the shack, but really, this needs only to be done once,
dipped in Resin and painted black (who really needs a box for this?).

It seems the grief introduced to the topic is in an exponential
relationship to the amount of software introduced.

However, I do like the self shorting caps. Imagine finding that "just
enough" capacitance for the perfect match in the last few micrometers
separation before the contacts close. Imagine trying to find it
again. ;-)

73's
Richard Clark, KB7QHC

1653. Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:16:47 UTC
From: Myrton <n1gke@cox.net>
Message-ID: <3NXqa.18852$XE.868366@news1.east.cox.net>
Source record: 119905

Has anyone in this group ever tried using an automotive ignition coil as a receiver ?
I am looking at some coil specifications, here is but one sample.
HEI Coils
Some measured data (BK Precision RLC meter) from HEI type coils (supplied by Robert Wroblewski).
Wroblewski also measured the DC resistances using two different Digital Multimeters, getting different results (which is not entirely unexpected).

Wells C834 HEI Ignition Coil, new with core.

Primary (yellow, red wires): 3.66mH, 1kHz, Q6.18
R 144.9 ohms @ 1 kHz, 13 ohms @ 120 Hz
R dc 1.16 ohms w/Fluke 45, 0.5 with Wavetek 27xt
Secondary (flat terminal, black wire): 31.0 H, 1kHz, Q7.06
R 1.4 Meg @ 1 kHz, 80.5 K @ 120 Hz
7.268 K w/Fluke 45, 7.1K w/Wavetek 27xt

Hmmm, I'd like to do this experiment in parallel with another op if anyone is interested.

Cheers.... ..

Myrton - N1GKE -

n1gke@cox.net

"Find solutions, not fault."

1654. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:21:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8hhjv$il1$1@titan.btinternet.com>
Source record: 119906

"Owen Duffy" wrote -
> Kevin's 'Autotune' function does not find the lowest loss match for the
> values you provided. If you play with the thing, you will get lower loss
> with values like 85pF / 6.3uH / 16pF. It seems to me that his 'Autotune'
> algorithm will alows set one of the capcitors to maximum and find the
> other values for match, but in this case lower loss match is achieved
> with both capacitors well below maximum. Whilst the difference is
> performance in this case is minor, it does indicate that the
> conventional wisdom that you will not get lowest loss unless one
> capacitor is at maximum does not apply at least to the simple way in
> which the circuit losses are modelled in Kevin's calculator.
>
> Interestingly, Reg's calculator will not use the maximum C in your
> example, but does show a quite low loss config with low values of A at
> 85pF / 6uH / 13pF, and the match and loss figures are pretty consistent
> with Kevin's calculator when set manually.
>
> I am embarking on writing a set of library functions for Excel, for T
> and pi configurations (which will also include the simpler L
> configuration, and a bit bewildered by an analytical solution, will try
> an iterative one. I note one of the purveyors of auto tuners claiming
> multiple algorithms, I don't know whether this is hype, done for speed
> or whether some algorithms don't converge on a solution for some
> impedances, where other algorithms may.
>
> I would be interested in any thoughts.
==========

Owen and Richard,

Okay, so I'm thinking -

I was unaware of the existence of W9CF's T-net calculator until Richard introduced it to this thread. I like it. Lot of work went into it.

Apart from arbitrary options there are other reasons why the two calculators do not exactly agree. (Disagreement is magnified by Richards unfortunate choice of an almost exact 1/2-wavelength antenna.)

The arbitrary "A" input parameter does in fact vary the network operating Q. I deliberately labelled it "A" because Q for a T-network is not well defined and the various opinions would have led to the usual nitpicking, protracted, distracting, confusing, arguments.

There's only one coil in the network and so "A" (approx=Q) actually selects the value of the inductance which then sets the network's working Q.

A fundamental property of an impedance matching network is that the smaller the circuit working Q the greater its power efficiency. So a sensible initial guess for "A" is 1.

But another property of the circuit, for an impedance match to be possible, working Q MUST BE GREATER than a value determined by the ratio of the terminating impedances. So when the ratio of the terminating impedances is very high a high Q and low efficiency are inevitable.

But we cannot continue decreasing circuit Q and the inductance value for ever - the high-voltage capacitor values C1 and C2 would become too large to fit into the tuner box or the bank-balance would go into the red. So the program operator is allowed the option of setting the maximum allowable capacitor values to the largest values he can manage to salvage from his junk box.

If program T_TUNER, with a working Q of unity (a small inductance), needs a capacitor value greater than the highest allowable value for C1 and C2 then the program is obliged to increase the number of turns on the coil in order to obtain an impedance match. This is exactly what the tuner-builder would do in his shack.

So T_TUNER arrives at the greatest possible tuner efficiency allowed by the restriction on capacitor size. Everything can be reduced to a problem in economics and statistics.

Actual calculated efficiency requires intrinsic Q's of coil and capacitors to be entered in the program. And this complicates the circuit by associating a loss resistor of calculable value with each L and C. This changes the input and output impedances of the network. So the network no longer exactly matches its terminations. In effect, when internal losses are taken into account, it is the terminations which change relative to the network so the program has to do more calculations before presenting its results. These more exact values will differ from other programs and will also differ from tables of L and C component tables which appear in the handbooks.

In practice, of course, discrepances of 15 or 20 percent are of no practical significance when a tuner is used in conjunction with the uncertainties of HF antennas, feedlines, baluns and SWR meters. Much Ado About Nothing!

==========

I once had a tuner program which worked in reverse. For given network L and C values program calculated what the input impedance of transmission line or antenna must be when SWR=1. In the absence of a true bridge, in conjunction with a tuner of which the component values were known, the program plus tuner was used to 'measure' experimental antenna and counterpoise impedances.

==========

Automatic tuners do not work by measuring antenna impedance, calculating T-network L and C values, and then picking the actual components from a box

of all possible values.

They work in the same way as a methodical impedance bridge operator who knows what he's looking for - minimum magnitude and phase of the bridge output voltage. The bridge in the tuner is EXACTLY the same as in an SWR meter. Bridge output is split between magnitude and phase detectors. Electric motors or relays vary, or vary in steps, the L and C values. Computing algorithms needed for motor and relay control must be dedicated in every detail to the particular tuner. Logical rather than mathematical operations apply. In the case of relays to reduce hopping-about-time there could possible be some pseudo-random logic.

Reg, G4FGQ

1655. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:37:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC4DA8.3040800@ieee.org>
Source record: 119907

Richard Clark wrote:
> To answer the last question first, I got this material from a local
> (now closed) Amateur radio outlet. The materials were Amidon, but
> Amidon (at least a couple of years ago) does not sell directly to the
> public, but rather through commercial outlets.

Huh???? I've been buying toroids directly from Amidon since about 1986.
They even ran extended experiments on one of their baluns for me.
Their URL is:

http://www.amidon-inductive.com/

Does your information on Amidon resemble your information on
impedance discontinuities in transmission lines??? :-)
--
73, Cecil, W5DXP

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1656. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:43:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC4EF1.6000507@ieee.org>
Source record: 119909

Richard Clark wrote:
> I see a lot of hand wringing over minutia that certainly might plague
> an operator in the shack, but really, this needs only to be done once,
> dipped in Resin and painted black (who really needs a box for this?).

So a vertical in Bismark, ND has the same impedance in the middle of winter as it does in the middle of summer??? Methinks you have been living in good weather for too long. :-) Bismark winters Vs Bismark summers are definitely not "minutia". Try "roughing it" in Bismark in February and get back to us (if you survive). :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1657. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:43:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vaojogqjeovqfc@corp.supernews.com>
Source record: 119908

Yep, my point was that the best antenna to use depends on your location. It's true that an NVIS antenna is best for most of the people in the U.S., who live in the most densely populated region. But not all.

Every year I work lots of folks all over the U.S. with my 5 watts, typically all states except for one or two. But I imagine that most of the ones I work out your way are the ones foolish enough to put up antennas with a decently low angle of radiation.

The last two years I went by myself, backpacking my gear in, running 5 watts CW, all homebrew(*), solar powered. Worked about 400 stations last year but didn't get my log in on time. Year before was my best, with 517 stations worked. From a quick glance at the dupe sheets, it looks like the call area I worked the most stations from on 20 and 15 was W4. I worked all 50 states plus PR and England. Worked all ARRL sections except NL, MB, NWT, and VI. (I usually work VI. Just didn't hear 'em that year.) Antennas were two element wire beams for 20 and 15 (which have beamwidths covering the majority of the U.S. from here), and a dipole for 40. The ridge top location favors low radiation angles. So the setup worked fine for me, but it would be much less than optimum for you. But it's a good thing for me that some stations in the east, at least, can hear reasonably well at low angles.

Roy Lewallen, W7EL

(*) Except last year when I cheated and used a piece of commercial gear for the first time -- a keyer made by Palm Radio. Love it.

Brian Kelly wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vak15gsqfmiba5@corp.supernews.com>...
>
>>I find that elevation angles as low as two degrees are desirable for
>>Field Day antennas. The antennas I use are designed about the same as
>>for DX. Most of the population of the U.S. is between 2000 and 3000
>>miles from here. Seattle and Portland are the only major cities in NVIS
>>range. San Francisco is about 500 miles, Los Angeles 900, Denver about 1000.
>>
>>But NVIS is great for Spokane, Boise, and maybe even Reno.
>
>
> I leaped before I looked as far as an NVIS antenna being an
> all-inclusive FD antenna goes. However I'm in the Philly area and if
> one assumes that an NVIS antenna is particularly effective for use
> within 300 miles of the station that means that I'd cover an area from
> northern North Carolina to above Boston and west beyond Pittsburgh.

> Deserts are a tad scarce here in the NE coridor, a big chunk of
> humanity lives in this anthill. Ditto the total number of FD
> operations which are conducted within that circle. I've never been
> able to work many if any W1's 2's, 3's, 4's and 8's on FD on 20/15
> with more conventional antennas.
>
> But I'll stick with my jaundiced view of very low angle radiators for
> FD. I had a half-wave 20m vertical for awhile and it was on average a
> lot easier to work JAs and VKs than it was to work W5's, 7's & ï¿½'s.
>
> In the end I'll put up nice simple dipoles "beamed" E-W and go at it
> in June.
>
>
>>Roy Lewallen, W7EL
>
>
> w3rv

1658. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:46:57 UTC
From: jgboyles@aol.com
Message-ID: <20030427174657.19203.00000307@mb-m01.aol.com>
Source record: 119910

>Has anyone in this group ever tried using an automotive ignition coil as a
>receiver ?

I have not, but would be interested in how you will configure an ignition coil into a receiver, and what bands it will cover.
I have used one as a transmitter, a spark gap transmitter, and it was not used on the ham bands. I also use one in a homemade fence charger to keep my son's dog in the back yard.

73 Gary N4AST

1659. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 21:56:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC51FA.6000903@ieee.org>
Source record: 119911

JGBOYLES wrote:
> I have used one as a transmitter, a spark gap transmitter, and it was not
> used on the ham bands.

How do you know that? :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1660. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:03:24 UTC
From: jder8745@aol.com
Message-ID: <20030427180324.20983.00000395@mb-m18.aol.com>
Source record: 119912

HOWDY,

U gotta help me out here. It seems that the point where u measured the impedance is a balanced type of load point. ???

I don't hv a clue how well that meter works there. Any help out there on this question??

Jack K9CUN

1661. Re: triband J pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:08:28 UTC
From: n1pop <n1pop@hotmail.com>
Message-ID: <a4loavgnd3hithhi1pah3fhc7c404b85m9@4ax.com>
Source record: 119913

On Sun, 27 Apr 2003 18:45:59 GMT, Dennis Kaylor
<k4oxg@tampabay.rr.com> wrote:

>hello everyone
>i have seen the dual band copper Jpoles around and i was wondering if it
>would be possible to make a 6 2 440 Jpole with 3 seperate feedlines just
>put the 3 tuning stubs off the long side of the J or would that cause
>interferance or what give me details if you have it
>thanks

I remember seeing an article, I think a link was through tapr.org, of
a tri-bander that could be fed with three separate lines. They
suggested that the stubs not be on the same side but surrounded the
reflector.

1662. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:08:43 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <o1loav8oic75m462qnlpu0ob48jpm1cv5e@4ax.com>
Source record: 119914

On Sun, 27 Apr 2003 12:02:36 -0700, gg <gg@net.com> sent into the
ether:

>.
Why would anyone in their right mind want to use a GPS jammer? Now,
if you have a cell phone jammer, that would be ok or a handhold signal
generator in the police radar band, to rein in speeding twits, that
would be ok too. A GPS jammer, naw, I don't think so.
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

1663. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:13:22 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8hkm2$ob9$1@titan.btinternet.com>
Source record: 119915

Roy,

If a very low NVIS antenna is raised to a normal height of around 1/4 or 1/2 wavelength, are not the same high angle stations received with even greater strength. (Plus of course a lot of more distant, perhaps interfering, low angle stations).

The ground loss in a very low horizontal dipole is very high.

Reg.

1664. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:19:51 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3eac5741$0$122$edfadb0f@dtext02.news.tele.dk>
Source record: 119916

Hello

> Why would anyone in their right mind want to use a GPS jammer? Now,

I do not know, but a lot of people have tried, have a look here

http://www.qsl.net/n9zia/wireless/gps_jam-pics.html

http://www.gpsjammers.com/

http://joi.ito.com/archives/2002/12/29/low_cost_gps_jammer.html

Just trying to search the net for GPS jammer, lots of sites turns up.

Regards Max

1665. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:27:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vaom9rksqdg3ea@corp.supernews.com>
Source record: 119917

Yes to all. The best height for very high angle radiation is about 1/4 wavelength, and an antenna at that height certainly has some response at low angles. And while a 1/2 wave high horizontal antenna has poor response directly overhead, it would be great for anything over a couple of hundred miles (and very possibly adequate within that range), and quite good for much farther stuff.

You bring up a good point -- lowering a horizontal antenna below 1/4 wavelength doesn't improve its NVIS performance, it just warms up the ground more and radiates less.

My low-angle-vs-high-angle comparison was admittedly oversimplified. As you point out, there's a range of heights (and probably pretty common ones on FD) that produce both pretty decent NVIS and lower angle radiation.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Roy,
>
> If a very low NVIS antenna is raised to a normal height of around 1/4 or 1/2
> wavelength, are not the same high angle stations received with even greater
> strength. (Plus of course a lot of more distant, perhaps interfering, low
> angle stations).
>
> The ground loss in a very low horizontal dipole is very high.
> ---
> Reg.
>
>
>
>

1666. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:37:30 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8hlvn$a3ua3$1@ID-150848.news.dfncis.de>
Source record: 119918

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8gprf$9n36s$1@ID-150848.news.dfncis.de...

> > So, it seems using T_TUNER, it gives a really efficient match, but
> > you cannot realise C2, unless you change antenna length a tad. That
> > is the significant difference from using W9CF T Tuner and
> > T_TUNER.EXE.
>
> I think also that the values that W9CF's program gave in autotune, and
> what Reg's program gave are not reconsilable. Because W9CF wants to
> set C2 to max.

You have to understand that in the beginning I saw two programs, each that would calculate *the* values required. They did not calculate the same *the* values. Could not understand that at first. So seeks to figure out if both programs can be reconciled, ie, made to obtain the same values, by keeping Kevin's autotune figures and adjusting something in T-Tuner. Finds that I cannot reconcile the two programs, the values, because there is nothing in T_TUNER.EXE that I can alter apart from "A" and adjusting "A" does not alter the values to match Kevin's autotune values.

Why is that? Remember Kevin's program set C2 to maximum. You cannot get Reg's program to set C2 at max. But why? That is pure academia.

Now if we do things the other way we probably would get joy. That is, take Reg's values and set the values manually in Kevin's program. Yep, then you will see the match situation that Reg's program came out with. Now we have some sort of reconciliation, that is, we have the same L and C values in both programs and there is a match. Reconciling is mostly about figuring out the programs, what is making them give different figures.

It probably does not matter much which set of values you use, whether from Kevin's or Reg's program, when you consider merely efficiency. But it might* make some difference in other ways, like whether some value is realiseable (ie C2). But with a T tuner you can adjust things, so, you obviously use the calculated values as something to aim for, you may try to keep close to it. So, if you don't want to adjust your antenna length, so a value becomes realiseable, you just alter L a bit and C1.

* Probably unlikely because of flexibility of T net.

A value that is unrealiseable is something like C2 being 3pF.

(Just thinking out loud mostly).

1667. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:39:32 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <0imoavgfru6hh5eia9r2n0cltvra7nfu3o@4ax.com>
Source record: 119770

On Fri, 25 Apr 2003 18:18:13 GMT, "bob" <news@elinkusa.com> wrote:

>excerpted...

>Frequency R X SWR
>------------ ---- ---- -------
>3.5 14 22 3.4
>3.75 17 62 5.2
>4.0 13 155 17.8
>
>7.0 20 110 10.3
>7.2 24 78 5.9
>7.3 26 63 4.3
>
>14.0 64 112 4.7
>14.1 75 89 3.3
>14.2 91 75 2.8
>14.225 93 69 2.6
>14.3 97 75 2.9
>
>21.2 66 258 14.4
>
>29.0 0 272 25+
>29.5 0 238 25+

Hmm, I thought the SWR would be a little lower on 20 since the antenna
is designed to operate 20 meters at 1.5 wavelengths. Is it not
possible to get closer to 1:1 when at 1.5 wavelengths, or is that the
nature of the beast?

Bob
k5qwg

.

>
>
>
>
>
>
>

1668. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:43:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vaon8j541cnc28@corp.supernews.com>
Source record: 119769

It's been mentioned before on this group just how difficult it is to make good antenna measurements. This is one example of the difficulty.

If you use the antenna analyzer to measure a "balanced" antenna (including one fed with coax), the meter case and, if touching the meter, your body, become part of the antenna. This part of the antenna is of course not present during actual operation. Similarly, if you connect your rig to the antenna without an effective balun (and it's hard or impossible to make a balun for untuned antennas that will be effective on all bands), the rig and its path to ground become part of the antenna that's not present when you make the measurements. One way to measure a balanced antenna is to keep the meter as far away from ground as possible to minimize capacitive coupling, and don't touch it or come too close to it when making the readings. Providing that the meter is much smaller than the antenna (this won't work for a 2 meter antenna, say), this will give you a decent measurement. But of course, when you hook your rig to a feedline and the feedline to the antenna, you've now modified the antenna itself unless you have an effective balun. If the antenna is approximately matched, a better way is to measure the antenna through a current balun. This should give you good SWR numbers. However, if you want the correct impedance, you'll have to mathematically remove the impedance transformation of the line (including line internal to the balun) between the meter and antenna. You can be seriously misled if you assume a half wavelength line will repeat the impedance from one end to the other if the impedance being measured is much different from the cable impedance -- even a very small amount of cable loss will skew the measured impedance from its actual value toward the cable impedance. This can also be mathematically removed, but it has to be done if you want decent results.

Roy Lewallen, W7EL

JDer8745 wrote:
> HOWDY,
>
> U gotta help me out here. It seems that the point where u measured the
> impedance is a balanced type of load point. ???
>
> I don't hv a clue how well that meter works there. Any help out there on this
> question??
>
> Jack K9CUN
>
>

1669. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 22:54:53 UTC
From: richardharrison@webtv.net
Message-ID: <2429-3EAC5FBD-716@storefull-2314.public.lawson.webtv.net>
Source record: 119771

CAM, W5DXP wrote:
"---from the source side in a transmission line is: Rho = (Zo2 -Zo1) /
(Zo2 + Zo1)"

Cecil is assuming matched transmission lines.

CAM also wrote:
"Looking backwards into that same junction:
Rho = (Zo1 - Zo2) / (Zo1 + Zo2)"

Again, Cecil is assuming matched transmission lines and in this case the
sender is matched to Zo1.

Rho is: (Z2 - Z1) / (Z2 + Z1), here Z1 and Z2 are the impedances of the
source and load respectively. What`s his point?

When you run out of subscripts in one alphabet, you just go to another.
That`s why we use Greek, but it doesn`t have to stop there.

Best regards, Richard Harrison KB5WZI

1670. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:22:46 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <g7ooav4i338094v0pm8pnlq24sft1qme1r@4ax.com>
Source record: 119772

On Sun, 27 Apr 2003 12:02:36 -0700, gg <gg@net.com> wrote:

Actually I have. I did the setup and calibration of a system to measure the anti-jam performance of a GPS receiver used in a defense product. However, I was on the U.S. Army test range at Ft. Huachucha, AZ, we were limited to 20 minutes on and 20 off, we tested from 10 PM to 4 AM, and we had a direct radio link to the FAA so that we could be ordered off the air at any time. It took months to arrange this.

So unless you look swell in stripes and handcuffs, I don't recommend that you try this at home.

1671. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:25:59 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <mlpoavgp5s1105uogtsm86a2qtb2rgep3m@4ax.com>
Source record: 119773

On Sun, 27 Apr 2003 15:19:39 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

|The reflection coefficient looking into a Z01==>Z02 junction from the
|source side in a transmission line is Rho = (Z02-Z01)/(Z02+Z01). Looking
|backwards into that same junction, Rho = (Z01-Z02)/(Z01+Z02). How
|do we subscript those two Rho's to differentiate them from each other?
|Rho(+) Vs Rho(-) where Rho(-) = -Rho(+)??? The problem is worse when we
|are talking about transmission coefficients where not only is the sign
|different, but the magnitude is also different looking in different
|directions. I've looked through all my reference books and cannot find
|an answer. Is TAU(v+) a good way to represent the voltage transmission
|coefficient for forward waves Vs TAU(v-) for reflected waves???

Something wrong with using S-paramaters?

1672. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:28:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0opoavocibcv6jphnh00hjn451loijlkej@4ax.com>
Source record: 119774

On Sun, 27 Apr 2003 16:37:44 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> To answer the last question first, I got this material from a local
>> (now closed) Amateur radio outlet. The materials were Amidon, but
>> Amidon (at least a couple of years ago) does not sell directly to the
>> public, but rather through commercial outlets.
>
>Huh???? I've been buying toroids directly from Amidon since about 1986.
>They even ran extended experiments on one of their baluns for me.
>Their URL is:
>
>http://www.amidon-inductive.com/
>
>Does your information on Amidon resemble your information on
>impedance discontinuities in transmission lines??? :-)

Like I said, Cecil, no more hints. Except maybe this, there are two
solutions. Doubles your problem of solving it I suppose. ;-)

73's
Richard Clark, KB7QHC

1673. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:33:17 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u2qoav8qgq0k6bhsl5fku62jn1136voimt@4ax.com>
Source record: 119775

On Sun, 27 Apr 2003 16:43:13 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> I see a lot of hand wringing over minutia that certainly might plague
>> an operator in the shack, but really, this needs only to be done once,
>> dipped in Resin and painted black (who really needs a box for this?).
>
>So a vertical in Bismark, ND has the same impedance in the middle of winter
>as it does in the middle of summer??? Methinks you have been living in
>good weather for too long. :-) Bismark winters Vs Bismark summers are
>definitely not "minutia". Try "roughing it" in Bismark in February and
>get back to us (if you survive). :-)

So you have a new old wive's tale that tuned antennas don't work in
Bismark, hmm?

More hand wringing. On reflection, you DO act like that continental
fop with an attitude problem with the pope - you both fold.

73's
Richard Clark, KB7QHC

1674. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:46:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC6BD3.8@ieee.org>
Source record: 119776

Bob Miller wrote:
> Hmm, I thought the SWR would be a little lower on 20 since the antenna
> is designed to operate 20 meters at 1.5 wavelengths. Is it not
> possible to get closer to 1:1 when at 1.5 wavelengths, or is that the
> nature of the beast?

The resonant feedpoint resistance rises.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1675. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:48:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC6C5C.8000707@ieee.org>
Source record: 119777

Richard Harrison wrote:
> Rho is: (Z2 - Z1) / (Z2 + Z1), here Z1 and Z2 are the impedances of the
> source and load respectively. What`s his point?

The question is not about Rho. It is about Tau, the transmission coefficient.
--
73, Cecil http://www.qsl.net/w5dxp

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1676. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:50:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC6CCA.6070108@ieee.org>
Source record: 119778

Wes Stewart wrote:
> On Sun, 27 Apr 2003 15:19:39 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
> |The reflection coefficient looking into a Z01==>Z02 junction from the
> |source side in a transmission line is Rho = (Z02-Z01)/(Z02+Z01). Looking
> |backwards into that same junction, Rho = (Z01-Z02)/(Z01+Z02). How
> |do we subscript those two Rho's to differentiate them from each other?
> |Rho(+) Vs Rho(-) where Rho(-) = -Rho(+)??? The problem is worse when we
> |are talking about transmission coefficients where not only is the sign
> |different, but the magnitude is also different looking in different
> |directions. I've looked through all my reference books and cannot find
> |an answer. Is TAU(v+) a good way to represent the voltage transmission
> |coefficient for forward waves Vs TAU(v-) for reflected waves???
>
> Something wrong with using S-paramaters?

Nope, not a thing. But the question is about the transmission coefficient
as defined in "Antennas" by Kraus.
--
73, Cecil http://www.qsl.net/w5dxp

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1677. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:53:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC6D6A.1090409@ieee.org>
Source record: 119779

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Does your information on Amidon resemble your information on
>>impedance discontinuities in transmission lines??? :-)
>
> Like I said, Cecil, no more hints. Except maybe this, there are two
> solutions. Doubles your problem of solving it I suppose. ;-)

Well, the impedance solution has two solutions, but we don't care
about that for an energy solution. The energy solution is the same
no matter what the reactance. Please try again sometime.
--
73, Cecil http://www.qsl.net/w5dxp

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1678. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-27 23:58:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC6EB1.7020707@ieee.org>
Source record: 119780

Richard Clark wrote:
> So you have a new old wive's tale that tuned antennas don't work in
> Bismark, hmm?

Depending on the bandwidth, some tuned antennas don't work year-round
in Bismark. Ice-coated window-line comes to mind. Please feel free to
move up there, spend a year proving me wrong, and then get back to us.
Hint: Roy reports that window-line doesn't work all that well even
when the H2O is not solid and not four inches thick.
--
73, Cecil http://www.qsl.net/w5dxp

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1679. Icom "tune" device

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 00:28:43 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <Mx_qa.48113$2E1.17452@fe02.atl2.webusenet.com>
Source record: 119781

I have been "piddling" with the schematic for the Icom 706 tuner plug and was just wondering if
the same circuit will work for Kenwood. What sort of plug does it take? I have a smudged
schem of the Kenwood TS50 and the plug appears to be a 6 pin Molex. BUT where the
smudge is (bad copying) the center pins (top and bottom) appear to be square. Anyone familiar
with the Kenwood tuner plug? Alinco?

Tnx es 73

Jerry
K4KWH

1680. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 00:43:37 UTC
From: richardharrison@webtv.net
Message-ID: <20222-3EAC7939-29@storefull-2316.public.lawson.webtv.net>
Source record: 119785

I wrote:
"---impedance seen by the sender."

A valid criticism is: A sender is blind!

Well, I could have written:
---impedance presented to the sender.

Why did I choose seen by over presented to?

I chose 6 letters over 11 letters thoughtfully. It was no accident.
Readers grasp shorter words and phrases better. Try it.

Best regards, Richard Harrison, KB5WZI

1681. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:01:56 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LYucnVTBA_Yf4DGjXTWcpA@comcast.com>
Source record: 119782

Bob,

I notice this antenna uses ladder line. The ARRL Antenna Book suggests 34 feet of 72 Ohm twin lead. That would make a difference for either better or worse. I was going to run EZNEC on it, but have no idea what the propagation factor for 72 ohm line is. 85% ?

Tam/WB2TT
"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in message news:0imoavgfru6hh5eia9r2n0cltvra7nfu3o@4ax.com...
> On Fri, 25 Apr 2003 18:18:13 GMT, "bob" <news@elinkusa.com> wrote:
>
> >excerpted...
>
> Hmm, I thought the SWR would be a little lower on 20 since the antenna
> is designed to operate 20 meters at 1.5 wavelengths. Is it not
> possible to get closer to 1:1 when at 1.5 wavelengths, or is that the
> nature of the beast?
>
> Bob
> k5qwg

1682. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:02:47 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8hujpsfo1@slb9.atl.mindspring.net>
Source record: 119783

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EAC3B5B.3020403@ieee.org...
> The reflection coefficient looking into a Z01==>Z02 junction from the
> source side in a transmission line is Rho = (Z02-Z01)/(Z02+Z01). Looking
> backwards into that same junction, Rho = (Z01-Z02)/(Z01+Z02). How
> do we subscript those two Rho's to differentiate them from each other?
[snip]

For two port networks they are often simply called the "front end" and the
"back end" reflection
coefficients. In the Scattering Matrix formalism, they would be known as
S11 and S22.

Actually in the case of a "null network" i.e. where the two port network is
just a point, actually known as a reference plane in the Scatttering
Formalism, only signs would be different for the two directions, one has
S11 = -S2 as you have indicated with your expressions.

rho [front end] = S11
and
rho [back end] = S22 = - S11

I assume you are considering the case of the "join" of two semi-infinite
transmission lines of constant surge
impedances Z01 and Z02. Because if oned or more are not semi-infinite and
are terminated in something other than their reference impedances then your
formulae are incorrect.

--
Peter K1PO
Indialantic By-the-Sea, FL.

> Rho(+) Vs Rho(-) where Rho(-) = -Rho(+)??? The problem is worse when we
> are talking about transmission coefficients where not only is the sign
> different, but the magnitude is also different looking in different
> directions. I've looked through all my reference books and cannot find
> an answer. Is TAU(v+) a good way to represent the voltage transmission
> coefficient for forward waves Vs TAU(v-) for reflected waves???
> --
> Thanks & 73, Cecil http://www.qsl.net/w5dxp
>
>
>

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1683. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:09:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vqvoav036ifkjti66bu9h9tc3m1vbho8em@4ax.com>
Source record: 119784

On Sun, 27 Apr 2003 18:53:14 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Does your information on Amidon resemble your information on
>>>impedance discontinuities in transmission lines??? :-)
>>
>> Like I said, Cecil, no more hints. Except maybe this, there are two
>> solutions. Doubles your problem of solving it I suppose. ;-)
>
>Well, the impedance solution has two solutions, but we don't care
>about that for an energy solution. The energy solution is the same
>no matter what the reactance. Please try again sometime.

Like I said, Cecil, no more hints until you get it right.

73's
Richard Clark, KB7QHC

1684. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:17:23 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8hvf3hdr1@sparta.btinternet.com>
Source record: 119786

Roy, the unbalance due to hanging an Autek-1 analyser from the end of a balanced feedline, or from the supposed centre of a dipole, is about 3.3 picofarads.

3.3 pF at 30 MHz is about j1800 ohms. At 1.9 MHz, jX = 25K-ohms.

With an MFJ-259B it's about 8 pF. At 1.9 MHz, jX = 10K-ohms.

Compare these values with either the line impedance or the upper impedance range of the meters.

Any foreign bodies outside a radius of say 12" will not have any noticeable effect. Just don't touch the case with your wet finger. While making a measurement I hang the meter on its very short test leads plus alligator clips.

In the shack I use the MFJ, still in balanced mode, but powered from the AC mains supply plus an AC to 12-volts DC converter.

In the long DC supply lead, immediately adjacent to the meter, there's a choke wound with a lot of turns of 22 or 24-gauge speaker wire on a 6" ferrite rod to isolate the meter from ground.

Your precautions may be a little more stringent than really necessary at HF. It's useful to check sensitivity using the old-fashioned hand capacitance test.

The tuning knobs are plasic. The case of the Autek also appears to be plastic.

Reg, G4FGQ

1685. new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:26:13 UTC
From: STEVE TROOK <STROOK@OPTONLINE.NET>
Message-ID: <Vq%qa.154468$MB4.53986942@news4.srv.hcvlny.cv.net>
Source record: 119787

I am a relatively a new ham and just getting into HF. I have very limited space but I want to be part of the DX world. Can anyone give me any ideas???? Thanks in advance!

1686. Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:42:17 UTC
From: denton <denton@oregontrail.net>
Message-ID: <b8i0it$n82$1@news.oregontrail.net>
Source record: 119788

I have an older apparently Alliance rotator...has an A inside of a diamond shaped box and 5 terminal connector.
I also have an older CDE rotator controller, with 6 wire connectors...older bakelite dark brown cover and quite heavy with rotator switch on bottom of box.
Can these be use together?
If so, does anyone have to correct hookup printout they can email me?
Thanks...de Denton WB7TDG

1687. Re: FRS Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 01:55:12 UTC
From: richardharrison@webtv.net
Message-ID: <11183-3EAC8A00-287@storefull-2317.public.lawson.webtv.net>
Source record: 119791

Valley wrote:
"Are any of the frs type radios employing phase modulation instead of fm?"

Not directly is that likely if the FCC rules permit FM.

A frequency modulated wave with sinusoidal modulation has a peak frequency deviation proportional to the peak amplitude of the modulating signal.

Phase modulation is similar. The main difference is modulation index, the ratio of deviation and modulating frequencies.

Carrier phase can be shifted for modulation and the frequency multiplied to produce FM.

FM is preferred for radio because greater deviation profuces more signal recovery from a discriminator.

Best regards, Richard Harrison, KB5WZI

1688. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 02:11:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vap3drncc7bg9a@corp.supernews.com>
Source record: 119789

My measurements were made with 300 ohm twinlead. I believe it was Wes Stewart who measured the window line and came to about the same conclusion.

Actually, ice is quite a good dielectric. Pure water is lossy at HF due to movement of its polar molecules in their attempts to align with the field. Frozen in the crystalline structure of ice, that loss mechanism goes away. So I wouldn't expect ice, even thick ice, to cause as much loss as even a thin coating of water. The dielectric constant of the ice (about 3 -- compared to 80 for water) would cause some detuning, however.

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Richard Clark wrote:
>
>> So you have a new old wive's tale that tuned antennas don't work in
>> Bismark, hmm?
>
>
> Depending on the bandwidth, some tuned antennas don't work year-round
> in Bismark. Ice-coated window-line comes to mind. Please feel free to
> move up there, spend a year proving me wrong, and then get back to us.
> Hint: Roy reports that window-line doesn't work all that well even
> when the H2O is not solid and not four inches thick.

1689. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 02:14:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vap3kfq523ip80@corp.supernews.com>
Source record: 119790

Get a copy of "HF Antennas for All Locations", by Les Moxon, G6XN. It's available from the ARRL and other sources. It's chock full of ideas.

Roy Lewallen, W7EL

STEVE TROOK wrote:
> I am a relatively a new ham and just getting into HF. I have very limited
> space but I want to be part of the DX world. Can anyone give me any
> ideas???? Thanks in advance!
>
>

1690. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 02:19:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sl3pavgmm5nnsmsateli6a2onflvrt326t@4ax.com>
Source record: 119792

On Sun, 27 Apr 2003 19:43:37 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>A valid criticism is: A sender is blind!
>

???????

Hi Richard,

What makes it "valid?"

Could we have valid criticisms that the sender is deaf, dead, or demented? It seems we would use the term sender to be inclusive, not exclusive. Start enumerating exceptions and you end up measuring the sender instead of what is sent. In argument this is an useful deflection when the subject is to be avoided.

73's
Richard Clark, KB7QHC

1691. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 02:23:31 UTC
From: Bill Turner <w7ti@ispwest.com>
Message-ID: <n14pavsml1s478lfsrn3u293scglfvhmgl@4ax.com>
Source record: 119794

On Sun, 27 Apr 2003 21:16:47 GMT, "Myrton" <n1gke@cox.net> wrote:

>Has anyone in this group ever tried using an automotive ignition coil as a
>receiver ?

Damn, you've gotten ahold of some fine drugs there, boy. Who's your
supplier?

--
Bill, W7TI

1692. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 02:26:42 UTC
From: gmz79@aol.comnospam
Message-ID: <20030427222642.06209.00000282@mb-m07.aol.com>
Source record: 119793

single edge razor blade + re-install kit
work blade in on all 4 sides and pop it off
lacquer thinner to clean up

Done this many times

KC8VIF
Greg Z
to thine own sound be true

1693. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:05:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC9A64.8070506@ieee.org>
Source record: 119795

Richard Harrison wrote:
> I chose 6 letters over 11 letters thoughtfully. It was no accident.
> Readers grasp shorter words and phrases better. Try it.

The point was that the impedance presented to the sender doesn't
matter if no reflections are allowed to reach the sender. The
point wasn't semantics.
--
73, Cecil http://www.qsl.net/w5dxp

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1694. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:12:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC9C1A.302@ieee.org>
Source record: 119796

Peter Brackett wrote:
> rho [front end] = S11
> and rho [back end] = S22 = - S11

I was hoping that the convention was rho+ = S11 and rho- = S22.
rho [front end] is downright tacky.

> I assume you are considering the case of the "join" of two semi-infinite
> transmission lines of constant surge
> impedances Z01 and Z02. Because if oned or more are not semi-infinite and
> are terminated in something other than their reference impedances then your
> formulae are incorrect.

Assume that each end is terminated in its characteristic impedance with a
Norton source. The question was how do we identify the transmission coefficients?
tau(v)[front end] and tau(v)[back end]. Again, that sure is a tacky method of
identification. Seems tau(v+) and tau(v-) would be a lot better.
--
73, Cecil http://www.qsl.net/w5dxp

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1695. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:18:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC9D93.8070900@ieee.org>
Source record: 119797

Richard Clark wrote:
> Like I said, Cecil, no more hints until you get it right.

You don't seem to understand what the goal is. The goal is not a transmission line solution. The goal is only an energy solution. The question is: "Where does the energy go?", - not what is the absolute phase angle of the reflected power. There are NOT two solutions to the energy question.
--
73, Cecil http://www.qsl.net/w5dxp

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1696. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:22:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAC9E62.10700@ieee.org>
Source record: 119798

STEVE TROOK wrote:
> I am a relatively a new ham and just getting into HF. I have very limited
> space but I want to be part of the DX world. Can anyone give me any
> ideas???? Thanks in advance!

You are in luck. Start with a 33 ft dipole for 20m. Under good
conditions, you can talk all over the world with 100 watts.
Feed it with ladder-line and you can work 20m-10m with a tuner.
--
73, Cecil http://www.qsl.net/w5dxp

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1697. Best mounting for J-Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:27:53 UTC
From: theplanters95@aol.comnospam
Message-ID: <20030427232753.25520.00000233@mb-m23.aol.com>
Source record: 119799

What is the best method to mount a copper J-pole? I am thinking of putting a 10 foot mast into a 5 gal. bucket of cement. Will this work?

Randy ka4nma

1698. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:33:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <e78pavct1jbubvpn13o4fh8re7h02327qd@4ax.com>
Source record: 119800

On Sun, 27 Apr 2003 22:18:43 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Like I said, Cecil, no more hints until you get it right.
>
>You don't seem to understand what the goal is. The goal is not a
>transmission line solution. The goal is only an energy solution.
>The question is: "Where does the energy go?", - not what is the
>absolute phase angle of the reflected power. There are NOT two
>solutions to the energy question.

Like I said, Cecil, no more hints.

73's
Richard Clark, KB7QHC

1699. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:35:14 UTC
From: Bill Turner <w7ti@ispwest.com>
Message-ID: <968pav89serf0m8skql90kptnt8q1mbkeb@4ax.com>
Source record: 119803

On Mon, 28 Apr 2003 01:26:13 GMT, "STEVE TROOK" <STROOK@OPTONLINE.NET>
wrote:

>I am a relatively a new ham and just getting into HF. I have very limited
>space but I want to be part of the DX world. Can anyone give me any
>ideas???? Thanks in advance!
>

Rather than tell you what to do specifically, I'd recommend you just
try out different things. Use common sense, of course, but
experiment. You'll learn far more than if you just do "X" and hope
for the best. You might want to use a simple dipole as a starting
reference point and go from there.

Welcome to the club!

--
Bill, W7TI

1700. Re: triband J pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:41:02 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8i7sh$a8t80$1@ID-134747.news.dfncis.de>
Source record: 119801

Run the feedlines inside the radiator- Much less
RF interference there.

--
73 es cul

wb3fup
a Salty Bear
"n1pop" <n1pop@hotmail.com> wrote in message
news:a4loavgnd3hithhi1pah3fhc7c404b85m9@4ax.com...
> On Sun, 27 Apr 2003 18:45:59 GMT, Dennis Kaylor
> <k4oxg@tampabay.rr.com> wrote:
>
> >hello everyone
> >i have seen the dual band copper Jpoles around
and i was wondering if it
> >would be possible to make a 6 2 440 Jpole with
3 seperate feedlines just
> >put the 3 tuning stubs off the long side of the
J or would that cause
> >interferance or what give me details if you
have it
> >thanks
>
> I remember seeing an article, I think a link was
through tapr.org, of
> a tri-bander that could be fed with three
separate lines. They
> suggested that the stubs not be on the same side
but surrounded the
> reflector.

1701. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 03:47:06 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8i87t$a1d15$1@ID-134747.news.dfncis.de>
Source record: 119802

With enough ladder line change 20-10 to 40-10 w/o
a problem.

--
73 es cul

wb3fup
a Salty Bear
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in
message news:3EAC9E62.10700@ieee.org...
> STEVE TROOK wrote:
> > I am a relatively a new ham and just getting
into HF. I have very limited
> > space but I want to be part of the DX world.
Can anyone give me any
> > ideas???? Thanks in advance!
>
> You are in luck. Start with a 33 ft dipole for
20m. Under good
> conditions, you can talk all over the world with
100 watts.
> Feed it with ladder-line and you can work
20m-10m with a tuner.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
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1702. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 04:10:32 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eacaa5a_2@news1.prserv.net>
Source record: 119804

Twelve or 14 years ago when GPS was just getting up and running well, it did not work at all in many areas of San Antonio. To make an excruciatingly long story short, the third harmonic of one of the local UHF TV stations was an effective jammer. Once the problem was understood, the station added additional filtering, and the final solution was a channel change due to the DTV channel realignment. The channel was around 20, but I would have to do the math to figure out exactly which one. But, it was a very effective jammer for a number of months.

--
Crazy George
Remove NO and SPAM from return address
"gg" <gg@net.com> wrote in message news:3EAC294C.FF00BFB0@net.com...
> .
>

1703. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 04:19:42 UTC
From: richardharrison@webtv.net
Message-ID: <9848-3EACABDE-881@storefull-2311.public.lawson.webtv.net>
Source record: 119805

CAM, W5DXP wrote:
"But the question is about the transmission coefficient as defined in
"Antennas" by Kraus."

For the benefit of those who have never seen Kraus or his "Antennas",
perhaps you might repeat the definition.

My dictionary defines "transmission coefficient" as: "For a transition
or discontinuity between two transmission media at a given frequency,
the ratio of the same quantity associated at a specified point in the
second medium, to the same quantity associated with the incident wave at
a specified point in the first medium."

Does Kraus say anything like that? If so, what does it mean?

Best regards, Richard Harrison, KB5WZI

1704. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 04:49:43 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EACB2E7.3E9C4764@cwis.net>
Source record: 119806

Cecil,
You've been into Reg's wine, haven't you...
'Doc

1705. Re: Best mounting for J-Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 05:41:04 UTC
From: TN12 <28@47.com>
Message-ID: <R93ra.3$dP5.1@newsfep1-gui.server.ntli.net>
Source record: 119807

Hello,

If you put that on the roof it might be a bit heavy!

"Theplanters95" <theplanters95@aol.comnospam> wrote in message
news:20030427232753.25520.00000233@mb-m23.aol.com...
> What is the best method to mount a copper J-pole? I am thinking of
putting a
> 10 foot mast into a 5 gal. bucket of cement. Will this work?
>
> Randy ka4nma

1706. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 09:38:26 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8ismr$a47u4$1@ID-150848.news.dfncis.de>
Source record: 119808

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8hlvn$a3ua3$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b8gprf$9n36s$1@ID-150848.news.dfncis.de...
>
> > > So, it seems using T_TUNER, it gives a really efficient match,
but
> > > you cannot realise C2, unless you change antenna length a tad.
That
> > > is the significant difference from using W9CF T Tuner and
> > > T_TUNER.EXE.
> >
> > I think also that the values that W9CF's program gave in autotune,
and
> > what Reg's program gave are not reconsilable. Because W9CF wants to
> > set C2 to max.
>
> You have to understand that in the beginning I saw two programs, each
> that would calculate *the* values required. They did not calculate
the
> same *the* values. Could not understand that at first. So seeks to
> figure out if both programs can be reconciled, ie, made to obtain the
> same values, by keeping Kevin's autotune figures and adjusting
something
> in T-Tuner. Finds that I cannot reconcile the two programs, the
> values, because there is nothing in T_TUNER.EXE that I can alter apart
> from "A" and adjusting "A" does not alter the values to match Kevin's
> autotune values.
>
> Why is that? Remember Kevin's program set C2 to maximum. You cannot
> get Reg's program to set C2 at max. But why? That is pure academia.

Of course the reason why you cannot get Reg's program to give the same
values in this instance, is as explained: That you cannot alter a
parameter (like L) sufficient to acheive the match in values. That's
all there is to it really. So, you have to rely on Reg's values and
alter parameters in Kevin's program if you want to match values, you
cannot do it the other way round.

If Reg's and Kevins programs did the calculation the same way, you would
always get them giving out pretty much the same values I'm sure. But as
mentioned, Kevin's seems to want to set C2 at max and finds a match
after taking that into account. Reg's does not set C2 at max and get's
on with it''s thing to find another match point. So, you end up with

two diffeing values for matches.

Does one program do a better job than the other at autotuning? Maybe, but I suspect in practice you could go for either worked out value and be satisfied.

Okay, that's my final comments on this. Just me wanting to get something clear in my head.

ave such an inpact in C and C2 that cit's pretty simple

1707. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 11:14:41 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EAD0D21.6050001@oda.com.au>
Source record: 119809

Richard wrote:

> always get them giving out pretty much the same values I'm sure. But
> as mentioned, Kevin's seems to want to set C2 at max and finds a
> match after taking that into account. Reg's does not set C2 at max
> and get's

Kevin's algorithm tests whether it can find a solution, and if it can, it ALWAYS sets one of the capacitors to maximum, then finds the appropriate value for the other two components. In my experience, the values it selects are always a very good match, just they might not be the lowest loss match.

There is a common belief that the lowest loss match will be achieved with the larger capacitor set to maximum, though if you drive Kevin's simulator by hand on the example data, you will find that a slightly lower loss match is achieved with quite lower values of C. Perhaps the simple statement applies to a lossless network, but not necessarily to a practical network.

I suspect that under certain conditions, using the maximum C does find the best position, but that outside of those conditions it may not, and that your example is extreme and might fall outside those conditions. It is a pity that the web page that accompanies the model doesn't explain its limitations.

Owen

1708. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 11:22:00 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8j2sqalh1@slb1.atl.mindspring.net>
Source record: 119810

Cecil:

I agree that "front end" and "back end" do sound kinda "tacky", but... I can point you to places in the technical literature where that terminology is used.

OTOH... IMHO, the use of mathematical operator signs such as + and - as subscripts to variables is worse than tacky. It makes the expressions difficult to read and becomes quite confusing, especially to those with weaker vision or some kind of visual dyslexia. I know the use of + and - as subscripts is quite prevalent in books on transmission lines to indicate forward and reverse waves, etc... but, at least for my eyes it becomes very confusing to see those mathematical signs used as subscripts mixed in with actual real mathematical operation signs.

In my experience, with the exception of the Scattering Formalism, no one anywhere has addressed the notation problem you are asking about.

As Wes said, what's wrong with the Scattering notation?

If you insist on using rho instead of S11 or S22 then instead of + and - I would much prefer something like "f" and "b" or "f" and "r" for forward and backward or reverse. There is less chance of mistaking a letter for a mathematical operation when reading letters rather than math signs.

Myself I much prefer the Scattering Formalism and that's what I use myself.

FWIW...

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EAC9C1A.302@ieee.org...
> Peter Brackett wrote:
> > rho [front end] = S11
> > and rho [back end] = S22 = - S11
>
> I was hoping that the convention was rho+ = S11 and rho- = S22.
> rho [front end] is downright tacky.

>
> > I assume you are considering the case of the "join" of two semi-infinite
> > transmission lines of constant surge
> > impedances Z01 and Z02. Because if oned or more are not semi-infinite
and
> > are terminated in something other than their reference impedances then
your
> > formulae are incorrect.
>
> Assume that each end is terminated in its characteristic impedance with a
> Norton source. The question was how do we identify the transmission
coefficients?
> tau(v)[front end] and tau(v)[back end]. Again, that sure is a tacky method
of
> identification. Seems tau(v+) and tau(v-) would be a lot better.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1709. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 11:43:42 UTC
From: Maarten Hagg <maartenmiriam@hetnet.nl>
Message-ID: <b8j8cc$7mm$1@reader10.wxs.nl>
Source record: 119813

maybe this is it?

http://home.hetnet.nl/~maartenmiriam/index.html

a wideband magnetic loop antenna

"STEVE TROOK" <STROOK@OPTONLINE.NET> wrote in message
news:Vq%qa.154468$MB4.53986942@news4.srv.hcvlny.cv.net...
> I am a relatively a new ham and just getting into HF. I have very limited
> space but I want to be part of the DX world. Can anyone give me any
> ideas???? Thanks in advance!
>
>

1710. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 12:44:26 UTC
From: jgboyles@aol.com
Message-ID: <20030428084426.01745.00000260@mb-m28.aol.com>
Source record: 119811

>JGBOYLES wrote:
>> I have used one as a transmitter, a spark gap transmitter, and it was not
>> used on the ham bands.
>
>How do you know that? :-)
>--

I never got a single reply on my Branley Coherer with Marconi antenna. It did
do a pretty good job messing up my mom's 5 tube am broadcast radio.
73 Gary N4AST

1711. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 12:49:54 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vaq8qrca1gp116@corp.supernews.com>
Source record: 119812

The sort of thing that George reports is probably more common than one would expect. Using a GPS in a low flying aircraft, I have found pockets where the GPS did not want to work. I suspect a harmonic or IM that involves broadcast transmitters. Fortunately, none were close to airports.
Look into the statutes on deliberate acts against communication systems. ..can be a capital crime!
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message news:3eacaa5a_2@news1.prserv.net...
> Twelve or 14 years ago when GPS was just getting up and running well, it did
> not work at all in many areas of San Antonio. To make an excruciatingly
> long story short, the third harmonic of one of the local UHF TV stations was
> an effective jammer. Once the problem was understood, the station added
> additional filtering, and the final solution was a channel change due to the
> DTV channel realignment. The channel was around 20, but I would have to do
> the math to figure out exactly which one. But, it was a very effective
> jammer for a number of months.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "gg" <gg@net.com> wrote in message news:3EAC294C.FF00BFB0@net.com...
> > .
> >
>
>

1712. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 13:32:06 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8jagm$d3h$1@titan.btinternet.com>
Source record: 119815

Bob,

The cat's out of the bag at last. Another antenna's reputation bites the dust.

Reg.

============================

--"bob" <news@elinkusa.com> wrote in message news:FZeqa.41731$4P1.3808380@newsread2.prod.itd.earthlink.net...
> Got me a new MFJ-259B at a recent hamfest and have been giving it a workout.
> For anyone interested, I made measurements on my G5RV "all band" antenna and
> they are listed below. I've never seen this data anywhere before, but I'm
> sure it's been around somewhere. It sure shows that this antenna is good
> primarily for it's all band "capabilities." By the way, mine is a straight
> dipole about 32' high and the ladder line comes off at an angle so that its
> end is about 8' off the ground (the ladder line is 31' and the dipole is
> 103' so this is the 3.5 to 30 MHz model, not the 160 meter model.) All
> measurements were done at the coax connector at the end of the ladder line.
> Bear in mind that these readings would all change at the transmitter
> location because of the impedance transformation of the coax line, unless it
> is an exact multiple of a half wavelength (velocity factor taken into
> consideration) for the frequency of the measurement. -Bob K8GNZ
> (check out www.HW-101.com)
>
> Frequency R X SWR
> ------------ ---- ---- -------
> 3.5 14 22 3.4
> 3.75 17 62 5.2
> 4.0 13 155 17.8
>
> 7.0 20 110 10.3
> 7.2 24 78 5.9
> 7.3 26 63 4.3
>
> 14.0 64 112 4.7
> 14.1 75 89 3.3
> 14.2 91 75 2.8

> 14.225 93 69 2.6
> 14.3 97 75 2.9
>
> 21.2 66 258 14.4
>
> 29.0 0 272 25+
> 29.5 0 238 25+
>
>
>
>
>
>
>
>

1713. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 13:32:52 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304280532.4900afa8@posting.google.com>
Source record: 119814

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EAC9D93.8070900@ieee.org>...
> Richard Clark wrote:
> > Like I said, Cecil, no more hints until you get it right.
>
> You don't seem to understand what the goal is. The goal is not a
> transmission line solution. The goal is only an energy solution.
> The question is: "Where does the energy go?",

To the back of the entropy bus.

> - not what is the
> absolute phase angle of the reflected power. There are NOT two
> solutions to the energy question.

1714. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 13:37:57 UTC
From: paulfriedman@attbi.com
Message-ID: <V8ara.674339$S_4.724975@rwcrnsc53>
Source record: 119816

"STEVE TROOK" <STROOK@OPTONLINE.NET> wrote in message
news:Vq%qa.154468$MB4.53986942@news4.srv.hcvlny.cv.net...
> I am a relatively a new ham and just getting into HF. I have very limited
> space but I want to be part of the DX world. Can anyone give me any
> ideas???? Thanks in advance!
>

Steve:

Welcome to the zoo (er, Ham radio community, I mean <grin>.

I don't know what you mean by limited space... I know some people with 3 acres who complain that they do not have enough room for an antenna farm of their dreams. Let me assume "limited space" means a small city lot (that's what I have, by the way). A few suggestions:

1) Vetical Dipole. These take up very little room as, being dipoles, no counterpoise or radial system is needed. Force 12 makes several multi-banders and single-banders..I have one of their multi-banders for 10-20m and a single bander for 40m. Single band versions are fairly easy to build, too. The 10-20m beast sits in a 5 gallon bucket of cement in teh back yard. Very small footprint and easy to assemble and disasmble (it is traveling with me to Nova Scotia next month). The only trick here is to figure out how to run the feedline perpendicular to the beast for several feet. Nothing takes up less room than this.

2) Horizontal or Inverted V dipole. Even with limted space, these are really quite small for 20m and up. A 20m dipole is on something like 33 feet in length. Even if you can not get it up to the "perfect" height, they will still work reasonably well. Very easy to build. Not that you asked, but I'd suggest startign with 20m or 17m. The higher frequencies are fading due to the sunspot cycle.20m is full of DX adn 17m is friendly with a reasonable amount of DX.

Best of luck. GIve me a yell if hear me on the air.

Paul AB0SI

1715. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 13:51:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD31FF.8010208@ieee.org>
Source record: 119817

WB3FUP (Mike Hall) wrote:
> With enough ladder line change 20-10 to 40-10 w/o
> a problem.

EZNEC says the SWR will be more than 100:1 for any transmission
line using a 20m dipole on 40m. Personally, I have a mental SWR
limit of about 40:1 when using ladder line. Of course, an emergency
would be another matter entirely.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1716. CDR AR22 rotator control box question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 13:54:12 UTC
From: jder8745@aol.com
Message-ID: <20030428095412.19203.00000382@mb-m01.aol.com>
Source record: 119818

Howdy,

Looking at the back of the AR 22 rotator control box (the old fashioned brown kind which has the dial on the front and is vertical) there are four screw heads which the four-wire cable is connected to.

I am assuming they are 1, 2, 3, 4 left to right corresponding to the circuit diagram which came with the rotator. Is this a correct assumption?

Tnx es 73 de Jack, K9CUN

1717. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:01:54 UTC
From: richardharrison@webtv.net
Message-ID: <245-3EAD3452-109@storefull-2313.public.lawson.webtv.net>
Source record: 119822

Richard Clark wrote:
"What makes it valid?"

Cecil`s criticism of "impedance seen by the sender" was of style not substance.

My use of "seen" is idiomatic and may be colloquial. As such, "seen" is not mistaken by a knowledgeable reader as lierally related to vision. Everybody doing it doesn`t make it right but popularity does make "seen" recognizable as it was used. My dictionary includes "experience" and "detect" as meanings of see. Inanimate objects functon as sensors and as detectors, though sightless.

I don`t recall Terman saying a device "saw" a particular impedance. Style and substance were important to him it seems.

How stylish is it to call a subscript "tacky"?

I accept the criticism because when I don`t write as Terman did, I did not do my best. On the other hand, sometimes I think it better to use inferior style in this forum to save words while placing information within grasp of the reader.

Best regards, Richard Harrison, KB5WZI

1718. Re: Best mounting for J-Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:07:00 UTC
From: KB1JCM <>
Message-ID: <b4dqav06s7j8vnjjhsc5p3kogqatd786m2@4ax.com>
Source record: 119819

Yep, did that. At the base of the J-Pole, where the T is, I mixed up
some epoxy and put a 3' piece of dowel in there and used that to
fasten my J-Pole to the mast. Probably not needed, but that's what I
did. Works Fine!

>What is the best method to mount a copper J-pole? I am thinking of putting a
>10 foot mast into a 5 gal. bucket of cement. Will this work?

1719. More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:09:34 UTC
From: jder8745@aol.com
Message-ID: <20030428100934.19203.00000384@mb-m01.aol.com>
Source record: 119820

Howdy,

I've always been amazed at all the hoopla about the G5RV. Remember the wire is the antenna. The ladder line isn't and neither is the coax.

I have an "all band" antenna which is about 125 ft long at 30 feet and is fed with 300-Ohm low loss transmitting "twin lead".

It gets the rf to the antenna from a balun at the rig.

The SWR is very high on most bands I'm sure. I have never measured it. I'm not sure I can measure it with whatever equipment I have. (Haven't used the old double pilot bulb indicator in decades)

But the transmitter puts 100 W out so I assume most of it reaches the antenna.

I have no prob with routing the twin lead.

K9CUN

1720. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:10:34 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <JZGdnRwwyqjGqzCjXTWcog@comcast.com>
Source record: 119821

Steve,

For starting out, don't try to do everything at once. Put up a 20 meter dipole at least 30 feet high, and feed it through a 1:1 balun and 50 ohm coax. RG8X is just fine on HF. If you are adventuresome, you can connect both 20 and 15 meter dipoles to the same balun, just run the wires in slightly different directions. There will be some interaction, so will have to trim their lengths somewhat.

Forget about ladder line and tuners. For the price of a tuner you can buy a triband beam. If you don't have any antenna now, throw about 20 feet of wire out the window and listen on the various bands and see where you hear the DX. I suspect it will be on 15 and 20 meters. Unfortunately, most of the DX you will hear will be during the day, except that 20 meters will sometimes be open 24 hours.

People will claim they work the world with a wet noodle at 8 feet. That works for you if you are a glutton for punishment. If you can't get a horizontal antenna up at least 30 feet or so, you will probably be better off with some kind of vertical.

Tam/WB2TT
"STEVE TROOK" <STROOK@OPTONLINE.NET> wrote in message
news:Vq%qa.154468$MB4.53986942@news4.srv.hcvlny.cv.net...
> I am a relatively a new ham and just getting into HF. I have very limited
> space but I want to be part of the DX world. Can anyone give me any
> ideas???? Thanks in advance!
>
>

1721. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:21:50 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304280621.50957096@posting.google.com>
Source record: 119823

Mike Coslo <mcoslo@adelphia.net> wrote in message
>
> I'll second that, Brian. Last year a club member made a nice elevated
> radial antenna for our GOTA station. Worked great for DX, but we had NO
> local stuff at all. Not one in-state QSO.

If that was a higher band, IE: 20-10, that may have been more due to
cdx/skip distance than the antenna. You probably didn't hear locals
because they were skipping over you most likely. MK

1722. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:22:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD3928.8030604@ieee.org>
Source record: 119824

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "But the question is about the transmission coefficient as defined in
> "Antennas" by Kraus."
>
> For the benefit of those who have never seen Kraus or his "Antennas",
> perhaps you might repeat the definition.

In "Antennas", third edition by Kraus and Marhefka, the reflection and transmission coefficients are given in Appendix A-3. They are given in terms of Z0 and ZL, i.e. the characteristic impedance of the transmission line and the impedance of the load. (The load is the final destination for energy with a V/I ratio of ZL.) These coefficients are also defined in "Fields and Waves in Modern Radio" by Ramo and Whinnery.

Reflection coefficient Transmission coefficient
Rho = (ZL-Z0)/(ZL+Z0) Tau = 2ZL/(ZL+Z0)

What I am looking for is the transmission coefficients for a Z01 to Z02 impedance discontinuity in a transmission like, i.e. for the point where two different characteristic impedances connect. The two reflection coefficients are equivalent to the S11 and S22 parameters. The two transmission coefficients are equivalent to the S12 and S21 parameters. This is discussed in ITT's "Reference Data for Ratio Engineers".

Seems to me, the coefficients looking forward into the Z01 to Z02 impedance discontinuity could be labeled Rho(v+), Rho(i+), Rho(v-), Rho(i-), Tau(v+), Tau(i+), Tau(v-), Tau(i-) where Rho(v+)=Rho(i+), Rho(v-)=Rho(i-)=-Rho(v+), Tau(v+)=Tau(i-), Tau(v-)=Tau(i+)

Rho(v+)=Rho(i+)=(Z02-Z01)/(Z02+Z01) Tau(v+)=Tau(i-)=2Z02/(Z02+Z01)

Rho(v-)=Rho(i-)=(Z01-Z02)/(Z01+Z02) Tau(i+)=Tau(v-)=2Z01/(Z01+Z02)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1723. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:24:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD39B4.3020308@ieee.org>
Source record: 119825

'Doc wrote:
> You've been into Reg's wine, haven't you...

I've been into Reg's ex-wine, i.e. California Merlot.

I am creating a web page trying to explain about reflection
and transmission coefficients and have found that the subscripts
I need to use may not have been defined yet.
--
73, Cecil http://www.qsl.net/w5dxp

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1724. Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:26:18 UTC
From: Bruce Wilson <b.e.wilson@usa.net>
Message-ID: <eSara.120965$gK.226038@rwcrnsc52.ops.asp.att.net>
Source record: 119826

Hi everyone.

I'm trying to get a feel for the relationship between the efficiency of a transmitting antenna and the SWR. I rarely see any measurements on an antenna that include both a pattern (with appropriate comparison to a half-wave dipole or quarter-wave vertical) and the SWR bandwidth.

I have a feeling that low SWR corresponds to the best efficiency, though I don't know the theory behind that idea.

I also have the impression that a very broadband antenna, one that presents a relatively low SWR in many bands without the need for a feedline tuner, is of necessity inefficient (a trait referred to as a "radiating dummyload" on occasion).

My question comes at the crossover between the two. For example, I can use a good feedline tuner and baluns to make a random wire present a reasonable SWR to the transmitter, but now I have a resonating feedline-antenna, not just a resonating antenna. I have a low SWR, but is the combination efficient? Is it possible to tell without measuring the field strength compared to a similarly-mounted dipole?

I ask this as I design my first HF antenna, trying to choose between an tuner and random wire, a multiband dipole in inverted-V configuration, and broadband antenna (T2FD or G5RV), or just buy a commercial vertical and add many radials. Estimating overall DX efficiency is the real problem I'm having. Is SWR a good predictor of efficiency?

--
Bruce Wilson
http://science.uvsc.edu/chemistry/wilson
KD7VEM

1725. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:37:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD3CAF.9000606@ieee.org>
Source record: 119827

Peter Brackett wrote:
> In my experience, with the exception of the Scattering Formalism, no one
> anywhere has addressed the notation problem you are asking about.
>
> As Wes said, what's wrong with the Scattering notation?

Nothing, except the average ham is not familiar with them. I am creating
a web page trying to explain some of this stuff. Do you think it would
be understandable to define rho(vf)=S11, rho(vr)=S22, etc. where 'vf' means
'voltage-forward' and 'vr' means 'voltage-rearward'?

> Myself I much prefer the Scattering Formalism and that's what I use myself.

I see 'rho' used on this newsgroup a lot more than I see S11 used. 'Course,
that could be because I use 'rho' so much. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1726. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:41:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD3D93.3050907@ieee.org>
Source record: 119828

Reg Edwards wrote:
> The cat's out of the bag at last. Another antenna's reputation bites the
> dust.

What is that reputation, Reg? I didn't learn anything new
from those measurements.
--
73, Cecil http://www.qsl.net/w5dxp

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1727. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:44:03 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD3E33.6050306@ieee.org>
Source record: 119829

Brian Kelly wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EAC9D93.8070900@ieee.org>...
>>You don't seem to understand what the goal is. The goal is not a
>>transmission line solution. The goal is only an energy solution.
>>The question is: "Where does the energy go?",
>
> To the back of the entropy bus.

How about in a lossless system?
--
73, Cecil http://www.qsl.net/w5dxp

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1728. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:46:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <aedqav0fu5c0reahjelhk48f4glj2mhupi@4ax.com>
Source record: 119830

On Mon, 28 Apr 2003 21:14:41 +1000, Owen Duffy <owen@oda.com.au>
wrote:

>Perhaps the
>simple statement applies to a lossless network, but not necessarily to a
>practical network.

This statement goes to the heart of the matter. Imagine the sheer volume of computation involved if another variable, loss, were tossed into the mix of either package. [The thorn of becoming trapped in less than optimal solutions will still follow even with the inclusion of this factor. And it could only get worse.]

>
>I suspect that under certain conditions, using the maximum C does find
>the best position, but that outside of those conditions it may not,

"Certain conditions" indeed. That is part of the blind-siding of "undocumented" software. Call it SMD or Software of Mass Disappointment - well, perhaps too dramatic. Most users are happily unaware of being disappointed (they really don't have any alternative but to operate their free programs like a slot machine - waiting for the three cherries to line up).

>and
>that your example is extreme and might fall outside those conditions. It
>is a pity that the web page that accompanies the model doesn't explain
>its limitations.

This is more common than most would give credit (or blame) for. The greater problem is when the writer has the arrogance to believe his work has no limitations (or worse, these are YOUR limitations, a personal failure as evidenced by his exemplary software performance).

Richard has taken up an examination by comparison to chase out the differences. However, this is like elevating one crook over the other because one is less dishonest. All systems require testing (even what you buy) and that testing should run along the lines of applying known conditions that result in known results and comparing THEM. Given several rounds show disturbing results (wouldn't disturb me however, given the toy status we started with); it would seem obvious from the angst generated that both should be abandoned and personal responsibility should kick in. That is, design your own software, or fall back on traditional methods that include paper, pencil, (or charcoal on a flat rock) and your favorite form of calculation.

I can hear shrieks building in the galleries full of guru-wannabees as they come out of the shock of withdrawal. I could anticipate and fill this posting with their dope-deprived wails of anguish, but really, that would be extremely boring. Stuff like that from the capitol fills the headlines every day.

73's
Richard Clark, KB7QHC

1729. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:52:07 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <c-qcnb_BU-CF3TCjXTWcrg@crocker.com>
Source record: 119831
Body handling: HTML body converted to readable text

"Bruce Wilson" wrote in message
news:eSara.120965$gK.226038@rwcrnsc52.ops.asp.att.net...
> Hi everyone.
>
> I'm trying to get a feel for the relationship between the efficiency of a
> transmitting antenna and the SWR. I rarely see any measurements on an
> antenna that include both a pattern (with appropriate comparison to a
> half-wave dipole or quarter-wave vertical) and the SWR bandwidth.
>
> I have a feeling that low SWR corresponds to the best efficiency, though I
> don't know the theory behind that idea.

If you are talking about the efficiency of the antenna vs the swr on the feed line there is no relationship. losses due to high swr are due to the coax and matching networks between the antenna and transmitter.

>
> I also have the impression that a very broadband antenna, one that
presents
> a relatively low SWR in many bands without the need for a feedline tuner,
is
> of necessity inefficient (a trait referred to as a "radiating dummyload"
on
> occasion).

most likely true. wide resonances are commonly caused by low Q which is a symptom of high resistive losses. there are exceptions of course.

>
> My question comes at the crossover between the two. For example, I can use
a
> good feedline tuner and baluns to make a random wire present a reasonable
> SWR to the transmitter, but now I have a resonating feedline-antenna, not
> just a resonating antenna. I have a low SWR, but is the combination
> efficient? Is it possible to tell without measuring the field strength
> compared to a similarly-mounted dipole?

it won't radiate any more efficiently if you compare the radiated power to the power that gets to the antenna. but you may get more power to the antenna if you can reduce the feedline and tuner losses. and no you really can't tell the difference without comparing to a known antenna, and that would be a very difficult measurement to make for any real antenna installation. the best you can do in most cases is model the antenna with a decent program and compare it to other antennas modeled with the same software.

>
> I ask this as I design my first HF antenna, trying to choose between an
> tuner and random wire, a multiband dipole in inverted-V configuration, and
> broadband antenna (T2FD or G5RV), or just buy a commercial vertical and
add
> many radials. Estimating overall DX efficiency is the real problem I'm
> having. Is SWR a good predictor of efficiency?
>

no.

1730. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 14:58:36 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hqfqavou68l0labbvg9eja8n58bjikjpm2@4ax.com>
Source record: 119832

On Sun, 27 Apr 2003 23:10:32 -0500, "Crazy George"
<munschNO@attglobal.net.SPAM> wrote:

>Twelve or 14 years ago when GPS was just getting up and running well, it did
>not work at all in many areas of San Antonio. To make an excruciatingly
>long story short, the third harmonic of one of the local UHF TV stations was
>an effective jammer. Once the problem was understood, the station added
>additional filtering, and the final solution was a channel change due to the
>DTV channel realignment. The channel was around 20, but I would have to do
>the math to figure out exactly which one. But, it was a very effective
>jammer for a number of months.

Hi George,

A Texas station was it? No doubt spared a missile upgrade as
frequency reallocation because of its, uh, automatic patriot status.

All Hail bush and the endless bounty of his cruise missiles,
Richard Clark, KB7QHC

1731. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:03:57 UTC
From: gg <gg@net.com>
Message-ID: <3EAD42DD.493A1041@net.com>
Source record: 119840

I doubt they could easily track down a GPS jammmer.

Wes Stewart wrote:

> On Sun, 27 Apr 2003 12:02:36 -0700, gg <gg@net.com> wrote:
>
> Actually I have. I did the setup and calibration of a system to
> measure the anti-jam performance of a GPS receiver used in a defense
> product. However, I was on the U.S. Army test range at Ft. Huachucha,
> AZ, we were limited to 20 minutes on and 20 off, we tested from 10 PM
> to 4 AM, and we had a direct radio link to the FAA so that we could be
> ordered off the air at any time. It took months to arrange this.
>
> So unless you look swell in stripes and handcuffs, I don't recommend
> that you try this at home.

1732. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:07:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD43B8.9040109@ieee.org>
Source record: 119833

Richard Harrison wrote:
> I accept the criticism because when I don`t write as Terman did, I did
> not do my best. On the other hand, sometimes I think it better to use
> inferior style in this forum to save words while placing information
> within grasp of the reader.

You missed the point entirely, Richard. "Seeing" is a passive receive function not an active transmit function. The transmitter doesn't see 50 ohms. What the transmitter sees is *no reflections* and then assumes it is operating into 50 ohms. In other words, seeing no reflections is the cause. The transmitter says to itself: "If I am not seeing any reflections, then I must be transmitting into 50 ohms." The 'if' part of the statement is the cause. The 'then' part of the statement is the effect.

As you can see from the above, I was NOT criticizing you for personifying a transmitter.
--
73, Cecil http://www.qsl.net/w5dxp

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1733. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:13:13 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <ntgqavcehqm3jopla64kuq1ovaui6mmj17@4ax.com>
Source record: 119841
Body handling: HTML body converted to readable text

On Mon, 28 Apr 2003 14:26:18 GMT, "Bruce Wilson"
wrote:

>SWR a good predictor of efficiency

Bruce,

I'm sure you'll receive a mountain of response to this question, but in a nutshell SWR is NOT a good predictor of efficiency for an antenna. It does give an indication of the transmission line's efficiency but not the antenna itself.

You can do yourself a favor by getting a copy of Reflections by Walter Maxwell. It will be about the best $20 you can spend to understand the importance and/or lack of importance of SWR.

73
Danny, K6MHE

1734. Re: Removal of Glass Mount 2 meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:13:31 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns936B53ABD9AF9pookster@129.250.170.96>
Source record: 119842

gmz79@aol.comnospam (greg z) wrote in news:20030427222642.06209.00000282
@mb-m07.aol.com:

> lacquer thinner to clean up
>

Be careful with that thinner, it may damage the paint and/or the rubber
window seals. Works good but it's nasty stuff.

--
Bill Turner
W7TI

1735. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:18:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9dhqav452mlmg5qcpul82eq64ukadbom3f@4ax.com>
Source record: 119834

On Mon, 28 Apr 2003 10:07:36 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>You missed the point entirely, Richard.
>The transmitter doesn't see
>What the transmitter sees is
>seeing no reflections
>The transmitter says
>As you can see

Is English your second language? Try using it sometime. ;-)

In the land of the blind, the one tube transmitter is king.

73's
Richard Clark, KB7QHC

1736. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:22:27 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304280722.7b06b68d@posting.google.com>
Source record: 119835

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<74eoav0nr77qp36p87auvn1sdl8r71me7j@4ax.com>...
> On 27 Apr 2003 09:10:44 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
> >> Type 43 peaks in the 2M band,

Ought to be a good choice for knocking down the crud this computer
generates on 2M . .

>>> but it does serve as a resistance well
> >> down into HF (down to half value at 10MHz); it also holds up well
> >> beyond 70cM and 1GHz. Compared to the formulation I use, the
> >> difference is only a factor of 0.5 or less around 10 MHz but about
> >> 0.33 below (give or take). As such, for a choke comparable to mine,
> >> you would need 2 to 3 times as much ferrite (be it beads or turns
> >> through a larger core) by weight or volume.

Fuhgeddit.

> Hi Brian,
>
> To answer the last question first, I got this material from a local
> (now closed) Amateur radio outlet. The materials were Amidon, but
> Amidon (at least a couple of years ago) does not sell directly to the
> public, but rather through commercial outlets. There is one that is
> on the web, consult:
> http://bytemark.com/

Apparently they do sell direct to the ham community but I haven't
spent enough time in their web site yet to find the info I need.

> As for any particular recipe, the #43 is down to 0.25 of its 2M peak
> when used in the 80M band. You say that is unacceptable (I thought
> you had no choice?)

Misunderstanding somewhere, I got off on the wrong foot with the 43
material. I'm game for whatever works best.

> so I will describe the others generally.
>
> #75 (also called J) Material peaks at 5MHz and holds its nominal value
> within 0.7 throughout the entire HF region.

There's the recipe for the 80/40 antenna. Bytemark has Type J beads
and cores in the sizes I need.

> #73 & #77 Material peaks at 25MHz and is down by 0.5 going down into
> 80M. Needless to say, out to 30MHz it holds its value easily.

Good candidate for the 20/15 antenna but as a practical matter it
looks like stocking up on Type 77 material is the common sense way to
go.

> #43 Material, already described, falls into this line-up here.
>
> #64 Material peaks at 500MHz and drops to 0.4 before it sees 10M.
>
> Now, as to the relative peak sizes between these materials. Each of
> the materials, in the order above, shows a slight increase in
> Impedance through the progression. The variation progresses from
> 28Ohms to 35Ohms in relatively even spaced curves (28-30-32-35). They
> all show roughly the same wide bandwidth (in proportion to frequency
> across a log plot).
>
> Now understand that ALL these nominal values are determined from an
> ad-hoc standard of the bead 101 size (OD 0.138 ID 0.051 H 0.128).
> Other form factors have "multipliers" specified such that if I were to
> consider a bead 901 size (0.25 0.05 0.417) I would then apply a
> factor of 7.5 to obtain a good deal more than 200Ohms. From these
> specifications I draw the conclusion that the Impedance is a product
> of bulk and that as long as you obtain enough bulk, you will find
> enough Impedance regardless of the style of construction. That is, be
> it bead stringing or loop through a large core (hence my original
> misgiving comment on there being any weight advantage).

I'll build one of each, test 'em, weigh 'em and settle the matter.

> Popular
> advice in the Shortwave boards is to scout out dead monitors and strip
> the ferrite from the beam deflection coils. I cannot report on the
> applicability of that source as I am unaware of the formulation
> generally used in those applications.

It's difficult enough working with knowns, I don't need any more
unknowns to deal with. Beyond that I'm not above a bit of dumpster
dipping for "good stuff" but finding then tearing up a pile of dead
monitors just to dredge up $30-40 worth of ferrite strikes me a lousy
ROI on my time.

In any event I did get an impedance target to shoot for and a good bit
more.

Thanks Richard.

> 73's
> Richard Clark, KB7QHC

Brian w3rv

1737. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:24:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD47B4.80600@ieee.org>
Source record: 119836

Bruce Wilson wrote:
> I have a feeling that low SWR corresponds to the best efficiency, though I
> don't know the theory behind that idea.

SWR's greater than 1:1 cause additional losses in the transmission line.
Whether the additional losses are negligible or not depends on the
parameters of the transmission line.

Here's a data point for you. Assume a balanced antenna for 28.4 MHz (10m)
that has a feedpoint impedance of 50 ohms. You have a choice of feeding it
with 100 ft of RG-58 coax with an SWR of 1:1 or feeding it with open-
wire feedline with an SWR of 600/50 = 12:1. On the surface, it looks
like a no-brainer but let's calculate the associated losses.

The matched line loss on 10m for 100ft of RG-58 is about 2.4 dB.

The mismatched line loss on 10m for 100ft of 600 ohm open wire
feedline running an SWR of 12:1 is about 0.7 dB, 0.6 dB of which
is due to the high SWR.

The total losses in the feedline with an SWR of 12:1 is about
30% of the total losses in the feedline with an SWR of 1:1.
I^2*R losses predominate at HF so, in general, the higher
the characteristic impedance of the feedline, the lower the
losses.
--
73, Cecil http://www.qsl.net/w5dxp

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1738. Do I really need a 4:1 balun and what to do with the coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:32:47 UTC
From: a_g_lyph@hotmail.com
Message-ID: <f8479612.0304280732.67f341af@posting.google.com>
Source record: 119837

I have mounted a ~135' doublet, one end is ~40' AGL, the feedpoint is ~30-35' AGL and the other end is ~23' AGL. I'm feeding it with a random length of ladderline (450ohm). The ladderline connects to an LDG RT11 remote tuner. LDG recommended a 4:1 balun to get the ladderline into the tuner (it only has SO239 connectors). From the tuner, I have ~80' of Belden 9913 to the rig (for now an FT-817 when I'm sitting on the patio). The antenna works like gangbusters on 40m...I was getting great signal reports (as in 'your booming') from stations around 400 miles away and ok reports from as far away as southern FL (I'm in MI) running only 5w. On 40m, the SWR meter (FWIW) on the 817 doesn't even light up any bars. Oddly enough, however, on any other band, the SWR meter shows a number of bars and I don't seem to get any signal out (or at least nobody pays attention...hi hi).

So, I have two questions...one, what to do with the coax from the rig to the tuner...I assume from the SWR meter on the rig that I've an issue there. Secondly, do I really need that 4:1 balun between the tuner and the ladderline? I'm concerned that it's not doing much good and may even be causing problems (although not related to the SWR indication between the rig and the tuner, obviously).

Any guiding light or words of wisdom...heck, even a 'I feel your pain'....would be helpful! :)

Thanks,

AG

1739. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:33:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ikhqavk1sh6kc1fh1k513rq9v1ji2l5p1a@4ax.com>
Source record: 119838

On Mon, 28 Apr 2003 09:01:54 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Richard Clark wrote:
>"What makes it valid?"
>
>Cecil`s criticism of "impedance seen by the sender" was of style not
>substance.

Indeed. However both sides of that coin describe a penny (excuse the
visual metaphor ;-)

>
>My use of "seen" is idiomatic and may be colloquial. As such, "seen" is
>not mistaken by a knowledgeable reader as lierally related to vision.
>Everybody doing it doesn`t make it right but popularity does make "seen"
>recognizable as it was used. My dictionary includes "experience" and
>"detect" as meanings of see. Inanimate objects functon as sensors and as
>detectors, though sightless.
>
>I don`t recall Terman saying a device "saw" a particular impedance.
>Style and substance were important to him it seems.

He probably uses the more academic form of see: observed.

>
>How stylish is it to call a subscript "tacky"?

You have me there, Richard. That is, I do enjoy the topic of the
nuance of style when it is introduced by a troglodyte, but the
enjoyment follows from the humor of the awkward delivery agonizing
about awkwardness (but for short postings only).

>
>I accept the criticism because when I don`t write as Terman did, I did
>not do my best. On the other hand, sometimes I think it better to use
>inferior style in this forum to save words while placing information
>within grasp of the reader.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

However, it appears you are about to go over the top with this
apologia (it is excessively out of proportion to a less than
substantial issue). Speaking of stylistic conventions, this is Art's
turf, not yours.

73's
Richard Clark, KB7QHC

1740. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:33:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD49C5.8090101@ieee.org>
Source record: 119839

Richard Clark wrote:
> In the land of the second language,
> the one tube transmitter is English.

Anyone can cut and paste to change the meaning
of a posting. Such is considered unethical.
--
73, Cecil http://www.qsl.net/w5dxp

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1741. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:37:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dgiqavokr3bjjd6s7odm58mtc1dhkmdkfs@4ax.com>
Source record: 119843

On Mon, 28 Apr 2003 09:44:03 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>>>The question is: "Where does the energy go?",
>> To the back of the entropy bus.
>How about in a lossless system?

Sheesh, then it goes nowhere. OK, so you drug another hint out of me.
Any closer to either of those solutions? I hope you are catching up
on your reading this week. The answer should be in any first chapter.

73's
Richard Clark, KB7QHC

1742. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:43:03 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <uriqavsr76kheu77p3pvfa08oi2o2ni3d1@4ax.com>
Source record: 119844

On 28 Apr 2003 07:21:50 -0700, nm5k@wt.net (Mark Keith) wrote:

>Mike Coslo <mcoslo@adelphia.net> wrote in message
>>
>> I'll second that, Brian. Last year a club member made a nice elevated
>> radial antenna for our GOTA station. Worked great for DX, but we had NO
>> local stuff at all. Not one in-state QSO.
>
>If that was a higher band, IE: 20-10, that may have been more due to
>cdx/skip distance than the antenna. You probably didn't hear locals
>because they were skipping over you most likely. MK

Hi Mark,

It's probably simpler than that. The ones that don't hear you are the
ones you couldn't see if you looked (this is not to be confused with
Cecil's plight of sight).

73's
Richard Clark, KB7QHC

1743. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:58:33 UTC
From: Bruce Wilson <b.e.wilson@usa.net>
Message-ID: <Jccra.675392$S_4.726313@rwcrnsc53>
Source record: 119845

Thanks for the example.

So in using this example of feedline loss calculations in answer to my query, are you saying that feedline losses are the chief contributor to lack of antenna efficiency, or are you using this as an example of why SWR is not a good predictor of antenna efficiency? How would 12:1 baluns on either end of the ladder line affect your calculation? Insertion losses only, or would the 0.6 dB loss also disappear?

I'm rapidly coming to the conclusion that I need a very good book to understand the relationship between an antenna system and the strength of the radiated signal.

And thanks also to the others who have responded.

--
Bruce Wilson
http://science.uvsc.edu/chemistry/wilson
KD7VEM
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EAD47B4.80600@ieee.org...
> Bruce Wilson wrote:
> > I have a feeling that low SWR corresponds to the best efficiency, though
I
> > don't know the theory behind that idea.
>
> SWR's greater than 1:1 cause additional losses in the transmission line.
> Whether the additional losses are negligible or not depends on the
> parameters of the transmission line.
>
> Here's a data point for you. Assume a balanced antenna for 28.4 MHz (10m)
> that has a feedpoint impedance of 50 ohms. You have a choice of feeding it
> with 100 ft of RG-58 coax with an SWR of 1:1 or feeding it with open-
> wire feedline with an SWR of 600/50 = 12:1. On the surface, it looks
> like a no-brainer but let's calculate the associated losses.
>
> The matched line loss on 10m for 100ft of RG-58 is about 2.4 dB.
>
> The mismatched line loss on 10m for 100ft of 600 ohm open wire
> feedline running an SWR of 12:1 is about 0.7 dB, 0.6 dB of which
> is due to the high SWR.
>
> The total losses in the feedline with an SWR of 12:1 is about
> 30% of the total losses in the feedline with an SWR of 1:1.
> I^2*R losses predominate at HF so, in general, the higher

> the characteristic impedance of the feedline, the lower the
> losses.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1744. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 15:59:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <udjqav4pfqqje3crialu6c1vfag1gp5tek@4ax.com>
Source record: 119846
Body handling: HTML body converted to readable text

On Mon, 28 Apr 2003 14:26:18 GMT, "Bruce Wilson"
wrote:

>
>I also have the impression that a very broadband antenna, one that presents
>a relatively low SWR in many bands without the need for a feedline tuner, is
>of necessity inefficient (a trait referred to as a "radiating dummyload" on
>occasion).

Hi Bruce,

This is highly dependant upon what you mean by "very broadband."

Deliberately "very broadband" antennas are very efficient, unless they
achieve that distinction through the inclusion of a lossy component (a
simple resistor, often).

The origins of all radiator math derives from the biconical dipole, a
very wide band radiator. Common examples of its class are found in
the cousin design of the Discone. As far as matching goes, you can
achieve flat, 50Ohm (not juggled through folding or transforms)
performance from Radio Shack models over a frequency range of 100's of
MHz.

Here the issue then becomes: what do you mean by efficient? A discone
that matches perfectly, without loss, at 6X its base frequency is
unlikely to be very useful, unless you want to work satellites.

73's
Richard Clark, KB7QHC

1745. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 16:01:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <r3kqavgpj7451pipbu61regl73sfk3f6ln@4ax.com>
Source record: 119847

On Mon, 28 Apr 2003 10:33:25 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> In the land of the second language,
>> the one tube transmitter is English.
>
>Anyone can cut and paste to change the meaning
>of a posting. Such is considered unethical.

Go and sin no more. ;-)

1746. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 16:15:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vrkqav80dn0qhrcr55m03nbv0f8fh3g0ra@4ax.com>
Source record: 119848

On Mon, 28 Apr 2003 08:03:57 -0700, gg <gg@net.com> wrote:

>I doubt they could easily track down a GPS jammmer.
>

This will undoubtedly be the last known quote of Saddam in his bunker.

bush to Saddam: "feeling lucky? Make my day!"

1747. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 16:39:25 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <lclqavki4ma3cjgcrf8p8kr3sfkup2hs9h@4ax.com>
Source record: 119849

On Mon, 28 Apr 2003 10:24:36 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

|Bruce Wilson wrote:
|> I have a feeling that low SWR corresponds to the best efficiency, though I
|> don't know the theory behind that idea.
|
|SWR's greater than 1:1 cause additional losses in the transmission line.
|Whether the additional losses are negligible or not depends on the
|parameters of the transmission line.
|
|Here's a data point for you. Assume a balanced antenna for 28.4 MHz (10m)
|that has a feedpoint impedance of 50 ohms. You have a choice of feeding it
|with 100 ft of RG-58 coax with an SWR of 1:1 or feeding it with open-
|wire feedline with an SWR of 600/50 = 12:1. On the surface, it looks
|like a no-brainer but let's calculate the associated losses.

Or another choice, lower loss coax, e.g. RG-8.
|
|The matched line loss on 10m for 100ft of RG-58 is about 2.4 dB.

The matched loss for 100' of RG-8 equals 0.95 dB
|
|The mismatched line loss on 10m for 100ft of 600 ohm open wire
|feedline running an SWR of 12:1 is about 0.7 dB, 0.6 dB of which
|is due to the high SWR.

And then you add the loss in the tuner that is dealing with a 12:1
mismatch.

1748. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:32:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD6599.C5ABA82B@uci.edu>
Source record: 119850

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >>You are confused about what I have said. Wave cancellation AT
> >>AN IMPEDANCE DISCONTINUITY causes energy to reverse course.
> >
> > Okay. Describe exactly how the energy "reverses course".
>
> It ain't rocket science, Jim.

No. But I do insist that it at least be some kind of science. So far, you haven't provided a scientific explanation. We know that it does, but your explanation lacks a bit of continuity. There's a piece missing. We have wave cancellation here, and energy going the other way, but nothing to explain the reversal in direction. I have no argument with the fact that it does end up at the load - only with your explanation (or lack thereof) of exactly how that is accomplished.

> I don't believe that I have ever said the canceled reflected waves change
> direction.

That's correct. You've never said cancelled reflected waves change direction. You said cancelled waves change direction, and your paper has a diagram that shows that.

> > Better yet, tell us exactly how the electromagnetic energy reflected
> > from the load returns to the load, ...
>
> Again, not rocket science. It returns to the load because we know that
> it never reaches the source and has to keep moving and go somewhere.

Explanation of how said result is achieved still missing.

> I have not described wave reversal. I have described a reversal of direction
> of the energy in the canceled waves.

You have described neither. You have merely stated that it occurs. But you haven't provided a mechanism by which it could occur.

> > Interference does not reverse the direction of waves.

> I haven't said it reverses the direction of waves.

> I have said that wave cancellation reverses the direction
> of flow of energy in the two canceled waves. The waves cancel and are
> gone. The energy survives and changes direction because there is no

> other possibility.

A ludicrous distinction, but I'll play along. If not in the form of 'waves', then what form does this energy take?

> > There is no such thing as wave reversal due to interference.
>
> I agree.

After a full week of argument from you on that point. Thank you.

ac6xg

1749. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:37:40 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <mamqav82626gcb2obne87sk3dkj1mgrkp7@4ax.com>
Source record: 119851
Body handling: HTML body converted to readable text

On Mon, 28 Apr 2003 14:26:18 GMT, "Bruce Wilson"
wrote:

|Hi everyone.
|
|I'm trying to get a feel for the relationship between the efficiency of a
|transmitting antenna and the SWR. I rarely see any measurements on an
|antenna that include both a pattern (with appropriate comparison to a
|half-wave dipole or quarter-wave vertical) and the SWR bandwidth.

Hi Bruce,

To be more precise, your question should ask about the efficiency of a
transmitting antenna *system*. The efficiency of most radiators is
very high; almost all of the power supplied to the radiator is
radiated. (Exceptions to this include small loops, very short
(electrically) antennas with lots of loading inductance, and some
terminated antennas e.g. rhombics)

When you speak of the *system*, you include the loss in the
transmission line, balun (if used), tuner, and ground losses.

|
|I have a feeling that low SWR corresponds to the best efficiency, though I
|don't know the theory behind that idea.

Maybe, maybe not.
|
|I also have the impression that a very broadband antenna, one that presents
|a relatively low SWR in many bands without the need for a feedline tuner, is
|of necessity inefficient (a trait referred to as a "radiating dummyload" on
|occasion).

Not at all. Log periodic dipoles, conical and biconical dipoles, fan
dioples, etc. all operate over wide bandwidths with good efficiency.

|
|My question comes at the crossover between the two. For example, I can use a
|good feedline tuner and baluns to make a random wire present a reasonable
|SWR to the transmitter, but now I have a resonating feedline-antenna, not
|just a resonating antenna. I have a low SWR, but is the combination
|efficient?

Once again, it depends: if the line is low loss and the tuner is
efficient, when matching the impedance at the input of the line, then
the overall efficiency is high. (The same tuner will have different

efficiencies at different load Zs.)

Something often (usually) overlooked by the proponents of the "one-wire-matched-with-a-tuner-all-band-antenna" is that the directivity of the antenna changes along with the band of operation. Their goal is simply being able to get power into the wire, with "where does it go after that" of no consequence.

The same folks will offer that they have "gain" on the frequencies where the antenna is longer than 1/2 wavelength. This despite the fact that the wire is fixed and the "gain" may be in a direction where there isn't any propagation. The "gain" comes at the expense of "loss" in other directions. If your gain is toward JA and the band is open to Europe then you're out of luck.

|Is it possible to tell without measuring the field strength
|compared to a similarly-mounted dipole?

You can do a great deal by computation.

|
|I ask this as I design my first HF antenna, trying to choose between an
|tuner and random wire, a multiband dipole in inverted-V configuration, and
|broadband antenna (T2FD or G5RV), or just buy a commercial vertical and add
|many radials. Estimating overall DX efficiency is the real problem I'm
|having. Is SWR a good predictor of efficiency?

Let's clear something up; a "G5RV" is simply a wire dipole of a specific length. It has no magical powers. It requires a tuner to operate on multiple bands, just as a random length wire does. It has "gain" on 20 meters, which comes with the same caveat I discussed above.

I personally use two dipoles in parallel electrically, configured as an "inverted vee" for 40 and 80 meters. I have a homebrew 3 el beam for 20 meters. The higher bands are in decline so I don't much worry about them. I can load the dipoles on 15 meters using just the pi-network in my tube amplifier.

You need to figure out which bands are of most importance to you and what your operating style is going to be before you get too worked up over antenna types.

1750. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:43:02 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD6826.5020305@ieee.org>
Source record: 119852

Richard Clark wrote:
> On Mon, 28 Apr 2003 09:44:03 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
>>>>The question is: "Where does the energy go?",
>>>
>>>To the back of the entropy bus.
>>
>>How about in a lossless system?
>
> Sheesh, then it goes nowhere. OK, so you drug another hint out of me.
> Any closer to either of those solutions? I hope you are catching up
> on your reading this week. The answer should be in any first chapter.

I've read about 50 books, Richard, and none of them says that reflected
energy piles up somewhere in the transmission line and goes nowhere.
How much energy going nowhere does it take before the coax ruptures?

We know from observing TV ghosting that reflected energy is re-reflected
at the Z0-match point. We are looking for the answer to how it happens.
--
73, Cecil http://www.qsl.net/w5dxp

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1751. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:48:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD6980.38DF86AC@uci.edu>
Source record: 119855

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >>If they never occur in the first place, cancellation cannot happen.
> >>You have a definite chicken and egg logic problem.
> >
> > Any propagation in that direction is prevented. Period. Zero field.
> > No wave. Can't go. There's nothing there - by definition. They don't
> > disappear - they never appear. They can't appear. For any field at any
> > instant, there is an opposing field.
>
> One of those two fields is known to be propagating toward the source.

Not when there is an impedance match to the load. That's the case we're arguing about, isn't it?

> If you are relying on fields propagating in opposite directions
> canceling each other, you are mentally violating the laws of physics.

If I was, then I would be. Yes, very nice. What I'm trying to keep you from doing is explicitly violate laws of physics in your paper.

> Of course, you can have constructive and destructive interference without
> wave cancellation. But wave cancellation CANNOT happen between two waves
> traveling in opposite directions.

How do you explain the lack of a way travelling toward the load in the case of the 1/4 wave stub? The wave cancellation is due to two waves travelling in opposite directions - one toward the end of the stub, and one away from the end of the stub. Cancellation occurs at the tee, and no wave propagates toward the load.

73, ac6xg

1752. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:48:54 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <c8qqav87l8urs20333u67ck10fg7ebktu6@4ax.com>
Source record: 119853

On Mon, 28 Apr 2003 08:03:57 -0700, gg <gg@net.com> wrote:

|I doubt they could easily track down a GPS jammmer.

Boy have you a lot to learn.
|
|
|
|Wes Stewart wrote:
|
|> On Sun, 27 Apr 2003 12:02:36 -0700, gg <gg@net.com> wrote:
|>
|> Actually I have. I did the setup and calibration of a system to
|> measure the anti-jam performance of a GPS receiver used in a defense
|> product. However, I was on the U.S. Army test range at Ft. Huachucha,
|> AZ, we were limited to 20 minutes on and 20 off, we tested from 10 PM
|> to 4 AM, and we had a direct radio link to the FAA so that we could be
|> ordered off the air at any time. It took months to arrange this.
|>
|> So unless you look swell in stripes and handcuffs, I don't recommend
|> that you try this at home.

1753. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:49:03 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD698F.30006@ieee.org>
Source record: 119854

Bruce Wilson wrote:
> So in using this example of feedline loss calculations in answer to my
> query, are you saying that feedline losses are the chief contributor to lack
> of antenna efficiency, or are you using this as an example of why SWR is not
> a good predictor of antenna efficiency? How would 12:1 baluns on either end
> of the ladder line affect your calculation? Insertion losses only, or would
> the 0.6 dB loss also disappear?

Feedline losses are something to consider. If you lose half your power in
the feedline, the antenna cannot radiate that power no matter how efficient
it is. But some antennas are efficient and some are not. Some are easy to
match and some are not. Delivering the power to the antenna is very often
much more difficult than radiating delivered power from the antenna.

> I'm rapidly coming to the conclusion that I need a very good book to
> understand the relationship between an antenna system and the strength of
> the radiated signal.

If you haven't done so already, start with "The ARRL Antenna Book".
--
73, Cecil http://www.qsl.net/w5dxp

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1754. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:52:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD6A69.7030403@ieee.org>
Source record: 119856

Wes Stewart wrote:

> <Cecil.A.Moore@ieee.org> wrote:
> |The mismatched line loss on 10m for 100ft of 600 ohm open wire
> |feedline running an SWR of 12:1 is about 0.7 dB, 0.6 dB of which
> |is due to the high SWR.
>
> And then you add the loss in the tuner that is dealing with a 12:1
> mismatch.

Nope, feed that 50 ohm antenna with an even multiple of half-
wavelengths of feedline and forget the tuner. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1755. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 17:57:54 UTC
From: "Alexander S. Wood" <alec_wood@dont.spam.me.ntlworld.com>
Message-ID: <R_dra.1040$Ac.33076@newsfep4-glfd.server.ntli.net>
Source record: 119857

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030427174657.19203.00000307@mb-m01.aol.com...
> I have used one as a transmitter, a spark gap transmitter, and it was
not
> used on the ham bands.

I'd have thought it was used ion all bands, simultaneously!
--
Alec Wood M1BNK
Teesside UK

Interested in Ham Radio....have a look at www.ukradioamateur.org

1756. Re: CDR AR22 rotator control box question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:15:43 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <vpWdnRjhyPBT8jCjXTWcog@comcast.com>
Source record: 119858

Jack,

I looked at an old AR22 control box, and it has numbers embossed into the phenolic terminal strip. They do go left to right when I hold the box so that all the labels read right side up, with the edge that has the terminals furthest away from you. Since you have the schematic, you should be able to check this with a voltmeter/ohmmeter; you might have to turn the knob to get the votage to turn on.

Tam/WB2TT
"JDer8745" <jder8745@aol.com> wrote in message
news:20030428095412.19203.00000382@mb-m01.aol.com...
> Howdy,
>
> Looking at the back of the AR 22 rotator control box (the old fashioned
brown
> kind which has the dial on the front and is vertical) there are four screw
> heads which the four-wire cable is connected to.
>
> I am assuming they are 1, 2, 3, 4 left to right corresponding to the
circuit
> diagram which came with the rotator. Is this a correct assumption?
>
> Tnx es 73 de Jack, K9CUN

1757. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:16:27 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <5pqqavsq45bgtqsq8n2i1hfa5eirr3qh3a@4ax.com>
Source record: 119859

On Mon, 28 Apr 2003 16:15:53 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

|On Mon, 28 Apr 2003 08:03:57 -0700, gg <gg@net.com> wrote:
|
|>I doubt they could easily track down a GPS jammmer.
|>
|
|This will undoubtedly be the last known quote of Saddam in his bunker.
|
|bush to Saddam: "feeling lucky? Make my day!"

Heh-heh.

Military Anti-jam GPS receivers are *very* robust. Most tactical
systems are now using beam steering/null steering antennas to reject
jamming signals. Since the missile (Tomahawk for instance) is moving,
a jammer is at a distinct disadvantage, unless it's moving too, or
fixed very near the target. Then he becomes a target of opportunity.

Besides, ECCM almost always includes a "track-on-jam" feature.

1758. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:19:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD709A.3000009@ieee.org>
Source record: 119860

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>It ain't rocket science, Jim.
>
> No. But I do insist that it at least be some kind of science. So far,
> you haven't provided a scientific explanation. We know that it does,
> but your explanation lacks a bit of continuity. There's a piece
> missing. We have wave cancellation here, and energy going the other
> way, but nothing to explain the reversal in direction.

It is not a wave question, Jim, it is an energy question. All you need to know is that energy cannot be destroyed and there are two possible directions for the energy to take and it doesn't take one of them. Like I said, it ain't rocket science. If it's not flowing in the Z01 direction, then it is forced by the laws of physics to flow in the Z02 direction. That forces the E-field/H-field ratio to be equal to Z02. I have invited everyone to fill in the steps between wave cancellation and the energy change of direction. I don't remember you filling in those steps.

>>I don't believe that I have ever said the canceled reflected waves change
>>direction.
>
> That's correct. You've never said cancelled reflected waves change
> direction. You said cancelled waves change direction, and your paper
> has a diagram that shows that.

Where did I say canceled waves change direction? If I ever said that, I misspoke. I have been very careful to say the energy in the canceled waves changes direction. My paper deals with energy, not with waves. That diagram is an energy diagram, not a wave diagram.

> Explanation of how said result is achieved still missing.

Conservation of energy is a good enough explanation for me, Jim. I'm sorry you are not satisfied with it. Perhaps you can invent a new theory? Or fill in the steps between wave cancellation and reversal of energy direction?

> A ludicrous distinction, but I'll play along. If not in the form of
> 'waves', then what form does this energy take?

Joules/sec, of course. You have a closed dynamic system. The energy cannot stand still. Energy flowing in one direction goes to zero. There are only two directions. Ergo, the energy flows in the only

other possible direction. It ain't rocket science. Squeeze the
energy balloon on one end and the other end gets bigger.

In any wave reflection, the modulation is preserved. In this
wave-cancellation/energy-reversal process, modulation may not be
preserved. Therefore, it is not wave reflection - it is energy
reflection.

Others have argued that the re-reflected energy assumes the identity
of a wave and that may be a valid argument. All I am sure of is
that the canceled-wave re-reflected energy merges with the forward
wave as constructive interference. Asserting that the canceled-wave
energy emerges as a wave in the opposite direction opens up a whole
new can of worms and we are not finished with this first can of worms.

>>>There is no such thing as wave reversal due to interference.
>>
>>I agree.
>
> After a full week of argument from you on that point. Thank you.

I have NEVER argued that point, Jim, but if it makes you feel better
to think so, be my guest. Exactly how stupid would I be to argue
that waves that have disappeared from existence are then reflected?
--
73, Cecil http://www.qsl.net/w5dxp

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1759. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:20:05 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD70D5.7070400@ieee.org>
Source record: 119861

gg wrote:
> I doubt they could easily track down a GPS jammmer.

They did it with a GPS missile in Iraq. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1760. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:25:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <krrqav4kil600ksro1ktepkqsmh9mef92m@4ax.com>
Source record: 119862

On Mon, 28 Apr 2003 12:43:02 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>>>How about in a lossless system?
>How much energy going nowhere does it take before the coax ruptures?

Consult the line above your second question to observe another failure in English (which is the largest single contributor to loss in a lossless system ;-) I can see the editors' plight.

All these clues and you still don't have a solution. However, you might figure it out "Wheel of Fortune" style when there is only one consonant left (better guessing chances at 20:1).

73's
Richard Clark, KB7QHC

1761. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:46:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD7705.9090208@ieee.org>
Source record: 119863

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>One of those two fields is known to be propagating toward the source.
>
> Not when there is an impedance match to the load. That's the case we're
> arguing about, isn't it?

You mean a Z0-match somewhere else in the system causes reflections
to cease flowing rearward from a mismatched load? Of course, the
reflected energy field from the load is propagating toward the source
until it encounters wave cancellation from another wave at the Z0-match
point traveling in the same direction, i.e. toward the source.

> If I was, then I would be. Yes, very nice. What I'm trying to keep you
> from doing is explicitly violate laws of physics in your paper.

What law of physics am I violating?

> How do you explain the lack of a way travelling toward the load in the
> case of the 1/4 wave stub? The wave cancellation is due to two waves
> travelling in opposite directions - one toward the end of the stub, and
> one away from the end of the stub.

So far, so good. But you left out the steps where those two above waves
engage in reflections so there are really four resultant waves, two traveling
in each direction. Does the following look familiar? Count the terms.

b1 = s11*a1 + s12*a2 b2 = s21*a1 + s22*a2

These *TWO* components are traveling one direction.
s11*a1 is reflected (once), s12*a2 is not re-reflected (reflected once)

These other *TWO* components are traveling in the other direction.
s21*a1 is not reflected, s22*a2 is re-reflected (reflected twice)

Looks like four terms to me, Jim.

If b1 is zero it can only be because s11*a1 equals -s12*a2.
--
73, Cecil http://www.qsl.net/w5dxp

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1762. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 18:52:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD788B.7000308@ieee.org>
Source record: 119864

Richard Clark wrote:
> All these clues and you still don't have a solution.

Hmmmm, I am not aware of not having a solution. Do I not
have a solution because your opinions dictate reality,
by definition of your omniscience? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1763. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:15:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD7DC1.486BE1FC@uci.edu>
Source record: 119867

OC_CAM's Razor wrote:
> All you need
> to know is that energy cannot be destroyed and there are two possible
> directions for the energy to take and it doesn't take one of them.

That much we already know. Your article presumes to know more than
that.

> Like I said, it ain't rocket science. If it's not flowing in the Z01
> direction, then it is forced by the laws of physics to flow in the Z02
> direction.

Name the laws, and please explain exactly how each relates to the
problem. That's how physicists do it. They don't just drop names.

> I have invited everyone to fill in the steps between wave cancellation
> and the energy change of direction. I don't remember you filling in those
> steps.

You seem to be confused. I've spent two weeks inviting you to fill in
those steps.

> My paper deals with energy, not with waves.

Energy doesn't exhibit interference.

> > Explanation of how said result is achieved still missing.
>
> Conservation of energy is a good enough explanation for me, Jim.

But you fail to describe how conservation of energy is achieved, and
that's the whole point of the article.

> Others have argued that the re-reflected energy assumes the identity
> of a wave and that may be a valid argument.

If it doesn't, it would be pretty hard to argue that it's
electromagnetic energy.

73, ac6xg

1764. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:17:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8evqav03hpp82dtnkpptibegtt3o1v32t2@4ax.com>
Source record: 119865

On Mon, 28 Apr 2003 13:52:59 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> All these clues and you still don't have a solution.
>
>Hmmmm, I am not aware of not having a solution.

Sleepwalking through life? No more clues, Cecil. (Makes it tough for
me to say you are clueless, but postings such as yours here certainly
begs for that old saw.)

Not to worry, you still have several days to redeem yourself.

73's
Richard Clark, KB7QHC

1765. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:18:41 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304281118.1b38f9ad@posting.google.com>
Source record: 119866

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EAD3CAF.9000606@ieee.org>...
>
> Nothing, except the average ham is not familiar with them. I am creating
> a web page trying to explain some of this stuff. Do you think it would
> be understandable to define rho(vf)=S11, rho(vr)=S22, etc. where 'vf' means
> 'voltage-forward' and 'vr' means 'voltage-rearward'?
>

Minor detail, I would emphasize rho = [S11] , which indicates the
magnitude of the S11, as the voltage reflection coefficient is a
scalar, not vector, quantity.

You guys knew this, but the newbies may not have.

Dr. Slick

1766. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:21:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jlvqavo4p5pg2t7p20jroijv69sgm3lnpf@4ax.com>
Source record: 119868

On Mon, 28 Apr 2003 13:52:59 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Do I not
>have a solution because your opinions dictate reality,
>by definition of your omniscience? :-)

isthay ookslay ikelay afflegabbay. (or is it Esperanto?)

73's
Richard Clark, KB7QHC

1767. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:29:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD811A.9C9EEDCA@uci.edu>
Source record: 119669

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>One of those two fields is known to be propagating toward the source.
> >
> > Not when there is an impedance match to the load. That's the case we're
> > arguing about, isn't it?
>
> You mean a Z0-match somewhere else in the system causes reflections
> to cease flowing rearward from a mismatched load? Of course, the
> reflected energy field from the load is propagating toward the source
> until it encounters wave cancellation from another wave at the Z0-match
> point traveling in the same direction, i.e. toward the source.

But there aren't any waves travelling toward the source to the left of
the match in a matched system. The whole point of having a match is to
prevent such an occurance.

> > How do you explain the lack of a way travelling toward the load in the
> > case of the 1/4 wave stub? The wave cancellation is due to two waves
> > travelling in opposite directions - one toward the end of the stub, and
> > one away from the end of the stub.

> So far, so good. But you left out the steps where those two above waves
> engage in reflections so there are really four resultant waves, two > traveling
> in each direction. Does the following look familiar? Count the terms.

> b1 = s11*a1 + s12*a2 b2 = s21*a1 + s22*a2
>
> These *TWO* components are traveling one direction.
> s11*a1 is reflected (once), s12*a2 is not re-reflected (reflected once)
>
> These other *TWO* components are traveling in the other direction.
> s21*a1 is not reflected, s22*a2 is re-reflected (reflected twice)
>
> Looks like four terms to me, Jim.
>
> If b1 is zero it can only be because s11*a1 equals -s12*a2.

Not knowing how a, b, and s are defined, or the convention with which
you use them, I'm not sure I'm convinced by this. I can work the
letters and numbers around and get even more terms.

ac6xg

1768. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:42:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD8412.6050802@ieee.org>
Source record: 119670

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>All you need
>>to know is that energy cannot be destroyed and there are two possible
>>directions for the energy to take and it doesn't take one of them.
>
> That much we already know. Your article presumes to know more than
> that.

Not on that particular subject. *All* I assume is that energy obeys the conservation of energy principle. If we have a packet of energy traveling in one of two possible directions and it stops traveling in that direction, being RF energy, there is only one possibility. It reverses direction. It ain't rocket science. I don't need to go any deeper than that. Perhaps you can come up with the perfect quantum physics explanation. It probably won't change the principle of conservation of energy.

> Name the laws, ...

All explained in the above paragraph. *ALL* I am assuming is that the conservation of energy principle is valid. Whatever other explanation is offered, it will also obey the conservation of energy principle or be rejected.

> You seem to be confused. I've spent two weeks inviting you to fill in
> those steps.

Huh???? I made the posting with the blanks not filled in. I don't think there are any other steps. Nobody offered any other steps, not even you.

> Energy doesn't exhibit interference.

Who said it did? Waves exhibit interference. Sometimes, wave interference results in wave cancellation resulting in a "lost" packet of energy. I'm using "lost" the way that the Melles-Griot page uses it. That packet of energy obeys the laws of physics and is not "lost" at all. It appears as enhanced intensity in the forward direction, i.e. it reverses direction and joins the forward wave.

> But you fail to describe how conservation of energy is achieved, and
> that's the whole point of the article.

Awwwwhhhhhhh BS, Jim. I am not about to undertake the task of proving the conservation of energy principle. Accept it or don't accept it - I don't care which one you chose. Just tell us which decision you have

made so we will know whether to dismiss everything you say or not.
--
73, Cecil http://www.qsl.net/w5dxp

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1769. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:44:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD84A5.9020005@ieee.org>
Source record: 119671

Richard Clark wrote:
> Not to worry, you still have several days to redeem yourself.

Not to worry. I have already been born again. My redemption
is guaranteed. Nothing needed from you.
--
73, Cecil http://www.qsl.net/w5dxp

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1770. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:49:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD85C0.2020402@ieee.org>
Source record: 119672

Dr. Slick wrote:
> Minor detail, I would emphasize rho = [S11] , which indicates the
> magnitude of the S11, as the voltage reflection coefficient is a
> scalar, not vector, quantity.

Is that a convention? [,] converts a vector value to a scalar value?
--
73, Cecil http://www.qsl.net/w5dxp

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1771. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:50:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD8617.1080503@ieee.org>
Source record: 119673

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Do I not
>>have a solution because your opinions dictate reality,
>>by definition of your omniscience? :-)
>
> isthay ookslay ikelay afflegabbay. (or is it Esperanto?)

Ask a foolish question, ... :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1772. Re: triband J pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 19:57:14 UTC
From: froggers <not.froggers@nospam.ntlworld.com>
Message-ID: <VHfra.1560$dP5.186@newsfep1-gui.server.ntli.net>
Source record: 119674

Try a search for the "Cactus antenna"
Nick

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:b8i7sh$a8t80$1@ID-134747.news.dfncis.de...
> Run the feedlines inside the radiator- Much less
> RF interference there.
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
> "n1pop" <n1pop@hotmail.com> wrote in message
> news:a4loavgnd3hithhi1pah3fhc7c404b85m9@4ax.com...
> > On Sun, 27 Apr 2003 18:45:59 GMT, Dennis Kaylor
> > <k4oxg@tampabay.rr.com> wrote:
> >
> > >hello everyone
> > >i have seen the dual band copper Jpoles around
> and i was wondering if it
> > >would be possible to make a 6 2 440 Jpole with
> 3 seperate feedlines just
> > >put the 3 tuning stubs off the long side of the
> J or would that cause
> > >interferance or what give me details if you
> have it
> > >thanks
> >
> > I remember seeing an article, I think a link was
> through tapr.org, of
> > a tri-bander that could be fed with three
> separate lines. They
> > suggested that the stubs not be on the same side
> but surrounded the
> > reflector.
>
>

1773. Re: new ham antenna help

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:00:03 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b8k18k$agg8k$1@ID-134747.news.dfncis.de>
Source record: 119675

Yeah, computers are great. I own a few. When I first got licensed I asked, "Why do I need a Matchbox?" (That's what we called tuners then) My Elmers all gave me basically the same reason, can't hurt, and it is the most cost effective reducer of spurious harmonic radiation you will ever lay your hands on. I have been operating on a rather steady basis since 1977 and except in a real emergency would not couple an antenna directly to a transmitter. Call me old fashioned. BTW the current station computer is a RS TRS-80 Model 100, fits in with radio station in a backpack and powered by AA batteries, but that is another story.

A reasonable antenna tuner will tame the mismatch. As long as the feedline is greater than 1/2 wave long what ever is missing from the top, about 10 meters will radiate from the feedline. The real rule to a first, simple, inexpensive antenna is as much wire as you can, as high in the air as you can get it. Yes you add the cost of a tuner, but for 100 watts it does not have to cost an arm and a leg. Especially if you pass on the roller inductor and required turns counter.

--
73 es cul

wb3fup
a Salty Bear
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EAD31FF.8010208@ieee.org...
> WB3FUP (Mike Hall) wrote:
> > With enough ladder line change 20-10 to 40-10 w/o
> > a problem.
>
> EZNEC says the SWR will be more than 100:1 for any transmission
> line using a 20m dipole on 40m. Personally, I have a mental SWR
> limit of about 40:1 when using ladder line. Of course, an emergency
> would be another matter entirely.

> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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1774. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:03:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <602ravsvs7m4bj635dgrn6ga8165pmu1l5@4ax.com>
Source record: 119676

On Mon, 28 Apr 2003 14:44:37 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Not to worry, you still have several days to redeem yourself.
>
>Not to worry. I have already been born again. My redemption
>is guaranteed. Nothing needed from you.

You could be surprised.

73's
Richard Clark, KB7QHC

1775. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:09:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <di2rav02khjjki14d09bcjn41abspjbt3l@4ax.com>
Source record: 119677

On Mon, 28 Apr 2003 14:50:47 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Do I not
>>>have a solution because your opinions dictate reality,
>>>by definition of your omniscience? :-)
>>
>> isthay ookslay ikelay afflegabbay. (or is it Esperanto?)
>
>Ask a foolish question, ... :-)

And you got a foolish answer ;-)

1776. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:15:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD8BCF.2070301@ieee.org>
Source record: 119678

Jim Kelley wrote:
> But there aren't any waves travelling toward the source to the left of
> the match in a matched system. The whole point of having a match is to
> prevent such an occurance.

Nobody, except Dr. Best, has said there are waves traveling toward the
source to the left of the match.

> Not knowing how a, b, and s are defined, or the convention with which
> you use them, I'm not sure I'm convinced by this. I can work the
> letters and numbers around and get even more terms.

What can I say? Those are the standard S-parameter equations. A web
search should turn up their definitions.
--
73, Cecil http://www.qsl.net/w5dxp

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1777. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:18:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD8C9D.24D98A39@uci.edu>
Source record: 119679

OC_CAM's Razor wrote:
> *All* I assume is that energy obeys the
> conservation of energy principle. If we have a packet of energy traveling
> in one of two possible directions and it stops traveling in that direction,
> being RF energy, there is only one possibility. It reverses direction.

Right there! There's your presumtion, and it's wrong. Interference
causes cancellation in one direction and reinforcement in the other.
The product of interference propagates to the right. Nothing propagates
to the left, therefore nothing has to "reverse direction".
> > Energy doesn't exhibit interference.
>
> Who said it did? Waves exhibit interference.

Please quit playing these games. You said your paper was about energy.
Does your "paper about energy" not go into some detail about
interference?
What's interfering if not waves? The truth is you talk about both, so
your statement was incorrect.

1778. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:19:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD8CDE.7090402@ieee.org>
Source record: 119680

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Not to worry. I have already been born again. My redemption
>>is guaranteed. Nothing needed from you.
>
> You could be surprised.

Yep, the most likely surprise is unconsciousness forever.
'Course, it will be hard for me to be surprised when I
am unconscious. Have you ever surprised an unconscious
person? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1779. Re: Intel Yagi antenna and Access point 2011b vs Weather

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:25:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <lAOdnQYOyPrREzCjXTWcqg@comcast.com>
Source record: 119681

Joval,

This may sound stupid, but is just the antenna outside, or is there electronics also where it can be affected by temperature. Large corporations (and they know who they are) have this no-no about coax. So, they put the whole box outside, and run an Ethernet cable to it. I have seen it.

Tam/WB2TT

1780. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:29:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAD8F23.10201@ieee.org>
Source record: 119682

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>*All* I assume is that energy obeys the
>>conservation of energy principle. If we have a packet of energy traveling
>>in one of two possible directions and it stops traveling in that direction,
>>being RF energy, there is only one possibility. It reverses direction.
>
> Right there! There's your presumtion, and it's wrong. Interference
> causes cancellation in one direction and reinforcement in the other.

Cancellation in one direction and reinforcement in the other doesn't
imply a change in direction of the energy? What is it about "one direction"
and the "other direction" that I don't understand?

> The product of interference propagates to the right. Nothing propagates
> to the left, therefore nothing has to "reverse direction".

The energy reflected from the load doesn't change direction?
If so, does it keep flowing toward the source? No. Does it go up? No.
Does it go down? No. Does it go sideways? No. Does it stand still? No.
Does it flow down a black hole? No. Exactly where does the energy reflected
from the load go if it doesn't reverse direction? All this ten-dimensional
string theory is way over my head.
--
73, Cecil http://www.qsl.net/w5dxp

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1781. Re: RG 6 vs LMR 400: Differences Meaningful ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:31:38 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0304281231.3688f39f@posting.google.com>
Source record: 119683

"Robert11" <rgsrose@tiac.net> wrote in message
news:<b8gstp$v0m$1@slb5.atl.mindspring.net>...
> Hello:
>
> Will be putting up a new antenna in attic (for receiving only) which has
> about a 50 foot run to receiver.
> Freq's of interest are 30 MHz to perhaps 1 GHz.
>
> Debating between RG 6 and LMR 400
>
> At 1 GHz, the differences in loss have been reported as:
>
> RG6 = 3.7 db
> LMR400=2 db
>
> Is this 1.7 db difference meaningful ?
>
> Thanks,
> Bob

At the upper end it could be, if the signals are right on the noise
level. Otherwise, probably not a whole lot. At 30 mhz, external noise
probably overides internal noise. At 1 gig, probably the other way
around. But I don't listen to 1 gig too much...One thing about
feedline loss, once the signal is gone, thats it. There's no getting
it back. I guess you could kick the level up with a preamp at the
antenna, but I try to avoid external preamps if at all possible. MK

1782. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:37:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD9110.603493A5@uci.edu>
Source record: 119684

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > But there aren't any waves travelling toward the source to the left of
> > the match in a matched system. The whole point of having a match is to
> > prevent such an occurance.
>
> Nobody, except Dr. Best, has said there are waves traveling toward the
> source to the left of the match.

Ah yes, your waves travel to the left for zero distance and time AT the
match point - whatever that means.

> What can I say?

You should say, thanks for your advice. I'll make the recommended
corrections to my paper.

Those are the standard S-parameter equations. A web
> search should turn up their definitions.

1783. Re: Choke Balun Impedance Recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:46:36 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5q4ravkgffujft0rmt6jtiut83k2c56495@4ax.com>
Source record: 119685

On Mon, 28 Apr 2003 15:19:42 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> Have you ever surprised an unconscious
>person? :-)

Not you - yet. ;-)

1784. Performce ot the ubiquitous G5RV Dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:56:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8k4h8$8gu$1@hercules.btinternet.com>
Source record: 119686

> What is that reputation, Reg? I didn't learn anything new
> from those measurements.
> 73, Cecil
==========

Cecil, of course you havn't learned anything. Good of you to admit it.

You and other people of your experience have been acquainted for many years about the performance of the G5RV antenna, and that it does not offer the slightest improvement relative to any other random length dipole fed with a random length of balanced feedline of unspecified Zo.

In fact, the lossy length of coax, of unspecified length and impedance, tacked on to the transmitter end of the balanced feeder by well-intentioned do-gooders, invariably degrades performance even further.

I am aware this possibly outrageous statement may offend the many old-wives' and worshippers of the G5RV. But it is time the modern-day truth was exposed to daylight.

I am sure the ghost of that venerated English gentleman, antenna inventor, R.L.Varney, now deceased, accustomed to tuned-tank, link-coupled, valved RF, 40-watt, 807, 6L6, power amplifiers, will appreciate and understand what has just been said.

Cec, I know you will hold no ill feelings. By the way, I have discovered a cache of Bugarian red,
---
Reg.

1785. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 20:57:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD95C1.970C6319@uci.edu>
Source record: 119687

OC_CAM's Razor wrote:
> The energy reflected from the load doesn't change direction?

Sure it does. But you keep claiming that energy reflected from the match changes direction as well. That's where you're wrong. It doesn't reflect from the match under these circustances, therefore IT doesn't have to change directions. You keep describing a scenario which depends on that energy first reflecting and then changing directions by some mechanism other than reflection.

1786. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:18:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8k5rsrad1@titan.btinternet.com>
Source record: 119688

kb7qhc,

I was about to say something - but with you it's a waste of bandwidth.

1787. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:23:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAD9BCE.5AB0F1A4@uci.edu>
Source record: 119689

Edited comments below:

OC_CAM's Razor wrote:
> The energy reflected from the load doesn't change direction?

Sure it does. But you keep claiming that energy reflected from the source side of the match changes direction as well. That's where you're wrong. It doesn't reflect from the match back toward the source under these circustances, therefore IT doesn't have to change directions. You keep describing a scenario which depends on that energy first reflecting and then changing directions by some mechanism other than reflection.

1788. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:37:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4o7ravc7btij12jj65mhui4kneqnv4qe69@4ax.com>
Source record: 119690

On Mon, 28 Apr 2003 21:18:53 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:
>kb7qhc,
>
>I was about to say something - but with you it's a waste of bandwidth.

g4fgq,
a symptom of withdrawal. ;-)

88's
Richard Clark, KB7QHC

1789. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:55:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EADA33F.80504@ieee.org>
Source record: 119692

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>What can I say?
>
> You should say, thanks for your advice. I'll make the recommended
> corrections to my paper.

What recommended corrections? If you think I am going to advocate
supernatural control over the situation, you are sadly mistaken.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1790. 43mm diameter pipe & helix antenna problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:56:22 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <johra.10848$pK2.13926@news.indigo.ie>
Source record: 119691

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
Is it possible to make a helix for 1.5Ghz using 43mm diameter pipe as the
wire coil holder.

I can seem to the figures to coinside with the helix requirements!

Any ideas welcome!!

Cheers
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPq2jhCGakPXr24F/EQJV7wCg1ldJSwxX7KDfWf2LLvOOdOSI9LgAnj9y
lu6onA8NN3FXSdWl8F1Wfshv
=qN82
-----END PGP SIGNATURE-----
```

1791. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 21:56:53 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8k837$e9q$1@slb6.atl.mindspring.net>
Source record: 119693

Dear Dr. Slick:

[snip]
> Minor detail, I would emphasize rho = [S11] , which indicates the
> magnitude of the S11, as the voltage reflection coefficient is a
> scalar, not vector, quantity.
>
> You guys knew this, but the newbies may not have.
>
> Dr. Slick
[snip]

I beg to differ, nothing could be further from the truth my friend.

rho is not a scaler, rho is a complex number.

rho, and also its equivalent scattering parameter S11 are just simple complex numbers, not vectors.

rho is a complex number which has both real and imaginary parts [or equivalently magnitude and phase parts] and so has S11.

To write that rho = S11 simply means that corresponding parts of each of rho and S11 are equal, i.e.

Re{rho} = Re{S11}, and Im{rho} = Im{S11}.

Where Re and Im mean real part and imaginary part respectively

The magnitude of rho which would be written as rho surrounded by bars or vertical fences as |rho| or sometimes written as Mag{rho} is a scaler, but rho itself is a complex number.

In fact the magnitude of rho, which is a scaler, is expressed as:

|rho| = sqrt[Re{rho}^2 + Im{rho}^2]

Some folks incorrectly call complex numbers "vectors", and it is true that they can be viewed as two element vectors, but strictly speaking complex numbers are not vectors. Since vectors themselves can be either real and/or complex.

In fact a vector of any rank [number of elements] is nothing more than an ordered collection of elements. The elements of the vector may be real, imaginary or complex and the characteristic of the elements of a vector is what determines if a vector is real or complex.

A vector of any rank [size] whose elements are all real numbers [scalers] is simply a real vector, a vector whose elements are all complex numbers is a

complex vector.

For example a rank two complex vector v, say written here in "horizontal form", the horizontal form is easier to handle in email format than the more common mathematical "vertical" form, as say "v = (a, b)" would be:

v = (a, b) ~A two element vector for which it is not yet clear if it is real or complex until we know what a and b are.

If a is the complex number a = x + jy and b is the complex number u + jv, then the two-vector v can be fully written out in complex notation as:

v = ((x + jy), (u + jv))

which exhibits all four components. Clearly here the two element vector v is a complex vector.

And so... a vector is not a complex number, but a vector may contain complex numbers in its' elements.

And... a complex vector is not a complex number, it is much more "complex" than that!

Clear now?

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

1792. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 22:13:09 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8k91nska1@slb6.atl.mindspring.net>
Source record: 119694

Cecil:

[snip]
> I am creating a web page trying to explain about reflection
> and transmission coefficients and have found that the subscripts
> I need to use may not have been defined yet.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Indeed I believe you are correct. I found the same thing myself many years ago. Then I heard about "front end" and "back end" reflection coefficients, and even later I learned the whole Scattering Formalism which obviates the need for such notation as you propose.

Cecil the Scattering Formalism and the Scattering Matrices of various orders encompass all what you desire to teach on your web page, best to adopt the "standard" which is the scattering notation, otherwise your "students" may become confused when they read the literature.

It's really simple for a two port network or transmission facility, if the left hand port is labelled as number "1" and the output port is labelled "2" then with B as the reflected voltage vector B = (b1, b2) and A as the incident voltage vector A = (a1, a2), bear in mind that any of a1, a2, b1, and b2 may be complex quantities, then the Scattering Matrix is simply defined as:

B' = SA'

Where B' and A' are simply the vertical or transposed versions of the B and A as I defined them above.

Where S is now a four element, and potentially all four elements are complex numbers, in the usual matrix notation, the elements of the first row of S are s11 and s12 [In the scaler, one direction case, these are known as rho and tau in your elementary notation] and the elements of the second row of S are s22 and s21, which are the elements for which you are trying to invent a new notation. As I said earlier, some experts call s11 the "front end" reflection coefficient and s22 the "back end" reflection coefficient, but even that is too restrictive for as soon as one wants to talk about directional couplers, now you have four ports instead of two. Which is the back and which is the front? And if you think you can handle that one, how about a three port circulator, which has a 3 x 3 matrix with nine complex elements, which port is the back end, which is the front end and which is the "side door"?

Heh, heh... confusing?

Not if you stick with the Scattering Formalism, which makes everything simpler. Please don't try to "invent" a new notation to replace a perfectly good and quite general notation this will only serve to ultimately confuse your web site readers!

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

1793. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 22:19:58 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eadab0e_4@news1.prserv.net>
Source record: 119696

OK, now here is my second answer. And this one is scary. Beam steering nulls and all aside, the amplified TV antennas sold by RS and Winegard among many others for home and RVs, (look like a small flying saucer) have temporarily shut down at least one DGPS site (Moss Landing, CA), and caused serious problems at at least one airport. The problem has been written up in GPS magazine, and several classified reports have been generated about the problem. This one got away from them due to sheer numbers, and has caused a lot of heartburn. There are so many of these antennas out there, and not all of them are bad at any given time, as the interference frequency drifts, and some are clean all the time, and the "authorities" have been unable to come up with an overall solution. The offending units were confiscated and replaced by non-radiating units at the DGPS site, and the problem disappeared at the airport, apparently when the offending RV left a nearby campground (wild-a.. guess by the people looking for it). However, these problems continue to surface, almost daily, and a large RV park can be a real hazard to navigation. Even the robust receivers with the mil. channel by Rockwell and other contractors are not completely immune.

--
Crazy George
Remove NO and SPAM from return address
"gg" <gg@net.com> wrote in message news:3EAC294C.FF00BFB0@net.com...
> .
>

1794. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 22:22:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EADA9A7.1030403@ieee.org>
Source record: 119695

Jim Kelley wrote:
> Edited comments below:
>
> OC_CAM's Razor wrote:
>
>>The energy reflected from the load doesn't change direction?
>
> Sure it does.

How? Please be specific. Where does it find a reflection
coefficient of 1.0? Virtual short?
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

1795. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 22:31:04 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <j17ravcouk2cloucvtdou66uans18gb3u3@4ax.com>
Source record: 119698

On 28 Apr 2003 12:18:41 -0700, radio913@aol.com (Dr. Slick) wrote:

|OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EAD3CAF.9000606@ieee.org>...
|>
|> Nothing, except the average ham is not familiar with them. I am creating
|> a web page trying to explain some of this stuff. Do you think it would
|> be understandable to define rho(vf)=S11, rho(vr)=S22, etc. where 'vf' means
|> 'voltage-forward' and 'vr' means 'voltage-rearward'?
|>
|
|
| Minor detail, I would emphasize rho = [S11] , which indicates the
|magnitude of the S11, as the voltage reflection coefficient is a
|scalar, not vector, quantity.
|
Careful.

How about rho = |s11|

And this only works when it *is agreed* that rho is scalar. Some, but
not all, of the literature uses Gamma for the vector quantity and rho
for the magnitude. However, an awful lot of folks use rho for a
vector quantity.

Here are some of the options.

Kraus: rho = complex
Terman: rho = complex
Johnson: uses kappa = complex
Chipman: rho = complex
ARRL Ant. Book: rho = complex
Adam (HP): Gamma = complex, rho = scalar
HP App Note 77-3: rho = complex
HP App Note 219: rho = scalar
GenRad: Gamma = complex (alternate rho = complex)
Mathcad: Gamma = complex

Even the folks at HP can't agree.

My personal preference is the same as Steve Adam's as it removes the
ambiguity.

1796. Satellite Mesh digital /analogue

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 22:33:30 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <7Xhra.10858$pK2.14120@news.indigo.ie>
Source record: 119697

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

When you see the ads for satellite dish with Digital band mesh. What is
this? You also see terestial yagi digital TV antennas.
I presume that digital broadcasts are just in the opper part of most or
previously analogue bands, hense a tigher mesh size???

Cheers
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

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=qXkM
-----END PGP SIGNATURE-----
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1797. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 23:01:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <varcmfqmrt3m65@corp.supernews.com>
Source record: 119699

Peter Brackett wrote:
>
> I beg to differ, nothing could be further from the truth my friend.
>
> rho is not a scaler, rho is a complex number.
> . . .

You have to be very careful in assuming the meaning of a particular symbol. A quick glance through several textbooks shows the following different conventions for (complex) reflection coefficient and (scalar) magnitude of reflection coefficient, respectively:

GAMMA, |GAMMA|
rho, |rho|
k, |k|
K, |K|
rho-dot, rho

The last, incidentally is from Kraus' _Electromagnetics_. I know I've seen the combination GAMMA, rho but couldn't quickly locate the source.

The _ARRL Antenna Book_ and Maxwell's _Reflections II_ use rho as the magnitude of the reflection coefficient and various notations for the complex reflection coefficient.

Lower case rho is used fairly universally in TDR work to represent a scalar reflection coefficient, and by several textbook authors to indicate SWR, a scalar quantity.

Like the elephant seen by the blind men to be both like a tree and a snake, rho can also be several different things -- some complex, some scalar. None is any more "true" than another.

Roy Lewallen, W7EL

1798. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 23:04:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EADB38C.EADF00AF@uci.edu>
Source record: 119701

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >
> >>The energy reflected from the load doesn't change direction?
> >
> > Sure it does.
>
> How? Please be specific.

Your paper need to be more specific.

> Where does it find a reflection
> coefficient of 1.0? Virtual short?

Walt uses the idea a virtual short to explain his conclusions, and you
use the idea of a virtual reflection to explain yours.

1799. Re: Do I really need a 4:1 balun and what to do with the coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 23:06:29 UTC
From: kenfowler@attbi.com
Message-ID: <Vtira.657195$3D1.362230@sccrnsc01>
Source record: 119700

Your antenna is typical of many amateur HF systems. There have many discussions on the newsgroup about the advantages and shortcomings of such a center fed dipole. The short synopsis is that the antenna will radiate well in many directions, stronger in some directions, weaker in others, depending on frequency. You could investigate your situation with programs such as EZNEC (a Demo version is available from the EZNEC web site.).

I also have the LDG RT11 Tuner. It's capable of finding a match over a wide range of antenna and feedline combinations. The only thing I can see that is hard to determine is whether the 4:1 balun is necessary or appropriate. Your antenna's center impedance and reactance will vary with frequency. The impedance at the RT11 will depend on the antenna impedance and the frequency and the length of the ladderline. When the impedance is much higher than 50 ohms, the 4:1 stepdown might help. When the impedance is 50 ohms or lower, the stepdown will probably make things worse. If you feel that a balun is necessary, a 1:1 balun made from some coiled-up coax or some ferrite beads slipped over a length of coax should be better than the 4:1. The first thing to try might be to eliminate the 4:1 balun and see if the RT11 can deliver a lower SWR to the transmitter.

As far as signal reports go, the 135' doublet should do fine on 80/75/40 meters. On higher bands, propagation conditions and direction will make more of a difference. At any rate, reports are only useful if you have another antenna to compare with and know the receiving situation at the reporting station.

If the RT11 is working OK, you should see a low SWR at the transmitter (<2:1). When you feed some power to it and push the TUNE or AUTO button, you should see the SWR change from high to low at the transmitter.

Good Luck and 73.

Ken at KO6NO

On 28-Apr-2003, a_g_lyph@hotmail.com (A. Gordon Lyph) wrote:

> X-Received-Date: Mon, 28 Apr 2003 15:32:48 GMT (sccrnsc01)
>
> I have mounted a ~135' doublet, one end is ~40' AGL, the feedpoint is
> ~30-35' AGL and the other end is ~23' AGL. I'm feeding it with a
> random length of ladderline (450ohm). The ladderline connects to an
> LDG RT11 remote tuner. LDG recommended a 4:1 balun to get the
> ladderline into the tuner (it only has SO239 connectors). From the
> tuner, I have ~80' of Belden 9913 to the rig (for now an FT-817 when
> I'm sitting on the patio). The antenna works like gangbusters on
> 40m...I was getting great signal reports (as in 'your booming') from

> stations around 400 miles away and ok reports from as far away as
> southern FL (I'm in MI) running only 5w. On 40m, the SWR meter (FWIW)
> on the 817 doesn't even light up any bars. Oddly enough, however, on
> any other band, the SWR meter shows a number of bars and I don't seem
> to get any signal out (or at least nobody pays attention...hi hi).
>
> So, I have two questions...one, what to do with the coax from the rig
> to the tuner...I assume from the SWR meter on the rig that I've an
> issue there. Secondly, do I really need that 4:1 balun between the
> tuner and the ladderline? I'm concerned that it's not doing much good
> and may even be causing problems (although not related to the SWR
> indication between the rig and the tuner, obviously).
>
> Any guiding light or words of wisdom...heck, even a 'I feel your
> pain'....would be helpful! :)
>
> Thanks,
>
> AG

1800. Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 23:29:34 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030428192934.26988.00000272@mb-m26.aol.com>
Source record: 119702

Finally great product that will complement Freaktals, CFAs, EHs and Art's
reflecting directors as well as BS on this NG.
Check out:
http://www.angelfire.com/ca3/thebasement/txrx.html

Bada BUm

1801. Re: Satellite Mesh digital /analogue

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-28 23:33:34 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <iTira.418942$Zo.95929@sccrnsc03>
Source record: 119703

If you look at most of the Television antennas from the different manufactures, you will find that most of them are "color certified" or some sort of "Color Ready". It would likely be just more advertising gimmic to get people to purchase the product.

1802. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:08:17 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EADC270.CED6B750@att.net>
Source record: 119704

Cecil,

It appears that you may have a somewhat non-standard view of conservation of energy.

The conventional formalism for a conservation principle is:

1. Define an enclosed test volume "V" in space. This volume has a surface "S". This region can be any size, including extremely small, but it is not exactly zero.

2. Measure all of the energy flow into and out of this volume, through the surface S.

3. Measure any change of internal energy within the volume. This internal energy could be thermal, chemical, gravitational potential, or whatever.

4. The conservation of energy principle says that the net transport of energy across surface S is exactly the same as the change of internal energy within the volume V. (The signs must be kept straight, but that is not the issue here.)

You have referred to so-called packets of energy and attempted to apply the conservation of energy principle. However, there is no scientific basis for doing so. Conservation of energy applies only to the total flow of energy and the change of internal energy associated with the test volume.

It is not correct to speak of conservation of energy at a point, and it is not possible to separate and identify individual contributors to the energy flow and apply conservation of energy rules separately to each of those contributors.

In the language of the long-standing and infamous transmission line problem that has been the core of this (mutating) thread:

The left segment has a forward power of 100W. The matching section has a forward power of 133W and a reverse power of 33W. The load segment has a forward power of 100W. Nothing else is measurable.

The conservation of energy "test volume" when applied anywhere along the transmission line will always show a net flow of 100W from left to right, with no change in internal energy. Conservation of energy is satisfied.

There is simply no further information to be gained from the conservation of energy principle. Any attempt to do so leads to world

record thread length on RRAA.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >>All you need
> >>to know is that energy cannot be destroyed and there are two possible
> >>directions for the energy to take and it doesn't take one of them.
> >
> > That much we already know. Your article presumes to know more than
> > that.
>
> Not on that particular subject. *All* I assume is that energy obeys the
> conservation of energy principle. If we have a packet of energy traveling
> in one of two possible directions and it stops traveling in that direction,
> being RF energy, there is only one possibility. It reverses direction. It
> ain't rocket science. I don't need to go any deeper than that. Perhaps
> you can come up with the perfect quantum physics explanation. It probably
> won't change the principle of conservation of energy.
>
> > Name the laws, ...
>
> All explained in the above paragraph. *ALL* I am assuming is that the
> conservation of energy principle is valid. Whatever other explanation
> is offered, it will also obey the conservation of energy principle or
> be rejected.
>
> > You seem to be confused. I've spent two weeks inviting you to fill in
> > those steps.
>
> Huh???? I made the posting with the blanks not filled in. I don't
> think there are any other steps. Nobody offered any other steps,
> not even you.
>
> > Energy doesn't exhibit interference.
>
> Who said it did? Waves exhibit interference. Sometimes, wave
> interference results in wave cancellation resulting in a "lost"
> packet of energy. I'm using "lost" the way that the Melles-Griot
> page uses it. That packet of energy obeys the laws of physics and
> is not "lost" at all. It appears as enhanced intensity in the
> forward direction, i.e. it reverses direction and joins the forward
> wave.
>
> > But you fail to describe how conservation of energy is achieved, and
> > that's the whole point of the article.

>
> Awwwwhhhhhhh BS, Jim. I am not about to undertake the task of proving
> the conservation of energy principle. Accept it or don't accept it -
> I don't care which one you chose. Just tell us which decision you have
> made so we will know whether to dismiss everything you say or not.
> --
> 73, Cecil http://www.qsl.net/w5dxp

1803. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:09:11 UTC
From: dplatt@radagast.org
Message-ID: <vargl71g3rgmf6@corp.supernews.com>
Source record: 119705

In article <20030428192934.26988.00000272@mb-m26.aol.com>,
Yuri Blanarovich <k3bu@aol.comnoSaddam> wrote:

>Finally great product that will complement Freaktals, CFAs, EHs and Art's
>reflecting directors as well as BS on this NG.
>Check out:
>http://www.angelfire.com/ca3/thebasement/txrx.html
>
>Bada BUm

It's a nice first-cut at a design, but it seems to be a bit lacking.
You've missed a major opportunity to reduce water waste, reduce
pollution, and generate enough energy to run the repeater.

All you'd need to do is reconfigure the output section, to divert the
BS into a composting system with a vapor recovery/scrubber. You could
generate enough methane to run a fuel cell, and keep the repeater
battery fully charged even with day-long ragchews going on. This
could make the (enhanced) system extremely attractive for installation
in areas without reliable power - mountaintop sites, Third World
countries lacking a reliable energy infrastructure, and so forth.

Real Goods, up in Ukiah, can probably help you spec out the necessary
enhancements.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1804. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:16:19 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b8kg8i$7qp$1@slb0.atl.mindspring.net>
Source record: 119706

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030428192934.26988.00000272@mb-m26.aol.com...
> Finally great product that will complement Freaktals, CFAs, EHs and Art's
> reflecting directors as well as BS on this NG.
> Check out:
> http://www.angelfire.com/ca3/thebasement/txrx.html
>
> Bada BUm

I didn't notice any hookup for USENET. Is that a modification to the BPF?

Dan/W4NTI

1805. Re: Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:16:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ONWdnd46jOzIWTCjXTWcoQ@comcast.com>
Source record: 119707

Denton,

Since nobody seems to know for sure, you might want to do a web search on antenna rotators. I have two Alliance rotators, one is 4 wire, the other 6 wire. The only 5 wire rotator I can think of is the Yaesu G450. Check out its picture at the Yaesu web site. Your 6 wire control box sounds like it might be for a ham rotor.

These things can operate on either AC, or DC, at different voltages. Also, the indicator could be a meter type, or pulse type clicker
"denton" <denton@oregontrail.net> wrote in message
news:b8i0it$n82$1@news.oregontrail.net...
> I have an older apparently Alliance rotator...has an A inside of a diamond
> shaped box and 5 terminal connector.
> I also have an older CDE rotator controller, with 6 wire
connectors...older
> bakelite dark brown cover and quite heavy with rotator switch on bottom of
> box.
> Can these be use together?
> If so, does anyone have to correct hookup printout they can email me?
> Thanks...de Denton WB7TDG
>
>

1806. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:20:19 UTC
From: Colonel Panik <nobody@frontier.net>
Message-ID: <slrnbarha2.ut7.nobody@animas.frontier.net>
Source record: 119708

On 28 Apr 2003 23:29:34 GMT, Yuri Blanarovich hath writ:
> Finally great product that will complement Freaktals, CFAs, EHs and Art's
> reflecting directors as well as BS on this NG.
> Check out:
> http://www.angelfire.com/ca3/thebasement/txrx.html

On *all* the 2M repeaters I'm familiar with, this device
would result in nearly 24/7 silence. A Good Thing, IMHO.

p.s. The 3rd word on your web site is spelled/chosen incorrectly.

1807. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 00:58:35 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <%6kra.42234$RE3.3690455@twister.southeast.rr.com>
Source record: 119709

Loss of GPS should not be a problem to aircraft at all.. They should still have the required navigation systems as before GPS. They can also get on the radio and ask a controller"where th hell am I?"

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message news:3eadab0e_4@news1.prserv.net...
> OK, now here is my second answer. And this one is scary. Beam steering
> nulls and all aside, the amplified TV antennas sold by RS and Winegard among
> many others for home and RVs, (look like a small flying saucer) have
> temporarily shut down at least one DGPS site (Moss Landing, CA), and caused
> serious problems at at least one airport. The problem has been written up
> in GPS magazine, and several classified reports have been generated about
> the problem. This one got away from them due to sheer numbers, and has
> caused a lot of heartburn. There are so many of these antennas out there,
> and not all of them are bad at any given time, as the interference frequency
> drifts, and some are clean all the time, and the "authorities" have been
> unable to come up with an overall solution. The offending units were
> confiscated and replaced by non-radiating units at the DGPS site, and the
> problem disappeared at the airport, apparently when the offending RV left a
> nearby campground (wild-a.. guess by the people looking for it). However,
> these problems continue to surface, almost daily, and a large RV park can be
> a real hazard to navigation. Even the robust receivers with the mil.
> channel by Rockwell and other contractors are not completely immune.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "gg" <gg@net.com> wrote in message news:3EAC294C.FF00BFB0@net.com...
> > .
> >
>
>

1808. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 01:01:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1ojravgkboibs2hccf95bc7gc4o5n5d77o@4ax.com>
Source record: 119710

On Tue, 29 Apr 2003 00:58:35 GMT, "Jimmy" <Gfender@carolina.rr.com>
wrote:

>Loss of GPS should not be a problem to aircraft at all.. They should still
>have the required navigation systems as before GPS. They can also get on the
>radio and ask a controller"where th hell am I?"

"you are in an airplane...." (local Seattle joke)

1809. Re: Yagi - No line of sight

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 01:19:57 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <1rkra.42332$RE3.3694204@twister.southeast.rr.com>
Source record: 119711

I just replaced an antenna with the se same freq specs 896-970. It was a longer Yagi with more elements than you described.Just estimating about 20 elements Replaced it(one at each end of the path) with a parabolic antenna. Parabolic was made by Scala dont know who the Yagi was made by. Unit was used with a radio modem that was used as a data link with a weather radar. These units sell new @ $150 or so. the parabolic units are between $500-$600.

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message news:eaSdnW5_3c7ZkjWjXTWcog@comcast.com...
> Somebody posted the below on one of the other newsgroups. Appears to be a
> cellphone antenna.
>
> Tam/WB2TT
>
> From: "Its Me!" <grburke@adelphia.net>
> Subject: FS 9 db 6 Element 896-970 mhz Yagis
> Date: Wednesday, April 23, 2003 6:11 PM
>
> I have 8 of these Yagis that are well built.The model number is Y8966.I know
> they are made in USA but thats all I know.They cover 896-970 Mhz.They are 6
> element and have a 9db gain.I don't have a clue as to what they are worth so
> I am asking here.If you are interested I can send you picts of them.Make me
> a resonable offer on one or all 8.I also do swaps for something that may
> interest me.Email me n1rsp@qsl.net
>
>
>
>

1810. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 01:45:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EADD957.6060804@ieee.org>
Source record: 119712

Jim Kelley wrote:
> Walt uses the idea a virtual short to explain his conclusions, and you
> use the idea of a virtual reflection to explain yours.

I wish you would cease with the straw men. I don't ever remember
mentioning a "virtual reflection". What is a virtual reflection
anyway?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1811. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 01:55:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EADDB8B.9060602@ieee.org>
Source record: 119713

Gene Fuller wrote:
> You have referred to so-called packets of energy and attempted to apply
> the conservation of energy principle. However, there is no scientific
> basis for doing so.

Well, let's see if there is or isn't. Consider the following example.
The system is lossless.

100W---50 ohm---x---one second long 291.5 ohm feedline--y--50 ohm load

The energy box is drawn around the one second long feedline through
points x and y.

The source is putting out 100 joules/sec. After steady-state has been
reached the forward power incident upon the load is 200 joules/sec and
the reflected power from the load is 100 joules/sec. After steady-state
has been reached, the source has output 300 joules of energy that has
not been dissipated by the load. Is that 300 joules conserved? If so,
where are those 300 joules located?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1812. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:13:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0gnrav8poe6298mp1qbn3apu3jro6a98q1@4ax.com>
Source record: 119715

On Mon, 28 Apr 2003 20:45:59 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Jim Kelley wrote:
>> Walt uses the idea a virtual short to explain his conclusions, and you
>> use the idea of a virtual reflection to explain yours.
>
>I wish you would cease with the straw men. I don't ever remember
>mentioning a "virtual reflection". What is a virtual reflection
>anyway?

On Tue, 24 Dec 2002 14:40:27 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>A virtual reflection
>coefficient is the *result* of a virtual impedance.

On Mon, 23 Dec 2002 22:25:30 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>
>Too bad that virtual reflection coefficient is an effect rather than a cause

On Mon, 13 Jan 2003 08:52:20 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>
>I refer to actual physical reflection coefficients caused by actual
>physical impedance discontinuities Vs virtual reflection coefficients
>caused by a virtual impedance calculated from a V/I ratio. :-)

On Sat, 01 Mar 2003 19:15:56 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Then, suddenly at the exact moment that steady-state is reached, the
>reflection coefficient switches from the actual physical reflection
>coefficient to the steady-state virtual reflection coefficient.

And on and on and Oh well, you get the idea. Can't remember, I
see.... It must be because of the appended term coefficient? I've
heard of selective memory, but you demonstrate one with remarkably
steep skirts.

It's best left undisturbed.

73's
Richard Clark, KB7QHC

1813. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:14:32 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <5ebravcr8qq1vqlmlfmschjcn158np80qa@4ax.com>
Source record: 119714

On Mon, 28 Apr 2003 17:19:58 -0500, "Crazy George"
<munschNO@attglobal.net.SPAM> wrote:

|OK, now here is my second answer. And this one is scary. Beam steering
|nulls and all aside, the amplified TV antennas sold by RS and Winegard among
|many others for home and RVs, (look like a small flying saucer) have
|temporarily shut down at least one DGPS site (Moss Landing, CA), and caused
|serious problems at at least one airport. The problem has been written up
|in GPS magazine, and several classified reports have been generated about
|the problem. This one got away from them due to sheer numbers, and has
|caused a lot of heartburn. There are so many of these antennas out there,
|and not all of them are bad at any given time, as the interference frequency
|drifts, and some are clean all the time, and the "authorities" have been
|unable to come up with an overall solution. The offending units were
|confiscated and replaced by non-radiating units at the DGPS site, and the
|problem disappeared at the airport, apparently when the offending RV left a
|nearby campground (wild-a.. guess by the people looking for it). However,
|these problems continue to surface, almost daily, and a large RV park can be
|a real hazard to navigation. Even the robust receivers with the mil.
|channel by Rockwell and other contractors are not completely immune.

I've heard some of this but I understood most of the trouble was with
recreational GPS receivers.

Until they build 500 mph RV's to drive beside a Tomahawk on the way to
the target, I don't think there is much to worry about. Could be a
problem for a Prowler if they happen to be gathering "data" over a
nudist RV park tho. <g>

Another thing to remember about jamming of tactical missiles is that
GPS is not the sole guidance system. Momentary loss of lock doesn't
cause a crash; the missile keeps flying using inertial guidance.

1814. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:17:19 UTC
From: Jim Pennino <jimp@specsol.com>
Message-ID: <b8knbf$og9$1@mail.specsol.com>
Source record: 119716

Jimmy <Gfender@carolina.rr.com> wrote:
> Loss of GPS should not be a problem to aircraft at all.. They should still
> have the required navigation systems as before GPS. They can also get on the
> radio and ask a controller"where th hell am I?"

Try posting that on one of the rec.aviation groups...

Be sure to be wearing your flame-proof suit.

--
Jim Pennino

1815. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:23:40 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <4coravo6tgfu66cjltun41h24vp0u12f1d@4ax.com>
Source record: 119717

On 28 Apr 2003 23:29:34 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
wrote:

|Finally great product that will complement Freaktals, CFAs, EHs and Art's
|reflecting directors as well as BS on this NG.
|Check out:
|http://www.angelfire.com/ca3/thebasement/txrx.html

Since I have no use for repeaters, I'm not in the market. However, if
I was wanting one I would like to know where to purchase this special
hose:

"When supplying hose, be sure it is large diameter and SHIELED"

What is a "SHIELED" hose?

1816. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:24:06 UTC
From: richardharrison@webtv.net
Message-ID: <20563-3EADE246-300@storefull-2312.public.lawson.webtv.net>
Source record: 119718

Jim Kelley wrote:
"Describe exactly how energy "reverses course"."

This is standard fare. Consult Terman`s 1955 edition page 90:
"---reference to Eq. (4-14) shows the line is short-circuited, that is, ZL = 0, reference to Eq. (4-14) shows that the reflection coefficient has the value -1.0 on the angle of zero-degrees = 1.0 on the angle of 180-degrees.

You can noodle out for yourself the ramifications of volts forced to zero, E-field energy dumped into the H-field, and why energy flows from a higher potential source to a lower potential sink. Polarities and amplitudes prevail.

Best regards, Richard Harrison, KB5WZI

1817. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:37:59 UTC
From: richardharrison@webtv.net
Message-ID: <20563-3EADE587-304@storefull-2312.public.lawson.webtv.net>
Source record: 119719

CAM wrote:
"What is a virtual reflection anyway?"

Might one way be a reflection which produces a "virtual image"?

Best regards, Richard Harrison, KB5WZI

1818. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:46:04 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8kp1ebnn1@slb9.atl.mindspring.net>
Source record: 119720

Roy:

[snip]
> You have to be very careful in assuming the meaning of a particular
> symbol. A quick glance through several textbooks shows the following
> different conventions for (complex) reflection coefficient and (scalar)
> magnitude of reflection coefficient, respectively:
>
> GAMMA, |GAMMA|
> rho, |rho|
> k, |k|
> K, |K|
> rho-dot, rho
>
> The last, incidentally is from Kraus' _Electromagnetics_. I know I've
> seen the combination GAMMA, rho but couldn't quickly locate the source.
>
> The _ARRL Antenna Book_ and Maxwell's _Reflections II_ use rho as the
> magnitude of the reflection coefficient and various notations for the
> complex reflection coefficient.
>
> Lower case rho is used fairly universally in TDR work to represent a
> scalar reflection coefficient, and by several textbook authors to
> indicate SWR, a scalar quantity.
>
> Like the elephant seen by the blind men to be both like a tree and a
> snake, rho can also be several different things -- some complex, some
> scalar. None is any more "true" than another.
>
> Roy Lewallen, W7EL
[snip]

I agree that not everyone uses the same common notation.

Hmmm... since you quoted a couple of references, I will add a little to the "rho is complex" side!

---
1) H. W. Bode, "Network Analysis and Feedback Amplifier Design", D. Van Nostrand, NY 1945, p.364.

- reflection coefficient, rho is *complex*.

2) Carlin and Giordano, "Network Theory", Prentice-Hall, Englewood Cliffs, NJ 1964, p. 227.

- reflection factor s is *complex*.

3) B. P. Lathi, "Signals, Systems and Communicaton", John Wiley, NY 1965, p. 341

- reflection coefficient rho is *complex*.

4) Ramo, Whinery and Van Duzer, "Fields and Waves in Communication Electronics", John Wiley, NY 1967, p. 28

- reflection coefficient rho is *complex*.

5) L. N. Dworsky, "Modern Transmission Line Theory and Applications", John Wiley, New York, 1979, p. 17

- reflection coefficient gamma is *complex*.

6) Kuh and Roher, "Theory of Linear Active Networks", Holden-Day, San Francisco, CA 1967, p.62

- reflection coefficient rho is *complex*.

7) Karni, "Network Theory", Allyn and Bacon, Boston, 1966, p. 300

- reflection coefficient rho is *complex*.

8) M. E. Van Valkenburg, "Network Analysis", Prentice-Hall, Englewood Cliffs, NJ, 1964, p.392

- reflection coefficient rho is *complex*.

9) Ernst Guillemin, "Synthesis of Passive Networks", John Wiley, NY 1957, p.460

- reflection coefficient rho is *complex*.

10) Adel S. Sedra and Peter O. Brackett, "Filter Theory and Design - Active and Passive", Matrix, Portland, OR 1978 p. 59

- reflection coefficient rho is *complex*.

11) International Telegraph and Telephone Corporation, "Reference Data for Radio Engineers, 4th ed", ITT New York, 1956, p. 562

- reflection coefficient rho is *complex*.

Not a scaler in the bunch!

You must agree that many of the above authors are authoritative, and so that's eleven references for complex rho, I could dig up about 20 more like that in the next 20 minutes or so... but I think I've made my point, unless you can dig up a lot more for rho being a scaler!

Notwithstanding the fact that some do not define rho to be complex... it seems that one could say from the results of the brief survey above, that perhaps 9 out of 10 authors define the reflection coefficient named rho to be a complex and not a real or scaler.

In fact for the closely related scattering parameter found all throughout the Scattering Matrix literature, for a two port network or transmission facility, the ubiquitous port one reflection coefficient S11 is *always* defined to be complex, it is *never* a real [scaler]. [S11 = rho]

Even the Scattering Matrix S itself which is a gereralization of rho to the multi-port case [rho is only used for a one port driving point impedance] S is a complex matrix. If Z is the Impedance matrix of an N-port network and R is the matrix of Reference Impedances Terminated on that network, usually R is a real matrix, but complex normalizations are certainly allowed and occasionally quite useful, especially in broadband matching problems, then the Scattering Matrix S for that network, using the symbol ^(-1) for matrix inverse, is:

S = (Z - R)((Z - R)^(-1))

Which in the scaler network case, where here the work scaler refers to a one port network, in contrast to a multiport network, the vector case, the Complex Scattering Matrix simply becomes the complex number

s = (z - r)/(z + r) = rho which is in general complex since the impedances z and r may be complex.

The point of all this huffing and puffing is that I believe that *most* folks define rho to be complex and not a real scaler magnitude.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:varcmfqmrt3m65@corp.supernews.com...
> Peter Brackett wrote:
> >
> > I beg to differ, nothing could be further from the truth my friend.
> >
> > rho is not a scaler, rho is a complex number.
> > . . .
>
>

1819. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 02:46:21 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030428224621.26954.00000223@mb-m26.aol.com>
Source record: 119721

>
>What is a "SHIELED" hose?
>

Must be one with no SWR on it EH? Or is it hose where forward and reverse waves collide and knock the D out.
I use them to protect coax from the water SWR.
Personally I would prefer fiber optics. Send the signal into the fiber, cut it and let it go nuts going back and forth bouncing of the ends until it gets tired and dies.

Bada BUm

1820. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 03:08:40 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8kqbp$i33$1@slb4.atl.mindspring.net>
Source record: 119722

Cecil:

[snip]
> > As Wes said, what's wrong with the Scattering notation?
>
> Nothing, except the average ham is not familiar with them. I am creating
> a web page trying to explain some of this stuff. Do you think it would
> be understandable to define rho(vf)=S11, rho(vr)=S22, etc. where 'vf'
means
> 'voltage-forward' and 'vr' means 'voltage-rearward'?
[snip]

Yes I personally would like rho(f) and rho(r) instead of rho(+) and rho(-).

To be fair to your "students" since that new notation is, or will be, unique
to yourself,
I recommend that you should give your students references or footnotes or
sidebars
on your web pages explaining to the amateur students that the professional
industry almost universally uses the scattering parameters and their
notation.

We have not seen your web site yet and so I cannot tell why you want to
include the v
for voltage in your subscripting. Are you also defining the current basis
reflection coefficient
in your web pages? Is that why the subscripts v and i?

I agree that there is both a voltage basis and a current basis view for
reflection coefficients,
in fact the same is true for the Scattering Formalism, but those two are
very closely related and
because of that some in the Scattering formalism literature have also
introduced a "normalized"
basis which is independent of current and voltage and corresponds roughly to
something like
the square root of power.

Knowing your fascination with power and/or energy waves I am sure that the
normalized basis
found in the Scattering Matrix world would probably appeal to you Cecil.
You should look
into that normalized basis reflection coefficient. I could point you to
some references if you
are interested.

--
Peter K1PO
Indialantic By-the-Sea, FL.

1821. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 03:09:35 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <varrk74h6k1add@corp.supernews.com>
Source record: 119723

As part of some non-amateur work, I concluded that a dipole 0.3
wavelengths high was a very good compromise for use at frequencies below
the zero distance MUF. ... another "magic" number.

... and then there was the friend who built a three element, 75
meter beam that was pointed up! Oh my, could he be heard, but no good
for DX.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vaom9rksqdg3ea@corp.supernews.com...
> Yes to all. The best height for very high angle radiation is about 1/4
> wavelength, and an antenna at that height certainly has some response
at
> low angles. And while a 1/2 wave high horizontal antenna has poor
> response directly overhead, it would be great for anything over a
couple
> of hundred miles (and very possibly adequate within that range), and
> quite good for much farther stuff.
>
> You bring up a good point -- lowering a horizontal antenna below 1/4
> wavelength doesn't improve its NVIS performance, it just warms up the
> ground more and radiates less.
>
> My low-angle-vs-high-angle comparison was admittedly oversimplified.
As
> you point out, there's a range of heights (and probably pretty common
> ones on FD) that produce both pretty decent NVIS and lower angle
radiation.
>
> Roy Lewallen, W7EL
>

1822. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 03:27:13 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vars7m1qossa63@corp.supernews.com>
Source record: 119724

Amen. Stick to S parameters. Tell what your "local" Z0 is. The world
does not need another scheme. ...and S parameters are complex numbers.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:b8k91nska1@slb6.atl.mindspring.net...
<snip>
> > Heh, heh... confusing?
>
> Not if you stick with the Scattering Formalism, which makes everything
> simpler. Please don't try to "invent" a new notation to replace a
perfectly
> good and quite general notation this will only serve to ultimately
confuse
> your web site readers!
>
> Best,
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.
>
>
>

1823. Re: Ignition coils receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 03:37:27 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <b8ks1n$6m8$0@208.207.71.151>
Source record: 119725

Bill Turner wrote:

> On Sun, 27 Apr 2003 21:16:47 GMT, "Myrton" <n1gke@cox.net> wrote:
>
> >Has anyone in this group ever tried using an automotive ignition coil as a
> >receiver ?
>
> Damn, you've gotten ahold of some fine drugs there, boy. Who's your
> supplier?

That *is* a bit weird. He must be thinking some sort of reciprocity. As in a
vacuum
tube, if it'll transmit it'll also receive, properly set up.
More proof that a little knowledge can be dangerous.

Dick

1824. Re: triband J pole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 03:55:25 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eadf968_3@news1.prserv.net>
Source record: 119726

I started all this J antenna nonsense back about 1958, copied from a Comco commercial 2-way product, and one of the designs we put together for the heck of it was a 10M/6M/2M/1.25M/3/4M design on one mast. It really did look like a cactus. It is somewhere in Arlington, TX, last I heard. The biggest obstacle was the 3/4M coax was the longest, but also had to be the smallest, making the loss undesirably high through the 25 foot length of the mast.

There is nothing magic about designing these, and back when Lafayette sold 10' aluminum mast sections, they were also easy to build. Running the coax down inside the mast makes them more stable, and it doesn't seem to make much difference whether the feed is connected to the mast side or the stub side, they just tune a little differently. Just start at the highest frequency and work your way down.

BTW, the "J Pole" is a completely different Antenna Specialists trademarked product, while these antennas are simply called J antennas.
--
Crazy George
Remove NO and SPAM from return address
"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3EAC255A.5030208@tampabay.rr.com...
> hello everyone
> i have seen the dual band copper Jpoles around and i was wondering if it
> would be possible to make a 6 2 440 Jpole with 3 seperate feedlines just
> put the 3 tuning stubs off the long side of the J or would that cause
> interferance or what give me details if you have it
> thanks
>

1825. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 06:07:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7d4savkgbgnrfck8f7ekpsnq98v3miqim7@4ax.com>
Source record: 119727

On Mon, 28 Apr 2003 22:46:04 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:

>1) H. W. Bode, "Network Analysis and Feedback Amplifier Design", D. Van
>Nostrand, NY 1945, p.364.
>
>- reflection coefficient, rho is *complex*.
>
Hi Peter,

The page is more notable in that it covers the analysis of a
discontinuity from both sides that so interests Cecil (Hint). It may
no longer be unique, but it was Bode who formalized this entire line
of enquiry.

73's
Richard Clark, KB7QHC

1826. FD-4 antenna oppinion ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 09:15:58 UTC
From: Jaros&#65533;aw Misiak <jmisiak@opole.oip.pl>
Message-ID: <b8lfrcael1@nemesis.news.tpi.pl>
Source record: 119728

Hello I am looking for some oppinions about FD4 windom antena (both versions 40... m and 20...m,) ?. I will try to make this antenna next weekend so all about it is very interesting for me also some www pages address with fd-4 descriptions.

Jarek sp6ojk

1827. Re: Satellite Mesh digital /analogue

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 10:40:18 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <uAsra.10905$pK2.14143@news.indigo.ie>
Source record: 119729

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Now there's something I didn't think of.
I'm sure there has to be some difference though.

Cheers,
Xanax.
"Allan Butler" <ka0ies@hotmail.com> wrote in message
news:iTira.418942$Zo.95929@sccrnsc03...
> If you look at most of the Television antennas from the different
> manufactures, you will find that most of them are "color certified" or
some
> sort of "Color Ready". It would likely be just more advertising gimmic to
> get people to purchase the product.
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPq5WkCGakPXr24F/EQJ4YQCdFkS73bVhsDEQVufoTPmydTE4rM0AoOFB
AqlJTL1Uy0ShyDBpbSHbpeTQ
=guUq
-----END PGP SIGNATURE-----
```

1828. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:05:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE5C88.70203@ieee.org>
Source record: 119730

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>> I don't ever remembe mentioning a "virtual reflection".
>> What is a virtual reflection anyway?

> And on and on and Oh well, you get the idea. Can't remember, I
> see.... It must be because of the appended term coefficient?

Of course, I know what a virtual reflection *coefficient* is, Richard,
but to the best of my knowledge, there is no such thing as a virtual
reflection. I still don't remember mentioning a "virtual reflection"
and I still don't know what a virtual reflection is. Would you guys
please tell me what you mean by a "virtual reflection" and cease with
the straw men?
--
73, Cecil http://www.qsl.net/w5dxp

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1829. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:11:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE5DF7.1060403@ieee.org>
Source record: 119731

Richard Harrison wrote:
> Jim Kelley wrote:
> "Describe exactly how energy "reverses course"."
>
> This is standard fare. Consult Terman`s 1955 edition page 90:
> "---reference to Eq. (4-14) shows the line is short-circuited, that is,
> ZL = 0, reference to Eq. (4-14) shows that the reflection coefficient
> has the value -1.0 on the angle of zero-degrees = 1.0 on the angle of
> 180-degrees.
>
> You can noodle out for yourself the ramifications of volts forced to
> zero, E-field energy dumped into the H-field, and why energy flows from
> a higher potential source to a lower potential sink. Polarities and
> amplitudes prevail.

Only one thing wrong, Richard. In the example that we have been discussing,
both the E-field and H-field go to zero in the rearward direction of travel
only to appear an instant later traveling in the opposite direction with
the ratio of the E-field and H-field equal to Z02.
--
73, Cecil http://www.qsl.net/w5dxp

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1830. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:14:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE5E78.8030207@ieee.org>
Source record: 119732

Richard Harrison wrote:
> CAM wrote:
> "What is a virtual reflection anyway?"
>
> Might one way be a reflection which produces a "virtual image"?

I don't think virtual reflections could produce anything. In
fact, I cannot conceive of the definition of a virtual reflection.
Seems to me, a virtual image is produced by real reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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1831. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:26:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE6172.2060602@ieee.org>
Source record: 119733

Peter Brackett wrote:
> Are you also defining the current basis reflection coefficient
> in your web pages? Is that why the subscripts v and i?

I didn't have a problem with the reflection coefficient. The problem I came across is with the transmission coefficient where tau(v) is not equal to tau(i). All my S-Parameter information is normalized for voltages.

> ... some in the Scattering formalism literature have also
> introduced a "normalized"
> basis which is independent of current and voltage and corresponds roughly to
> something like the square root of power.

Yep, the terms Rho^2 and (1-Rho^2) removes a lot of messiness. That's why I usually deal with forward and reflected energy rather than forward and reflected voltage or current.

> You should look
> into that normalized basis reflection coefficient. I could point you to
> some references if you are interested.

That would be nice. With any luck, the Texas A&M library will have them.
--
73, Cecil http://www.qsl.net/w5dxp

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1832. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:30:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE625E.2050402@ieee.org>
Source record: 119734

J. McLaughlin wrote:
> Amen. Stick to S parameters. Tell what your "local" Z0 is. The world
> does not need another scheme. ...and S parameters are complex numbers.

How do you differentiate between s12 for voltage and a different s12
for current? At an impedance discontinuity involving two different
characteristic impedances in a transmission line, the s12 for voltage
equals the s21 for current and vice versa.
--
73, Cecil http://www.qsl.net/w5dxp

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1833. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:32:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE62C9.6090101@ieee.org>
Source record: 119736

Peter Brackett wrote:
> Knowing your fascination with power and/or energy waves I am sure that the
> normalized basis
> found in the Scattering Matrix world would probably appeal to you Cecil.

But don't the people who use them have the same "problem" I have been
accused of having here on rraa? i.e. superposition of power? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1834. Will I have (or have had) a problem if I tap?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 11:34:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8lnrv$b6lj6$1@ID-150848.news.dfncis.de>
Source record: 119735

I'm trying to start out making a simple L net. atu, and work up to making a remote-controlled atu employing a roller coaster.

Okay, I have a coil and it works out at 0.8571428 uH per turn. And I want to tap it. I thought initially at every 2 turns.

Here are some inductance values required when I use an inverted L, almost exactly 1/2 wavelength long.

Freq Khz uH required Nearest uH available Tap (turns)

1900 22.5 22.28 26
3650* 1.7 1.71 2
7050 8.5 8.57 10
14175 2.6 2.57 3
21225 1.5 1.71 2
28850 1.1 0.85 1

* That is the figure. Uses 456 pF shunt.

Mmm. For for this case, it looks like I'd have to tap every turn I near the start of the coil. Also, I'm guessing, but perhaps someone could comment, that I might have difficulty getting a good match at 21225 Khz and 288850 Khz, because the inductance is too far out.

I know all this is somewhat academic, but lets pretend that the uH required were in fact, as per under the uH required column.

A thought just occured to me though, which is what I should do. I should increase the winding pitch near the start of the coil. Okay, but for the sake of argument, if I used the coil and tapping as above, would I have had a difficulty getting a match on 15 and 10 metres? It's probably just
or will turn out to be just an academic question.

If this was a T match I could have used Kevin's program. But I don't think there is a simple program where I could see what the mismatch was if I used the tapped coil in this L network set-up. Maybe EXNEC would tell me. Of course, I'm using a variable capacitor.

I also think I probably have some control over the situation by varying inverted L length. Perhaps that might lead to higher inductance values, but then again lower C values and there can be problems here too.

TIA.

Rich.

1835. Re: Will I have (or have had) a problem if I tap?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 12:27:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <jtriEBFU+mr+EAPq@ifwtech.co.uk>
Source record: 119738

Richard wrote:
>I'm trying to start out making a simple L net. atu, and work up to
>making a remote-controlled atu employing a roller coaster.
>
>Okay, I have a coil and it works out at 0.8571428 uH per turn. And I
>want to tap it. I thought initially at every 2 turns.
>
>Here are some inductance values required when I use an inverted L,
>almost exactly 1/2 wavelength long.
>
>Freq Khz uH required Nearest uH available Tap (turns)
>
>1900 22.5 22.28 26
>3650* 1.7 1.71 2
>7050 8.5 8.57 10
>14175 2.6 2.57 3
>21225 1.5 1.71 2
>28850 1.1 0.85 1
>
>
>* That is the figure. Uses 456 pF shunt.
>
>Mmm. For for this case, it looks like I'd have to tap every turn I near
>the start of the coil. Also, I'm guessing, but perhaps someone could
>comment, that I might have difficulty getting a good match at 21225 Khz
>and 288850 Khz, because the inductance is too far out.
>
>I know all this is somewhat academic, but lets pretend that the uH
>required were in fact, as per under the uH required column.
>
>A thought just occured to me though, which is what I should do. I should
>increase the winding pitch near the start of the coil. Okay, but for the
>sake of argument, if I used the coil and tapping as above, would I have
>had a difficulty getting a match on 15 and 10 metres? It's probably
>just
>or will turn out to be just an academic question.
>
Roller coasters often have an increased winding pitch at the
low-inductance end, but the usual trick with switched coils is to use a
second coil for the high bands, with a smaller diameter and more turns
so you still have fine adjustment. On those bands, the larger coil is
shorted out. If you don't mind two switches, the smaller coil acts as a
"vernier" for the larger one.

Another relevant question is: is this your only ATU, or do you have another one in the transceiver? If you're only using the remote ATU as a "line flattener", to bring the SWR on your feedline down to maybe 2 or 3, then many of the problems with the remote ATU will go away. However, your transceiver will probably start to shut down at SWRs greater than about 1.5, so you may need to use a local ATU as well.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1836. SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 12:30:51 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8lr5j$b2bh0$1@ID-150848.news.dfncis.de>
Source record: 119737

I put in:

Coil Length: 9mm
Coil diameter: 48mm
Turns: 2
Ratio of Wire Diameter to Pitch: 0.2444444 (1.1mm wire dia/pitch of 4.5mm)
Test Freq.7 Mhz
Applied RMS volts: 100

Calculted values:

I get a Coil VLF impedance of 0.330 uH.

Wire diameter given as: 2.20mm
Winding pitch given as: 9mm

What's wrong? The pitch is 4.5mm if there are 2 turns. The ratio is 0.2444444 with a wire dia. of 1.1.

TIA. Rich.

1837. Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 13:24:09 UTC
From: BJ <bobjames_2003@tyahoo.com>
Message-ID: <Z1vra.46989$4P1.4383605@newsread2.prod.itd.earthlink.net>
Source record: 119739
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Ebay won't help - I keep getting canned messages back that they don't release personal info on people? Maybe someone here can help?

I'm having a problem getting my money back from this guy and now he won't respond to emails or my requests for a refund although he says he has a 30 day money back guarantee on his products.

I'm afraid to leave negative feedback which wouldn't help get my money anyway as he has already said he'll do likewise.

I want to alert his local authorities and see if that does any good! Anyone know who this guy is?

Bob J.

1838. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 13:27:11 UTC
From: BJ <bobjames_2003@tyahoo.com>
Message-ID: <P4vra.46992$4P1.4355573@newsread2.prod.itd.earthlink.net>
Source record: 119740
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

oops email address is bobjames_2003@yahoo.com

"BJ" <bobjames_2003@tyahoo.com> wrote in message
news:Z1vra.46989$4P1.4383605@newsread2.prod.itd.earthlink.net...
> Ebay won't help - I keep getting canned messages back that they don't
> release personal info on people? Maybe someone here can help?
>
> I'm having a problem getting my money back from this guy and now he won't
> respond to emails or my requests for a refund although he says he has a 30
> day money back guarantee on his products.
>
> I'm afraid to leave negative feedback which wouldn't help get my money
> anyway as he has already said he'll do likewise.
>
> I want to alert his local authorities and see if that does any good!
Anyone
> know who this guy is?
>
> Bob J.
>
>
>

1839. Re: Will I have (or have had) a problem if I tap?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 13:33:31 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8lurb$a7q7p$1@ID-150848.news.dfncis.de>
Source record: 119741

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:jtriEBFU+mr+EAPq@ifwtech.co.uk...

> Roller coasters often have an increased winding pitch at the
> low-inductance end, but the usual trick with switched coils is to use
a
> second coil for the high bands, with a smaller diameter and more turns
> so you still have fine adjustment. On those bands, the larger coil is
> shorted out. If you don't mind two switches, the smaller coil acts as
a
> "vernier" for the larger one.

I'm wanting to try to have 2 or 3 or 4 turns wide-spaced on my former,
then continue regular pitch. (The former is grooved). But I seem to be
having trouble with SOLONOID2.EXE. I'm hoping that might do the trick.
But I don't know how accurate the inductance value should be to what is
required at those low inductabce values, like between 0 to 3 uH. Within
0.5uH or 0.25uH?

> Another relevant question is: is this your only ATU, or do you have
> another one in the transceiver? If you're only using the remote ATU as
a
> "line flattener", to bring the SWR on your feedline down to maybe 2 or
> 3, then many of the problems with the remote ATU will go away.
However,
> your transceiver will probably start to shut down at SWRs greater than
> about 1.5, so you may need to use a local ATU as well.

There is a pi network in the TX I might use. But I was thinking about
buying aTen Tec's 1340 QRP rig. I don't know what's in that. Maybe I
should find out.

1840. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 13:36:03 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <oavsavsmv4pqh2434l714f3q0e5ej1vpgg@4ax.com>
Source record: 119742

On Mon, 28 Apr 2003 16:01:37 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

[snip]
|
|The _ARRL Antenna Book_ and Maxwell's _Reflections II_ use rho as the
|magnitude of the reflection coefficient and various notations for the
|complex reflection coefficient.

Hmmm. My ARRL Antenna Book (17th edition) says on page 24-6:

"The reflection coefficient is thus a complex quantity, having both
magnitude and phase, and is generally designated by the Greek letter
rho, or sometimes in the professional literature as Gamma"

In following expressions they use |rho| for the magnitude of the
reflection coefficient.

Where in your book are they using rho as a scalar?

Wes

1841. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 13:39:43 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <uuvsav8adonsrqe2j781nsbko01crk2fjc@4ax.com>
Source record: 119743

On Mon, 28 Apr 2003 17:56:53 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:

|Dear Dr. Slick:
|
|[snip]
|> Minor detail, I would emphasize rho = [S11] , which indicates the
|> magnitude of the S11, as the voltage reflection coefficient is a
|> scalar, not vector, quantity.
|>
|> You guys knew this, but the newbies may not have.
|>
|> Dr. Slick
|[snip]
|
|I beg to differ, nothing could be further from the truth my friend.
|
|rho is not a scaler, rho is a complex number.
|
|rho, and also its equivalent scattering parameter S11 are just simple
|complex numbers, not vectors.
|
|rho is a complex number which has both real and imaginary parts [or
|equivalently magnitude and phase parts] and so has S11.
|
|To write that rho = S11 simply means that corresponding parts of each of rho
|and S11 are equal, i.e.
|
|Re{rho} = Re{S11}, and Im{rho} = Im{S11}.
|
|Where Re and Im mean real part and imaginary part respectively
|
|The magnitude of rho which would be written as rho surrounded by bars or
|vertical fences as |rho| or sometimes written as Mag{rho} is a scaler, but
|rho itself is a complex number.
|
|In fact the magnitude of rho, which is a scaler, is expressed as:
|
||rho| = sqrt[Re{rho}^2 + Im{rho}^2]
|
|Some folks incorrectly call complex numbers "vectors", and it is true that
|they can be viewed as two element vectors, but strictly speaking complex
|numbers are not vectors. Since vectors themselves can be either real and/or
|complex.

You need to get HP (Aligent), Wiltron, et al, to stop calling their instruments "Vector" Network Analyzers and "Vector" Voltmeters. <g>

1842. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:01:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2b1tavom32572alcfqkm8jpr4jo9p1bu5m@4ax.com>
Source record: 119744

On Tue, 29 Apr 2003 06:14:00 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Seems to me, a virtual image is produced by real reflections.

You sure don't act like you've read any books on Optics, Cecil. But
it is consistent with the quality of your argument in that vein.

Like I said, try reading ONE through - at least through the first
chapter.

73's
Richard Clark, KB7QHC

1843. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:05:41 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EAE86B5.2030903@mwci-news>
Source record: 119745

Peter Brackett wrote:
>
>
>
> A vector of any rank [size] whose elements are all real numbers [scalers] is
> simply a real vector, a vector whose elements are all complex numbers is a
> complex vector.
>

In linear algebra, a "vector" is a single row, or
a single column, of numbers (real or complex).
Multiple rows and columns of real or complex
numbers are a "matrix".

In AC circuits, complex numbers can have magnitude
and direction (phase) when drawn as lines on an XY
or polar plot. These lines are best referred to as
"phasors" to avoid confusion with "vectors" as
used in other fields. Very often, phasors are
incorrectly called vectors, but the error is not
worth getting excited about. The context infers
the correct meaning.

Bill W0IYH

1844. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:15:54 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EAE891A.5060708@mwci-news>
Source record: 119746

Wes Stewart wrote:
>
>
> You need to get HP (Aligent), Wiltron, et al, to stop calling their
> instruments "Vector" Network Analyzers and "Vector" Voltmeters. <g>

This usage of "vector" is correct, as the term is
used to describe a "column" or "row" or a
"sequence" of complex numbers. On a polar plot on
the screen or on graph paper the numbers can also
be called "phasors" (preferably) or "vectors"
(maybe not strictly according to tradition).

Those guys know what they are doing.

Bill W0IYH

1845. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:20:22 UTC
From: richardharrison@webtv.net
Message-ID: <2429-3EAE8A26-962@storefull-2314.public.lawson.webtv.net>
Source record: 119750

CAM, W5DXP wrote:
"Only one thing wrong, Richard. In the example we have been discussing, both the E-field and the H-field go to zero in the rearward direction of travel only to reappear an instant later traveling in the opposite direction with the ratio of the E-field and H-field equal to Zo2."

In a total reflection, one or the other field, E or H, is momentarily eliminated at the reflection point. It`s the E-field at a short and the H-field at an open. Both fields are not going to zero at the same time.

All energy is redirected by a complete reflection and none continues on in the original direction. Just as shining a flashlight on a mirror leaves the space behind the mirror in the dark.

The only way energy travels on a transmission line is with an E to H ratio of Zo. It makes no difference how the energy got on the line. It may be imposed, incident, energy, or it may be a reflection of that energy flowing in reversed direction from the reflection point. It must comply with Zo.

If you have a 1/2-wave of 300-ohm twinlead in the middle of a matched 50-ohm line of any length, there are plenty of reflections within the twinlead, but none within the 50-ohm lines on either end of the twinlead.

All of the energy reflected by the 50-ohm load end of the twinlead is re-reflected by the 50-ohm source end of the twinlead. None of the reflected energy makes it through the 300-ohm / 50-ohm junction to change the load on the energy source from 50-ohms. The 300-ohm twinlead is made to look like 50-ohms to the source by its internal reflected energy. The load at the far end of the 300-ohm twinlead has a 50-ohm source for the same reason.

All of the energy reflected inside the twinlead by the 50-ohm load is reflected again at the sending end of the twinlead because none appears to change the sender`s loadiing.

There is no reflection on the sender side of the 50-ohm to 300-ohm junction, but there is a complete reflection on the 300-ohm side of the same junction.

Best regards, Richard Harrison, KB5WZI

1846. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:25:54 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <SXvra.45722$ij4.3228480@twister.southeast.rr.com>
Source record: 119747

Must be a Microsoft joke, while technically correct it is totally useless

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:1ojravgkboibs2hccf95bc7gc4o5n5d77o@4ax.com...
> On Tue, 29 Apr 2003 00:58:35 GMT, "Jimmy" <Gfender@carolina.rr.com>
> wrote:
>
> >Loss of GPS should not be a problem to aircraft at all.. They should
still
> >have the required navigation systems as before GPS. They can also get on
the
> >radio and ask a controller"where th hell am I?"
>
> "you are in an airplane...." (local Seattle joke)

1847. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:28:35 UTC
From: Browning Mark FourA <sky.fourfourfour@verizon.net>
Message-ID: <jt2tav897a4hcbe4muk8dnbp1o6v1b11og@4ax.com>
Source record: 119748
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Bob if it was an eBay transaction then you should be able to go here
and get his info you will need the auction number and his user ID

http://cgi3.ebay.com/aw-cgi/eBayISAPI.dll?MemberSearchShow

On Tue, 29 Apr 2003 13:24:09 GMT, "BJ" <bobjames_2003@tyahoo.com>
wrote:

>Ebay won't help - I keep getting canned messages back that they don't
>release personal info on people? Maybe someone here can help?
>
>I'm having a problem getting my money back from this guy and now he won't
>respond to emails or my requests for a refund although he says he has a 30
>day money back guarantee on his products.
>
>I'm afraid to leave negative feedback which wouldn't help get my money
>anyway as he has already said he'll do likewise.
>
>I want to alert his local authorities and see if that does any good! Anyone
>know who this guy is?
>
>Bob J.
>

remove <SPAMSUCKS> to reply

1848. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:42:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fg1tav8amrn9dpieqqa2onbmku8pu9nvov@4ax.com>
Source record: 119749

On Tue, 29 Apr 2003 06:05:44 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>I still don't know what a virtual reflection is.

;-)

1849. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 14:57:17 UTC
From: BJ <bobjames_2003@tyahoo.com>
Message-ID: <hpwra.47073$4P1.4394128@newsread2.prod.itd.earthlink.net>
Source record: 119751
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Thanks but I want to report him to his local authorities and he's hiding
behind a fake email address, fake ebay Id and even a fake account with
Paypal - he's covered all the bases. I tried, the ebay info doesn't help.

My only hope is if someone knows his name and address information so I can
pass it along to his local authorities.

It's not a lot of money, but I don't like being ripped off. If anyone
doesn't want to respond to the group just send an email.
bobjames_2003@yahoo.com

It sure would be appreciated.

Bob

"Browning Mark FourA" <sky.fourfourfour@verizon.net> wrote in message
news:jt2tav897a4hcbe4muk8dnbp1o6v1b11og@4ax.com...
> Bob if it was an eBay transaction then you should be able to go here
> and get his info you will need the auction number and his user ID
>
> http://cgi3.ebay.com/aw-cgi/eBayISAPI.dll?MemberSearchShow
>
>
>
> On Tue, 29 Apr 2003 13:24:09 GMT, "BJ" <bobjames_2003@tyahoo.com>
> wrote:
>
> >Ebay won't help - I keep getting canned messages back that they don't
> >release personal info on people? Maybe someone here can help?
> >
> >I'm having a problem getting my money back from this guy and now he won't
> >respond to emails or my requests for a refund although he says he has a
30
> >day money back guarantee on his products.
> >
> >I'm afraid to leave negative feedback which wouldn't help get my money
> >anyway as he has already said he'll do likewise.
> >
> >I want to alert his local authorities and see if that does any good!
Anyone
> >know who this guy is?
> >
> >Bob J.
> >
>

>
>
>
> remove <SPAMSUCKS> to reply
>

1850. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 15:08:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t25tav04eh25l2akbcfabgiugb14h499qu@4ax.com>
Source record: 119752
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

On Tue, 29 Apr 2003 14:57:17 GMT, "BJ" <bobjames_2003@tyahoo.com>
wrote:

>
>My only hope is if someone knows his name and address information so I can
>pass it along to his local authorities.

Come off it Bob,

This isn't rocket surgery, file a mail/wire fraud charge with the feds
and be done with it.

73's
Richard Clark, KB7QHC

1851. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 15:29:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAE9A4B.5010103@ieee.org>
Source record: 119753

Richard Harrison wrote:
> In a total reflection, one or the other field, E or H, is momentarily
> eliminated at the reflection point. It`s the E-field at a short and the
> H-field at an open. Both fields are not going to zero at the same time.

They are during wave cancellation. Here's a typical example:

Wave1: 50 volts at zero deg, 1 amp at 180 deg.
Wave2: 50 volts at 180 deg, 1 amp at zero deg.

What do you get when you add those two waves? Zero volts, zero amps.
The energy in those two waves changes direction

> There is no reflection on the sender side of the 50-ohm to 300-ohm
> junction, but there is a complete reflection on the 300-ohm side of the
> same junction.

Agreed, and I think the mechanism of energy reflection is wave cancellation
similar to the above Wave1 + Wave2 example. A junction showing 50 ohms in
one direction and a virtual open in the other direction is an AC diode.
I don't recall those being invented yet.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1852. Re: FD-4 antenna oppinion ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 15:42:19 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b8m6gq$9vc$1@slb3.atl.mindspring.net>
Source record: 119754

"Jaros&#65533;aw Misiak" <jmisiak@opole.oip.pl> wrote in message
news:b8lfrcael1@nemesis.news.tpi.pl...
> Hello I am looking for some oppinions about FD4 windom antena (both
> versions 40... m and 20...m,) ?. I will try to make this antenna next
> weekend so all about it is very interesting for me also some www pages
> address with fd-4 descriptions.
>
> Jarek sp6ojk
>
>
>
>

I used one in Germany in the 70s, briefly. I didn't care for it a bit. A dipole worked much better.

Dan/W4NTI

1853. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 15:55:32 UTC
From: Rod Jones <justme@thisplace.net>
Message-ID: <108tav4a7dchspg61ro3o6gup4rl83qn3p@4ax.com>
Source record: 119755
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

I just checked this guys profile, coal-76 has 402 positives on eBay
with no negatives. If he is such a crook, how does he get so many
positive feedback reports. Surely people post feedback after having
received the product.

http://pages.ebay.com/search/items/search_seller.html

On Tue, 29 Apr 2003 14:57:17 GMT, "BJ" <bobjames_2003@tyahoo.com>
wrote:

>Thanks but I want to report him to his local authorities and he's hiding
>behind a fake email address, fake ebay Id and even a fake account with
>Paypal - he's covered all the bases. I tried, the ebay info doesn't help.
>
>My only hope is if someone knows his name and address information so I can
>pass it along to his local authorities.
>
>It's not a lot of money, but I don't like being ripped off. If anyone
>doesn't want to respond to the group just send an email.
>bobjames_2003@yahoo.com
>
>It sure would be appreciated.
>
>Bob
>
>"Browning Mark FourA" <sky.fourfourfour@verizon.net> wrote in message
>news:jt2tav897a4hcbe4muk8dnbp1o6v1b11og@4ax.com...
>> Bob if it was an eBay transaction then you should be able to go here
>> and get his info you will need the auction number and his user ID
>>
>> http://cgi3.ebay.com/aw-cgi/eBayISAPI.dll?MemberSearchShow
>>
>>
>>
>> On Tue, 29 Apr 2003 13:24:09 GMT, "BJ" <bobjames_2003@tyahoo.com>
>> wrote:
>>
>> >Ebay won't help - I keep getting canned messages back that they don't
>> >release personal info on people? Maybe someone here can help?
>> >
>> >I'm having a problem getting my money back from this guy and now he won't
>> >respond to emails or my requests for a refund although he says he has a
>30
>> >day money back guarantee on his products.

>> >
>> >I'm afraid to leave negative feedback which wouldn't help get my money
>> >anyway as he has already said he'll do likewise.
>> >
>> >I want to alert his local authorities and see if that does any good!
>Anyone
>> >know who this guy is?
>> >
>> >Bob J.
>> >
>>
>>
>>
>>
>> remove <SPAMSUCKS> to reply
>>
>

1854. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:11:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8m87f$h1c$1@hercules.btinternet.com>
Source record: 119757

Dear Richard,

I've just spent another couple of hours trying to fathom out how your mind works.

Would you please do me a favour ?

Obtain something which will serve as a coil former. Your left forefinger will do.

Borrow the length of string the kitten is playing with.

Wind two spaced turns of string on your former. There's no need to work to 8-digit accuracy.

Then hold the assembly in front of your eyes with the ends of the string on the non-visble side.

You will observe the two turns are spaced apart by 9mm.

9mm is the winding pitch as correctly calculated by the program. It first calculates pitch to calculate other values of greater interest. If I had omitted to display the exact pitch amongst the other results somebody would have been sure to complain. Good program writers must also be psychologists. Guess why the program asks for ratio of wire diameter to winding pitch rather than just wire diameter or just pitch.

To place things on a sound mathematical basis - if there are n turns then winding pitch is coil length divided by n minus 1. This definition of pitch is consistent with ANY number of turns - including ONE turn. The length of a 1-turn coil is assumed by the program to be the wire diameter. There's something in the program notes about.

By the way, the ONLY way to check program accuracy is to wind a coil and measure its dimensions and inductance. The last thing to do is compare it with another program. When is your 1/2-wave, end fed antenna expected to be ready for testing. ;o)

If your two turns are the last two turns on your roller coaster then by using SOLNOID2 you are barking up the wrong tree. As an exercise I'll allow you to explain why?

--
==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com

==========
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8lr5j$b2bh0$1@ID-150848.news.dfncis.de...
> I put in:
>
> Coil Length: 9mm
> Coil diameter: 48mm
> Turns: 2
> Ratio of Wire Diameter to Pitch: 0.2444444 (1.1mm wire dia/pitch of
> 4.5mm)
> Test Freq.7 Mhz
> Applied RMS volts: 100
>
> Calculted values:
>
> I get a Coil VLF impedance of 0.330 uH.
>
> Wire diameter given as: 2.20mm
> Winding pitch given as: 9mm
>
> What's wrong? The pitch is 4.5mm if there are 2 turns. The ratio is
> 0.2444444 with a wire dia. of 1.1.
>
> TIA. Rich.

1855. Re: Will I have (or have had) a problem if I tap?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:11:44 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8m846$bf6d7$1@ID-150848.news.dfncis.de>
Source record: 119756

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:jtriEBFU+mr+EAPq@ifwtech.co.uk...
> Roller coasters often have an increased winding pitch at the
> low-inductance end, but the usual trick with switched coils is to use
a
> second coil for the high bands, with a smaller diameter and more turns
> so you still have fine adjustment. On those bands, the larger coil is
> shorted out. If you don't mind two switches, the smaller coil acts as
a
> "vernier" for the larger one.

I'm going to do as you say and use 2 coils.

I have two almost identical ceramic formers. One I'm winding 35 turns
and approx inductance is 30uH. Between taps is appx 0.8571428 uH. I'll
tap every 2 turns. That's my coarse adjustment.

Other coil I'm winding with 10 turns, approximate inductance is
2.2819216 uH. That can be tapped every turn because the pitch is
equivalent to 3 "regular" turns if you go by the grooves in the coil
former. Each tap is appx 0.2281921 uH

Freq Khz uH req'd L1uH Tap L2uH Tap Diff. uH

1900 22.5 22.285713 (26) 0.2281921 (1) + 0.013905
3650* 1.7 1.714 2856 (2) 0.00 (0) +0.0142856
7050 8.5 8.571428 (10) 0.00 (0) + 0.071428
14175 2.6 1.7142856 (2) 0.9127684 (4) + 0.027054
21225 1.5 0.00 (0) 1.5973447 (7) +0.0973447
28850 1.1 0.00 (0) 1.1409605 (5) +0.0409605

L1 and L2 added.

This is just an academic exercise in some respects, but now the
maximum discrepancy is +0.0973447 uH.

In any event I would not expect to be out by a fraction of a uH.
Measured in less than a couple of tenths actually I think worse case
scenario.Coupla tenths should not present a problem, surely!! Hey, but I
don't know.

1856. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:13:32 UTC
From: Leigh W3NLB <w3nlbREMOVETHIS@amsat.org>
Message-ID: <g39tav42dha5o7ame73ojpcjlacpka9c6p@4ax.com>
Source record: 119758
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

On Tue, 29 Apr 2003 14:57:17 GMT, "BJ" <bobjames_2003@tyahoo.com>
wrote:

>Thanks but I want to report him to his local authorities and he's hiding
>behind a fake email address, fake ebay Id and even a fake account with
>Paypal - he's covered all the bases. I tried, the ebay info doesn't help.

Good reason to use a postal money order instead of paypal. With the
USPS you can get him for mail fraud, and those folks don't kid around.
They'll get the real ID info from ebay.

>
>My only hope is if someone knows his name and address information so I can
>pass it along to his local authorities.
>
>It's not a lot of money, but I don't like being ripped off. If anyone
>doesn't want to respond to the group just send an email.
>bobjames_2003@yahoo.com
>
>It sure would be appreciated.
>
>Bob
>
>"Browning Mark FourA" <sky.fourfourfour@verizon.net> wrote in message
>news:jt2tav897a4hcbe4muk8dnbp1o6v1b11og@4ax.com...
>> Bob if it was an eBay transaction then you should be able to go here
>> and get his info you will need the auction number and his user ID
>>
>> http://cgi3.ebay.com/aw-cgi/eBayISAPI.dll?MemberSearchShow
>>
>>
>>
>> On Tue, 29 Apr 2003 13:24:09 GMT, "BJ" <bobjames_2003@tyahoo.com>
>> wrote:
>>
>> >Ebay won't help - I keep getting canned messages back that they don't
>> >release personal info on people? Maybe someone here can help?
>> >
>> >I'm having a problem getting my money back from this guy and now he won't
>> >respond to emails or my requests for a refund although he says he has a
>30
>> >day money back guarantee on his products.
>> >
>> >I'm afraid to leave negative feedback which wouldn't help get my money

>> >anyway as he has already said he'll do likewise.
>> >
>> >I want to alert his local authorities and see if that does any good!
>Anyone
>> >know who this guy is?
>> >
>> >Bob J.
>> >
>>
>>
>>
>>
>> remove <SPAMSUCKS> to reply
>>
>

73 de Leigh W3NLB

1857. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:32:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pi9tav06bn7q8sq1ittmrrdfrhuoict3du@4ax.com>
Source record: 119759

On Tue, 29 Apr 2003 16:11:27 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Dear Richard,
>
>I've just spent another couple of hours trying to fathom out how your mind
>works.
>
>Good program writers must also be psychologists.

Psychiatry to 7 place precision (ï¿½3 dB).

You still have the capacity to yuk it up, Punchinello, Thanx for the
diversion from the antics of our clown in DC (seems his bro' in the
great GOP tradition is pulling a gingrinch by brushing off his wife
for a bimbo - or I am a fool to believe what I read, but part of that
two edged sword makes me one of your biggest fans ;-).

Keep up your good work!

73's
Richard Clark, KB7QHC

1858. FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:42:51 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EAEAB8B.1E6275@yahoo.bomb>
Source record: 119760
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Can anyone help here? Yaesu does not have it in stock
or available for download on their web site.

Change bomb to com to reply by email.

Thanks.

-Scott

1859. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:52:39 UTC
From: valmont <radiola.news.invalid@web2news.net>
Message-ID: <27481N759@web2news.com>
Source record: 119761
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

> Can anyone help here? Yaesu does not have it in stock
> or available for download on their web site.
>
> Change bomb to com to reply by email.
>
> Thanks.
>
> -Scott

Scot you be not aothorized to trasmit at 144 un 440 magherz.
--
Posted via http://web2news.com the faster web2news on the web

1860. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 16:55:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAEAE7D.A992E6F9@uci.edu>
Source record: 119762

OC_CAM's Razor wrote:
> I don't ever remember
> mentioning a "virtual reflection". What is a virtual reflection
> anyway?

I'm happy to let you adopt the term, Cecil. ;-) A virtual reflection
is the constructive interference you describe as a reflection caused by
destructive interference.

ac6xg

1861. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:11:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8mbnn$a2f$1@titan.btinternet.com>
Source record: 119763

Praise from you in praise indeed!

1862. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:18:29 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mc15$bjhu9$1@ID-150848.news.dfncis.de>
Source record: 119764

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8m87f$h1c$1@hercules.btinternet.com...
> Dear Richard,
>
> I've just spent another couple of hours trying to fathom out how your
mind
> works.

> Would you please do me a favour ?
>
> Obtain something which will serve as a coil former. Your left
forefinger
> will do.
>
> Borrow the length of string the kitten is playing with.
>
> Wind two spaced turns of string on your former. There's no need to
work to
> 8-digit accuracy.
>
> Then hold the assembly in front of your eyes with the ends of the
string on
> the non-visble side.
>
> You will observe the two turns are spaced apart by 9mm.
>
> 9mm is the winding pitch as correctly calculated by the program. It
first
> calculates pitch to calculate other values of greater interest. If I
had
> omitted to display the exact pitch amongst the other results somebody
would
> have been sure to complain. Good program writers must also be
psychologists.
> Guess why the program asks for ratio of wire diameter to winding pitch
> rather than just wire diameter or just pitch.
>
> To place things on a sound mathematical basis - if there are n turns
then
> winding pitch is coil length divided by n minus 1. This definition of
pitch
> is consistent with ANY number of turns - including ONE turn. The
length of
> a 1-turn coil is assumed by the program to be the wire diameter.

There's
> something in the program notes about.
>
> By the way, the ONLY way to check program accuracy is to wind a coil
and
> measure its dimensions and inductance. The last thing to do is compare
it
> with another program. When is your 1/2-wave, end fed antenna expected
to be
> ready for testing. ;o)
> --------------------
>
> If your two turns are the last two turns on your roller coaster then
by
> using SOLNOID2 you are barking up the wrong tree. As an exercise I'll
allow
> you to explain why?

How my mind works:

Tag wire onto one end of coil former. Make one turn coming back to the starting postion, but forward along the former by 4.5 mm. Keep continuing winding, winding one additional turn, once again moving 4.5mm along the former. End of wire now 9mm from end of coil former, and you have 2 turns. Pitch is distance travelled along former for every whole turn. Therefore this coil is wound with a pitch of 4.5mm, per turn.

Wire is 1.1mm diameter. Pitch ratio is 1.1/4.5 = 0.2444444.

Where is the erorr? I honestly cannot see it.

Rich.

1863. Re: 43mm diameter pipe & helix antenna problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:21:21 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <SeGdnUYD4fARKTOjXTWcpQ@comcast.com>
Source record: 119765

You want the circomference to be one wavelength. Hence, D=64 mm. Pipe is cheap.

Tam/WB2TT
"Xanax" <keepItInTheNewsGroups@news.com> wrote in message news:johra.10848$pK2.13926@news.indigo.ie...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> Is it possible to make a helix for 1.5Ghz using 43mm diameter pipe as the
> wire coil holder.
>
> I can seem to the figures to coinside with the helix requirements!
>
> Any ideas welcome!!
>
> Cheers
> Xanax.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPq2jhCGakPXr24F/EQJV7wCg1ldJSwxX7KDfWf2LLvOOdOSI9LgAnj9y
> lu6onA8NN3FXSdWl8F1Wfshv
> =qN82
> -----END PGP SIGNATURE-----
>
>
>

1864. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:21:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEB4AF.2060902@ieee.org>
Source record: 119766

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>I don't ever remember
>>mentioning a "virtual reflection". What is a virtual reflection
>>anyway?
>
> I'm happy to let you adopt the term, Cecil. ;-) A virtual reflection
> is the constructive interference you describe as a reflection caused by
> destructive interference.

Nothing virtual about that, Jim. The wave cancellation (destructive interference) occurs between two rearward traveling reflected waves. Those are the terms in the s-parameter equation: b1 = s11*a1 + s12*a2 In order for those two terms to cancel to zero reflections, they must be equal in magnitude and opposite in sign. Ergo, wave cancellation of energy traveling toward the source. The energy changes direction. That's a reflection. The reflected energy changes direction and flows toward the load. That's re-reflection.

Are you rejecting the laws of physics embodied in the s-parameters?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1865. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:26:06 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mcf3$bhh29$1@ID-150848.news.dfncis.de>
Source record: 119767

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8mc15$bjhu9$1@ID-150848.news.dfncis.de...

> How my mind works:
>
> Tag wire onto one end of coil former. Make one turn coming back to the
> starting postion, but forward along the former by 4.5 mm. Keep
> continuing winding, winding one additional turn, once again moving
4.5mm
> along the former. End of wire now 9mm from end of coil former, and you
> have 2 turns. Pitch is distance travelled along former for every
whole
> turn. Therefore this coil is wound with a pitch of 4.5mm, per turn.
>
> Wire is 1.1mm diameter. Pitch ratio is 1.1/4.5 = 0.2444444.
>
> Where is the erorr? I honestly cannot see it.
>
> Rich.

What gets me is why does the program insist that the wire diameter is
2.20mm and winding pitch is 9mm. Winding length is 9mm. Pitch is 4.5mm
and wire diameter is 1.1mm. A ruler will give you these figures.

1866. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 17:38:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAEB87B.712BE5E@uci.edu>
Source record: 119768

OC_CAM's Razor wrote:
> The
> energy changes direction.

Energy that never traveled backwards to begin with doesn't have to
reverse direction. But when you claim it does, you must invent a
reflective mechanism - a virtual reflector. ;-)

ac6xg

1867. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:12:13 UTC
From: Art <oscura@btinternet.co.uk>
Message-ID: <b8mf9t$t8o$1@hercules.btinternet.com>
Source record: 119621

I should like to ask a few G5RV questions.

At present I drive my full size G5RV antenna from a balun at the end of the feeder which is connected to an MFJ 969 ATU alongside the rig (Yeasu 875). I would like to build a balanced ATU to sit at the bottom of the feeder and wonder if anyone has tried this or has any designs.

Have been thinking of using the balanced tuner made by a German company http://www.hamware.de/hardware/tuner402/at402-e.htm .

--
regards

Martin M0MGM

"JDer8745" <jder8745@aol.com> wrote in message news:20030428100934.19203.00000384@mb-m01.aol.com...
> Howdy,
>
> I've always been amazed at all the hoopla about the G5RV. Remember the wire is
> the antenna. The ladder line isn't and neither is the coax.
>
> I have an "all band" antenna which is about 125 ft long at 30 feet and is fed
> with 300-Ohm low loss transmitting "twin lead".
>
> It gets the rf to the antenna from a balun at the rig.
>
> The SWR is very high on most bands I'm sure. I have never measured it. I'm
> not sure I can measure it with whatever equipment I have. (Haven't used the
> old double pilot bulb indicator in decades)
>
> But the transmitter puts 100 W out so I assume most of it reaches the antenna.
>
> I have no prob with routing the twin lead.
>
> K9CUN
>
>

1868. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:28:44 UTC
From: Art <oscura@btinternet.co.uk>
Message-ID: <b8mg8s$i9u$1@titan.btinternet.com>
Source record: 119622

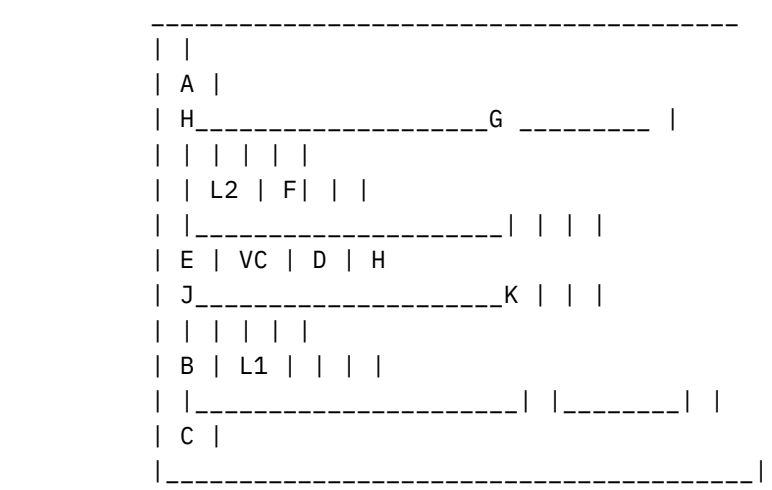
What is the operating frequency for GPS?

1869. Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:31:33 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mgab$bg654$1@ID-150848.news.dfncis.de>
Source record: 119623

I'm trying to fit 2 coils and a variable capacitor in the smallest polycarbonate plastic box I can get away with. It's the atu I'm making and it may be good for 100 watts. The components are good for 100W I'm sure, but maybe the layout I'm looking to acheive might mean I cannot use 100 watts, I dont know.

Here is the layout:



The Enclosure:

W = width = 250mm
H = height = 180mm
Depth = 100mm

Layout dimensions:

A from L2 to side = 15mm
B from coil ends to side = 10mm
C from L1 to side = 15mm
D from VC to side = 10mm
E from L1 to L2 40mm
F from end of coil ends to VC = 10mm
G coil terminal (to ant)
H coil terminal
J coil terminal
K coil terminal

Ceramic coil formers: Length: 130mm; dia. 48mm
VC: 90mm long, by 60mm by 60mm.

I think both coils should have the same winding sense as you look at them in the drawing. If I were to connect L1 and L2 together G would go to H I think, not J, but that might be a mistake. Maybe G should go to J. Off course there will be coil taps.

All components in drawing spaced about 15 or 20mm from top and bottom of case. We are looking from the top of the enclosure.

Enclosure to IP65 (I think that is okay).

Would would this layout be a disaster, or would I get away with it?

Enclosure would sit on a bricks or something just below the inverted L feedpoint.

TIA. Rich.

1870. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:35:05 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEC5D9.4050104@ieee.org>
Source record: 119624

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>The
>>energy changes direction.
>
> Energy that never traveled backwards to begin with doesn't have to
> reverse direction.

The energy reflected back from the load is certainly traveling
in the reverse direction. The s-parameter equation says that
a second wave is required to get rid of s12*a2. That second
wave is s11*a1. Hint: s11 is the *reflection coefficient*.
--
73, Cecil http://www.qsl.net/w5dxp

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1871. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:52:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vatifp7v071g8e@corp.supernews.com>
Source record: 119625

Sorry, I was hasty. I also have the 17th Edition, and I was looking at the first part of Chapter 25. On p. 25-1, there's the standard equation for complex reflection coefficient, although the preceding text says that "The Z0 mismatch creates a reflection having the magnitude . . .", implying it's only the magnitude. But then on p. 25-2, it's used in several power-related equations as a scalar magnitude even though it's described this time as being the "voltage coefficient of reflection".

I see that in Chapter 24, the Transmission Lines chapter, rho is used consistently as the complex reflection coefficient, and |rho| for magnitude, as you say. It appears that only the usage in Chapter 25 is amgiguous. I stand corrected -- thanks.

Roy Lewallen, W7EL

Wes Stewart wrote:
> On Mon, 28 Apr 2003 16:01:37 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
> [snip]
> |
> |The _ARRL Antenna Book_ and Maxwell's _Reflections II_ use rho as the
> |magnitude of the reflection coefficient and various notations for the
> |complex reflection coefficient.
>
> Hmmm. My ARRL Antenna Book (17th edition) says on page 24-6:
>
> "The reflection coefficient is thus a complex quantity, having both
> magnitude and phase, and is generally designated by the Greek letter
> rho, or sometimes in the professional literature as Gamma"
>
> In following expressions they use |rho| for the magnitude of the
> reflection coefficient.
>
> Where in your book are they using rho as a scalar?
>
> Wes

1872. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 18:54:08 UTC
From: Dean Arthur <dearthur@silverstar.com>
Message-ID: <3EAECA51.5850@silverstar.com>
Source record: 119619
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

How about filing a small claims court claim against e-bay as a
"co-conspirator" aiding and abetting the thief through its silence?

1873. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 19:06:56 UTC
From: Dean Arthur <dearthur@silverstar.com>
Message-ID: <3EAECD51.1340@silverstar.com>
Source record: 119620
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

I wonder how quick E-Bay would divulge info if sued in small claims court for aiding and abetting thievery by claiming "confidentiality" of thieve's records?

1874. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 19:09:24 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EAECDE5.EAC01B70@att.net>
Source record: 119626

Cecil,

Your question is pretty basic, and it fully supports what I said.

The extra energy is stored as internal energy in the coax. You know, 1/2 CV^2 and 1/2 LI^2. It would not be possible to have this stored energy if the input and output for the test section had been at all times exactly equal.

Conservation of energy works quite well for transients, in addition to steady state. The math can be a bit trickier.

You are still attempting to use the conservation of energy principle beyond its definition, and it ain't gonna work.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > You have referred to so-called packets of energy and attempted to apply
> > the conservation of energy principle. However, there is no scientific
> > basis for doing so.
>
> Well, let's see if there is or isn't. Consider the following example.
> The system is lossless.
>
> 100W---50 ohm---x---one second long 291.5 ohm feedline--y--50 ohm load
>
> The energy box is drawn around the one second long feedline through
> points x and y.
>
> The source is putting out 100 joules/sec. After steady-state has been
> reached the forward power incident upon the load is 200 joules/sec and
> the reflected power from the load is 100 joules/sec. After steady-state
> has been reached, the source has output 300 joules of energy that has
> not been dissipated by the load. Is that 300 joules conserved? If so,
> where are those 300 joules located?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1875. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 19:15:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAECF4C.BAB01A8D@uci.edu>
Source record: 119627

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> > >
> >>The
> >>energy changes direction.
> > >
> > > Energy that never traveled backwards to begin with doesn't have to
> > > reverse direction.
> >
> > The energy reflected back from the load is certainly traveling
> > in the reverse direction.

You say that every time you can't respond to my comment on your claims
about what happens at the impedance discontinuity.

1876. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 19:45:29 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <cCrndiCZZtr+Ewqs@b-howie.demon.co.uk>
Source record: 119628

In message <b8mgab$bg654$1@ID-150848.news.dfncis.de>, Richard
<nearlynews_email@ntlworld.com> writes
>I'm trying to fit 2 coils and a variable capacitor in the smallest
>polycarbonate plastic box I can get away with. It's the atu I'm making
>and it may be good for 100 watts. The components are good for 100W I'm
>sure, but maybe the layout I'm looking to acheive might mean I cannot
>use 100 watts, I dont know.

I'd turn one of the coils through 90 degrees since they might couple.
otherwise it looks OK. However depending on the capacitor rating, it
might arc over at 100W for short antennas.

Brian GM4DIJ

--
Brian Howie

1877. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 20:17:54 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8mmlian1@titan.btinternet.com>
Source record: 119629

Rich, when it comes to wriggling out of tight corners you are even better than Cecil, OC_CAM, W5DXP ;o)

You are supposed to remove the cat before winding the two turns round your forefinger.

To avoid confusing other readers -

"The engineering definition of winding pitch is the distance between adjacent wire centres."

With a long coil of many turns an easy, sufficiently accurate, approximation for pitch is length / turns.

But with an expression for the inductance for any number of turns, including 1 turn, the program does change horses several times in mid-stream. This would cause steps in an inductance/turns curve. So the exact value for winding pitch is length / (turns - 1).

(Have you noticed the simple formulae in handbooks do not apply to small coil-length/diameter ratios.)

There remains the residual uncertainty in overall coil length which is a less serious matter and depends on how the extreme ends of the coil are specified. Between which two points is the length of the coil to be measured? Remember, it's a mathematical computer program. There cannot be any 'ifs' or 'buts'. All data must be entered in one 'go'. The program asks only for a length. Users can please themselves what they consider 'exact' coil length to be. They will know better when they have actually wound it. It is not a weakness in a program any more than in an exact expression for inductance by Grover who simply specifies a length. Grover never had to enter his opinion about length into a keyboard.

Clearly this nitpicking doesn't matter very much because users remain happy in their ignorance of fractional turns and length and angles of connecting wires. As I've said before, the later generation of 'engineers', having been reared by computers, delude themselves about accuracy and reliability.

However, from the questions Richard asks it is obvious he has no intention to suffer from self-inflicted delusions..

Reg, G4FGQ

1878. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 20:40:20 UTC
From: richardharrison@webtv.net
Message-ID: <12210-3EAEE334-1075@storefull-2318.public.lawson.webtv.net>
Source record: 119633

CAM wrote:
"Wave 1: 50 volts at zero deg. 1 amp at 180 deg.
Wave 2: 50 volts at 180 deg. 1 amp at 0 deg.

What do you get when you add these two waves? Zero volts, zero amps. The energy in these two waves changes direction."

Wave 1 and Wave 2 are in phase opposition . They produce a short when joined.

At the short circuit point, ZL = 0, and the reflection coefficient is -1.0 on an angle of zero degrees = 1 on an angle of 180 degrees.

At the short it`s the reflected volts which change sign to account for a zero sum of forward and reflected volts. The current does not change sign at a short.

CAM also wrote:
"A junction showing 50 ohms in one direction and a virtual short in the other direction is an AC diode."

Not exactly. The 50-ohm line enforces its Zo and just as surely the 300-ohm line enforces its Zo. If we assume a lossless line, the sender delivers maximum power into the 50-ohm line and also into the 50-ohm load.

When impedances are conjugately matched for maximum power in one direction, they are also matched in the reverse direction. See "Transmission Lines, Antennas and Wave Guides" by King, Mimno, and Wing, page 43.

Best regards, Richard Harrison, KB5WZI

1879. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 20:43:31 UTC
From: KAZeringue <kazeringue@aol.com>
Message-ID: <3EAEE403.4020505@aol.com>
Source record: 119630

Cecil,

Just out of curiosity, in actual practice, how wide of an SWR bandwidth will one expect to see using this method of matching? (say 3:1, on a 40 meter vee or dipole, something my autotuner might be able to handle?)

How far off resonance might one go?

I'm inclined to try it out just to see, but that might need to wait a couple of seasons.... Hoping you might have some real world exerience to share.

thanks,
kaz, W4KAZ

1880. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 20:50:24 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <3gednUbeBuMQeDOjXTWcoA@comcast.com>
Source record: 119631

Richard,

Put the two inductors at right angles to each other. Else, you are building
a transformer.

Tam/WB2TT
"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8mgab$bg654$1@ID-150848.news.dfncis.de...
> I'm trying to fit 2 coils and a variable capacitor in the smallest
> polycarbonate plastic box I can get away with. It's the atu I'm
making.............................

1881. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 20:53:07 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EAEE633.B009B66@yahoo.bomb>
Source record: 119632
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,alt.ham-radio.vhf-uhf

> Scott <scott_unit_69@yahoo.bomb> wrote:
> > Can anyone help here? Yaesu does not have it in stock
> > or available for download on their web site.
> >
> > Change bomb to com to reply by email.
> >
> > Thanks.
> >
> > -Scott

> I can find lots of mod pages for the 727R,but no manual.

A new ham acquired this radio with no documentation. He needs to
know where to start to program it. Any help would be appreciated.

1882. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:18:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8mq6gmrt1@sparta.btinternet.com>
Source record: 119634

The efficiencies of a dipole antenna and its feedline are entirely
indpendent of each other or whether resonant or not.

Antenna efficiency has the same value regardless of feedline SWR. It
depends only on antenna wire resistance and ground losses.

Feedline efficiency depends only on VSWR and loss resistance of the feedline
conductors.

Overall loss is the sum of the individual losses.

Use small program DIPOLE3, obtainable from website below, download in a few
seconds, to study behaviour of dipoles of any length, at any height, fed by
feedlines of any type, of any impedance, or two feedlines one balanced and
the other coax as with a G5RV. The G5RV itself is available with one hit of
a key. Then just sweep frequency from one band to another to observe what
happens to SWR's and efficiency of the several parts of the system. Tuner L
and C settings and tuner efficiency are included.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

1883. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:21:18 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mq92$bilu1$1@ID-150848.news.dfncis.de>
Source record: 119635

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8mmlian1@titan.btinternet.com...
> With a long coil of many turns an easy, sufficiently accurate,
approximation
> for pitch is length / turns.

I'm not intersted in minutia, that is silly. If length of coil is 9mm
long and you have 2 turns you can reasonably say the winding pitch is
4.5mm. That is _physically_correct.

> But with an expression for the inductance for any number of turns,
including
> 1 turn, the program does change horses several times in mid-stream.
This
> would cause steps in an inductance/turns curve. So the exact value
for
> winding pitch is length / (turns - 1).

Well, if the program wants to say a 9mm long coil with 2 turns has a
pitch of 9mm in order to work out inductance so be it. But the physical
pitch_is_ 4.5mm!!

When I look at SOLONOID2.EXE I instictively concluded pitch was physical
pitch. Why should I not.

1884. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:45:39 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304291345.70a71881@posting.google.com>
Source record: 119637

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<uuvsav8adonsrqe2j781nsbko01crk2fjc@4ax.com>...
> |
> |[snip]
> |> Minor detail, I would emphasize rho = [S11] , which indicates the
> |> magnitude of the S11, as the voltage reflection coefficient is a
> |> scalar, not vector, quantity.
> |>
> |> You guys knew this, but the newbies may not have.
> |>
> |> Dr. Slick
> |[snip]
> |
> |I beg to differ, nothing could be further from the truth my friend.
> |
> |rho is not a scaler, rho is a complex number.
> |

I disagree from my sources: Les Besser defines Gamma=rho @ phase
angle, implying that the rho is the magnitude of the complex voltage
reflection coefficient (gamma).

I've seen SWR defined as this:

SWR= (1+rho)/(1-rho)

If rho was always defined as a vector or complex number, this
would not be correct, as the SWR is certainly scalar.

In which case, you would have to say;

SWR = (1+[rho])/(1-[rho])

But most sources i have seen don't say this! They don't bother
to put two straight lines to indicate magnitude on the rho.

Look on any sliding reflectometer calculator, and you will see a
plain rho labeling a scalar gradation from 0 to 1.

> |rho, and also its equivalent scattering parameter S11 are just simple
> |complex numbers, not vectors.
> |

This is a matter of definitions, but in the engineering world,
the complex impedance S11 is also considered a vector of magnitude
0-1, with phase angle from 0-360.
If you look at how the Smith Chart was laid out, you will see

that the vector reflection coefficient has been laid over a "bilinear transformation" of the complex impedance. This is what the Smith Chart is all about: relating a vector measurement to a complex impedance.

So you can say an S11=magnitude @ phase angle, OR... S11= 45 Ohms +/- j 20 Ohms, for example. The two are interchangable on the Smith Chart.

That is why then call them Vector Network Analysers.

A Scalar network analyzer can only measure attenuation or gain, but not complex impedance.

>
> You need to get HP (Aligent), Wiltron, et al, to stop calling their
> instruments "Vector" Network Analyzers and "Vector" Voltmeters. <g>

Absolutely incorrect, they should and do call them VECTOR Network Analysers.

Dr. Slick

1885. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:46:59 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mrom$bgome$1@ID-150848.news.dfncis.de>
Source record: 119636

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:3gednUbeBuMQeDOjXTWcoA@comcast.com...
> Richard,
>
> Put the two inductors at right angles to each other. Else, you are
building
> a transformer.

I probably will, but I will need a bit bigger box.

The coils are 48mm dia. If they the arrangement was kept and they were spaced 50mm apart and a metal plate (grounded) was placed in-between the coils, would that suffice?

1886. Return Loss Bridge Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:47:25 UTC
From: kg6zi@yahoo.com
Message-ID: <3f36625c.0304291347.63010a3c@posting.google.com>
Source record: 119638
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hello everyone,

I've recently come across a design for a resistive 50 ohm
broadbanded RLB from Gyula Nagy, HA8ET, and am curious about a few
things those with a more engineering mind might help with.

You can see it at:
http://www.pollak.sulinet.hu/elektro/hidak/bridge/how_to.htm

In particular, I'm interested in a device with a low drive
requirement. The designer says the minimum drive is 100 mw with 1
watt (!) being typical. That just sounds high to me. I'd rather have
a device that I can use a bench signal generator and not worry about
having to develop 100 mw of drive at whatever frequency. This isn't
so much of a problem in the ham bands of course, but my interests go
beyond those frequencies and I'd rather not have to develop (or
radiate) that much power there.

Is the limiting factor in drive level simply the sensitivity
of the detector, or are there other factors at work here. The use
proceedure in the above link asks the user to deliver 2.5 to 3 volts
to the meter and read return loss from a precalculated table. Is is
simply a matter of using a more sensitive scale (with less drive of
course) and using the voltage change to loss formula? I realize there
are losses in a resistive bridge design to overcome...how are these
factored in to my question?

Thanks for your time...

Dennis

1887. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:49:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEF372.1090702@ieee.org>
Source record: 119639

Gene Fuller wrote:
> Your question is pretty basic, and it fully supports what I said.

Yes, I know, Gene. I suspect that you and I are in full agreement
and you just don't realize it.

> You are still attempting to use the conservation of energy principle
> beyond its definition, and it ain't gonna work.

I don't think so, Gene. Instead of looking at it as energy stored in the
reactive components, another equally valid way of looking at is is that
the energy is stored in the forward wave and reflected wave. The forward
wave is storing 200 joules with the voltage and current in phase and the
reflected wave is storing 100 joules with the voltage and current in
phase. Superposition of those two waves causes the standing waves from
which you obtain your energy stored in the reactive components. If you
don't support the wave reflection model, as some who have adopted a
quantum physics approach to transmission lines have done, just say so
and feel free to start another thread asserting that the wave reflection
model is obsolete. I suspect that is what you believe.

As you know, any wave or wave component that has its voltage and current
in phase is associated with an energy (power) of V*I. The model is perfectly
consistent. The s-parameter equations:

b1 = s11*a1 + s12*a2 b2 = s21*a1 + s22*a2 for voltage

imply V^2/Z0 amount of energy/sec in each of those components, does it not?
Those equations are perfectly compatible with:

Vref1 = Vfwd1*Rho(1) + Vref2*Tau(2) Vfwd2 = Vfwd1*Tau(1) + Vref2*Rho(2)

where Rho is the appropriate reflection coefficient and Tau is the appropriate
transmission coefficient.

I have been trying my best to simplify my postings. Maybe I shouldn't have
bothered.
--
73, Cecil http://www.qsl.net/w5dxp

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1888. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:56:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEF51A.8030909@ieee.org>
Source record: 119640

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>The energy reflected back from the load is certainly traveling
>>in the reverse direction.
>
> You say that every time you can't respond to my comment on your claims
> about what happens at the impedance discontinuity.

Nope, I say that every time you assert that there is absolutely no energy traveling toward the source. Something has to turn that reflected energy around. You have offered no valid physics for that energy turn-around. In the absence of wave cancellation between two waves traveling in the same direction with equal magnitudes and 180 degrees out of phase, you have to prove that an AC diode really exists, i.e. 50 ohms in one direction and an open circuit in the other direction. We are waiting.

Please prove that b1 = s11*a1 + s12*a2 doesn't really happen.
--
73, Cecil http://www.qsl.net/w5dxp

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1889. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:57:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ptstavske7b7p4bgln4pb63atl6gral7ad@4ax.com>
Source record: 119641
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

On Tue, 29 Apr 2003 12:06:56 -0700, Dean Arthur
<dearthur@silverstar.com> wrote:

>I wonder how quick E-Bay would divulge info if sued in small claims
>court for aiding and abetting thievery by claiming "confidentiality" of
>thieve's records?

:-)
As if they had never considered nor encountered this in several
billion trades. Look at the number of CEO's taking a bonus for
delivering capital assets to morgue and try to call a cop. You might
get off easy with 20 years in Sing-sing.

Wait a year, bring it up again, and the GOP could use this outrage to
lever us into taking out France for harboring known Bids of Massive
Consumption.

It sure takes a lot of excuses to not do the right thing first: drop a
dime.

73's
Richard Clark, KB7QHC

1890. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 21:59:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEF5C7.5070805@ieee.org>
Source record: 119642

Reg Edwards wrote:
> Rich, when it comes to wriggling out of tight corners you are even better
> than Cecil, OC_CAM, W5DXP ;o)

When one is a ten-dimensional creature, there is always an escape route. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1891. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:10:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEF840.80504@ieee.org>
Source record: 119643

Richard Harrison wrote:
> CAM wrote:
> "Wave 1: 50 volts at zero deg. 1 amp at 180 deg.
> Wave 2: 50 volts at 180 deg. 1 amp at 0 deg.
>
> What do you get when you add these two waves? Zero volts, zero amps. The
> energy in these two waves changes direction."
>
> Wave 1 and Wave 2 are in phase opposition . They produce a short when
> joined.

They produce a short to voltage *AND* current. Under normal reflection circumstances, a short to voltage is NOT a short to current and vice versa.

> At the short circuit point, ZL = 0, and the reflection coefficient is
> -1.0 on an angle of zero degrees = 1 on an angle of 180 degrees.

Nope, current doesn't go to zero when ZL=0. Current doubles. Please try again.

> At the short it`s the reflected volts which change sign to account for a
> zero sum of forward and reflected volts. The current does not change
> sign at a short.

That's correct, but in this canceled wave case, the current does indeed change sign. Not only that, the current is transformed to a different Z0 and so is the voltage which, incidentally, is not zero.

> Not exactly. The 50-ohm line enforces its Zo and just as surely the
> 300-ohm line enforces its Zo.

Trouble is, the canceled waves are transformed from V/I=50 to V/I=300 traveling in the opposite direction. How does that come about?
--
73, Cecil http://www.qsl.net/w5dxp

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1892. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:19:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEFA6A.7070901@ieee.org>
Source record: 119644

KAZeringue wrote:
> Cecil,
>
> Just out of curiosity, in actual practice, how wide of an SWR bandwidth
> will one expect to see using this method of matching? (say 3:1, on a 40
> meter vee or dipole, something my autotuner might be able to handle?)
>
> How far off resonance might one go?
>
> I'm inclined to try it out just to see, but that might need to wait a
> couple of seasons.... Hoping you might have some real world exerience
> to share.

Well, the big boys tell me that a one-wavelength dipole might be worst
case for bandwidth. Of course, since I can change the length of my
feedline at will, I don't have to worry about bandwidth. But bandwidth
for my 130 ft dipole used on 40m can be calculated from the 40m SWR
curves on my web page. The 2:1 bandwidth appears to be about 160 kHz.
The 3:1 bandwidth appears to be about 270 kHz, almost the entire band.
Built-in tuners will probably match the 3:1 bandwidth with no sweat.

Since I got my IC-756PRO, I only use one ladder-line length setting per
band. Guess I'm just lazy and am not keeping the faith. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1893. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:23:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jqrtavoice355v47958uuf9m6a97bbjtvg@4ax.com>
Source record: 119645

On Tue, 29 Apr 2003 22:21:18 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>
>When I look at SOLONOID2.EXE I instictively concluded pitch was physical
>pitch. Why should I not.

Consult the documentation first (a painful personal responsibility).

That's still true even for hardware, textbook examples, and instinct
more so. That's called engineering. Or scribble for answers to a
group of idiot-savants. ;-) Also known as calling in consultants.
Half the answers are guaranteed to be right.

If you actually PAID for the advice, the consultants would at least
offer something you could accept (it doesn't have to be accurate,
ballpark or even in the same reality as long as YOU expect that
answer). Anderson Consulting made a living at this for decades.

It's nice you want to test results. However that value is diminished
to zero (if not a negative impact) when you accept identical numbers:
that only happens when serious mistakes are repeated. If these two
software packages offered you the same numbers, you would have never
noticed they were both wrong (or right - how CAN you tell?).

Reg's only practical suggestion is to measure the coil physically and
electronically to compare to the software's attempt. This of course
raises the un-mumbled question: "What do I need the software for?"
Aside from that paradox, the question of the ages "is it right?"
remains because one measurement is meaningless, two lead only to
confusion (anyone want to debate that in the face of 100 postings
evidence?) and you barely know where you are with three.

Lastly, it is absurd to expect more accuracy from software than you
could possibly achieve at the bench. To expect a row of digits to
come to your rescue will have you treading water for a long, long
time. One very telling point is that your tight tolerances of
inductance per turn is washed over by far more error introduced by the
superfluous leads flying off the coil, the switch, even the Cap's lead
inductance, errors of poor termination, and on and on. A roller
inductor offers many of the same blind-sides and the comfortable
illusion of precision (not the same thing as accuracy).

73's
Richard Clark, KB7QHC

1894. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:35:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vatvhm3lc96s1c@corp.supernews.com>
Source record: 119646

Richard's definition of pitch is the only one I've ever seen (e.g., _Radiotron Designer's Handbook_, _ARRL Handbook_) and it makes sense to me too. I couldn't find the term used at all in Terman's _Radio Engineering_ or in _Reference Data for Radio Engineers_.

Reg, have you found your definition to be used elsewhere? If so, where?

Roy Lewallen, W7EL

Richard wrote:
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:b8mmlian1@titan.btinternet.com...
>
>>With a long coil of many turns an easy, sufficiently accurate,
>
> approximation
>
>>for pitch is length / turns.
>
>
> I'm not intersted in minutia, that is silly. If length of coil is 9mm
> long and you have 2 turns you can reasonably say the winding pitch is
> 4.5mm. That is _physically_correct.
>
>
>>But with an expression for the inductance for any number of turns,
>
> including
>
>>1 turn, the program does change horses several times in mid-stream.
>
> This
>
>>would cause steps in an inductance/turns curve. So the exact value
>
> for
>
>>winding pitch is length / (turns - 1).
>
>
> Well, if the program wants to say a 9mm long coil with 2 turns has a
> pitch of 9mm in order to work out inductance so be it. But the physical
> pitch_is_ 4.5mm!!
>
> When I look at SOLONOID2.EXE I instictively concluded pitch was physical

> pitch. Why should I not.
>

1895. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:37:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAEFEBB.2090701@ieee.org>
Source record: 119647

Dr. Slick wrote:
> I disagree from my sources: Les Besser defines Gamma=rho @ phase
> angle, implying that the rho is the magnitude of the complex voltage
> reflection coefficient (gamma).

That is exactly what I was taught at Texas A&M in the 50's. Capital
Gamma includes the phase angel and Rho is just the magnitude. 'Course
that was half a century ago. The absolute unquestionable laws of
physics seem to evolve with time. :-) What? (tnx Peter)
--
73, Cecil http://www.qsl.net/w5dxp

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1896. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:41:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vatvss3thpto21@corp.supernews.com>
Source record: 119648

Any shield that will be effective in isolating the inductors will also
be likely to substantially lower the inductors' Q.

If I were doing this, I'd seriously consider winding the inductors on
large or medium sized powdered iron (type 2 or 6) cores. I'll bet the Q
would be as good as for air core inductors of that size in that
environment, and coupling problems would be effectively eliminated.

Roy Lewallen, W7EL

Richard wrote:
> "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
> news:3gednUbeBuMQeDOjXTWcoA@comcast.com...
>
>>Richard,
>>
>>Put the two inductors at right angles to each other. Else, you are
>
> building
>
>>a transformer.
>
>
> I probably will, but I will need a bit bigger box.
>
> The coils are 48mm dia. If they the arrangement was kept and they were
> spaced 50mm apart and a metal plate (grounded) was placed in-between the
> coils, would that suffice?
>

1897. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 22:58:48 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8mvv1$bnjn7$1@ID-150848.news.dfncis.de>
Source record: 119649

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:jqrtavoice355v47958uuf9m6a97bbjtvg@4ax.com...
> On Tue, 29 Apr 2003 22:21:18 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
> >
> >When I look at SOLONOID2.EXE I instictively concluded pitch was
physical
> >pitch. Why should I not.
>
> Consult the documentation first (a painful personal responsibility).

As far as I can tell, there is nothing in the documentation in
SOLONOID2.EXE that tells you don't think the calculated wire diameter
and winding pitch is fictitious and should not be taken as a literal
physical quantity.

> Lastly, it is absurd to expect more accuracy from software than you
> could possibly achieve at the bench. To expect a row of digits to
> come to your rescue will have you treading water for a long, long
> time. One very telling point is that your tight tolerances of
> inductance per turn is washed over by far more error introduced by the
> superfluous leads flying off the coil, the switch, even the Cap's lead
> inductance, errors of poor termination, and on and on. A roller
> inductor offers many of the same blind-sides and the comfortable
> illusion of precision (not the same thing as accuracy).

As to the tight tolerances of inductance per turn, or any other quanity,
please don't confuse a pechant for putting in decimal places for a
misunderstanding of the situation.

As for software accuracy of a coil with no leads, it ought to fairly
good, within half a uH?

Rich.

1898. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:01:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8n04v$bo8q0$1@ID-150848.news.dfncis.de>
Source record: 119650

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b8mvv1$bnjn7$1@ID-150848.news.dfncis.de...

> > Consult the documentation first (a painful personal responsibility).

Maybe you mean "proper documentation". :c)

1899. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:09:17 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n0mu$7pp$1@slb1.atl.mindspring.net>
Source record: 119651

Richard:

Heh, heh...

I know, I know... Cecil would love that chapter of Bode's book.

...but my poor old copy of Bode's celebrated book is in such precarious
shape that I dare not ship it out to Cecil.

--
Peter K1PO
Inidalantic By-the-Sea, FL.

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:7d4savkgbgnrfck8f7ekpsnq98v3miqim7@4ax.com...
> On Mon, 28 Apr 2003 22:46:04 -0400, "Peter Brackett"
> <ab4bc@ix.netcom.com> wrote:
>
> >1) H. W. Bode, "Network Analysis and Feedback Amplifier Design", D. Van
> >Nostrand, NY 1945, p.364.
> >
> >- reflection coefficient, rho is *complex*.
> >
> Hi Peter,
>
> The page is more notable in that it covers the analysis of a
> discontinuity from both sides that so interests Cecil (Hint). It may
> no longer be unique, but it was Bode who formalized this entire line
> of enquiry.
>
> 73's
> Richard Clark, KB7QHC

1900. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:10:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8n0og$6mq$1@sparta.btinternet.com>
Source record: 119652

"OC_CAM's Razor" wrote -

> Nope, feed that 50 ohm antenna with an even multiple of half-
> wavelengths of feedline and forget the tuner. :-)

==========

You forgot to add the loss of the increased length of feedline.

It could very likely be greater than the loss in the tuner you have just junked.

An estimate could be obtain by comparing the length and diameter of the wire in the tuner with those of the line taking the currents into account.

An accurate comparison can be made using program DIPOLE3.

Reg

1901. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:13:56 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <6o1uavc106f06pjei20ugnfnpn3scl5tne@4ax.com>
Source record: 119656

On Tue, 29 Apr 2003 15:35:36 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard's definition of pitch is the only one I've ever seen (e.g.,
>_Radiotron Designer's Handbook_, _ARRL Handbook_) and it makes sense to
>me too. I couldn't find the term used at all in Terman's _Radio
>Engineering_ or in _Reference Data for Radio Engineers_.
>
>Reg, have you found your definition to be used elsewhere? If so, where?
>
>Roy Lewallen, W7EL

Careful Roy, remember what side of the road he drives on :-)

Danny

1902. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:20:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAF08A8.24C2877A@uci.edu>
Source record: 119653

OC_CAM's Razor wrote:
> Nope, I say that every time you assert that there is absolutely no energy
> traveling toward the source.

But that was not the context of my remarks.

> Something has to turn that reflected energy
> around.

There's no way to physically approach a turn-around in energy. Physics approaches it slightly differently. P3 and P4 interfere at the discontinuity, with destructive interference to the left of the discontinuity, and constructive interference to the right. The result is that there is a net field in the direction of the load, and no net field in the direction of the source. You can jump up and down for weeks about how energy changed directions if you want. But that's just not the most accurate way of portraying the nature of the physics. It certainly does not yield a cogent and defensible analysis at the discontinuity. Nevertheless the end result, as I have said all along, is just as you describe.

1903. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:30:16 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n1u9spu1@slb1.atl.mindspring.net>
Source record: 119654

Bill:

There is the set of real numbers "R", and there is the set of complex numbers "Z" formed by the Cartesian Cross of "R's".

When it comes to numbers, that's all there is. There ain't no more! Just two! Reals and Complexes.

Been proved by the Mathematicians since long before any of us on this NG were born and long ago first named by the Mathematicians to boot.

[Unless of course you count Hamilton's "Quarternions", which are in fact composite objects more usefully labeled/named complex vectors, but then they are so unique in themselves that perhaps Hamilton deserved to name them something different.]

Gauss et al would roll over in their graves if they knew that at this late date folks were "renaming" their babies.

IMHO...

The term complex number is the original and best label/name for those two-element mathematical objects which obey the laws of complex arithmetic.

Long after they were originally discovered and named, a few minor characters came along and tried to rename then when used in special applications and trades. Electrical Engineering has been particularly guilty of this... mainly because some early EE's were not trained in complex numbers but had to use them nonetheless and so simply renamed them in the hope of making them simple! The terms "phasor" and even "sinor" have been used by many to label the same objects originally and still known as complex numbers. Because a few have done so, does not legitimize is, does it. What's wrong with the original? Tower of Babel indeed! I agree that the use of the term vector for a complex number often encountered. But that is patently wrong, a vector can be complex, but a complex is not a vector. Vectors and ''vector spaces" are elements of a quite different set of mathematical objects and they obey a different arithmetic than that of the complexes. Vector addition is very similar to complex addition, but multiplication and division of vectors are completely different from similarily named operations on complex's!

At least "phasor" and "sinor" are not a misuse or incorrect use of terminology, they are just other names invented by well meaning souls for the same thing we know as a complex number.

I don't know what more to say about the use of the label vector for a complex number other than making the point that, calling a complex number a

vector is just plain *WRONG*.

You can do so if you like, but that still doesn't make it right.

Mind you I am an EE and not a Mathematician, and I have often misused all of the above terms on occasion. But I see that misuse as the work of an angry God, pissed at all of the the poor misguided EE's and hams trying to build their antenna towers almost up to heaven!

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"William E. Sabin" <sabinw@mwci-news> wrote in message
news:3EAE891A.5060708@mwci-news...
> Wes Stewart wrote:
> >
> >
> > You need to get HP (Aligent), Wiltron, et al, to stop calling their
> > instruments "Vector" Network Analyzers and "Vector" Voltmeters. <g>
>
> This usage of "vector" is correct, as the term is
> used to describe a "column" or "row" or a
> "sequence" of complex numbers. On a polar plot on
> the screen or on graph paper the numbers can also
> be called "phasors" (preferably) or "vectors"
> (maybe not strictly according to tradition).
>
> Those guys know what they are doing.
>
> Bill W0IYH
>
>
>

1904. Re: Satellite Mesh digital /analogue

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:31:07 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <vau2qgfsa6d23f@corp.supernews.com>
Source record: 119655

Hi,

Perhaps not applicable. In the old "c-band" days we only needed mesh "so tight" - wave length you know - the came the little silly dish (well actually KU added with C band first - a DXers paradise) which I believe is KU band. Needs smaller holes in the mesh. <G> Well perhaps a poor reply, but none the less.

By now, as the others say, likely just marketing hype. But then this sounds like poor marketing hype.

Cheers,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

1905. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:48:59 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n31b$52l$1@slb2.atl.mindspring.net>
Source record: 119657

Dr. Slick:

[snip]
> That is why then call them Vector Network Analysers.
>
> A Scalar network analyzer can only measure attenuation or gain,
> but not complex impedance.
[snip]

Well folks I disagree with that usage. I agree that it is in use and was introduced by specialist
Engineers who were only interested in their own *small* view of the world.

An n-vector of voltages V would look like the following:

V = (v1, v2, v3, v4... vn)

And an n-vector of currents I would look like the following:

I = (i1, i2, i3, i4... in)

Each of the elementary v's and i's could most generally be complex numbers having magnitude and phase.

If these vectors V and I referred to the voltages and currents at the ports of a multiport network [n-port network in this case], then v1 is the voltage at port 1 and i1 is the current at port 1, and v2 is the voltage at port 2, etc...

Then an analyzer that connected up to all n ports or even a subset of them larger than one port could "legitimately" be called a Vector Network Analyzer, but it would have to produce complex outputs of real and imaginary or alternatively magnitude and phase information for each port and inter-port transfer functions.

As a particular example, an analyzer that could be simultaneously hooked up to all three of the ports on a three port circulator and produce complex observations from the measurements of v and i at the ports could legitimately be called a Vector Network Analyzer.

Re-iterating:

A scaler network is a network with only one port, i.e. a single driving point impedance.

A vector network is a network with two or more ports, i.e. it has multiple driving points. e.g. Circulator, directional coupler, the electricity power distribution network, etc...

The name vector network analyzer should be legitimately reserved for a multi-port analyzer, although not many such analyzers are readily available.

An analyzer that can "analayze" only a "one-port" network, i.e. a single driving point impedance is
by definition a scaler network analayzer and should more legitimately be called a complex port analyzer *not* a vector analyzer. Vectors are simply not complex numbers. A vector can be complex, but a complex is not a vector!

The fact that some commercially minded manufacturers of test equipment have blatently over-promoted their one port limited instruments by misusing the term "Vector Network Analyzer" should not be allowed to legitimize such blatent disregard for well defined terminology. I say for shame, calling them Vector Network Analyzers is almost as bad as calling Hewlett-Packard Agilent. No worse!

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

1906. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:56:46 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n3fu$u93$1@slb6.atl.mindspring.net>
Source record: 119658

Cecil:

[snp]
> that was half a century ago. The absolute unquestionable laws of
> physics seem to evolve with time. :-) What? (tnx Peter)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Nope, the laws of Physics are not evolving.

But the misuse of well established terminology by each new generation of folks who think they can "splain" things better than "The Masters" by using newly invented words for the same old things is evolving, and far too rapidly in my humble opinion.

What's wrong with original names?

I say...

Let the new comers of each generation work on inventing new mathematical objects or discovering new physical objects, previously unknown to all, and then claiming the right to name those new objects.

Newcomers should just stop wasting their time, and dishonoring "The Masters", by attempting to rename all what has been invented before them.

Do the hard work, go invent new stuff and then give the new stuff whatever name you like.

Don't waste your time and effort renaming what was already named!

Thoughts, comments?

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

1907. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-29 23:58:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vau4dvjjnl37cc@corp.supernews.com>
Source record: 119659

So far, I haven't heard anyone complain about engineers using "impedance" or "reflection coefficient" as just other ways to say "complex number" -- but I'm sure I will, if I hang around long enough.

Complex numbers can be used to quantify many things, like impedance -- just like real numbers can represent anything from dollars to donuts. A phasor isn't synonomous with a complex number any more than impedance is -- it's one of the many things that can be represented with a complex number. It would be a mistake to ignore the fact that a phasor represents, with a complex number, a quantity that changes at an assumed rate in a sinusoidal manner. That is, a voltage or current represented by a phasor includes an implied omega-t time variation that isn't included in the complex number called a phasor. The complex number is only one part of a phasor -- the rest is the implied sine function.

Forgetting about the implied time variance, and thereby considering a phasor to be "only" a complex number, can lead to some pretty mistaken ideas about what's happing within electric circuits. I think it's important to maintain the distinction.

Roy Lewallen, W7EL

Peter Brackett wrote:
> . . .
> At least "phasor" and "sinor" are not a misuse or incorrect use of
> terminology, they are just other names invented by well meaning souls for
> the same thing we know as a complex number.
> . . .

1908. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:06:58 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n433cvu1@slb9.atl.mindspring.net>
Source record: 119660

Cecil:

[snip]
> But don't the people who use them have the same "problem" I have been
> accused of having here on rraa? i.e. superposition of power? :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

No, not really they just don't do that kind of thing.

It might be useful for you to spend a little time with the Scattering formalism and the Scattering matrix which is the vector generalization of the reflection coefficient. A lot of the material you have been contemplating and attemting to explain is readily found, and is "old ground" in that literature.

I recommend Chapter Four "The Scattering Matrix" Section 4.13 on complex normalization of the Scattering Matrix in:

Herbert J. Carlin, and Anthony B. Giordano, "Network Theory: An Introduction to Reciprocal and Nonreciprocal Circuits", Prentice-Hall, Englewood Cliffs, NJ, 1964. LCCN 64-11259.

You should find it in the "Aggie" technical library at LC Shelf Call Number: TK3226.C29.

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

1909. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:09:40 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n485med1@slb0.atl.mindspring.net>
Source record: 119661

Cecil:

[snip]
> How do you differentiate between s12 for voltage and a different s12
> for current? At an impedance discontinuity involving two different
> characteristic impedances in a transmission line, the s12 for voltage
> equals the s21 for current and vice versa.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

In the Scattering formalism all such differentiation is revealed.

But you gotta be prepared to use "vectors" *and* complex numbers to
understand it.

As they used to say on that television commercial about Italian Spaghetti
Sause, "it's all in there!"

--
Peter K1PO
Indialantic By-the-Sea, FL.

1910. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:20:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EAF16DD.4EE6FB4F@uci.edu>
Source record: 119664

OC_CAM's Razor wrote:
> Trouble is, the canceled waves are transformed from V/I=50 to V/I=300
> traveling in the opposite direction. How does that come about?

Actually, that's not the trouble. The cancelled waves obviously don't
go anywhere. The constructive wave does go somewhere though.

ac6xg

1911. Re: Questions From A Re-Tread

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:21:31 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <fGEra.28301$XE.1561828@news1.east.cox.net>
Source record: 119662

Balanced line and tuners have re-emerged as very respected antenna makers.
The B&W has not. I never heard 3 db mentioned - I thought it was a lot more
than that. Even so 3 db is half your power wasted.

I used a vertical as you describe on my metal roof and it worked great.
Just don't run the feed line horizontal too far. Get it straight down as
fast as you can or it will pick up RFI.

My inverted L fed in the middle at the top with ladder line works better
than the vertical ever did.

Remember how much fun you had experimenting before? Try it again.

--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64
"Greg Queen" <gqueen@sbcglobal.net> wrote in message
news:sf1pa.487$5S.34398302@newssvr21.news.prodigy.com...
> I recently retired and I am about to re-license after a
> 20-year absence from amateur radio. I will re-license as an
> Amateur Extra class operator. The hobby has changed a lot
> since I was last involved. With all the changes, I want to
> get back on the air at a modest cost and then see where I
> want to go in the endeavor. After I blow out the dust and
> clean it up, I will use my 20-year old Yaesu FT901DM as the
> "starter" rig.
>
> The shack will be on the second story of the home.
>
> I have a metal roof. Not sheets of metal. It is metal
> shingles formed and coated to resemble tile, and applied
> much like a composition (asphalt/fiberglass shingles) roof.
> I do not believe the coating is electrically conductive. I
> would not think there was a good electrical bond (either DC
> or RF) between the individual shingles. Viewed from the
> top, this is 1300 square feet of overlapping coated metal.
>
> I am wrestling with decisions regarding the antenna,
> grounding, and effects of my roof and would appreciate
> comment and advice on the following.
>
> 1) I have a 10' ground rod (installed 20-years ago) that
> is about 30-feet (as the copper runs) from the shack.

> There is very little I can do shorten this length with
> the shack's location on the second floor. I am not
> worried from an electrical safety point of view but
> from an rf-ground point of view, I suspect this
> arrangement approaches uselessness. I have seen some
> "ground tuners" that (if I read the material correctly)
> can be used to establish a good rf-ground in the shack.
> Is there value to these? Should I consider them?
>
> 2) The roof has joints (shingle-to-shingle) contact.
> These joints, or at least some of them, may be
> conductive. If the roof is exposed to an RF field
> (i.e., the transmit power) could it become a source of
> RFI? The mechanism that worries me (maybe I am just
> paranoid) is that the joints will act as non-linear
> junctions and generate harmonics and such which are
> then radiated. That is with a perfectly clean waveform
> at the end of the coax, would/could the roof generate
> RFI?
>
> 2) Previously I used a 10m --> 40m trap vertical (Hy-Gain
> 14AV, I think) mounted on the peak of the roof with the
> radials spread across the roof (one of the 40-meter
> radials was "bent" to accommodate the roof dimensions).
> The antenna was removed, and discarded, years ago
> during a re-roofing operation. Though antenna worked
> quite well, I had some pretty strong RF-fields in the
> house when I was transmitting (gauging from what it
> would do to audio equipment). I could "hear" as well
> as anyone in the area. One of the current antenna
> options under considerations is a multi-band vertical.
> This time I would go for one with a "counter-poise" as
> opposed to a radial system (smaller footprint) and
> mount it on a pipe extending upward from a wall at the
> corner of the house. If I go this route, the base of
> the antenna would be about 8' above the roof (the
> pitch of the roof would cause the longest elements of
> the counterpoise to not have as much roof clearance).
> Any thoughts or comments on this antenna approach?
>
> 3) Another antenna under consideration is a folded dipole
> (the 65 or 90-foot version from B&W) along the back
> fence (basically an east-west run). The end-points
> would be 20-feet (possibly 25-feet) above ground with
> normal droop to the middle. Given all the conditions,
> the feed line may actually slant upwards (to a gable
> vent in the house) for entry to the shack. From the
> characteristics of a dipole, I would expect reasonably
> omni-directional performance on the lower bands (due to
> physical ground proximity) and bi-directional

> (north-south) performance on the higher bands. I am
> aware of the loss issues (swamping resistor) and for
> the multi-band convenience would live with the 3-db or
> so penalty. Any thoughts or comments on this antenna
> approach.
>
>
> Thanks in advance for you time, advise, and comments.
>
> Greg Queen
> GregQueen@cal.berkeley.edu
>
>

1912. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:29:35 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n5dg$h21$1@slb9.atl.mindspring.net>
Source record: 119663

Thread:

[snip]
"Art" <(ANTI SPAM -deleate to email)oscura@btinternet.co.uk> wrote in
message news:b8mg8s$i9u$1@titan.btinternet.com...
> What is the operating frequency for GPS?
[snip]

Don't anyone tell him he might be a jammer!

--
Peter K1PO
Indialantic By-the-Sea, FL.

1913. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:32:48 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EAF19CF.7010809@adelphia.net>
Source record: 119665

Richard Clark wrote:
> On 28 Apr 2003 07:21:50 -0700, nm5k@wt.net (Mark Keith) wrote:
>
>
>>Mike Coslo <mcoslo@adelphia.net> wrote in message
>>
>>> I'll second that, Brian. Last year a club member made a nice elevated
>>>radial antenna for our GOTA station. Worked great for DX, but we had NO
>>>local stuff at all. Not one in-state QSO.
>>
>>If that was a higher band, IE: 20-10, that may have been more due to
>>cdx/skip distance than the antenna. You probably didn't hear locals
>>because they were skipping over you most likely. MK
>
>
> Hi Mark,
>
> It's probably simpler than that. The ones that don't hear you are the
> ones you couldn't see if you looked (this is not to be confused with
> Cecil's plight of sight).

Allright I'll bite. What does that mean?

- Mike KB3EIA -

1914. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:33:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nf4uavchunhjg5rigrvj2vp42eftmtii9h@4ax.com>
Source record: 119666

On Tue, 29 Apr 2003 23:58:48 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>As to the tight tolerances of inductance per turn, or any other quanity,
>please don't confuse a pechant for putting in decimal places for a
>misunderstanding of the situation.

When you end up with more places of precision than what you started out with, you are indeed guilty of assembling an illusion. Bluntly, it is a pretension that is only remotely science or engineering. (You can temper this criticism from a metrologist, we take accuracy seriously.)

Are the number of turns accurate to even the second place? That is, do you have n turns ï¿½0.1 turn? Equivocation begins here and blossoms exponentially. Examine this same question at 3 digits, 5 digits, 7 digits to observe how impossible that criteria becomes to determine before you even fire up the computer.

>
>As for software accuracy of a coil with no leads, it ought to fairly
>good, within half a uH?

Is 0.5ï¿½H too far off from a value set in concrete? That is where the understanding of the situation resides. There is little in engineering that strives to be exact except in the determination of constraints. Once you have described the problem, completely, you can THEN sit back and find what parameters are the ones that most affect your outcome. And you can also observe how much variability your design can withstand. This is called robustness. One point solutions are fairly trivial, and more or less useless because they have no context.

73's
Richard Clark, KB7QHC

1915. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:36:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ch6uav4pijg3fnt2r707g3f9k317slf8pd@4ax.com>
Source record: 119667

On Wed, 30 Apr 2003 00:01:52 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:
>> > Consult the documentation first (a painful personal responsibility).
>
>Maybe you mean "proper documentation". :c)

Same problem. What makes it "proper" irrespective of the source? The
pain of personal responsibility comes from the escape attempts.

If you cannot qualify your tools in isolation, you are indeed at the
mercy of the elements.

73's
Richard Clark, KB7QHC

1916. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:40:23 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8n61obgr1@slb6.atl.mindspring.net>
Source record: 119668

Roy:

Ok, ok... a phasor is just a complex number rotating about the origin. I have no problem with that.

As I said I don't have as much objection to the renaming of a rotating complex number as "phasor" as I do to the absolutely incorrect naming of a complex number as a vector.

BTW...

What is a phasor with zero angular velocity [2*pi*f =0] called?

And... what was wrong with "rotating complex number" or simply "rotating complex", it's a little longer but certainly more descriptive and less intimidating to the uninitiated than "phasor". Jeesh... Captain Kirk and company used phasors and they were not related to complex numbers.

I agree that "phasor" is widely used and that it is not wrong, like the incorrect usage of calling a complex number a vector, but... phasor is confusing to those who first encounter it, thinking it to be something completely different, when they have already learned to know and love it under another name in junior high or high school.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vau4dvjjnl37cc@corp.supernews.com...
> So far, I haven't heard anyone complain about engineers using
> "impedance" or "reflection coefficient" as just other ways to say
> "complex number" -- but I'm sure I will, if I hang around long enough.
>
> Complex numbers can be used to quantify many things, like impedance --
> just like real numbers can represent anything from dollars to donuts. A
> phasor isn't synonomous with a complex number any more than impedance is
> -- it's one of the many things that can be represented with a complex
> number. It would be a mistake to ignore the fact that a phasor
> represents, with a complex number, a quantity that changes at an assumed
> rate in a sinusoidal manner. That is, a voltage or current represented
> by a phasor includes an implied omega-t time variation that isn't
> included in the complex number called a phasor. The complex number is
> only one part of a phasor -- the rest is the implied sine function.
>
> Forgetting about the implied time variance, and thereby considering a
> phasor to be "only" a complex number, can lead to some pretty mistaken

> ideas about what's happing within electric circuits. I think it's
> important to maintain the distinction.
>
> Roy Lewallen, W7EL
>
> Peter Brackett wrote:
> > . . .
> > At least "phasor" and "sinor" are not a misuse or incorrect use of
> > terminology, they are just other names invented by well meaning souls
for
> > the same thing we know as a complex number.
> > . . .
>

1917. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:43:34 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EAF1C56.2010200@adelphia.net>
Source record: 119569

Mark Keith wrote:
> Mike Coslo <mcoslo@adelphia.net> wrote in message
>
>> I'll second that, Brian. Last year a club member made a nice elevated
>>radial antenna for our GOTA station. Worked great for DX, but we had NO
>>local stuff at all. Not one in-state QSO.
>
>
> If that was a higher band, IE: 20-10, that may have been more due to
> cdx/skip distance than the antenna. You probably didn't hear locals
> because they were skipping over you most likely. MK

True enough. Although I work the PAQSO party partly on 20 meters from
home and our club station, and have plenty of QSO's.

Another way that it is skewed a bit is that the GOTA station is by
nature manned by people who are inexperienced or just beginning.

But, all that aside, I'll still prefer the higher angle antenna for
more local work.

- Mike KB3EIA -

1918. Re: Return Loss Bridge Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 00:57:14 UTC
From: k7itm@aol.com
Message-ID: <3200347.0304291657.1dedad32@posting.google.com>
Source record: 119570
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

kg6zi@yahoo.com (Dennis) wrote in message
news:<3f36625c.0304291347.63010a3c@posting.google.com>...
> Hello everyone,
>
> I've recently come across a design for a resistive 50 ohm
> broadbanded RLB from Gyula Nagy, HA8ET, and am curious about a few
> things those with a more engineering mind might help with.
>
> You can see it at:
> http://www.pollak.sulinet.hu/elektro/hidak/bridge/how_to.htm
>
> In particular, I'm interested in a device with a low drive
> requirement. The designer says the minimum drive is 100 mw with 1
> watt (!) being typical. That just sounds high to me. I'd rather have
> a device that I can use a bench signal generator and not worry about
> having to develop 100 mw of drive at whatever frequency. This isn't
> so much of a problem in the ham bands of course, but my interests go
> beyond those frequencies and I'd rather not have to develop (or
> radiate) that much power there.
>
> Is the limiting factor in drive level simply the sensitivity
> of the detector, or are there other factors at work here. The use
> proceedure in the above link asks the user to deliver 2.5 to 3 volts
> to the meter and read return loss from a precalculated table. Is is
> simply a matter of using a more sensitive scale (with less drive of
> course) and using the voltage change to loss formula? I realize there
> are losses in a resistive bridge design to overcome...how are these
> factored in to my question?

It's just a Wheatstone bridge (where the unknown may be reactive, of
course). You should be able to excite it with lower power. The limit
will be the level you can detect with the particular Schottky diode
you use. Using diodes designed for zero-bias detection work, I can
detect RF voltages down to under 100 microvolts. That takes microvolt
resolution with the meter, and at such low levels I think you'll find
it best to raise the load resistance on the diode's output circuit.
Anyway, you'll get (pretty nearly) the same output voltage for given
excitation and load SWR, no matter what the phase angle of the load
is, so you can get an idea of the excitation you'll need to supply if
you assume some minimum detectable RF level and some minimum required
SWR. So if you said you want to detect 1.01:1 SWR (which is below
what you'll be able to justify anyway...because you won't know the
impedance of your line that accurately, and the resistors you use in

the bridge won't be that accurate at HF, most likely), that would be the case if Rload = 50.5 ohms. You can work out the voltages: on the left branch, the voltage will be 0.5000 times the input voltage. On the right branch, the voltage will be 50.5/100.5 = 0.5025 times the input. So if you put in 1 volt of RF, that imbalance would give you 2.5 millivolts of RF to detect, which is plenty. In fact, you could go about 25 times lower to about 40 millivolts of RF input, and you could still detect the output. That's only about -15dBm.

BUT...the problem is that the detector is nonlinear down in that voltage range, so you need some calibration. If you have a generator with calibrated output, you can do a calibration and then always set the generator to the same level, and you should have very close to the same calibration every time. Or, you can short the bridge output port and set the generator to give the same detected output level you used to do your calibration. I'd suggest staying with a bit higher excitation power, like 0dBm or +10dBm.

Lacking anything better to do the calibration with, you should be able to use 1% SMT resistors for loads. Connect the resistor so it's right across the end of a 50-ohm line...or perhaps across something like a PC-mount SMA jack, adapted to your output port...but make sure the lead lengths are vanishingly small so as to not introduce reactance. The SMT resistors I've measured seem to be fine across the full HF range. I'd recommend a range from maybe 10 ohms to a few hundred ohms; that should give you enough to work out a calibration. (I measured some out to 6GHz, and they aren't too bad even that far, though not good enough for a calibration standard.)

Would be nice to outfit the bridge with a balun and a full-blown phase and amplitude detector, and then you can read complex impedance instead of just SWR.

Cheers,
Tom

1919. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 01:09:07 UTC
From: richardharrison@webtv.net
Message-ID: <2780-3EAF2233-283@storefull-2316.public.lawson.webtv.net>
Source record: 119571

CAM, W5DXP wrote:
"Under normal circumstances, a short to voltage is not a short to current and vice versa."

A short does not interrupt a path for current. That is what an open circuit does.

CAM also wrote:
"Nope, current doesn`t go to zero when ZL = 0.

Exactly. Please re-read what I wrote:
"At the short circuit point, ZL = 0, and the reflection coefficient is -1.0 on an angle of zero degrees = 1.0 on an angle of 180 degrees."

The above is almost verbatim from the bottom of page 90 of Terman`s 1955 book. He says the current makes a U-turn through the short. This is what current does through a matched load.

Note, I said ZL = 0, not current = zero.

CAM also wrote:
"---in this canceled wave case, the current does indeed change sign."

Cecil`s unusual proposal was two waves, each having its volts and amps exactly out-of-phasse, and both waves being out-of-phase with each other. This contrivance is seldom if ever seen in nature.

When a transmission line is terminated with a short, the E-field is forced to collapse. Its energy is transferred by this collapse temporarily into the H-field. Indeed the current is temporarily doubled when the volts drop to zero.

The new voltage generated by the abruptly altered magnetic field is of the opposite phase from the incident voltage at this spot and accounts for cancellation of the volts here. It is responsible for the reversal of the direction of travel. There is no change in the phase of the current in the reflection due to a shorted transmission line.

At a reflection point, either the volts or amps change sign, but not both. This assumes normal waves hitting an impedance bump.

Best regards, Richard Harrison, KB5WZI

1920. DDRR antenna tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 01:21:28 UTC
From: wings@dakotacom.net
Message-ID: <3eaf2339.3822780@news.dakotacom.net>
Source record: 119572

I've erected a ddrr style antenna for 1.7 MHz. with elevated single wire ground plane. It's two square loops of wire about 10 M in dia. and horizontal with a 3M vertical section. What antenna tuner should I use to couple a 50 ohm transmitter? The capacitance is 2076pF and inductance 70 uH according to formula and I need onlt 10KHz bandwidth doe this 1/4 wave antenna.

regards,

Gene A. Townsend

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1921. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 01:26:17 UTC
From: richardharrison@webtv.net
Message-ID: <2783-3EAF2639-11@storefull-2316.public.lawson.webtv.net>
Source record: 119574

Peter, K1PO wrote:
"When it comes to numbers, that`s all there is."

Aw, come on. There`s lots more. Here`s a just a couple. There`s rational and imajinary numbers, for example.

Best regards, Richard Harrison, KB5WZI

1922. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 01:33:52 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <1KFra.3540$Jy3.465383@news20.bellglobal.com>
Source record: 119573

"Art"
> What is the operating frequency for GPS?

It's a secret...

www.google.com/search?q=GPS+frequencies

;-)

1923. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 01:40:42 UTC
From: richardharrison@webtv.net
Message-ID: <2780-3EAF299A-288@storefull-2316.public.lawson.webtv.net>
Source record: 119575

Peter, K1PO wrote:
"Don`t waste your time and effort renaming what was already named!"

Hooray for Peter!

I like condensers and hate capacitors. Same for CPS and hertz. I want my mhos back too.

Best regards, Richard Harrison, KB5WZI

1924. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:24:26 UTC
From: mark <beschm@charter.net>
Message-ID: <vauggm47ito4a5@corp.supernews.com>
Source record: 119576

Iain,

Go with the solution to wind a transformer that will match 50:300 ohms. I highly reccomend Transmission Line Transformers, by Jerry Sevick, W2FMI. It's an ARRL publication and will tell you all you could want to know about the subject. Important to winding the transformer is the permeability of the the material that the ferrite rod is made of. Once you know this, along with the physical measurements that you have, you can address the actual construction of the balun. Hope this helps.

mark
ns1v

"Iain Kelly" <no.spam@m0pcb.co.uk> wrote in message
news:rdfiavokh41sm90vmn2v1o3ihj6ur5h0v6@4ax.com...
> Hi Group,
>
> The situation:
>
> I have just built a DCTL antenna for 80M that I will be putting in the
> attic. It won't be as good as an outside antenna I know but it's worth
> a go, as I don't have space for anything outside and want to try 80M.
>
> If you are familiar with this design it is fed with 300Ohm ribbon. The
> problem is that last time I ran some 300Ohm ribbon out of the attic to
> the shack I got RF everywhere, the TVI was back etc... If I feed with
> coax into the attic everything is ok.
>
> I now have 2 choices:
>
> a) Build a 4:1 Balun and use 75 ohm coax (I'd rather not as it's not
> good quality) and have a little mis-match at the rig, or use 50 ohm
> coax and have a little mis-match at the balun.
>
> b) Build a 6:1 balun, use 50 ohm cable and be done with it.
>
> Now I would prefer to do b) but I don't mind which gets done.
>
> My question:
>
> Does anyone have some info about winding a Balun, either 4:1 or 6:1 on
> a ferrite rod. I have seen mention in other articles but not seen any
> constructional info. The rod is about 12cm long and 1cm diameter.
>
> Thanks in advance

>
> Iain M0PCB

1925. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:29:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF432A.1090100@ieee.org>
Source record: 119577

Reg Edwards wrote:
> "OC_CAM's Razor" wrote -
>>Nope, feed that 50 ohm antenna with an even multiple of half-
>>wavelengths of feedline and forget the tuner. :-)

> You forgot to add the loss of the increased length of feedline.

The increased length of feedline on ten meters - worst case is 16.5 ft.
Average case is 8.25 ft. What's the loss in 16.5 ft of 600 ohm open-wire
line with an SWR of 12:1? I get a little over 0.1 dB. Why do you think
I use that method of tuning?

> It could very likely be greater than the loss in the tuner you have just
> junked.

That's a pretty good tuner, Reg, less than 0.1 dB of loss. Where can I
get one of those? My tuner probably loses five times that much, all
the way up to 10% of an S-unit. :-) Maybe you had better switch back
to California wine. Looks like French wine must have mercury in it.
--
73, Cecil http://www.qsl.net/w5dxp

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1926. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:32:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF43EB.7070007@ieee.org>
Source record: 119578

Jim Kelley wrote:
> There's no way to physically approach a turn-around in energy.

You've never bounced a tennis ball off a brick wall?

What direction do you think b1 = s11*a1 + s12*a2 is traveling?
--
73, Cecil http://www.qsl.net/w5dxp

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1927. Help Please!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:38:01 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <rBHra.45906$sC.13688@fe06.atl2.webusenet.com>
Source record: 119582

I love to experiment with projects and I decided to build a couple of the
IC706 tuner plugs for grins
and giggles. I was going to tackle the Kenwood and Alinco, and in fact, I
have a schematic for the
TS50, but the plug diagram is smudged (wouldn'tcha know it, bad photocopying
right over the plug. Is the circuit for the Kenwood the same or different?
How about the Alinco? I made 3 of the
Icom plugs and they work. I would to make some for the other brands just so
I can say I can! LOL!

73

Jerry
K4KWH

1928. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:39:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF457D.5030602@ieee.org>
Source record: 119579

Peter Brackett wrote:
> I don't know what more to say about the use of the label vector for a
> complex number other than making the point that, calling a complex number a
> vector is just plain *WRONG*.

How about in Flatland? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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1929. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:42:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF461D.3010509@ieee.org>
Source record: 119580

Peter Brackett wrote:
> What's wrong with original names?

It would be confusing if everyone was named Adam and Eve?
--
73, Cecil http://www.qsl.net/w5dxp

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1930. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:46:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF4703.4050500@ieee.org>
Source record: 119581

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>Trouble is, the canceled waves are transformed from V/I=50 to V/I=300
>>traveling in the opposite direction. How does that come about?
>
> Actually, that's not the trouble. The cancelled waves obviously don't
> go anywhere. The constructive wave does go somewhere though.

It's the same energy.
--
73, Cecil http://www.qsl.net/w5dxp

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1931. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:54:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF48FF.9030508@ieee.org>
Source record: 119583

Richard Harrison wrote:
> CAM also wrote:
> "Nope, current doesn`t go to zero when ZL = 0.
>
> Exactly.

But current *does* go to zero during wave cancellation. So does voltage.

> CAM also wrote:
> "---in this canceled wave case, the current does indeed change sign."
>
> Cecil`s unusual proposal was two waves, each having its volts and amps
> exactly out-of-phasse, and both waves being out-of-phase with each
> other. This contrivance is seldom if ever seen in nature.

On the contrary, Richard, that condition exists in every Z0-matched
system with reflections. The Z0-match would not work without the wave
cancellation that takes both the reflected voltage and current to zero
simultaneously. The terms are b1 = s11*a1 + s12*a2
The only way to kill the reflections in a system with reflections
is for those two terms to cancel.

> At a reflection point, either the volts or amps change sign, but not
> both. This assumes normal waves hitting an impedance bump.

After they do that, volts and amps can cancel to zero in one direction.
They have to do that to achieve a Z0-match in a system with reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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1932. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 03:57:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAF49BD.1060009@ieee.org>
Source record: 119584

Richard Harrison wrote:
> Peter, K1PO wrote:
> "Don`t waste your time and effort renaming what was already named!"
>
> Hooray for Peter!
>
> I like condensers and hate capacitors. Same for CPS and hertz. I want my
> mhos back too.

While we are at it, let's rename this the rec.radio.amateur.aerial group.
Who needs a group named after parts of an insect?
--
73, Cecil http://www.qsl.net/w5dxp

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1933. Re: 6:1 or 4:1 Balun on a Ferrite Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 04:26:56 UTC
From: mark <beschm@charter.net>
Message-ID: <vauk5o5r3nvmce@corp.supernews.com>
Source record: 119585

I seem to remember that they have libraries over there. Oft times when you only need it for a little while, you could either check it out or copy what you need while in the library. If it's anything like here, you may well have to go to either a university or technical university to find a library with the book.
I've had the opportunity to visit the U.K. several times and have found the hams there to be just as helpful and generous as the ones here. Checking with some of them should either turn up a copy of a book that will help (we don't have a lock on the knowledge, lot's of great books on the subject there) or someone with the requisite knowledge to help right there in the area.
Likewise, if you really don't want to spend the money on the book, you probably don't want to have to buy a toroid but use what you have. Sounds like the rod is Q1 material, permeability of 125 if you want to bother with designing. I find the time invested in learning the theory, applying it and building it yourself is well worth it. If time is of the essence, you can just go buy one. I learned to build stuff myself as it was both cheaper and rewarding. I recomend finding a book, learning it for yourself and doing it for yourself. Then again, I'm not hawking software.
The book I refered to is out of print now and so should be available at flea markets for a song, or maybe just a few bars.
If you decide to build it yourself, here is a link that will help:
http://www.arrl.org/files/infoserv/tech/toroid.txt

"Iain Kelly" <no.spam@m0pcb.co.uk> wrote in message
news:36hlavs9212g64cfceig26kjc8bosd1bdt@4ax.com...
> On Sat, 26 Apr 2003 02:09:58 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
> Hi Reg,
>
> >Forget about books. Forget about 6-to-1, A 4-to-1 is perfectly near
enough
> >to being able to detect no practical operating difference.
>
> Done... what are these books to which you refer??? ;-)
>
> >Just wind a pair of wires, like 20 gauge, clear-plastic, figure-of-8,
twin
> >speaker wire or similar, along the length of the rod.
> >
> >Connect the end of one wire to the start of the other, via a single wire
> >along the length of the transformer, and the job is done.
> >

> >It takes no longer than the time waiting for the soldering iron to heat
up.
> >Unless, as usually happens in my case, I'm fresh out of solder. Whereas,
by
> >the time it takes to beg, borrow, steal, or find a book-seller and order
a
> >book, which eventually turns out to be out of print, the constructor has
> >lost all interest in the project and has advanced to one where a balun or
> >whatever is not needed. That's if one was needed in the first place!
>
> I'll do that, I am sure I have plenty of solder!!! and point taken
> about the book theory!!
>
> >Some of the the advice dished out to learners on this newsgroup is truly
> >painful. But then I'm just a Limey intruder. ;o)
>
> Well I've only started reading this group recently when I've had
> questions about antennas. Beats the flaming I would get on
> uk.radio.amateur :-)
>
> >For those considering an invitation to another tea party in Boston,
please
> >note the smiley.
> >
> >For design and performance of 4-to-1 baluns wound on a ferrite ring
(which
> >is just a rod bent to form a circle) download program BALUN4 from website
> >below. Free to impoverished USA citizens.
>
> Does this also extend to impoverished citizens of the UK as well? :-)
>
> Cheers,
>
> Iain M0PCB (just too late for a G call!!)
>
> 73, Iain
> (the operator of M0PCB)

1934. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 04:39:52 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <o4kuavoau9ah856pcrm6jf4up6rgi6g6g4@4ax.com>
Source record: 119586

On Tue, 29 Apr 2003 19:48:59 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:

[snip]
|
|The fact that some commercially minded manufacturers of test equipment have
|blatently over-promoted their one port limited instruments by misusing the
|term "Vector Network Analyzer" should not be allowed to legitimize such
|blatent disregard for well defined terminology. I say for shame, calling
|them Vector Network Analyzers is almost as bad as calling Hewlett-Packard
|Agilent. No worse!
|

Uh Peter in my former employed life, I had both an HP8510C and an
HP3577 "Vector Automatic Network Analyzer" (VANA) at my disposal.

Each of them could make multi-port measurements. You kinda have to do
that to get s11, s21, s12, and s22.

In fact for some measurements on a slick Ka-band monopulse antenna (we
won the '99 DARPA award for significant technical achievement for this
one) I used a four port system. (No further details forthcoming)

I agree with the Agilent part tho.

1935. Why Not CXP1318FX?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 04:43:57 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <hwIra.48140$4P1.4485851@newsread2.prod.itd.earthlink.net>
Source record: 119587

It's as easy to handle as RG-8, and not very expensive.

http://www.cablexperts.com/cfdocs/tech_data.cfm?BSKT=0&USA_ship=1

1936. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 04:49:19 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <ldluavo0cbg8r0gqiga6o1gi5ng6ussi9m@4ax.com>
Source record: 119588

On Tue, 29 Apr 2003 18:28:44 +0000 (UTC), "Art" <(ANTI SPAM -deleate
to email)oscura@btinternet.co.uk> wrote:

|What is the operating frequency for GPS?

It's spread spectrum, so it's everywhere.
|

1937. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 05:04:32 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3EAF5960.62936747@rickfrazier.com>
Source record: 119589

Bob:

OK, I've got a G5RV from w7fg that is 102 feet in length, with 31 feet of 600 ohm ladder line, that is terminated in a PL259 connector for direct connect to my regular tuner (their web site is at http://www.w7fg.com/ant.htm) It is mounted as sort of a sloping dipole at the moment, with one end at around 40 feet and the other at about 20 feet. (Both ends will be around 40 feet once I get things done here...)

Taking readings with my 259B, I find the following:

3.30 to 3.37: SWR 3.5

3.75 R37, X189, SWR >25
4.00 R55, X371, SWR >25

7.15 R39, X158, SWR 17.8
7.30 R37, X122, SWR 11.4

7.89 R46, X2, SWR 1.0

14.07 R76, X9, SWR 1.5

14.15 R87, X20, SWR 1.8
14.30 R134, X112, SWR 4.8

19.59 SWR 1.1

18.14 R39, X155, SWR 16.5

21.33 SWR >25

24.51 SWR 1.8

24.96 SWR 4.0

28.30 SWR >25
29.00 SWR 16
29.70 SWR 7.0

30.65 SWR 1.1

As I made the readings, I swept the range from 1.8 to about 32 Mhz to see where the actual SWR minimums were...

As you can see, my results were different than yours, but still it looks a bit strange. The minimum SWRs noted makes it look like the antenna is too short at 40m and 10m, but too long at 80m and 20m. Needless to say, I do run this antenna through a tuner, but have yet to separate the wires at the connector and

put them into a balanced tuner like the Johnson Matchbox... At any rate, the antenna does seem to function while connected to my MFJ 986 differential tuner, though I don't know how it rates compared to others currently up here (a 750 foot horizontal loop, 210 foot random wire, or a 160m Carolina Windom), or a beam antenna soon to be installed (Cushcraft X-9 at 55 feet). Currently, two of the wire antennas are connected to one radio, and the two other wire antennas are connected to another radio, each through their own MFJ 986. Until I get my switching center completed, I won't be able to do really apples to apples comparisons.

I do seem to be getting out, but as I live in Hawaii, everything is really local (under 200 miles) or DX (over 2300 miles), with nothing in between but open ocean, so I do have difficulty in comparing it to other hams antennas.

--Rick AH7H

bob wrote:

> Got me a new MFJ-259B at a recent hamfest and have been giving it a workout.
> For anyone interested, I made measurements on my G5RV "all band" antenna and
> they are listed below. I've never seen this data anywhere before, but I'm
> sure it's been around somewhere. It sure shows that this antenna is good
> primarily for it's all band "capabilities." By the way, mine is a straight
> dipole about 32' high and the ladder line comes off at an angle so that its
> end is about 8' off the ground (the ladder line is 31' and the dipole is
> 103' so this is the 3.5 to 30 MHz model, not the 160 meter model.) All
> measurements were done at the coax connector at the end of the ladder line.
> Bear in mind that these readings would all change at the transmitter
> location because of the impedance transformation of the coax line, unless it
> is an exact multiple of a half wavelength (velocity factor taken into
> consideration) for the frequency of the measurement. -Bob K8GNZ
> (check out www.HW-101.com)
>
> Frequency R X SWR
> ------------ ---- ---- -------
> 3.5 14 22 3.4
> 3.75 17 62 5.2
> 4.0 13 155 17.8
>
> 7.0 20 110 10.3
> 7.2 24 78 5.9
> 7.3 26 63 4.3
>
> 14.0 64 112 4.7
> 14.1 75 89 3.3
> 14.2 91 75 2.8
> 14.225 93 69 2.6
> 14.3 97 75 2.9
>
> 21.2 66 258 14.4
>

> 29.0 0 272 25+
> 29.5 0 238 25+

1938. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 05:11:19 UTC
From: Terry O'Neill <rfmscpa@earthlink.net>
Message-ID: <XVIra.48163$4P1.4489063@newsread2.prod.itd.earthlink.net>
Source record: 119590
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Try

http://80.162.141.166/mods.dk/manuals.php?radio=yaesu

They have schematic, tech supplement & keypad functions

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3EAEAB8B.1E6275@yahoo.bomb...
> Can anyone help here? Yaesu does not have it in stock
> or available for download on their web site.
>
> Change bomb to com to reply by email.
>
> Thanks.
>
> -Scott
>

1939. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 06:28:42 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304292228.5f815be2@posting.google.com>
Source record: 119591

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8n31b$52l$1@slb2.atl.mindspring.net>...
>
> Well folks I disagree with that usage. I agree that it is in use and was
> introduced by specialist
> Engineers who were only interested in their own *small* view of the world.
>

I've noticed this about Ham radio people! Of course having been in
the engineering world, i lean in their direction.

>
> Re-iterating:
>
> A scaler network is a network with only one port, i.e. a single driving
> point impedance.
>

You clearly don't know what you are taking about, and it's obvious
you have never used one before.

A scalar network analyzer only measures gain or attenuation, or
the magnitude of an S21. They therefore must have at least two ports,
and usually have no less or more than two (at least the one's I have
used). How in the hell can you measure gain or attenuation (S21) with
only one port???!

What does it matter how many ports are on the DUT? The network to
be tested is a separate entity from the analyzer.

You could have a 10-way power divider that has 11-ports, and still
measure the attentuation from the input to each port (both with the
other ports properly terminated in 50 ohms, and without), using a
scalar network analyzer.

You could not, however, measure the phase shift port-to-port (with
respect to frequency for example) because you need a vector network
analyzer for this.

> A vector network is a network with two or more ports, i.e. it has multiple
> driving points. e.g. Circulator, directional coupler, the electricity
> power distribution network, etc...
>
> The name vector network analyzer should be legitimately reserved for a
> multi-port analyzer, although not many such analyzers are readily available.
>

You are typing nonsense.

Once again, the scalar network analyzers have two ports, and so
do the vector network analyzers! I have never used any analyzer with
more or less than 2 ports.

And, a vector network analyzer is often used in the one-port mode
only, for s11 measurements.

> An analyzer that can "analayze" only a "one-port" network, i.e. a single
> driving point impedance is
> by definition a scaler network analayzer and should more legitimately be
> called a complex port analyzer *not* a vector analyzer. Vectors are simply
> not complex numbers. A vector can be complex, but a complex is not a
> vector!
>

A complex impedance CAN be converted to and from an S11 vector of
magnitude 0-1, and phase of 0-360 degrees (or actually, -180 to +180
degrees)! Infinite impedance (ideal open) gives a voltage reflection
vector of magnitude 1 @ zero degrees, and an ideal short gives a
voltage reflection vector or magnitude 1 @ 180 degrees. Notice both
have a magnitude of one, just the phase has changed.

Graphically computing the complex impedance given the magnitude
and phase of the reflected voltage into a driven port is what the
Smith Chart is all about! Check it out!

> The fact that some commercially minded manufacturers of test equipment have
> blatently over-promoted their one port limited instruments by misusing the
> term "Vector Network Analyzer" should not be allowed to legitimize such
> blatent disregard for well defined terminology. I say for shame, calling
> them Vector Network Analyzers is almost as bad as calling Hewlett-Packard
> Agilent. No worse!
>

YOU are the one misusing these terms in my opinion. Most
engineers would probably agree with me, though i certainly don't claim
to speak for all of them.

They've been calling them Vector Network Analyzers for decades
now, for an excellent reason.

Dr. Slick

1940. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 08:26:53 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EAF88CD.26AC50E5@yahoo.bomb>
Source record: 119592
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Terry O'Neill wrote:
>
> Try
>
> http://80.162.141.166/mods.dk/manuals.php?radio=yaesu

Thanks. That's a start because the radio seems to be deaf. We
figured out enough of the keypad so he could test it. If it
wasn't for my scanner, he would not have heard the repeater.

1941. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 08:48:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8o2kdjja1@hercules.btinternet.com>
Source record: 119593

Cecil, is there a commercial tuner available which has a built-in cooling
fan ?

Reg.

1942. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 09:18:11 UTC
From: richardharrison@webtv.net
Message-ID: <15489-3EAF94D3-5@storefull-2313.public.lawson.webtv.net>
Source record: 119595

CAM, W5DXP wrote:
"---that condition (phase reversal of both volts and amps at a
reflection point) exists in every Zo-matched system with reflections."

When a load resistance is lower than Zo, only phase of the volts is
reversed by the reflection. Therefore, only the volts must be reversed
again to make the re-reflection compatible with newly emerging energy at
the re-reflection point.

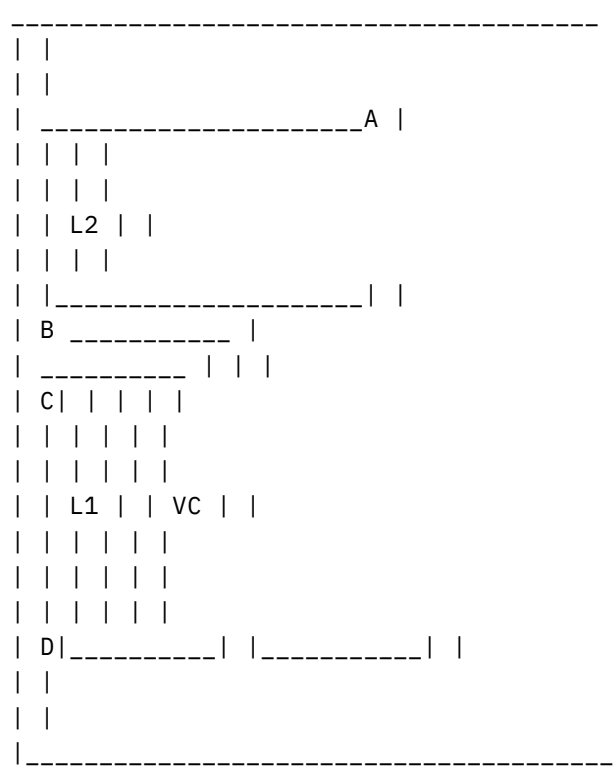
Energy isn`t annihilated by re-reflection. It is merely turned around by
a process identical with that which reflected it in the first place.

Best regards, Richard Harrison, KB5WZI

1943. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 09:23:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8o4ia$bv58l$1@ID-150848.news.dfncis.de>
Source record: 119594

Here is the NEW layout:



I am able to keep original enclosure dimensions as well.

Thanks for the advice to put L1 and L2 at right angles.

B connects to C.

Cheers.

Rich.

1944. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 10:15:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8o7ni$329$1@sparta.btinternet.com>
Source record: 119596

> Reg, have you found your definition to be used elsewhere? If so, where?

==========

Roy, stop pulling my leg. Its too painful.

In the whole of the World's vast mechanical/electrical engineering industries, from shop-floor boy apprentice level to the boards of senior directors, the PITCH of the screw threads on countless billions of nuts and bolts is known as and defined as the distance between the tips of a pair of adjacent screw threads.

Other common examples are the PITCH of the teeth on all sorts of gear wheels, from the watch on your wrist to megawatt steam turbines in power generating stations.

There's the pitch of the magnetic poles uniformly spaced around the armatures and stators of rotating electrical machines.

The PITCH of a musical note is the time difference between adjacent peaks of its sinewaveform.

I suppose the word pitch is related to toss, to throw, to cast from one place to the next nearest place such as from one end of a cricket pitch to another.

Have you ever heard of any other name for that particular sort of dimension? Even Americans must have a name for it. What name is used in the ARRL Handbook?

One thing for certain, I have no intention of producing a more americanised version of the program than it already is.

Reg

1945. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 10:30:01 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <EANra.4466$fg3.435095@news20.bellglobal.com>
Source record: 119598

> |What is the operating frequency for GPS?

"Wes Stewart"
> It's spread spectrum, so it's everywhere.

Just to clarify Wes' point, the GPS signals are not "everywhere" (he's joking of course...).

The coarse/acquisition (C/A code) signal is about 2 MHz wide (1.023 MHz chip rate) and the precision (P code) signals are about 20 MHz wide (10.23 MHz chip rate). The civilian signals (C/A + P) are centered at 1575.42 MHz ("L1"). The military signal (P) is centered on 1227.6 MHz ("L2").

So even though they are spread spectrum, they're still fairly narrow in terms of percentage bandwidth.

Here's an interesting tidbit about the inventers of Spread Spectrum:
"The first publically available patent on Spread Spectrum came from Hedy Lamarr, the Hollywood movie actress, and George Antheil, an avant gard composer. This patent was granted in 1942..."
http://www.sss-mag.com/shistory.html

1946. Where to place GaAsFET Pre AMP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 10:36:00 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <qCNra.11114$pK2.14615@news.indigo.ie>
Source record: 119597

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all
I'm designing a GaAs FET pre amp for the 240-270Mhz band and I was wondering
if I put it just ahead of my radio and NOT up at the Antenna it's self will
it be effective?
I have just a 15m run of cable from the antenna to the receiver in my shack
and I'm not sure how to get DC power up to the antenna to power the preamp
if it needs to be there.

Cheers,
KEvin.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPq+nDiGakPXr24F/EQJbNgCdHjwHpvlv8sF/nDFoVBhHd7YRMV4An3es
+d09+tMI91lZyXKyNFLg+fz0
=3SkS
-----END PGP SIGNATURE-----
```

1947. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 11:39:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8oclm$m6k$1@titan.btinternet.com>
Source record: 119599

I couldn't find the term used at all in Terman's _Radio
> Engineering_ or in _Reference Data for Radio Engineers_.
>
==========

There's a preference amongst american engineers engaged in winding coils to use the reciprocal of 'Winding Pitch', i.e., 'Turns per Inch', which is a practical instruction on how to set up the winding machine to produce a particular number of turns per inch.

All you have to do now is agree the reciprocal relationship and that pitch, eg., of a screw thread, is a CONSTANT PROPERTY of the screw along its whole length.

Turns per Inch = (Turns - 1) / (Long Length in Inches).

Pitch = (Long Length) / (Turns - 1).

What was it Kelvin said about measurements ?

Reg.

1948. Re: Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 11:40:33 UTC
From: w9gb <abuse@comcast.com>
Message-ID: <RCOra.144839$Si4.120921@rwcrnsc51.ops.asp.att.net>
Source record: 119600

Let's get the bad news out of the way first.

ALLIANCE
The bad news is: ALLIANCE is out of the rotor business completely. Alliance stopped production of their rotors in 1994.
Norm's Rotor Service purchased their entire parts inventory for the HD-73, U-100, and U-110 rotors and controls.
The GOOD news is that Norm's Rotor Service has bought all parts, all materials, and all technical data from Alliance.
NRS now owns all rights to and a complete parts inventory for the HD-73 series rotors and control boxes.

CDE / HY-GAIN / MFJ
The Cornell Dubilier Electronics company sold their rotor division to Telex/Hy-Gain in 1981. Hy-Gain decided to support only the AR-22, AR-40, CD45-II, Ham-4, and TailTwister rotors. All rights to the other rotors were assigned to Norm's Rotor Service. Today we are the only facility with parts for the original units. We have almost all parts for the AR-22, AR-33, AR-40, AR-50, BT-1, TR-44, CD-44, Ham-M, Ham-2, and Ham-3 rotors.
Telex/HyGain sold the HyGain line of rotors to MFJ in May of 1999. (And, of course, we also have parts for the rotors that Hy-Gain continues to support.)

Please consult this web site for FAQ. parts and repair of Alliance & CDE rotors.

Norm's Rotor Service
http://www.rotorservice.com/

Norm's Rotor Service
5263 Agro Drive
Frederick, Maryland 21703

Telephone: (301) 874-5885.

---
w9gb
Reply does not work - post responses to newsgroup

"denton" <denton@oregontrail.net> wrote in message
news:b8i0it$n82$1@news.oregontrail.net...
> I have an older apparently Alliance rotator...has an A inside of a diamond
> shaped box and 5 terminal connector.
> I also have an older CDE rotator controller, with 6 wire
connectors...older
> bakelite dark brown cover and quite heavy with rotator switch on bottom of
> box.

> Can these be use together?
> If so, does anyone have to correct hookup printout they can email me?
> Thanks...de Denton WB7TDG
>
>

1949. Re: CDR AR22 rotator control box question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 11:43:19 UTC
From: w9gb <abuse@comcast.com>
Message-ID: <rFOra.149046$gK.245887@rwcrnsc52.ops.asp.att.net>
Source record: 119601

1. What is the color code for the cable connecting my rotor and control box?
The colors vary from manufacturer to manufacturer. But it really doesn't
make any difference, as long as you make sure that you're connecting
terminal 1 on the rotor to terminal 1 on the control box, terminal 2 to
terminal 2, and so on. Also, on the HAM series and T2X rotors, you need to
be aware that the heavy wires must go to terminals 1 and 2. After that, a
lot of people (including Norm) like to use the resistor color code, just
because it's easy to remember. If you want to do this, you can just use the
wires in the order of the resistor color code: black, brown, red, orange,
yellow, green, blue, violet, grey, white.

W9GB

No not use Reply (Spam catcher), Reply to News Group

"JDer8745" <jder8745@aol.com> wrote in message
news:20030428095412.19203.00000382@mb-m01.aol.com...
> Howdy,
>
> Looking at the back of the AR 22 rotator control box (the old fashioned
brown
> kind which has the dial on the front and is vertical) there are four screw
> heads which the four-wire cable is connected to.
>
> I am assuming they are 1, 2, 3, 4 left to right corresponding to the
circuit
> diagram which came with the rotator. Is this a correct assumption?
>
> Tnx es 73 de Jack, K9CUN

1950. Re: Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 11:46:26 UTC
From: w9gb <abuse@comcast.com>
Message-ID: <mIOra.702839$S_4.743850@rwcrnsc53>
Source record: 119602

14. Can I use a Ham-2 rotor control box with my T2X rotor? Are the Ham-2, Ham-3, Ham-4 and T2X control boxes interchangeable?
Yes, for the most part, all of the 8-wire rotors except for the TR-2 series are interchangeable. You can use a TR-44 series 3; Ham-M series 3, 4, or 5; CD-44/Ham-2; CD-44/Ham-3; Ham-4; or T2X control unit with any of the listed rotors or vice versa. However, the Ham-M and TR-44 series 1 and 2 rotors were wired differently and are not interchangeable with anything else. So trying to use a series 1 or 2 control on a newer rotor will destroy the rotor pot instantly.

To be sure that you have one of the interchangeable controls, verify that the motor start capacitor is across terminals 4 and 8. To verify that the rotor is one of the interchangeable models, look for the 500-ohm pot resistance across terminals 3 and 7. If your rotor and control unit pass these inspections, they are interchangeable with others which also pass.

3. What is the difference in the Ham series of rotors?

The Ham-M rotor was released in 1957 and there were 5 series with the last rotor being produced in 1973. The Ham-M rotor would have the series number, 1 - 5, followed by 3 digits which indicated the week and year of manufacture. For example, a rotor with the series number 5 322 would be a Ham-M, series 5, manufactured in the twenty-second week (the '22' in '322') of the year 1973 (the '3' in '322')

A Ham-M has a single-levered control box with a meter. In 1973 the mold for making the Ham-M control unit shell was destroyed in a fire. So rather than spend the money to replace the mold, the Ham-2 was born. The rotor was the same as the Ham-M, but the control unit was replaced with a three-button unit with a continuous meter reading.

In 1977 the Ham-3 rotor was released. The Ham-3 supported a new motor with an internal brake, as well as a brass motor gear. The brake wedge was redesigned, as was the brake housing, which gave the new unit a capacity for more wind surface area. The control unit for the Ham-3 supported a new PC-board-mounted meter.

In 1978 the Ham-4 or Ham-IV rotor was released. This rotor had a new steel ring gear and a reinforced upper mast support. The only changes to the control box were the addition of a new face plate, plastic top and bottom covers, and a new meter with reversible meter scales. Also in 1978 the TailTwister rotor, commonly refered to as the "T2X," was introduced. The T2X is a Ham-4 with an even heavier upper mast support, a heavier brake wedge and brake housing, and 40 additional ball bearings. And the TailTwister control unit has three LED's that the Ham-4 doesn't have.

w9gb

"denton" <denton@oregontrail.net> wrote in message
news:b8i0it$n82$1@news.oregontrail.net...
> I have an older apparently Alliance rotator...has an A inside of a diamond
> shaped box and 5 terminal connector.
> I also have an older CDE rotator controller, with 6 wire
connectors...older
> bakelite dark brown cover and quite heavy with rotator switch on bottom of
> box.
> Can these be use together?
> If so, does anyone have to correct hookup printout they can email me?
> Thanks...de Denton WB7TDG
>
>

1951. Re: Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 12:12:46 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <NTBJrbL+27r+EAY$@ifwtech.co.uk>
Source record: 119607

w9gb wrote:
>3. What is the difference in the Ham series of rotors?
>
>The Ham-M rotor was released in 1957 and there were 5 series with the
>last rotor being produced in 1973. The Ham-M rotor would have the
>series number, 1 - 5, followed by 3 digits which indicated the week and
>year of manufacture. For example, a rotor with the series number 5 322
>would be a Ham-M, series 5, manufactured in the twenty-second week (the
>'22' in '322') of the year 1973 (the '3' in '322')
>
>A Ham-M has a single-levered control box with a meter. In 1973 the mold
>for making the Ham-M control unit shell was destroyed in a fire. So
>rather than spend the money to replace the mold, the Ham-2 was born.
>The rotor was the same as the Ham-M, but the control unit was replaced
>with a three-button unit with a continuous meter reading.
>
>In 1977 the Ham-3 rotor was released. The Ham-3 supported a new motor
>with an internal brake, as well as a brass motor gear. The brake wedge
>was redesigned, as was the brake housing, which gave the new unit a
>capacity for more wind surface area. The control unit for the Ham-3
>supported a new PC-board-mounted meter.
>
>In 1978 the Ham-4 or Ham-IV rotor was released. This rotor had a new
>steel ring gear and a reinforced upper mast support. The only changes
>to the control box were the addition of a new face plate, plastic top
>and bottom covers, and a new meter with reversible meter scales. Also
>in 1978 the TailTwister rotor, commonly refered to as the "T2X," was
>introduced. The T2X is a Ham-4 with an even heavier upper mast support,
>a heavier brake wedge and brake housing, and 40 additional ball
>bearings. And the TailTwister control unit has three LED's that the
>Ham-4 doesn't have.
>

Very interesting - thank you.

Are there any upgrades that can be applied to the old Ham-M rotors using
parts from the later models? (I'm thinking of the rotor itself, not the
control box.)

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1952. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 12:16:50 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <ITSIb$Ly67r+EAYV@ifwtech.co.uk>
Source record: 119608

Richard wrote:
>Here is the NEW layout:
>
>_____________________________________
>| |
>| |
>| _____________________A |
>| | | |
>| | | |
>| | L2 | |
>| | | |
>| |_____________________| |
>| B ___________ |
>| __________ | | |
>| C| | | | |
>| | | | | |
>| | | | | |
>| | L1 | | VC | |
>| | | | | |
>| | | | | |
>| | | | | |
>| D|__________| |__________| |
>| |
>| |
>|_____________________________________|
>
>I am able to keep original enclosure dimensions as well.
>
>Thanks for the advice to put L1 and L2 at right angles.
>
>B connects to C.

Looks reasonable, subject to reservations about the walls of the metal
box being so close - so use a non-metal one.

You'll need one switch right in front of L1, and another in the middle
with a long non-metal extension shaft to bring it close to L2.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1953. Re: Where to place GaAsFET Pre AMP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 12:53:54 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b8oh1i$b7blo$1@ID-52642.news.dfncis.de>
Source record: 119603

15 meters of what kind of cable? How much loss does it have at 270 mhz?

Any loss you introduce ahead of the GASFET adds directly to the noise figure of the device. This often takes a nice low noise preamp and turns it into nothing more than a "noise" or "s-meter" amplifier, improving sensitivity or noise floor very little.

The preamp belongs at the antenna. If you aren't transmitting, there are lots of "injection" "T" or bias T circuits you can use to run the power for the preamp up your coax.

If you have 15m of low loss coax like LMR-400 (don't use 9913, it's eventually going to be a water ingress nightmare) as your feedline, you can probably get away with the preamp in the shack.

You also might notice more improvement than expected if the front end of your receiver in the shack is a dog.

Typical front ends for good amateur 2m transceivers is still in the 8 to 12 dB noise figure range. That's why 1 dB or less gasfet preamps are so popular. The improvement in noise floor can be quite dramatic. Improving your NF from even 6 dB to 1 dB results in about 8 dB or better receive threshold.

15 m of good coax at 270 mhz has a loss of say 1.5 dB.
Your gasfet should have a noise figure of say 0.5 dB
Your radio has a NF of say 8 dB

If you put the gasfet at the radio end, its effective NF is 2.0 dB
If you put it at the shack, its effective nf is still 0.5 dB

So, the question becomes, what is the effect of improving my "system" noise figure from 8 db to either 2 or 0.5 dB?

(If your coax is not low loss like in my example, the differences are more dramatic) The poorer the coax, the more important it is to get the preamp out to the antenna.

System NF improvement = 6 dB

or

System NF improvement = 7.5 dB

The difference between 6 and 7.5 will probably result in a noise floor improvement of about 2.5 dB. For weak signal work (and why would you need a preamp for non-weak signal work), this IS a substantial improvement. (Again, this is just the improvement due to preamp placement, not the overall

improvement of adding a preamp to your 8 dB NF radio.

Putting a 0.5 dB or 1 dB NF preamp at the antenna, and compare it to the 8 dB NF of your radio in the shack, and you have a net improvement of 7 dB in NF...which will translate to more that 10 dB in noise floor (threshold hearing capability).

So...your gasfet project is a good idea, make sure you have at least 15 dB gain in the preamp, but not more than 25 dB gain. Good luck on tuning the gasfet for lowest noise figure (hint: it's NOT at the point of maximum signal on your s-meter), and put the preamp at the antenna.

If you want information on bias-T connections post your message to the amsat-bb list, and you will get lots of help.

73,

...hasan, N0AN
"Xanax" <keepItInTheNewsGroups@news.com> wrote in message news:qCNra.11114$pK2.14615@news.indigo.ie...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all
> I'm designing a GaAs FET pre amp for the 240-270Mhz band and I was wondering
> if I put it just ahead of my radio and NOT up at the Antenna it's self will
> it be effective?
> I have just a 15m run of cable from the antenna to the receiver in my shack
> and I'm not sure how to get DC power up to the antenna to power the preamp
> if it needs to be there.
>
> Cheers,
> KEvin.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPq+nDiGakPXr24F/EQJbNgCdHjwHpvlv8sF/nDFoVBhHd7YRMV4An3es
> +d09+tMI91lZyXKyNFLg+fz0
> =3SkS
> -----END PGP SIGNATURE-----
>
>
>

1954. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 13:36:06 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <bpjvavgtqd778jeo02n452v7efgefo5bii@4ax.com>
Source record: 119605

Roy,

From the Machinery's Handbook 15th edition (the bible of machinists,
toolmakers and etc.)

"Pitch and Lead of Screw Threads. - The pitch of a screw thread is the
distance from the center of one thread to the center of the next
thread. This applies no matter whether the screw has a single, double
triple or quadruple thread. The lead of a screw thread is the distance
the nut will move forward on the screw if it is turned around one full
revolution. In a single-threaded screw, the pitch and lead are equal,
because the nut would move forward, the distance from thread to the
next, if turned around once. In a double-threaded screw, the nut
equals twice the pitch. In a triple-treaded screw, the lead equals
three times the pitch, and so on.

The word "pitch" is often, although improperly, used to denote the
number of threads per inch. Screws are spoken of as having a 12-pitch
thread, when twelve threads per inch is what is really meant. ..... "

73
Danny, K6MHE

On Tue, 29 Apr 2003 15:35:36 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard's definition of pitch is the only one I've ever seen (e.g.,
>_Radiotron Designer's Handbook_, _ARRL Handbook_) and it makes sense to
>me too. I couldn't find the term used at all in Terman's _Radio
>Engineering_ or in _Reference Data for Radio Engineers_.
>
>Reg, have you found your definition to be used elsewhere? If so, where?
>
>Roy Lewallen, W7EL
>
>Richard wrote:
>> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
>> news:b8mmlian1@titan.btinternet.com...
>>
>>>With a long coil of many turns an easy, sufficiently accurate,
>>
>> approximation
>>
>>>for pitch is length / turns.
>>

>>
>> I'm not intersted in minutia, that is silly. If length of coil is 9mm
>> long and you have 2 turns you can reasonably say the winding pitch is
>> 4.5mm. That is _physically_correct.
>>
>>
>>>But with an expression for the inductance for any number of turns,
>>
>> including
>>
>>>1 turn, the program does change horses several times in mid-stream.
>>
>> This
>>
>>>would cause steps in an inductance/turns curve. So the exact value
>>
>> for
>>
>>>winding pitch is length / (turns - 1).
>>
>>
>> Well, if the program wants to say a 9mm long coil with 2 turns has a
>> pitch of 9mm in order to work out inductance so be it. But the physical
>> pitch_is_ 4.5mm!!
>>
>> When I look at SOLONOID2.EXE I instictively concluded pitch was physical
>> pitch. Why should I not.
>>

1955. Re: Where to place GaAsFET Pre AMP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 14:06:17 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <AHQra.11144$pK2.14395@news.indigo.ie>
Source record: 119604

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thanks alot Hasan,
I'll take that onboard.

Cheers,
Xanax.
"hasan schiers" <schiers@netins.net> wrote in message
news:b8oh1i$b7blo$1@ID-52642.news.dfncis.de...
> 15 meters of what kind of cable? How much loss does it have at 270
> mhz?
>
> Any loss you introduce ahead of the GASFET adds directly to the
> noise figure of the device. This often takes a nice low noise
> preamp and turns it into nothing more than a "noise" or "s-meter"
> amplifier, improving sensitivity or noise floor very little.
>
> The preamp belongs at the antenna. If you aren't transmitting,
> there are lots of "injection" "T" or bias T circuits you can use to
> run the power for the preamp up your coax.
>
> If you have 15m of low loss coax like LMR-400 (don't use 9913, it's
> eventually going to be a water ingress nightmare) as your feedline,
> you can probably get away with the preamp in the shack.
>
> You also might notice more improvement than expected if the front
> end of your receiver in the shack is a dog.
>
> Typical front ends for good amateur 2m transceivers is still in the
> 8 to 12 dB noise figure range. That's why 1 dB or less gasfet
> preamps are so popular. The improvement in noise floor can be quite
> dramatic. Improving your NF from even 6 dB to 1 dB results in about
> 8 dB or better receive threshold.
>
> 15 m of good coax at 270 mhz has a loss of say 1.5 dB.
> Your gasfet should have a noise figure of say 0.5 dB
> Your radio has a NF of say 8 dB
>
> If you put the gasfet at the radio end, its effective NF is 2.0 dB
> If you put it at the shack, its effective nf is still 0.5 dB
>
> So, the question becomes, what is the effect of improving my
> "system" noise figure from 8 db to either 2 or 0.5 dB?
>

> (If your coax is not low loss like in my example, the differences
> are more dramatic) The poorer the coax, the more important it is to
> get the preamp out to the antenna.
>
> System NF improvement = 6 dB
>
> or
>
> System NF improvement = 7.5 dB
>
> The difference between 6 and 7.5 will probably result in a noise
> floor improvement of about 2.5 dB. For weak signal work (and why
> would you need a preamp for non-weak signal work), this IS a
> substantial improvement. (Again, this is just the improvement due
> to preamp placement, not the overall improvement of adding a preamp
> to your 8 dB NF radio.
>
> Putting a 0.5 dB or 1 dB NF preamp at the antenna, and compare it
> to the 8 dB NF of your radio in the shack, and you have a net
> improvement of 7 dB in NF...which will translate to more that 10 dB
> in noise floor (threshold hearing capability).
>
> So...your gasfet project is a good idea, make sure you have at
> least 15 dB gain in the preamp, but not more than 25 dB gain. Good
> luck on tuning the gasfet for lowest noise figure (hint: it's NOT
> at the point of maximum signal on your s-meter), and put the preamp
> at the antenna.
>
> If you want information on bias-T connections post your message to
> the amsat-bb list, and you will get lots of help.
>
> 73,
>
> ...hasan, N0AN
> "Xanax" <keepItInTheNewsGroups@news.com> wrote in message
> news:qCNra.11114$pK2.14615@news.indigo.ie...
> >
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all
> > I'm designing a GaAs FET pre amp for the 240-270Mhz band and I was
> wondering
> > if I put it just ahead of my radio and NOT up at the Antenna it's self
> will
> > it be effective?
> > I have just a 15m run of cable from the antenna to the receiver in my
> shack
> > and I'm not sure how to get DC power up to the antenna to power the
preamp

> > if it needs to be there.
> >
> > Cheers,
> > KEvin.
> > -----BEGIN PGP SIGNATURE-----
> > Version: PGP 8.0 (Build 294) Beta
> >
> > iQA/AwUBPq+nDiGakPXr24F/EQJbNgCdHjwHpvlv8sF/nDFoVBhHd7YRMV4An3es
> > +d09+tMI91lZyXKyNFLg+fz0
> > =3SkS
> > -----END PGP SIGNATURE-----
> >
> >
> >
>
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPq/YVyGakPXr24F/EQKa3gCg9korcc5nUCRwE65hr+kXyuE6hg0AoKJ5
FKw9289wM676ptzfTtRlwfyO
=+L1e
-----END PGP SIGNATURE-----

1956. WTB Hustler Co-Linear CG-144

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 14:11:42 UTC
From: Mike Kulyk <kulykm@suffolk.lib.ny.us>
Message-ID: <MNQra.11365$io.317475@iad-read.news.verio.net>
Source record: 119609

I am looking for the 7 ft tall mobile Hustler co-linear antenna for 2
meters.

And I would like a powerful mag mount for the antenna above.

73
Mike WB2GLW

1957. Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 14:11:58 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <UMQra.11145$pK2.14504@news.indigo.ie>
Source record: 119606

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
I got a pvc pipe that is 56mm in diameter.
I will be winding the helix on it for an Fc of 1535Mhz.
The 56mm diameter is with the limit of Circumfrence from .75 to 1.33 of
Wavelength.

Now what about S or the axial length of one turn of wire.
the ratio of Circumfrence to wavelength is .897
.
I know that the Value of S has to be .212-.286 Circumfrence but does the
Value of S have to be the same ratio to Circumfrence as above .i.e 0.897 ??

Cheers
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPq/ZqyGakPXr24F/EQIKPQCeKZ6uczsNgiu9LjrWXC5r1zSNQHgAoLyb
3yhPC9hLHifgSOasupDK0lmF
=rTdl
-----END PGP SIGNATURE-----

1958. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 15:34:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAFED1E.90200@ieee.org>
Source record: 119610

rick@rickfrazier.com wrote:
> As you can see, my results were different than yours, but still it looks a bit
> strange. The minimum SWRs noted makes it look like the antenna is too short at
> 40m and 10m, but too long at 80m and 20m.

The two results are in the same ballpark. Differences in dimensions, type of wire, and environment can make a difference in the readings. If you model the G5RV with EZNEC using the transmission line option, you will get approximately the same results. There is nothing magic about the G5RV. It obeys the laws of physics.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1959. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 15:46:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAFEFEA.9080905@ieee.org>
Source record: 119611

Reg Edwards wrote:
> Cecil, is there a commercial tuner available which has a built-in cooling
> fan ?

I don't know, Reg. I do know the more power a tuner handles the bigger
the box. Why do you suppose that is? Could it have anything to do with
power dissipation?

I once melted the plastic support on the coil in my antenna tuner.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1960. Re: Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 16:00:08 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EAFF24B.B87CF72@gte.net>
Source record: 119613

Xanax wrote:

> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> I got a pvc pipe that is 56mm in diameter.
> I will be winding the helix on it for an Fc of 1535Mhz.
> The 56mm diameter is with the limit of Circumfrence from .75 to 1.33 of
> Wavelength.
>
> Now what about S or the axial length of one turn of wire.
> the ratio of Circumfrence to wavelength is .897
> .
> I know that the Value of S has to be .212-.286 Circumfrence but does the
> Value of S have to be the same ratio to Circumfrence as above .i.e 0.897 ??
>
> Cheers
> Xanax.

I would question the use of PVC at 1GHz and above.

Dale W4OP

1961. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 16:00:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EAFF312.7080900@ieee.org>
Source record: 119612

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "---that condition (phase reversal of both volts and amps at a
> reflection point) exists in every Zo-matched system with reflections."
>
> When a load resistance is lower than Zo, only phase of the volts is
> reversed by the reflection. Therefore, only the volts must be reversed
> again to make the re-reflection compatible with newly emerging energy at
> the re-reflection point.

Actually, if the E-field phase is reversed, the H-field phase also reverses.
But since a reversal of direction of the current is, by convention, considered
to be a phase reversal, two 180 degree phase reversals occur adding up to 360
degrees.

> Energy isn`t annihilated by re-reflection. It is merely turned around by
> a process identical with that which reflected it in the first place.

I wholeheartedly agree that energy isn't annihilated by re-reflection.
How many components are there and which direction are they flowing?

b1 = s11*a1 + s12*a2 b2 = s21*a1 + s22*a2

Can b1 equal zero unless (s11*a1 = -s12*a2)?

If b1 equals zero, and s12*a2 doesn't equal zero, then wave cancellation
has occurred. The energy involved in the wave cancellation changes direction
(b1=0) and joins b2 just as described on the Melles-Griot web page.

http://www.mellesgriot.com/products/optics/oc_2_1.htm
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1962. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 16:52:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bovvavsrjtj9a0a8ld0kre3i8fqqsajph5@4ax.com>
Source record: 119614

On Wed, 30 Apr 2003 06:30:01 -0400, "J. Harvey"
<JM002.Harvey_NOSPAM@Sympatico.ca> wrote:

>
>Just to clarify Wes' point, the GPS signals are not "everywhere" (he's
>joking of course...).
>

Hi Jeff,

What part of the planet does not have coverage?

73's
Richard Clark, KB7QHC

1963. Re: Is this layout acceptable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 16:54:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2uvvav8btld1u56smoetdlb83fj6kpgolo@4ax.com>
Source record: 119615

On Wed, 30 Apr 2003 10:23:27 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>Here is the NEW layout:
time to point out that your illustrations should be done in fixed
pitch font.

1964. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:01:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB00155.410563B1@uci.edu>
Source record: 119616

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > There's no way to physically approach a turn-around in energy.
>
> You've never bounced a tennis ball off a brick wall?

Perhaps you'd care to describe the effect mathematically in terms of
wave equations for P3 and P4.

1965. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:03:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB001F2.52998FC9@uci.edu>
Source record: 119617

OC_CAM's Razor wrote:
> On the contrary, Richard, that condition exists in every Z0-matched
> system with reflections. The Z0-match would not work without the wave
> cancellation that takes both the reflected voltage and current to zero
> simultaneously. The terms are b1 = s11*a1 + s12*a2
> The only way to kill the reflections in a system with reflections
> is for those two terms to cancel.

Yes, Richard. Just like a tennis ball.

1966. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:06:48 UTC
From: richardharrison@webtv.net
Message-ID: <24191-3EB002A8-29@storefull-2318.public.lawson.webtv.net>
Source record: 119469

CAM, W5DXP wrote:
"How many components are there and which direction are they flowing?"

In a matched system with a 50-ohm transmitter connected by any length of 50-ohm line to 1/2-wavelength of 300-ohm line which is connected by any length of 50-ohm line to a 50-ohm load, the components are:

1) Forward voltage and in-phase current in the 50-ohm line between the sender and the 300-ohm line.

2) Forward voltage and in-phase current in the 300-ohm line.

3) Reverse voltage and current reflected by mismatch at the junction of the 50-ohm load line. Reflection causes volts and amps to be out-of-phase in this component, which is flowing back toward the sender.

4) Forward volts and in-phase amps between the 300-ohm line and the 50-ohm load via the 50-ohm line.

The reflection at the load end of the 300-ohm line is exactly offset by re-reflection from the sender end of the 300-ohm line. Identical reflection coefficients are at both ends of the 300-ohm line.

The re-reflected energy is indistinguishable in nature, though its amplitude is lower, from the new energy entering the 300-ohm line, and it merges seamlessly.

The 1/2-wavelength of 300-ohm line is (2) Q-sections back-to-back.

50 ohms is stepped up to some very high impedance by the first 1/4-wave Q-section. The second identical Q-section steps the impedance right back down to exactly the original 50 ohms which matches the incoming energy.

Best regards, Richard Harrison, KB5WZI

1967. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:15:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb014u48vreb72@corp.supernews.com>
Source record: 119618

That must be an American book. Apparently the term is used differently
by the Queen's loyal subjects.

Although, as usual, Reg didn't see fit to come up with even one
reference for his definition, even a Limey one.

Which is fine with me. I haven't used his program -- I was just
interested in learning if what I'd always used in the past for pitch
(center-to-center turn distance, or sometimes its reciprocal) was
incorrect. I'll stick with it.

Roy Lewallen, W7EL

Dan Richardson wrote:
> Roy,
>
> From the Machinery's Handbook 15th edition (the bible of machinists,
> toolmakers and etc.)
> --------------------
> "Pitch and Lead of Screw Threads. - The pitch of a screw thread is the
> distance from the center of one thread to the center of the next
> thread. This applies no matter whether the screw has a single, double
> triple or quadruple thread. The lead of a screw thread is the distance
> the nut will move forward on the screw if it is turned around one full
> revolution. In a single-threaded screw, the pitch and lead are equal,
> because the nut would move forward, the distance from thread to the
> next, if turned around once. In a double-threaded screw, the nut
> equals twice the pitch. In a triple-treaded screw, the lead equals
> three times the pitch, and so on.
>
> The word "pitch" is often, although improperly, used to denote the
> number of threads per inch. Screws are spoken of as having a 12-pitch
> thread, when twelve threads per inch is what is really meant. ..... "
> ---------------------
>
> 73
> Danny, K6MHE
>
>
>
>
>
>
>
>
>

>
> On Tue, 29 Apr 2003 15:35:36 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>
>>Richard's definition of pitch is the only one I've ever seen (e.g.,
>>_Radiotron Designer's Handbook_, _ARRL Handbook_) and it makes sense to
>>me too. I couldn't find the term used at all in Terman's _Radio
>>Engineering_ or in _Reference Data for Radio Engineers_.
>>
>>Reg, have you found your definition to be used elsewhere? If so, where?
>>
>>Roy Lewallen, W7EL
>>
>>Richard wrote:
>>
>>>"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
>>>news:b8mmlian1@titan.btinternet.com...
>>>
>>>
>>>>With a long coil of many turns an easy, sufficiently accurate,
>>>
>>>approximation
>>>
>>>
>>>>for pitch is length / turns.
>>>
>>>
>>>I'm not intersted in minutia, that is silly. If length of coil is 9mm
>>>long and you have 2 turns you can reasonably say the winding pitch is
>>>4.5mm. That is _physically_correct.
>>>
>>>
>>>
>>>>But with an expression for the inductance for any number of turns,
>>>
>>>including
>>>
>>>
>>>>1 turn, the program does change horses several times in mid-stream.
>>>
>>>This
>>>
>>>
>>>>would cause steps in an inductance/turns curve. So the exact value
>>>
>>>for
>>>
>>>
>>>>winding pitch is length / (turns - 1).

>>>
>>>
>>>Well, if the program wants to say a 9mm long coil with 2 turns has a
>>>pitch of 9mm in order to work out inductance so be it. But the physical
>>>pitch_is_ 4.5mm!!
>>>
>>>When I look at SOLONOID2.EXE I instictively concluded pitch was physical
>>>pitch. Why should I not.
>>>
>
>

1968. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:32:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB008BB.6030206@ieee.org>
Source record: 119471

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>
>>>There's no way to physically approach a turn-around in energy.
>>
>>You've never bounced a tennis ball off a brick wall?
>
> Perhaps you'd care to describe the effect mathematically in terms of
> wave equations for P3 and P4.

You are still confused. Wave(V3,I3) and Wave(V4,I4) disappear from
the universe through wave cancellation. Energy cannot disappear
from the universe. The energy involved in the wave cancellation
changes direction and joins Wave(Vfwd2,Ifwd2) just as it asserts
on the Melles-Griot web page.

Which direction is (b1=s11*a1+s12*a2) flowing? Does s11*a1 and
s12*a2 contain energy components? What happens to those energy
components if b1=0? Please answer these questions and I think
you will understand.
--
73, Cecil http://www.qsl.net/w5dxp

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1969. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:32:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ji10bvscqdau3i9s29rnp72qvnno7uj3ha@4ax.com>
Source record: 119470

On Wed, 30 Apr 2003 00:32:48 GMT, Mike Coslo <mcoslo@adelphia.net>
wrote:

>Richard Clark wrote:
>> On 28 Apr 2003 07:21:50 -0700, nm5k@wt.net (Mark Keith) wrote:
>>
>>
>>>Mike Coslo <mcoslo@adelphia.net> wrote in message
>>>
>>>> I'll second that, Brian. Last year a club member made a nice elevated
>>>>radial antenna for our GOTA station. Worked great for DX, but we had NO
>>>>local stuff at all. Not one in-state QSO.
>>>
>>>If that was a higher band, IE: 20-10, that may have been more due to
>>>cdx/skip distance than the antenna. You probably didn't hear locals
>>>because they were skipping over you most likely. MK
>>
>>
>> Hi Mark,
>>
>> It's probably simpler than that. The ones that don't hear you are the
>> ones you couldn't see if you looked (this is not to be confused with
>> Cecil's plight of sight).
>
> Allright I'll bite. What does that mean?
>
> - Mike KB3EIA -

Hi Mike,

It means if you could see them in these bands, you could work them
(barring cross polarization). Otherwise you have to rely on
propagation's various modes (surface wave, air wave, tropo ducting,
ionospheric bounces and the multitude of possibilities) that
automatically push the next contact WAY out beyond those within view.

For the distances in between the line of sight contact and the closest
remote contact, the path is excessively lossy (same problem exists
between successive skip points). With luck, I can barely muster 30
miles for 10M on a middlin' day, or work California a 1000 miles
distant or JA out 5000 miles. The region from 30 miles to 1000 miles
is dead (this is a simplification of course). I omit discussion of
the 30 mile to 5000 mile quiet zone because I couldn't raise a fish
with a hook.

73's
Richard Clark, KB7QHC

1970. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:40:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB00AA6.5050309@ieee.org>
Source record: 119472

Richard Harrison wrote:
> The reflection at the load end of the 300-ohm line is exactly offset by
> re-reflection from the sender end of the 300-ohm line. Identical
> reflection coefficients are at both ends of the 300-ohm line.

But they are moving in opposite directions. What turns around the
reflected energy from the load? We know it does turn around but
the physical reflection coefficient is not 1.0. So how does the
reflected energy from the load get its direction changed?

> The re-reflected energy is indistinguishable in nature, though its
> amplitude is lower, from the new energy entering the 300-ohm line, and
> it merges seamlessly.

Only for pure sine waves. Any difference in modulation will appear
as reflected energy incident upon the source.

> 50 ohms is stepped up to some very high impedance by the first 1/4-wave
> Q-section. The second identical Q-section steps the impedance right back
> down to exactly the original 50 ohms which matches the incoming energy.

That's a conceptual end result existing only in the human mind.
What we are looking for here is the primary physical cause. Voltage to
current ratios cause the impedances you mention above. What causes the
voltage to current ratios? Not the impedances caused by the voltage to
current ratios. That's circular logic and a confusion of cause and effect.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1971. Re: DDRR antenna tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 17:54:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f920bv47a964p0oa9tii3nq092ocr69dev@4ax.com>
Source record: 119473

On Wed, 30 Apr 2003 01:21:28 GMT, wings@dakotacom.net (Gene A. Townsend) wrote:

>I've erected a ddrr style antenna for 1.7 MHz. with elevated single
>wire ground plane. It's two square loops of wire about 10 M in dia.
>and horizontal with a 3M vertical section. What antenna tuner should
>I use to couple a 50 ohm transmitter? The capacitance is 2076pF and
>inductance 70 uH according to formula and I need onlt 10KHz bandwidth
>doe this 1/4 wave antenna.
>
>regards,
>
>Gene A. Townsend

Hi Gene,

I presume you are looking for a commercial tuner that exhibits these component values. Looks like you've drawn to an empty hand here.

On the other hand, there has been correspondence (current in fact) in this group to this matter that perhaps you should review.

A point of observation is that the antenna is not a 1/4 wave antenna (it is NOT 40M tall, is it? - looks like 3M). If it were, it would not need tuning (barring a poor ground and local disturbances to the structure's ability to resonate). Another observation, a "single" wire ground plane? Now that is deconstruction at its absolute limit. The last point about bandwidth is that you may not even obtain that MUCH frequency - sorry, such is the price of success (more follows).

Many folks have been successfully disappointed in this and other small antenna's performance. In fact, you could do as poorly with far less work.

Don't feel discouraged. There have been many MORE unsuccessful attempts (something went wrong) that have resulted in constructions that are enormously useful. (Elevate your DDRR another 37M and you too can join that fraternity.)

Our job here has been educating those successful designers to the realization that failure is the way to go. ;-)

The harder job has been to educate the designers of useful antennas to the realization that they did not build the antenna they describe. :-(

73's
Richard Clark, KB7QHC

1972. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:06:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kv30bv8boa5esdkgtrkhs20rpja069vmkv@4ax.com>
Source record: 119474

On Wed, 30 Apr 2003 12:40:54 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> What turns around the
>reflected energy from the load?

Hi Cecil,

Now there's a positive turn of events. Good of you to seek out, from
others, the answer to Jim's question to you.

73's
Richard Clark, KB7QHC

1973. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:07:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k740bvsftda2kegt17do2sag9b0df9ldfk@4ax.com>
Source record: 119475

On Wed, 30 Apr 2003 10:03:46 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>
>
>OC_CAM's Razor wrote:
>> On the contrary, Richard, that condition exists in every Z0-matched
>> system with reflections. The Z0-match would not work without the wave
>> cancellation that takes both the reflected voltage and current to zero
>> simultaneously. The terms are b1 = s11*a1 + s12*a2
>> The only way to kill the reflections in a system with reflections
>> is for those two terms to cancel.
>
>Yes, Richard. Just like a tennis ball.

Now we enter into the mystery of Schrodinger's tennis ball.

1974. What does 1.023 MHz chip rate mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:23:26 UTC
From: gg <gg@net.com>
Message-ID: <3EB0149D.88CFE23B@net.com>
Source record: 119482

.

1975. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:27:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9950bvcmletm56nubcnm7l4slb9lpksdfk@4ax.com>
Source record: 119476

On Tue, 29 Apr 2003 22:57:49 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>While we are at it, let's rename this the rec.radio.amateur.aerial group.

Hi Cecil,

You would thrive there. Aerial from the OED (Webster's is new-age
revisionism):
Gaseous;
unsubstantial;
imaginary;
atmospheric....

Enjoy.

73's
Richard Clark, KB7QHC

1976. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:29:47 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <TOOcnUr76I6Eiy2jXTWcqA@comcast.com>
Source record: 119477

Cecil

I modeled the G5RV on EZNEC, and found that about 19 feet of 450 Ohm line works out best. Also, you ABSOLUTELY POSITIVELY need a 4:1 balun between the 450 Ohm lie and the coax. I swept the SWR from 3.5 to 29 MHz, and at no point was it more than about 15:1. I used dipoles from 90 to 137 feet, and it does not matter a whole lot. I might post this if I get around to it.

Tam/WB2TT

Tam/WB2TT
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EAFED1E.90200@ieee.org...
> rick@rickfrazier.com wrote:
> > As you can see, my results were different than yours, but still it looks a bit
> > strange. The minimum SWRs noted makes it look like the antenna is too short at
> > 40m and 10m, but too long at 80m and 20m.
>
> The two results are in the same ballpark. Differences in dimensions, type of wire,
> and environment can make a difference in the readings. If you model the G5RV with
> EZNEC using the transmission line option, you will get approximately the same
> results. There is nothing magic about the G5RV. It obeys the laws of physics.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1977. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:32:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB016AA.5000004@ieee.org>
Source record: 119478

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>What turns around the
>>reflected energy from the load?
>
> Now there's a positive turn of events. Good of you to seek out, from
> others, the answer to Jim's question to you.

Coming from me, Richard, it is a rhetorical question. :-) I already
understand the implications behind (b1=s11*a1+s12*a2). If those
components don't exist, why does the equation work? If those
components do exist, the Melles-Griot web page is correct about
the results.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1978. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:35:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB0177D.9000503@ieee.org>
Source record: 119479

Richard Clark wrote:
> Jim Kelley <jwkelley@uci.edu> wrote:
>>OC_CAM's Razor wrote:
>>>On the contrary, Richard, that condition exists in every Z0-matched
>>>system with reflections. The Z0-match would not work without the wave
>>>cancellation that takes both the reflected voltage and current to zero
>>>simultaneously. The terms are b1 = s11*a1 + s12*a2
>>>The only way to kill the reflections in a system with reflections
>>>is for those two terms to cancel.
>>
>>Yes, Richard. Just like a tennis ball.
>
> Now we enter into the mystery of Schrodinger's tennis ball.

The tennis ball and waves do have something in common. They must
both obey the conservation of energy principle. If the energy
is prohibited from flowing in one direction and there is only
one other direction available, the dynamic/kinetic energy will
flow in the other direction or be dissipated. A ball of clay
hitting the brick wall dissipates its energy but waves at a
lossless impedance discontinuity don't have that choice.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1979. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:46:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <h960bvk9a2vp78l6els6j7tv8325v5pm5e@4ax.com>
Source record: 119480

On Wed, 30 Apr 2003 13:32:10 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>What turns around the
>>>reflected energy from the load?
>>
>> Now there's a positive turn of events. Good of you to seek out, from
>> others, the answer to Jim's question to you.
>
>Coming from me, Richard, it is a rhetorical question. :-)

And going to Jim (me and others) it is a rhetorical answer:
Gaseous;
unsubstantial;
imaginary;
atmospheric....

Well, a short-lived positive turn albeit. About one dt. This must be
how Schrodinger's tennis ball feels against the wall.

73's
Richard Clark, KB7QHC

1980. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:51:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB01B23.6720C1AA@uci.edu>
Source record: 119481

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >
> >>Jim Kelley wrote:
> >>
> >>>There's no way to physically approach a turn-around in energy.
> >>
> >>You've never bounced a tennis ball off a brick wall?
> >
> > Perhaps you'd care to describe the effect mathematically in terms of
> > wave equations for P3 and P4.
>
> You are still confused. Wave(V3,I3) and Wave(V4,I4) disappear from
> the universe through wave cancellation. Energy cannot disappear
> from the universe. The energy involved in the wave cancellation
> changes direction and joins Wave(Vfwd2,Ifwd2) just as it asserts
> on the Melles-Griot web page.

So, back to the tennis ball. I know how a tennis ball bounces. How
exactly does energy bounce in this case? Show us a vector that is
forced to make a 180 somewhere at least.

1981. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:52:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bm60bvgddt1tb092s9ikn323mh5fik28sk@4ax.com>
Source record: 119483

On Wed, 30 Apr 2003 14:29:47 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>you ABSOLUTELY POSITIVELY need a 4:1 balun between the
>450 Ohm lie and the coax. I swept the SWR from 3.5 to 29 MHz, and at no
>point was it more than about 15:1. I used dipoles from 90 to 137 feet, and
>it does not matter a whole lot. I might post this if I get around to it.
>
Hi Tam,

So, just how does this ABSOLUTELY POSITIVELY need demonstrate a
solution found in a 4:1 BalUn?

73's
Richard Clark, KB7QHC

1982. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:56:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s170bvo7sj1p3jfg1cc7o8k52588lg8nlh@4ax.com>
Source record: 119484

On Wed, 30 Apr 2003 13:35:41 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>> Now we enter into the mystery of Schrodinger's tennis ball.
>
>The tennis ball and waves do have something in common. They must
>both obey the conservation of energy principle.

Hi Cecil,

Can't respond to Schrodinger's tennis ball though, can you? Prove
that it does obey this old wive's tale of conservation.

73's
Richard Clark, KB7QHC

1983. Re: What does 1.023 MHz chip rate mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 18:58:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b570bvctpdtithan1eo5el3r91r0atletk@4ax.com>
Source record: 119485

On Wed, 30 Apr 2003 11:23:26 -0700, gg <gg@net.com> wrote:

>.

The inverse bps of the gold code.

1984. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:06:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB01ED0.608F27EA@uci.edu>
Source record: 119486

> Richard Clark wrote:
> > Jim Kelley <jwkelley@uci.edu> wrote:
> >>OC_CAM's Razor wrote:
> >>>On the contrary, Richard, that condition exists in every Z0-matched
> >>>system with reflections. The Z0-match would not work without the wave
> >>>cancellation that takes both the reflected voltage and current to zero
> >>>simultaneously. The terms are b1 = s11*a1 + s12*a2
> >>>The only way to kill the reflections in a system with reflections
> >>>is for those two terms to cancel.
> >>
> >>Yes, Richard. Just like a tennis ball.
> >
> > Now we enter into the mystery of Schrodinger's tennis ball.

Or Lewis Carrol's rabbit. The tennis ball must tunnel through the wall
so that it can bounce back from just beyond (dx>0) the other side.

The truth is that Cecil really doesn't need for the 'ball' to travel
dx>0 in order for his solution to be valid. The waves simply cancel in
that direction, so they don't really ever even try to go there. He just
refuses to accept that from me.

1985. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:14:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s280bv02sr0kj3jpvlqs5od1rih9vnh1ig@4ax.com>
Source record: 119487

On Wed, 30 Apr 2003 12:06:56 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>> Richard Clark wrote:
>> > Jim Kelley <jwkelley@uci.edu> wrote:
>> >>OC_CAM's Razor wrote:
>> >>>On the contrary, Richard, that condition exists in every Z0-matched
>> >>>system with reflections. The Z0-match would not work without the wave
>> >>>cancellation that takes both the reflected voltage and current to zero
>> >>>simultaneously. The terms are b1 = s11*a1 + s12*a2
>> >>>The only way to kill the reflections in a system with reflections
>> >>>is for those two terms to cancel.
>> >>
>> >>Yes, Richard. Just like a tennis ball.
>> >
>> > Now we enter into the mystery of Schrodinger's tennis ball.
>
>Or Lewis Carrol's rabbit. The tennis ball must tunnel through the wall
>so that it can bounce back from just beyond (dx>0) the other side.
>
>The truth is that Cecil really doesn't need for the 'ball' to travel
>dx>0 in order for his solution to be valid. The waves simply cancel in
>that direction, so they don't really ever even try to go there. He just
>refuses to accept that from me.

He may rejoin that with the notion that Maxwell's demon lobs it back
for him.

1986. Re: What does 1.023 MHz chip rate mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:42:46 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <_GVra.51363$cB3.379748@nnrp1.uunet.ca>
Source record: 119488

So what are your concerned about, the subject, or are you concerned about
your period? <grin>

Terry VE1TRB

"gg" <gg@net.com> wrote in message news:3EB0149D.88CFE23B@net.com...
> .
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/2003

1987. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:45:26 UTC
From: boyzgonebadpork@yahoo.com
Message-ID: <95890a23.0304301145.c1c735d@posting.google.com>
Source record: 119489
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

wtf do you care?is it now ilegal to read?stfu
"valmont" <radiola.news.invalid@web2news.net> wrote in message
news:<27481N759@web2news.com>...
> > Can anyone help here? Yaesu does not have it in stock
> > or available for download on their web site.
> >
> > Change bomb to com to reply by email.
> >
> > Thanks.
> >
> > -Scott
>
> Scot you be not aothorized to trasmit at 144 un 440 magherz.

1988. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:49:58 UTC
From: Max <Max_Jens@post9.tele.dk>
Message-ID: <3eb0289c$0$48901$edfadb0f@dtext02.news.tele.dk>
Source record: 119490

Hello Richard

> What part of the planet does not have coverage?

http://nng.esoc.esa.de/gps/visibi_gps.html

Regards Max

1989. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:52:08 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EB02968.4A6F756E@yahoo.bomb>
Source record: 119491
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

RecRadioMonitor wrote:
>
> wtf do you care?is it now ilegal to read?stfu

Did that Alpha-Hotel fart again. P U !

For those that would like to help a new amateur learn to operate
his new toy, any replies would be nice.

It's not me, but a friend of mine. Thanks.

> "valmont" <radiola.news.invalid@web2news.net> wrote in message
news:<27481N759@web2news.com>...
> > > Can anyone help here? Yaesu does not have it in stock
> > > or available for download on their web site.
> > >
> > > Change bomb to com to reply by email.
> > >
> > > Thanks.
> > >
> > > -Scott
> >
> > Scot you be not aothorized to trasmit at 144 un 440 magherz.

1990. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 19:57:16 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <h-2cnT-1CbkFty2jXTWcrg@comcast.com>
Source record: 119492

Richard,

Using the 4:1 balun (on the G5RV I modeled) reduces the SWR on every ham band by a factor of 2X to 4X

Tam/WB2TT
"Richard Clark" <kb7qhc@attbi.com> wrote in message news:bm60bvgddt1tb092s9ikn323mh5fik28sk@4ax.com...
> On Wed, 30 Apr 2003 14:29:47 -0400, "Tarmo Tammaru"
>
> So, just how does this ABSOLUTELY POSITIVELY need demonstrate a
> solution found in a 4:1 BalUn?
>
> 73's
> Richard Clark, KB7QHC

1991. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 20:02:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hda0bv8poe39islhhjvc3b83nj3oq0f92l@4ax.com>
Source record: 119493

On Wed, 30 Apr 2003 21:49:58 +0200, "Max" <Max_Jens@post9.tele.dk>
wrote:

>Hello Richard
>
>> What part of the planet does not have coverage?
>
>http://nng.esoc.esa.de/gps/visibi_gps.html
>
>Regards Max
>

Hi Max,

Obviously a lesson here. Saddam and the axis of evil should have
moved to Greenland. Or Hawaii (but we didn't need the satellites to
solve the problem when the last time Hawaii was invaded).

I would feel far safer with the Dane's resolving that move's
complications than bush. Perhaps the Dane's have someone to enter for
2004, but they would have to first neutralize Florida (maybe tow it
into the north Atlantic).

73's
Richard Clark, KB7QHC

1992. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 20:32:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8oc0bvsu5ftdlo7lblhnri0iqmj97tal6f@4ax.com>
Source record: 119494

On Wed, 30 Apr 2003 15:57:16 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Richard,
>
>Using the 4:1 balun (on the G5RV I modeled) reduces the SWR on every ham
>band by a factor of 2X to 4X
>
>Tam/WB2TT

Hi Tam,

How did you model the BalUn?

73's
Richard Clark, KB7QHC

1993. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 20:46:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ufd0bvgib93ukmurq2cdhgu6kqinpl575i@4ax.com>
Source record: 119495

On Wed, 30 Apr 2003 20:32:48 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Wed, 30 Apr 2003 15:57:16 -0400, "Tarmo Tammaru"
><t-tammaru@home.com> wrote:
>
>>Richard,
>>
>>Using the 4:1 balun (on the G5RV I modeled) reduces the SWR on every ham
>>band by a factor of 2X to 4X
>>
>>Tam/WB2TT
>
>Hi Tam,
>
>How did you model the BalUn?
>
>73's
>Richard Clark, KB7QHC

Better yet, did the reactances in each band resolve to 0? (ï¿½)

1994. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 21:02:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8pdkg$ek2$1@titan.btinternet.com>
Source record: 119496

"OC_CAM's Razor" wrote

> Reg Edwards wrote:
> > Rich, when it comes to wriggling out of tight corners you are even
better
> > than Cecil, OC_CAM, W5DXP ;o)
>
> Cecil said when one (that's Cecil) is a ten-dimensional creature, there is
always an escape route. :-)
>
Cecil, You are aware Maxwell needeed 13 dimnsions to wriggle out of his problems. Heaviside reduced them to three dimensions and the whole world then understand for the first time what it was all about. But you Cecil can count yourself fully justifiably amonst the Houdiny class. Technical recreation and entertainment at its best ! Isn't that what's ham radio is all about?

I don't ever recollect you saying it was the midle bit of a dipole which did most of the radiating.

Reg.

1995. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 21:14:41 UTC
From: Jim Barrett <jbarrett@REMOVE.stny.rr.com>
Message-ID: <Xns936DAF71839F503160612@24.24.2.166>
Source record: 119497

"Max" <Max_Jens@post9.tele.dk> wrote in
news:3eb0289c$0$48901$edfadb0f@dtext02.news.tele.dk:

> http://nng.esoc.esa.de/gps/visibi_gps.html

That site's map only reflects visibility at certain fixed ground locations related to the monitoring network of the European Space Agency. That map does not show actual GPS worldwide coverage.

With a fully healthy 24-satellite GPS constellation, there is no place on the surface of the earth which does not have at least 4 GPS satellites in view at any given time. (usually far more than 4).

Acceptable satellite geometry for at least 2D Navigation exists at all locations on the earth 97% of the time.

Jim Barrett

1996. Re: Anyone ever use a GPS jammmer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 21:48:12 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <swXra.13893$NX1.479056@news20.bellglobal.com>
Source record: 119499

>| What is the operating frequency for GPS?

"Wes Stewart" **presumably referring to bandwidth**:
> It's spread spectrum, so it's everywhere.

J. Harvey:
> Just to clarify Wes' point, the GPS signals are not "everywhere"
> (he's joking of course...).
<snip>

"Richard Clark"
> What part of the planet does not have coverage?

By far the largest part - the inside...

;-)

1997. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 21:53:51 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EB045EF.9070406@oda.com.au>
Source record: 119498

Wes Stewart wrote:

> Before reinventing the wheel, you might look at xlzizl.xls found at:
>
> www.qsl.net/ac6la
>
> It will find a lower loss solution that Kenvin's.
>
> Another point; the component Q's given in the example are a bit
> optimistic in my mind.

Thanks, I was aware of Dan's work.

I wanted to develop a function that would return the component values for an optimal match given the frequency, a range for the variable capacitors and inductors, the steps by which the inductors or capacitors can be varied, and a simple Q value for each of the components.

Dan's NETS function tries to do that for idealised components and depends on the Excel Solver add in to refine the solution using another function that solves the network for practical components. The guess returned by NETS is often a long way from optimal. Solver is not really suitable to a table that for instance might try to calculate the optimal match at 300 frequencies.

As I suggested in an earlier post, an analytical solution is a bit bewildering, so I think that the practical thing to do (although a bit compute intensive) is to write a function that implements an iterative algorithm much like an auto tuner.

It has already been pointed out that Kevin took a different approach to an analytical solution to the optimal settings for practical components, but it is not correct under some situations. Nevertheless, it is interesting as an estimator of the loss that an operator will probably encounter if she were to follow the advice in the manuals for the tuners which commonly suggest that when tuning, try to ensure that one of the caps is at max.

Owen

1998. Re: Where to place GaAsFET Pre AMP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 21:56:15 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <%DXra.13896$NX1.480395@news20.bellglobal.com>
Source record: 119500

-----BEGIN PGP SIGNED MESSAGE-----
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta
...iT ReLlY DoEsN'T MaTtEr...
Hash: is bad for your health
> -----END PGP SIGNATURE-----

"Xanax"
> and I'm not sure how to get DC power up to the
> antenna to power the preamp if it needs to be there.

It's quite common to feed the power (low voltage DC) up to the
remote-mounted preamplifier by way of the same coax that brings the signal
down. Then you need a "power injector" near the receiver to put the DC onto
the feedline and make sure you don't put the DC into the receiver front end
(in case it would damage the front end).

Keep us posted on how the whole system works...

1999. Re: What does 1.023 MHz chip rate mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:33:07 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <DaYra.47388$ey1.4421328@newsread1.prod.itd.earthlink.net>
Source record: 119502

Hi -

This refers to one of the modulation parameters used
in one type of spread-spectrum signal. If you need more,
try a net search on "spread spectrum" and "chip rate."

"gg" <gg@net.com> wrote in message news:3EB0149D.88CFE23B@net.com...
> .
>

2000. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:33:13 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8piva$p47$1@slb6.atl.mindspring.net>
Source record: 119501

Richard:

[snip]
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:2783-3EAF2639-11@storefull-2316.public.lawson.webtv.net...
> Peter, K1PO wrote:
> "When it comes to numbers, that`s all there is."
>
> Aw, come on. There`s lots more. Here`s a just a couple. There`s rational
> and imajinary numbers, for example.
>
> Best regards, Richard Harrison, KB5WZI
[snip]

Heh, heh... hello Richard. Joker!

Come on I know that you know that the rationals belong to the set of reals
"R" and that the imaginaries belong to the set of complex numbers "Z".

What? Would I try to kid you? ;-)

Best,
--
Peter K1PO
Indialantic By-the-Sea, FL.

2001. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:35:46 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8pj42pqp1@slb6.atl.mindspring.net>
Source record: 119503

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EAF457D.5030602@ieee.org...
> Peter Brackett wrote:
> > I don't know what more to say about the use of the label vector for a
> > complex number other than making the point that, calling a complex
number a
> > vector is just plain *WRONG*.
>
> How about in Flatland? :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Flatland! Dunno, I ain't been there in a while.

Spending all my time in Florida now.

But they do say that the one eyed man can be "King" in the land of the
blind.

Wanna live in the "land of the blind"?

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2002. For Any Scantenna ST 2 Users

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:38:29 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b8pjb5lmc1@slb5.atl.mindspring.net>
Source record: 119504

Hello:

For any Scantenna ST 2 antenna users:

Was wondering: are you using it (for receiving only) with the RG6 / SAT coax that came with the antenna, or a different coax ?

Thanks,

Bob

2003. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:39:20 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8pjaofan1@slb9.atl.mindspring.net>
Source record: 119505

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EAF461D.3010509@ieee.org...
> Peter Brackett wrote:
> > What's wrong with original names?
>
> It would be confusing if everyone was named Adam and Eve?
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Don't laugh. It could work.

I lived in "the big A", you know, the capital of the New South, Atlanta, GA
for a few years, and in that fair city almost all of the streets are named
"Peachtree".

--
Peter K1PO
Indialantic By-the-Sea, FL.

2004. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:41:42 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8pjf6oso1@slb9.atl.mindspring.net>
Source record: 119506

Wes:

Well I was only referring to those "sloppy" companies which call their
one-port analyzers "Vector Analyzers".

Of course that great multi-port HP equipment was not the target of my
disdain!

Long live multi-port instrumentation.

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:o4kuavoau9ah856pcrm6jf4up6rgi6g6g4@4ax.com...
> On Tue, 29 Apr 2003 19:48:59 -0400, "Peter Brackett"
> <ab4bc@ix.netcom.com> wrote:
>
> [snip]
> |
> |The fact that some commercially minded manufacturers of test equipment
have
> |blatently over-promoted their one port limited instruments by misusing
the
> |term "Vector Network Analyzer" should not be allowed to legitimize such
> |blatent disregard for well defined terminology. I say for shame, calling
> |them Vector Network Analyzers is almost as bad as calling Hewlett-Packard
> |Agilent. No worse!
> |
>
> Uh Peter in my former employed life, I had both an HP8510C and an
> HP3577 "Vector Automatic Network Analyzer" (VANA) at my disposal.
>
> Each of them could make multi-port measurements. You kinda have to do
> that to get s11, s21, s12, and s22.
>
> In fact for some measurements on a slick Ka-band monopulse antenna (we
> won the '99 DARPA award for significant technical achievement for this
> one) I used a four port system. (No further details forthcoming)
>
> I agree with the Agilent part tho.
>
>

2005. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 22:54:07 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8pk6gnlu1@slb2.atl.mindspring.net>
Source record: 119507

Dr. Slick:

Hey cool your jets man!

If your favorite instrumentation can simultaneously analyze more than one port of a multi-port network at a time, then indeed it does have the legitimate right to call itself a Vector Network Analyzer!

No problem. That's exactly what I said at first, you didn't say that until later!

But you are only creating a diversion here my friend...

My point was not about Vector Analyzers, rather my point was that *a vector is not a complex number*!

As an example of the many differences between vectors and complex numbers, vectors have two kinds of "multiplication" defined upon themselves, the "dot product" which produces a scaler result and the "cross" product which produces another vector. Hell... ya'll can't even divide vectors!

Complex numbers only have one kind of "multiplication" defined upon themselves, i.e.

(a +jb)(c + jd) = (ac - bd) + j(bc + ad)

I could go on, but you get the point... a vector is not a complex number, never was, never will be, cain't be!

Period, end of story!

Notwithstanding the fact that some folks call complex numbers "vectors". It just ain't so!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0304292228.5f815be2@posting.google.com...
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8n31b$52l$1@slb2.atl.mindspring.net>...
> >
> > Well folks I disagree with that usage. I agree that it is in use and
was
> > introduced by specialist
> > Engineers who were only interested in their own *small* view of the
world.

> >
>
> I've noticed this about Ham radio people! Of course having been in
> the engineering world, i lean in their direction.
>
>
> >
> > Re-iterating:
> >
> > A scaler network is a network with only one port, i.e. a single driving
> > point impedance.
> >
>
> You clearly don't know what you are taking about, and it's obvious
> you have never used one before.
>
> A scalar network analyzer only measures gain or attenuation, or
> the magnitude of an S21. They therefore must have at least two ports,
> and usually have no less or more than two (at least the one's I have
> used). How in the hell can you measure gain or attenuation (S21) with
> only one port???!
>
> What does it matter how many ports are on the DUT? The network to
> be tested is a separate entity from the analyzer.
>
> You could have a 10-way power divider that has 11-ports, and still
> measure the attentuation from the input to each port (both with the
> other ports properly terminated in 50 ohms, and without), using a
> scalar network analyzer.
>
> You could not, however, measure the phase shift port-to-port (with
> respect to frequency for example) because you need a vector network
> analyzer for this.
>
>
>
> > A vector network is a network with two or more ports, i.e. it has
multiple
> > driving points. e.g. Circulator, directional coupler, the electricity
> > power distribution network, etc...
> >
> > The name vector network analyzer should be legitimately reserved for a
> > multi-port analyzer, although not many such analyzers are readily
available.
> >
>
> You are typing nonsense.
>
> Once again, the scalar network analyzers have two ports, and so
> do the vector network analyzers! I have never used any analyzer with

> more or less than 2 ports.
>
> And, a vector network analyzer is often used in the one-port mode
> only, for s11 measurements.
>
>
> > An analyzer that can "analayze" only a "one-port" network, i.e. a
single
> > driving point impedance is
> > by definition a scaler network analayzer and should more legitimately be
> > called a complex port analyzer *not* a vector analyzer. Vectors are
simply
> > not complex numbers. A vector can be complex, but a complex is not a
> > vector!
> >
>
> A complex impedance CAN be converted to and from an S11 vector of
> magnitude 0-1, and phase of 0-360 degrees (or actually, -180 to +180
> degrees)! Infinite impedance (ideal open) gives a voltage reflection
> vector of magnitude 1 @ zero degrees, and an ideal short gives a
> voltage reflection vector or magnitude 1 @ 180 degrees. Notice both
> have a magnitude of one, just the phase has changed.
>
> Graphically computing the complex impedance given the magnitude
> and phase of the reflected voltage into a driven port is what the
> Smith Chart is all about! Check it out!
>
>
>
> > The fact that some commercially minded manufacturers of test equipment
have
> > blatently over-promoted their one port limited instruments by misusing
the
> > term "Vector Network Analyzer" should not be allowed to legitimize such
> > blatent disregard for well defined terminology. I say for shame,
calling
> > them Vector Network Analyzers is almost as bad as calling
Hewlett-Packard
> > Agilent. No worse!
> >
>
>
> YOU are the one misusing these terms in my opinion. Most
> engineers would probably agree with me, though i certainly don't claim
> to speak for all of them.
>
> They've been calling them Vector Network Analyzers for decades
> now, for an excellent reason.
>
>

> Dr. Slick

2006. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:03:22 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <_CYra.79856$xB4.1955429@news2.east.cox.net>
Source record: 119508
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

If you paid by PayPal, you had the option to take out fraud insurance
for a few bucks.

If the person's contact information is bogus, eBay will suspend his
account. Did you report his contact information as being bogus??

Pete

"BJ" <bobjames_2003@tyahoo.com> wrote in message
news:Z1vra.46989$4P1.4383605@newsread2.prod.itd.earthlink.net...
> Ebay won't help - I keep getting canned messages back that they don't
> release personal info on people? Maybe someone here can help?
>
> I'm having a problem getting my money back from this guy and now he won't
> respond to emails or my requests for a refund although he says he has a 30
> day money back guarantee on his products.
>
> I'm afraid to leave negative feedback which wouldn't help get my money
> anyway as he has already said he'll do likewise.
>
> I want to alert his local authorities and see if that does any good!
Anyone
> know who this guy is?
>
> Bob J.
>
>

2007. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:14:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB058CB.20201@ieee.org>
Source record: 119509

Richard Clark wrote:
> On Tue, 29 Apr 2003 22:57:49 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
>
>>While we are at it, let's rename this the rec.radio.amateur.aerial group.
>
>
> Hi Cecil,
>
> You would thrive there. Aerial from the OED (Webster's is new-age
> revisionism):
> Gaseous;
> unsubstantial;
> imaginary;
> atmospheric....

Richard, you are just like my second-year Purple Martin unmated males -
nothing but an aggravation for the rest of the bird kingdom. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2008. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:16:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05934.6000606@ieee.org>
Source record: 119510

Tarmo Tammaru wrote:
> I modeled the G5RV on EZNEC, and found that about 19 feet of 450 Ohm line
> works out best.

Please define "best". One ham's best is another ham's "worst".
--
73, Cecil http://www.qsl.net/w5dxp

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2009. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:22:08 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <fNqcneuWcKQBxy2jXTWcoQ@comcast.com>
Source record: 119511

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:8oc0bvsu5ftdlo7lblhnri0iqmj97tal6f@4ax.com...
> On Wed, 30 Apr 2003 15:57:16 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
> >Richard,
> >
> >Using the 4:1 balun (on the G5RV I modeled) reduces the SWR on every ham
> >band by a factor of 2X to 4X
> >
> >Tam/WB2TT
>
> Hi Tam,
>
> How did you model the BalUn?
>
> 73's
> Richard Clark, KB7QHC

I faked it. Defined the alternate impedance as 200 Ohms. I am assuming the 450 Ohm stuff gets connected to 50 Ohm coax at some point. Certainly, everybody who measured their SWR did it at 50 Ohms. I know there are people who run 450 Ohm random length line into their shack. That works for a random number of people. Not, I suspect, for those who chose a line length of 1/4 wavelength at 80 meters.

Tam/WB2TT

2010. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:23:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05B06.8080906@ieee.org>
Source record: 119512

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>You are still confused. Wave(V3,I3) and Wave(V4,I4) disappear from
>>the universe through wave cancellation. Energy cannot disappear
>>from the universe. The energy involved in the wave cancellation
>>changes direction and joins Wave(Vfwd2,Ifwd2) just as it asserts
>>on the Melles-Griot web page.
>
> So, back to the tennis ball. I know how a tennis ball bounces. How
> exactly does energy bounce in this case? Show us a vector that is
> forced to make a 180 somewhere at least.

As others have noted, voltages and currents are not true vectors, they
are phasors, i.e. two dimensional. The following are two phasor waves.
50 volts at zero deg, 1 amp at 180 deg
50 volts at 180 deg, 1 amp at zero deg

What is it about the addition of those two phasors equaling zero volts
and zero amps that you don't understand. If the volts are zero and the
current is zero, what is the associated energy? If the associated energy
is zero, where did the energy in the original waves go?

You didn't answer my questions so I will repeat them. Given the equation:

b1=s11*a1+s12*a2, which direction is the energy flowing? If b1 equals zero,
where does the component energy go? Until you answer those questions, you
will not understand.
--
73, Cecil http://www.qsl.net/w5dxp

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2011. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:25:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05B7E.6020202@ieee.org>
Source record: 119513

Richard Clark wrote:
> Can't respond to Schrodinger's tennis ball though, can you? Prove
> that it does obey this old wive's tale of conservation.

If you believe that the conservation of energy principle is an old
wives' tale, please just come right out and say so.
--
73, Cecil http://www.qsl.net/w5dxp

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2012. Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:27:33 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0304301527.2c89db39@posting.google.com>
Source record: 119514

A ham buddy of mine who is a well-known dx contester/EE and I got to shooting the breeze about quick-up alternatives to the usual Field Day dipoles. He came up with one I've never seen or heard about before and I'm wondering if anyone here has any info or experience or other inputs on the specific design. I haven't been able to find anything about it anywhere so far.

It's quite simple. Build a standard dipole, say 33 feet long for 20M and coax feed it at the center as usual. Then dangle 33 foot long wires from each end of the dipole with the ends terminating near the ground. At first glance the two "danglers" would be phased verticals producing some low angle broadside gain. The horizontal "element" adds some higher-angle horizontal radiation with wide broadside lobes. The net result should result be an antenna with mixed H & V components, some gain and some currently-unknown takeoff angles quite possibly favorable for FD ops particularly from the coasts.

We're getting together to model the design later this week for 20 & 15 but in the meantime I'd appreciate any info on the history of the design - if there is a history.

Brian w3rv

2013. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:27:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05BE7.1080509@ieee.org>
Source record: 119515

Jim Kelley wrote:
> The waves simply cancel in that direction, ...

What direction? Can the energy in those waves cancel?
--
73, Cecil http://www.qsl.net/w5dxp

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2014. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:29:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05C60.8030003@ieee.org>
Source record: 119516

Richard Clark wrote:
> He may rejoin that with the notion that Maxwell's demon lobs it back
> for him.

Have fun, Richard. I'm sure the Catholic Priests had fun with Galileo
even though they never disproved what he was saying.
--
73, Cecil http://www.qsl.net/w5dxp

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2015. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:34:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB05D9F.4060408@ieee.org>
Source record: 119517

Reg Edwards wrote:
> I don't ever recollect you saying it was the midle bit of a dipole which did
> most of the radiating.

Unlike others on this newsgroup, I don't utter assertions of which I am
not sure. What I do know is that the top hat of a mobile antenna doesn't
radiate much. Virtually all of the radiation comes from the high current
section between the car chassis and the top hat. However, the horizontal
section of an inverted-L does seem to contribute its fair share of horizontally
polarized radiation.
--
73, Cecil http://www.qsl.net/w5dxp

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2016. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-04-30 23:43:48 UTC
From: tdonaly@aol.com
Message-ID: <20030430194348.02755.00000372@mb-m13.aol.com>
Source record: 119518

Peter wrote,
>
>Heh, heh... hello Richard. Joker!
>
>Come on I know that you know that the rationals belong to the set of reals
>"R" and that the imaginaries belong to the set of complex numbers "Z".
>
>What? Would I try to kid you? ;-)
>
>Best,
>--
>Peter K1PO
>Indialantic By-the-Sea, FL.
>

You sure would. Both real numbers and imaginary numbers
belong to the set of complex numbers if you're willing to
allow R+j0, and 0+jR to belong to the set. You're a great
kidder, Peter.
73,
Tom Donaly, KA6RUH

2017. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:03:06 UTC
From: tdonaly@aol.com
Message-ID: <20030430200306.02755.00000373@mb-m13.aol.com>
Source record: 119519

Peter wrote, in part,
>My point was not about Vector Analyzers, rather my point was that *a vector
>is not a complex number*!
>
>As an example of the many differences between vectors and complex numbers,
>vectors have two kinds of "multiplication" defined upon themselves, the "dot
>product" which produces a scaler result and the "cross" product which
>produces another vector. Hell... ya'll can't even divide vectors!
>
>Complex numbers only have one kind of "multiplication" defined upon
>themselves, i.e.
>
>(a +jb)(c + jd) = (ac - bd) + j(bc + ad)
>
>I could go on, but you get the point... a vector is not a complex number,
>never was, never will be, cain't be!
>
>Period, end of story!
>
>Notwithstanding the fact that some folks call complex numbers "vectors". It
>just ain't so!
>
>--
>Peter K1PO
>Indialantic By-the-Sea, FL.
>

"Vector" is such a neat word, that lots of disciplines have adopted it for
their own use. Mathematicians use it one way, physicists another, and
a large part of the electronic community doesn't care to make a distinction
between a vector and a complex number. Public health people consider
it to be something that carries a disease. You gave it a nice try, Peter,
but I don't see how you can make people stop saying "vector addition"
when they are talking about the addition of two complex numbers.
73,
Tom Donaly

2018. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:32:13 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB06B27.8060206@adelphia.net>
Source record: 119520

```
Richard Clark wrote:
> On Wed, 30 Apr 2003 00:32:48 GMT, Mike Coslo <mcoslo@adelphia.net>
> wrote:
>
>
>>Richard Clark wrote:
>>
>>>On 28 Apr 2003 07:21:50 -0700, nm5k@wt.net (Mark Keith) wrote:
>>>
>>>
>>>
>>>>Mike Coslo <mcoslo@adelphia.net> wrote in message
>>>>
>>>>
>>>> I'll second that, Brian. Last year a club member made a nice elevated
>>>>radial antenna for our GOTA station. Worked great for DX, but we had NO
>>>>local stuff at all. Not one in-state QSO.
>>>>
>>>>If that was a higher band, IE: 20-10, that may have been more due to
>>>>cdx/skip distance than the antenna. You probably didn't hear locals
>>>>because they were skipping over you most likely. MK
>>>
>>>
>>>Hi Mark,
>>>
>>>It's probably simpler than that. The ones that don't hear you are the
>>>ones you couldn't see if you looked (this is not to be confused with
>>>Cecil's plight of sight).
>>
>> Allright I'll bite. What does that mean?
>>
>> - Mike KB3EIA -
>
>
> Hi Mike,
>
> It means if you could see them in these bands, you could work them
> (barring cross polarization). Otherwise you have to rely on
> propagation's various modes (surface wave, air wave, tropo ducting,
> ionospheric bounces and the multitude of possibilities) that
> automatically push the next contact WAY out beyond those within view.
>
> For the distances in between the line of sight contact and the closest
> remote contact, the path is excessively lossy (same problem exists
```

> between successive skip points). With luck, I can barely muster 30
> miles for 10M on a middlin' day, or work California a 1000 miles
> distant or JA out 5000 miles. The region from 30 miles to 1000 miles
> is dead (this is a simplification of course). I omit discussion of
> the 30 mile to 5000 mile quiet zone because I couldn't raise a fish
> with a hook.

Good enough, Richard. Thanks for the explain!

- Mike KB3EIA -

2019. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:37:23 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <zO2dnfdpnPmi8S2jXTWcoA@comcast.com>
Source record: 119521

By '"best" I meant the lowest and most consistent SWR across the 3.5 - 29 MHz range. I don't mean to imply that this is the "best" you can do. Just of the possibilities I looked at. Now if somebody spent about a week doing this ...

I think it makes sense, though, that the closer you get to 60 feet with the 450 line, the more you are going to mess up 80 meters.

There are 5 distinct dips on the SWR curve. I have not ried to place these on ham bands. 135 feet is not it, but that is what several people were using. The first dip is not at 468/f.

Tam/WB2TT

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB05934.6000606@ieee.org...
> Tarmo Tammaru wrote:
> > I modeled the G5RV on EZNEC, and found that about 19 feet of 450 Ohm line
> > works out best.
>
> Please define "best". One ham's best is another ham's "worst".
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2020. Re: What does 1.023 MHz chip rate mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:41:24 UTC
From: a_g_lyph@hotmail.com
Message-ID: <f8479612.0304301641.7d865643@posting.google.com>
Source record: 119522

gg <gg@net.com> wrote in message news:<3EB0149D.88CFE23B@net.com>...

> .

ITYM, 'What is the frequency, Kenneth!?'[1]

--
AG

[1] http://www.ratherbiased.com/bizarre.htm

2021. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:42:52 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB06DA6.4040002@adelphia.net>
Source record: 119523
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Uncle Peter wrote:
> If you paid by PayPal, you had the option to take out fraud insurance
> for a few bucks.
>
> If the person's contact information is bogus, eBay will suspend his
> account. Did you report his contact information as being bogus??

How does that help?

It's getting closer:

http://story.news.yahoo.com/fc?cid=34&tmpl=fc&in=Business&cat=Online_Auctions

Considering that "Auction fraud was the No. 1 Internet-related
complaint recorded by the FTC last year", why would anyone use auctions?

Support the economy - Buy new from a dealer.

- Mike KB3EIA -

2022. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 00:52:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5qr0bv8m5vsp5ab11sag021mn907h2tb4a@4ax.com>
Source record: 119524

On Wed, 30 Apr 2003 19:22:08 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:
>I faked it. Defined the alternate impedance as 200 Ohms. I am assuming the
>450 Ohm stuff gets connected to 50 Ohm coax at some point. Certainly,
>everybody who measured their SWR did it at 50 Ohms. I know there are people
>who run 450 Ohm random length line into their shack. That works for a random
>number of people. Not, I suspect, for those who chose a line length of 1/4
>wavelength at 80 meters.
>
>Tam/WB2TT
>

Hi Tam,

You faked it, that's cool.

But in regard to my follow-up question, this throws the perspective of
200Ohms (or similar such) Reactance into that ratio without having
been transformed by a BalUn in an un-faked reality. That is unless
the reactances in those bands were sufficiently low anyway. Was that
the case too?

73's
Richard Clark, KB7QHC

2023. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:04:27 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <vo_ra.80758$xB4.2005117@news2.east.cox.net>
Source record: 119525
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

"Mike Coslo" <mcoslo@adelphia.net> wrote in message
news:3EB06DA6.4040002@adelphia.net...
> Uncle Peter wrote:
> > > > If the person's contact information is bogus, eBay will suspend
his
> > account. Did you report his contact information as being bogus??
>
> How does that help?
>

Maybe keeps the next person from getting ripped off?

2024. Re: Satellite Mesh digital /analogue

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:08:49 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <4k_ra.5746$xf.5373@fe01.atl2.webusenet.com>
Source record: 119526

"Allan Butler" <ka0ies@hotmail.com> wrote in message
news:iTira.418942$Zo.95929@sccrnsc03...
> If you look at most of the Television antennas from the different
> manufactures, you will find that most of them are "color certified" or
some
> sort of "Color Ready". It would likely be just more advertising gimmic to
> get people to purchase the product.
>

Well, actually....

On the transmitting side of digital TV there is a difference in the antennas. For good ol' NTSC they don't much care what the antenna looks like between the video and sound carriers. For digital the antenna has to be pretty flat over the entire channel bandwidth.

As I understand it there was considerable cussing and discussing when the first HDTV stations were trying to get running. The digital TV signal is highly sensitive to group delay. For those who don't know what that is, group delay is a measure of the phase response. In this case all frequencies in the antenna pass band must have the same phase shift.

Impedance problems that could be ignored with analog TV practricaly destroyed the HDTV signal. I also understand that they had to replace a lot of expensive coax because their old 'analog' lines weren't good enough.

Makes me wonder if the receive antennas have the same problem.

Jim
N8EE

2025. Re: 43mm diameter pipe & helix antenna problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:09:52 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <1l_ra.5752$xf.3215@fe01.atl2.webusenet.com>
Source record: 119527

Only if it is not a metal pipe.

2026. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:13:55 UTC
From: G&R <spam@limbo.hell>
Message-ID: <lx_ra.5092$fg3.529171@news20.bellglobal.com>
Source record: 119530

Hi,

Take a look on the web site:

http://www.qsl.net/ve3sqb/

and look for the Sky Hopper antenna.

Should give you an idea of what it is.

73 Guenther VE3CVS
info@degendesigns.com

"Brian Kelly" <kelly@dvol.com> wrote in message
news:d22b54c3.0304301527.2c89db39@posting.google.com...
> A ham buddy of mine who is a well-known dx contester/EE and I got to
> shooting the breeze about quick-up alternatives to the usual Field Day
> dipoles. He came up with one I've never seen or heard about before
> and I'm wondering if anyone here has any info or experience or other
> inputs on the specific design. I haven't been able to find anything
> about it anywhere so far.
>
> It's quite simple. Build a standard dipole, say 33 feet long for 20M
> and coax feed it at the center as usual. Then dangle 33 foot long
> wires from each end of the dipole with the ends terminating near the
> ground. At first glance the two "danglers" would be phased verticals
> producing some low angle broadside gain. The horizontal "element" adds
> some higher-angle horizontal radiation with wide broadside lobes. The
> net result should result be an antenna with mixed H & V components,
> some gain and some currently-unknown takeoff angles quite possibly
> favorable for FD ops particularly from the coasts.
>
> We're getting together to model the design later this week for 20 & 15
> but in the meantime I'd appreciate any info on the history of the
> design - if there is a history.
>
> Brian w3rv

2027. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:17:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB075AF.5090407@ieee.org>
Source record: 119528

Tarmo Tammaru wrote:
> By '"best" I meant the lowest and most consistent SWR across the 3.5 - 29
> MHz range.

The G5RV ain't a log-periodic. Don't you think it would be best to
have a reasonable SWR on your favorite amateur radio frequencies?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2028. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:20:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb0tictk0e6ab5@corp.supernews.com>
Source record: 119529

Choosing 200 ohms for the alternate SWR Z0 has exactly the same effect on SWR as putting a perfect 4:1 transformer at the source. And, if the modeled antenna antenna and feedline are perfectly symmetrical, there will be no common mode current, just as though a perfect balun is being used.

How close a real antenna comes to this ideal of course depends on quite a few things.

Roy Lewallen, W7EL

Richard Clark wrote:
> On Wed, 30 Apr 2003 19:22:08 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
>>I faked it. Defined the alternate impedance as 200 Ohms. I am assuming the
>>450 Ohm stuff gets connected to 50 Ohm coax at some point. Certainly,
>>everybody who measured their SWR did it at 50 Ohms. I know there are people
>>who run 450 Ohm random length line into their shack. That works for a random
>>number of people. Not, I suspect, for those who chose a line length of 1/4
>>wavelength at 80 meters.
>>
>>Tam/WB2TT
>>
>
>
> Hi Tam,
>
> You faked it, that's cool.
>
> But in regard to my follow-up question, this throws the perspective of
> 200Ohms (or similar such) Reactance into that ratio without having
> been transformed by a BalUn in an un-faked reality. That is unless
> the reactances in those bands were sufficiently low anyway. Was that
> the case too?
>
> 73's
> Richard Clark, KB7QHC

2029. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:32:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <43u0bvoupm8jgbotioq1v7ej5agvrsk2jf@4ax.com>
Source record: 119531

On Wed, 30 Apr 2003 18:25:50 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Can't respond to Schrodinger's tennis ball though, can you? Prove
>> that it does obey this old wive's tale of conservation.
>
>If you believe that the conservation of energy principle is an old
>wives' tale, please just come right out and say so.

Poor Cecil,

Your memory sure has been getting thin recently. Looks like your
attention does not span the time it took to start the reply above.

Prove to us that you can hold a thought through the next two
sentences:
>> Can't respond to Schrodinger's tennis ball though, can you? Prove
>> that it does obey this old wive's tale of conservation.

Others want to place a bet that he made it this far? How will we
know?

73's
Richard Clark, KB7QHC

2030. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:37:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5cu0bv0sobt8p6d4a897s9pcf2v4i402mt@4ax.com>
Source record: 119532

On Wed, 30 Apr 2003 18:29:36 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> He may rejoin that with the notion that Maxwell's demon lobs it back
>> for him.
>
>Have fun, Richard. I'm sure the Catholic Priests had fun with Galileo
>even though they never disproved what he was saying.

But they still had fun and that little fop folded like kleenex. Let
us know when you plan to drop your balls off the tower of Pisa - uh,
the Pope did let you keep them didn't he? (Maybe that's what all the
mumbling was about - yeah, they still move!)

73's
Richard Clark, KB7QHC

2031. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:40:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <enu0bvk7psjrruvn93eh3s9u2ag9i2lq21@4ax.com>
Source record: 119533

On Wed, 30 Apr 2003 18:34:55 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Reg Edwards wrote:
>> I don't ever recollect you saying it was the midle bit of a dipole which did
>> most of the radiating.
>
>Unlike others on this newsgroup, I don't utter assertions of which I am
>not sure. What I do know is that the top hat of a mobile antenna doesn't
>radiate much.

OK, let's see where the courage of the gauntlet cast goes from here.
;-)

Come out of your corners and touch gloves fellows!

73's
Richard Clark, KB7QHC

2032. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:44:02 UTC
From: richardharrison@webtv.net
Message-ID: <6419-3EB07BE2-94@storefull-2316.public.lawson.webtv.net>
Source record: 119538

CAM, W5DXP wrote:
"What turns around the reflected energy from the load?"

I`ll assume you mean at the load.

I`ll simplify my example to answer the question. Say we have a 50-ohm resistor as a load on a length of 300-ohm twinlead.

The resistor responds instantly to voltage across its terminals. It`s pure and that`s its nature.

Rho = (ZL / Zo)-1 / (ZL / Zo)+1

When the load impedance is a resistance that is smaller than Zo, the reflection is smaller than the incident wave and has the same phase relation to the incident wave as in the short-circuited case.

If my back of the envelope calculations are right, Rho = -0.714 on an angle of zero, and that is the same as 0.714 on an angle of 180-degrees.

My handy Bird slide rule says that if I had about 100 watts in my 300-ohm line, about 55 watts would be reflected by the 50-ohm load and the VSWR would barely exceed 6.

The numbers don`t say why a reflection happens. A resistor`s current is proportional to the volts across it (Ohm`s law).

The voltage to current ratio delivered by a transmission line is about sq.rt. L/C which is determined by construction.

A too low value resistor across the transmission line as a load wants more current than the line is carrying. That is, 300-ohms is too many volts and too few amps for a 50-ohm load, so the load takes all the amps it can get and rejects the excess voltage. The resistor can`t drop so many volts with so few amps available.

The excess volts are the source of the reflection from the too small load resistance. The reflection travels the only path available to it. It travels back toward the source.

Best regards, Richard Harrison, KB5WZI

2033. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:47:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <r2v0bvklklld5bpkomt22o5tvm9eeea3q5@4ax.com>
Source record: 119534

On 30 Apr 2003 16:27:33 -0700, kelly@dvol.com (Brian Kelly) wrote:

> I'd appreciate any info on the history of the
>design - if there is a history.
>
>Brian w3rv

Would that be a grounded, inverted, bob-tail antenna?

73's
Richard Clark, KB7QHC

2034. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:54:29 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB07E6E.1050705@adelphia.net>
Source record: 119535
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Uncle Peter wrote:
> "Mike Coslo" <mcoslo@adelphia.net> wrote in message
> news:3EB06DA6.4040002@adelphia.net...
>
>> Uncle Peter wrote:
>>
>>> > > If the person's contact information is bogus, eBay will suspend
>>
> his
>
>>>account. Did you report his contact information as being bogus??
>>
>>How does that help?
>>
>
>
> Maybe keeps the next person from getting ripped off?

But if it really worked, there would be no fraud on ebay.

- Mike -

2035. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 01:56:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb0vn0a11u9fbf@corp.supernews.com>
Source record: 119536

It isn't a classic bobtail, at least. In the bobtail, the currents in the two horizontal sections flow in opposite directions, so there's minimal horizontally polarized radiation. The bobtail ends up being a three element binomial vertical array. The antenna Brian described would have considerable horizontally polarized radiation, and the vertical sections would be phased differently. It'd only take a couple of minutes with a modeling program to see what its pattern would look like.

Roy Lewallen, W7EL

Richard Clark wrote:
> On 30 Apr 2003 16:27:33 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
>
>>I'd appreciate any info on the history of the
>>design - if there is a history.
>>
>>Brian w3rv
>
>
> Would that be a grounded, inverted, bob-tail antenna?
>
> 73's
> Richard Clark, KB7QHC

2036. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:12:54 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <Go%ra.81017$xB4.2036358@news2.east.cox.net>
Source record: 119537
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

"Mike Coslo" <mcoslo@adelphia.net> wrote in message
news:3EB07E6E.1050705@adelphia.net...
> Uncle Peter wrote:
> > "Mike Coslo" <mcoslo@adelphia.net> wrote in message
> > news:3EB06DA6.4040002@adelphia.net...
> >
> >> Uncle Peter wrote:
> >>
> >>> > > If the person's contact information is bogus, eBay will suspend
> >>
> > his
> >
> >>>account. Did you report his contact information as being bogus??
> >>
> >>How does that help?
> >>
> >
> >
> > Maybe keeps the next person from getting ripped off?
>
>
> But if it really worked, there would be no fraud on ebay.
>
> - Mike -
>
How do you figure that?

You may dislike eBay, but it gives a lot of folks a chance to own
items they ordinarily wouldn't find in a lifetime. A lot of items
that may appear to be rare are often regularly found on eBay.
A lot of folks don't like eBay because things that used to be "cheap"
are now fair market priced according to supply and demand.

I've had over 150 transactions on eBay. I've had problems with
buyers and sellers, but I haven't lost a dime yet. For the few times
I've had problems with bad contact info, the sellers have been removed
from the site.

Pete

2037. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:37:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB0887A.90302@ieee.org>
Source record: 119539

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "What turns around the reflected energy from the load?"
>
> I`ll assume you mean at the load.

No, I don't mean at the load. I mean what turns around the reflected power from the load at the Z0-match point? Please try again.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2038. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:42:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <be21bvo0qom0hh7m1l9jrbh1tohu5jme54@4ax.com>
Source record: 119540

On Wed, 30 Apr 2003 21:37:46 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>
>No, I don't mean at the load. I mean what turns around the reflected
>power from the load at the Z0-match point? Please try again.

Why would he do that for a rhetorical question?

2039. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:43:07 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <b8pvloqmo1@news1.kornet.net>
Source record: 119541
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message
news:Go%ra.81017$xB4.2036358@news2.east.cox.net...
> You may dislike eBay, but it gives a lot of folks a chance to own
> items they ordinarily wouldn't find in a lifetime. A lot of items
> that may appear to be rare are often regularly found on eBay.
> A lot of folks don't like eBay because things that used to be "cheap"
> are now fair market priced according to supply and demand.
>
> I've had over 150 transactions on eBay. I've had problems with
> buyers and sellers, but I haven't lost a dime yet. For the few times
> I've had problems with bad contact info, the sellers have been removed
> from the site.
>
> Pete
>
>

I've been burned a few times on ebay.. but mostly for cheap stuff... been
burned in this NG for a lot more money than I care to talk about.. and it
seems that just because someone's a fellow ham doesn't necessarily mean they
can be trusted. All in all, ebay at least has buyer and seller protections
available. If a person decides not to take advantage of them, then it is
pretty much down to a bad choice if they get burned.

2040. Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:47:27 UTC
From: "Joe S." <maxleonard@hotmail.com>
Message-ID: <b8q1s902g5t@enews1.newsguy.com>
Source record: 119543

Can someone help me identify a Telrex antenna I have?

I have had it for years but it's been bundled up lying in the crawl space
under the house for I don't know how long.

Tri-bander with four elements:
-- driven element with traps for 15 and 10, and.
-- three reflectors, one for each band.

The matching element is a black plastic box with a long wire loop mounted at
the center of the driven element.

I cannot locate the paperwork on this antenna -- can anyone help me identify
the model and possibly locate the manual on it?

Thanks.

--

Regards,
Joe S.

2041. better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 02:54:17 UTC
From: theplanters95@aol.comnospam
Message-ID: <20030430225417.28032.00000448@mb-m14.aol.com>
Source record: 119542

Which hamstick company is better? Lakeview, proam/valor, mfj, or ironhorse?

How do the hamsticks compare to the little tarheel screwdriver antenna?

Bands of interest are 40-20-17-15-10-6m.

Randy ka4nma

2042. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 03:04:15 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <t50sa.49666$Jn2.4377@fe04.atl2.webusenet.com>
Source record: 119545

Theplanters95 <theplanters95@aol.comnospam> wrote in message
news:20030430225417.28032.00000448@mb-m14.aol.com...
> Which hamstick company is better? Lakeview, proam/valor, mfj, or
ironhorse?
>
> How do the hamsticks compare to the little tarheel screwdriver antenna?
>
> Bands of interest are 40-20-17-15-10-6m.
>
> Randy ka4nma

I would opt for the TarHeel. Below 40 meters, hamsticks (except some which
have been modified
for innovative hams) absolutely STINK performance-wise. There are no
compromises for 40 and
75 Meters. Actually, it costs about the same for a full-sized screwdriver as
it does for the "mini"
screwdriver. Why not get the whole ball of wax for LESS money?

73

Jerry
K4KWH
www.qsl;.net/k4kwh

2043. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 03:05:02 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB08EF0.1020607@adelphia.net>
Source record: 119544
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Uncle Peter wrote:
> "Mike Coslo" <mcoslo@adelphia.net> wrote in message
> news:3EB07E6E.1050705@adelphia.net...
>
>> Uncle Peter wrote:
>>
>>>"Mike Coslo" <mcoslo@adelphia.net> wrote in message
>>>news:3EB06DA6.4040002@adelphia.net...
>>>
>>>
>>>> Uncle Peter wrote:
>>>>
>>>>
>>>>>>>>>If the person's contact information is bogus, eBay will suspend
>>>>>>
>>>his
>>>
>>>
>>>>>>account. Did you report his contact information as being bogus??
>>>>
>>>>How does that help?
>>>>
>>>
>>>
>>> Maybe keeps the next person from getting ripped off?
>>
>>
>>But if it really worked, there would be no fraud on ebay.
>>
>>- Mike -
>>
>
> How do you figure that?

If everyone who ripped anyone off on Ebay were reported and actred upon,
they would go away. Then anyone who was thinking about going there to
rip people off would certainly think twice about it.

>
> You may dislike eBay, but it gives a lot of folks a chance to own
> items they ordinarily wouldn't find in a lifetime.

hmm, that could be extrapolated to a lot of things.

> A lot of items
> that may appear to be rare are often regularly found on eBay.
> A lot of folks don't like eBay because things that used to be "cheap"
> are now fair market priced according to supply and demand.

Possibly. Something has to explain why some used, still available equipment goes for more than new. Someone actually bought a used FT-50 for 40 dollars more than I paid for mine brand new. All that, and no warrantee!

People can buy and sell for whatever they want of course. But fair market price? Not even.

The only thing I would have to say about the whole auction thing is that consumerism has turned most people into very non-savvy buyers. After enough people get ripped on ebay (and yes, used equipment going for more than new is a person getting ripped) they will become educated, and the seller market there will go away. So maybe there is a purpose for the auctions, if only to serve as an example to others.

- Mike -

2044. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 03:27:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB09420.7050104@ieee.org>
Source record: 119547

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>No, I don't mean at the load. I mean what turns around the reflected
>>power from the load at the Z0-match point? Please try again.
>
> Why would he do that for a rhetorical question?

It's not rhetorical for people who don't know the answer, Richard.
Do you know the answer?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2045. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 03:29:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB094B1.4030201@ieee.org>
Source record: 119548

Jerry Oxendine wrote:
> I would opt for the TarHeel. Below 40 meters, hamsticks (except some which
> have been modified for innovative hams) absolutely STINK performance-wise.

Now, just a minute, Jerry. Isn't 10m "below" 40m? :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2046. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 03:31:25 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8q4gecri1@slb5.atl.mindspring.net>
Source record: 119546

Tom:

[snip]
> it to be something that carries a disease. You gave it a nice try, Peter,
> but I don't see how you can make people stop saying "vector addition"
> when they are talking about the addition of two complex numbers.
> 73,
> Tom Donaly
[snip]

That's the wonderful thing about our great country, everybody is entitled to
go to
hell their own way.

And God bless em.

But... Me?

Heh, heh... I'll never ever ever say "vector addition" when I mean "complex
addition".

;-)

Hey... I'd like to see how those folks divide one three element vector into
another...

--
Peter K1PO
Indialantic By-the-Sea, FL.

2047. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 04:13:40 UTC
From: richardharrison@webtv.net
Message-ID: <21669-3EB09EF4-36@storefull-2317.public.lawson.webtv.net>
Source record: 119550

CAM, W5DXP wrote:
"---I mean what turns around the reflected power from the load at the Zo-match point?"

The reflection is never larger than the sender output. It is easier to put toothpaste back in the tube than to make the sender take back its output.

Best regards, Richard Harrison, KB5WZI

2048. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 04:30:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <BvKcnX-w5aIFPy2jXTWcqg@comcast.com>
Source record: 119549

I'm working on it. Didn't run to the patent office. Got new numbers which are converging on the ham bands. Length is now 114.8 feet. 450 ohm TL is 18 feet. Balun is 2:1. I am going to try other lengths and Z0 for the TL. SWR on 10/15/20 is now around 1.5:1. 40 meters stinks.

Tam/WB2TT
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB075AF.5090407@ieee.org...
> Tarmo Tammaru wrote:
> > By '"best" I meant the lowest and most consistent SWR across the 3.5 - 29
> > MHz range.
>
> The G5RV ain't a log-periodic. Don't you think it would be best to
> have a reasonable SWR on your favorite amateur radio frequencies?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2049. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 04:51:25 UTC
From: richardharrison@webtv.net
Message-ID: <17816-3EB0A7CD-205@storefull-2311.public.lawson.webtv.net>
Source record: 119554

Peter, K1PO wrote:
"Vectors are simply not complex numbers."

Page 87 of Terman`s 1955 edition, from the top:

The vector ratio, E2 / E1 of the voltage of the reflected wave to the voltage of the incident wave at the load is termed the "reflection coefficient" of the load. Simultaneous solution of the above five relations leads to the result:
Reflection coefficient = Rho = E2 / E1 =

(ZL / Zo)-1 / (ZL / Zo)+1

The reflection coefficient has both magnitude and phase, and so is a vector quantity."

Polar and Cartesian forms are interchangeable.

Best regards, Richard Harrison, KB5WZI

2050. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 04:55:29 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304302055.73c02218@posting.google.com>
Source record: 119551

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8pk6gnlu1@slb2.atl.mindspring.net>...
> Dr. Slick:
>
> Hey cool your jets man!
>

I'll cool my jets when you stop posting like you know what you
are talking about when you clearly do not! This happens WAY too often
on these NGs.

Pretending that you know something and typing like you do, is a
huge disservice to everyone! Someone has to tell you what is up.

Repeat after me, "I don't know shit...". It's healthy to admit
this, because NO ONE knows everything about even a specilized topic
like antennas.

It's healthy and important for us to admit when we don't know
something, but insecure people rarely do this. There are many things
i don't know, but there are a few that i do, and i WILL inform you
when you are wrong. You should really thank me for explaining it to
you.

> If your favorite instrumentation can simultaneously analyze more than one
> port of a multi-port network at a time, then indeed it does have the
> legitimate right to call itself a Vector Network Analyzer!
>

It can measure only one port, and not use the other, and it's
still a vector network analyzer.

> No problem. That's exactly what I said at first, you didn't say that until
> later!
>

You were "talking out of your A__"

>
> My point was not about Vector Analyzers, rather my point was that *a vector
> is not a complex number*!
>
> (a +jb)(c + jd) = (ac - bd) + j(bc + ad)
>
> I could go on, but you get the point... a vector is not a complex number,
> never was, never will be, cain't be!
>

You are wrong. A vector can be considered the addition of two orthogonal vectors, one on the real axis and one on the imaginary one.

Have you ever heard of polar coordinates? And how you can convert from polar to cartesian and vice versa? Look:

http://www.vanderbilt.edu/Engineering/CIS/Sloan/web/es130/vectors/vectut1.html

Once again:

A complex impedance CAN be converted to and from an S11 vector of magnitude 0-1, and phase of 0-360 degrees (or actually, -180 to +180 degrees)! Infinite impedance (ideal open) gives a voltage reflection vector of magnitude 1 @ zero degrees, and an ideal short gives a voltage reflection vector or magnitude 1 @ 180 degrees. Notice both have a magnitude of one, just the phase has changed.

Graphically computing the complex impedance given the magnitude and phase of the reflected voltage into a driven port is what the Smith Chart is all about! Check it out!

They've been calling them Vector Network Analyzers for decades now, for an excellent reason.

Dr. Slick

2051. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 04:57:14 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304302057.2de420a0@posting.google.com>
Source record: 119552

tdonaly@aol.com (Tdonaly) wrote in message
news:<20030430200306.02755.00000373@mb-m13.aol.com>...

You gave it a nice try, Peter,
> but I don't see how you can make people stop saying "vector addition"
> when they are talking about the addition of two complex numbers.
> 73,
> Tom Donaly

I don't think it was even a "nice try"!

Slick

2052. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 05:08:21 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0304302108.39424b66@posting.google.com>
Source record: 119553

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8pjf6oso1@slb9.atl.mindspring.net>...
> Wes:
>
> Well I was only referring to those "sloppy" companies which call their
> one-port analyzers "Vector Analyzers".
>

Once again, you can, and often do, use a Vector Network Analyzer
with only one port at a time, to measure S11 or S22, which is a vector
voltage reflection OR complex impedance measurement.

THESE ARE INTERCHANGABLE ON THE SMITH CHART!

Slick

2053. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 05:33:39 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8qbjk$7is$1@slb3.atl.mindspring.net>
Source record: 119555

Dr. Slick:

What a bunch of bull! Just stop trying to change the subject!

Come on Dr. Slick get real! Stop introducing all kinds of extraneous information.

You posted a statement stating that a complex number is a vector, but clearly and plainly everybody knows that a vector is a vector and a complex number is a complex number and never the twain shall meet!

You are just plain *WRONG* and need to be corrected!

Come back?

;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Dr. Slick" <radio913@aol.com> wrote in message news:1d15af91.0304302055.73c02218@posting.google.com...
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message news:<b8pk6gnlu1@slb2.atl.mindspring.net>...
> > Dr. Slick:
> >
> > Hey cool your jets man!
> >
>
> I'll cool my jets when you stop posting like you know what you
> are talking about when you clearly do not! This happens WAY too often
> on these NGs.
>
> Pretending that you know something and typing like you do, is a
> huge disservice to everyone! Someone has to tell you what is up.
>
> Repeat after me, "I don't know shit...". It's healthy to admit
> this, because NO ONE knows everything about even a specilized topic
> like antennas.
>
> It's healthy and important for us to admit when we don't know
> something, but insecure people rarely do this. There are many things
> i don't know, but there are a few that i do, and i WILL inform you
> when you are wrong. You should really thank me for explaining it to
> you.
>

>
> > If your favorite instrumentation can simultaneously analyze more than
one
> > port of a multi-port network at a time, then indeed it does have the
> > legitimate right to call itself a Vector Network Analyzer!
> >
>
> It can measure only one port, and not use the other, and it's
> still a vector network analyzer.
>
>
> > No problem. That's exactly what I said at first, you didn't say that
until
> > later!
> >
>
>
> You were "talking out of your A__"
>
>
> >
> > My point was not about Vector Analyzers, rather my point was that *a
vector
> > is not a complex number*!
> >
> > (a +jb)(c + jd) = (ac - bd) + j(bc + ad)
> >
> > I could go on, but you get the point... a vector is not a complex
number,
> > never was, never will be, cain't be!
> >
>
> You are wrong. A vector can be considered the addition of two
> orthogonal vectors, one on the real axis and one on the imaginary one.
>
> Have you ever heard of polar coordinates? And how you can
> convert from polar to cartesian and vice versa? Look:
>
>
http://www.vanderbilt.edu/Engineering/CIS/Sloan/web/es130/vectors/vectut1.html
>
>
> Once again:
>
>
> A complex impedance CAN be converted to and from an S11 vector of
> magnitude 0-1, and phase of 0-360 degrees (or actually, -180 to +180
> degrees)! Infinite impedance (ideal open) gives a voltage reflection
> vector of magnitude 1 @ zero degrees, and an ideal short gives a
> voltage reflection vector or magnitude 1 @ 180 degrees. Notice both

> have a magnitude of one, just the phase has changed.
>
> Graphically computing the complex impedance given the magnitude
> and phase of the reflected voltage into a driven port is what the
> Smith Chart is all about! Check it out!
>
> They've been calling them Vector Network Analyzers for decades
> now, for an excellent reason.
>
>
> Dr. Slick

2054. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 05:57:39 UTC
From: BuzzKenwood <dontask@wonttell.com>
Message-ID: <rcd1bvgjhjvadldvbb3m2j92r8p3odmp82@4ax.com>
Source record: 119556

Would it have the save pattern if it was feed with ladder line?

On 30 Apr 2003 16:27:33 -0700, kelly@dvol.com (Brian Kelly) wrote:

>A ham buddy of mine who is a well-known dx contester/EE and I got to
>shooting the breeze about quick-up alternatives to the usual Field Day
>dipoles. He came up with one I've never seen or heard about before
>and I'm wondering if anyone here has any info or experience or other
>inputs on the specific design. I haven't been able to find anything
>about it anywhere so far.
>
>It's quite simple. Build a standard dipole, say 33 feet long for 20M
>and coax feed it at the center as usual. Then dangle 33 foot long
>wires from each end of the dipole with the ends terminating near the
>ground. At first glance the two "danglers" would be phased verticals
>producing some low angle broadside gain. The horizontal "element" adds
>some higher-angle horizontal radiation with wide broadside lobes. The
>net result should result be an antenna with mixed H & V components,
>some gain and some currently-unknown takeoff angles quite possibly
>favorable for FD ops particularly from the coasts.
>
>We're getting together to model the design later this week for 20 & 15
>but in the meantime I'd appreciate any info on the history of the
>design - if there is a history.
>
>Brian w3rv

2055. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 06:17:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k0f1bvg0m3kibhfbthmdti04jl38b4bprf@4ax.com>
Source record: 119557

On Wed, 30 Apr 2003 22:27:28 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Do you know the answer?

Sure, it's a rhetorical question.

2056. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 06:28:41 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8qeqq$5nf$1@slb6.atl.mindspring.net>
Source record: 119558

Richard:

Heh, heh... You know as well as I do that...

Terman [God love him.] was just plain *WRONG*.

A complex number is *NOT* a vector.

A complex number is an ordered pair of two real numbers say...

z = (a, b) where the first real number a is the "real part" of z and the second real number is the "imaginary part" of z.
If you should choose to write complex numbers in this way, then you must always preserve the "order" and write the real part first and the imaginary part second so that you never get them confused. But even though this z = (a, b) "looks" like a two element vector it is not, because it does not obey the same laws as vectors.

In complex numbers one usually does not write the complex in the ordered pair form, rather one uses the "crutch" of the "operator j" as the Engineers do, or "i" if one is a Mathematician, to keep track of which element is the imaginary one and then one does not have to write them in a strict order.

This is usually written with the aid of the somewhat mysterious "operator j"

z = a + jb which is entirely equivalent to z = jb + a

See, how handy "j" is!

"j" is just a "marker" and it always helps us to keep track of the two parts of z and when using the "j" operator you don't have to write the parts in any particular order. But you do have to rember the rules for manipulating j. Some folks think "j" is the square root of minus one j = sqrt(-1) but... that's absurd... "j" is just a "marker", even though it is true that "j" has the interesting property that j^2 = -1.

Now a two element "vector" z = (a, b), in contrast to a complex z, must always be written in the correct order, with the first element "a" written first and the second element "b" written second, etc... and if there are more than three elements the order is always preserved in the same way. And... what is more, there ain't no stinkin "j" to "mark" certain elements in vectors!

Now the rule for adding the complex z to a complex w = x + jy is:

z + w = ((a + x), (b + y)) or using the mysterious operator z + w = a + jb + x + jy

And the rule for adding the vector z to another vector w = (x, y) is:

z + w = ((a + x), (b + y))

So superficially, except for the use of the mysterious "j" which isn't really needed at all for complex numbers as long as you are prepared to keep them "orderly", two element vectors and complex numbers do look similar to each other, especially when adding and subtracting.

Now we come to products a.k.a multiplication:

Complex multiplication complex z and w:

z*w = (a + jb)*(x + jy) = (ax - by) + j(bx +ay)
Letting a = 1, b = 2, x = 3 and y = 4

z*w = (3 - 8) + j(8 + 4) = -5 + j12

z*w = -5 + j12

And if we multiply them in the other order we get the same thing. It's commutative.

w*z = -5 + j12

Vector multiplication (products):

Vector product number one a.k.a the "Dot product":

z . w = (a, b) . (x, y) = (ax + by)
Again, Letting a = 1, b = 2, x = 3 and y = 4

z . w = 3 + 8 = 11
z . w = 11 ---- "Results in a scaler!"

And we get the same thing in the other order. It's commutative.

w . z = 11

And so for the vectors the product is 11 and for the complexes the product is -5 + j12

Kinda different!

A vector doesn't act anything like a complex! Notwithstanding dear deceased Dr. Terman, a vector is *not* a complex.

Then there is the second product of vectors number two a.k.a the "cross product" the cross product or vector product is not even commutative:

z X w = (a, b) X (x, y) = (0 ,0 , ay-bx) = (0, 0, 4-6) = (0, 0, -2)
zXw = (1, 2) X (3, 4) = (0, 0, -2)

--- A three vector! It has gone clear out of "Flatland"!

And you will find that zXw is not equal to wXz!! It's not commutative.

Shall we go on to division?

Well you can divide one complex into another and get a complex.

But... you can't even divide one vector into another, division is not even defined for vectors.

Heh, heh... it's been fun, sort of like the reflection controversies here on the NG...

How can you even discuss things if folks cannot agree on their meanings?

If one thinks that complexes are vectors and talks and writes about them in that way, then sooner or later
one gets into trouble and finds that they can't understand things.

Complex numbers are not vectors and the sooner everyone including poor Terman stops being "reckless" with those terms the better off the whole Universe will be!

Heeee, heeee...

Thoughts, comments,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Richard Harrison" <richardharrison@webtv.net> wrote in message news:17816-3EB0A7CD-205@storefull-2311.public.lawson.webtv.net...
> Peter, K1PO wrote:
> "Vectors are simply not complex numbers."
>
> Page 87 of Terman`s 1955 edition, from the top:
>
> The vector ratio, E2 / E1 of the voltage of the reflected wave to the
> voltage of the incident wave at the load is termed the "reflection
> coefficient" of the load. Simultaneous solution of the above five
> relations leads to the result:
> Reflection coefficient = Rho = E2 / E1 =
>
> (ZL / Zo)-1 / (ZL / Zo)+1
>
> The reflection coefficient has both magnitude and phase, and so is a
> vector quantity."
>
> Polar and Cartesian forms are interchangeable.
>
> Best regards, Richard Harrison, KB5WZI
>

2057. MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 06:45:55 UTC
From: perrypeters@msn.com
Message-ID: <31019be6.0304302245.771bfe46@posting.google.com>
Source record: 119559

HI Tom and Jaro

Today i received an email supposedly from MICROSOFT it had an
attachment which contained a virus, needless to say i did not download
it.
Looking through the list of forwarding addresses i saw yours and
jaros email addresses, if you get such an email DO NOT DOWNLOAD.

Perry

2058. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 07:06:20 UTC
From: tdonaly@aol.com
Message-ID: <20030501030620.21571.00000406@mb-m17.aol.com>
Source record: 119560

Peter Brackett wrote,
>
>Dr. Slick:
>
>What a bunch of bull! Just stop trying to change the subject!
>
>Come on Dr. Slick get real! Stop introducing all kinds of extraneous
>information.
>
>You posted a statement stating that a complex number is a vector, but
>clearly and plainly everybody knows that a vector is a vector and a complex
>number is a complex number and never the twain shall meet!
>
>You are just plain *WRONG* and need to be corrected!
>
>Come back?
>
>;-)
>
>--
>Peter K1PO
>Indialantic By-the-Sea, FL.
>

Mathematically, there's no reason a vector can't be composed of complex numbers: [a b c] where a, b, and c are complex. For that matter, why not use polynomials for a, b, and c if they follow all the right rules?
73,
Tom Donaly

2059. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 07:49:08 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3eb0d178$0$15483$626a54ce@news.free.fr>
Source record: 119561

Yes, they call it Levy antenna.

"Art" <(ANTI SPAM -deleate to email)oscura@btinternet.co.uk> a crit dans le message de news: b8mf9t$t8o$1@hercules.btinternet.com...
> I should like to ask a few G5RV questions.
>
> At present I drive my full size G5RV antenna from a balun at the end of the
> feeder which is connected to an MFJ 969 ATU alongside the rig (Yeasu 875).
> I would like to build a balanced ATU to sit at the bottom of the feeder and
> wonder if anyone has tried this or has any designs.
>
> Have been thinking of using the balanced tuner made by a German company
> http://www.hamware.de/hardware/tuner402/at402-e.htm .
>
>
>
> --
> regards
>
>
> Martin M0MGM
>
>
> "JDer8745" <jder8745@aol.com> wrote in message
> news:20030428100934.19203.00000384@mb-m01.aol.com...
> > Howdy,
> >
> > I've always been amazed at all the hoopla about the G5RV. Remember the
> wire is
> > the antenna. The ladder line isn't and neither is the coax.
> >
> > I have an "all band" antenna which is about 125 ft long at 30 feet and is
> fed
> > with 300-Ohm low loss transmitting "twin lead".
> >
> > It gets the rf to the antenna from a balun at the rig.
> >
> > The SWR is very high on most bands I'm sure. I have never measured it.
> I'm
> > not sure I can measure it with whatever equipment I have. (Haven't used

> the
> > old double pilot bulb indicator in decades)
> >
> > But the transmitter puts 100 W out so I assume most of it reaches the
> antenna.
> >
> > I have no prob with routing the twin lead.
> >
> > K9CUN
> >
> >
>
>

2060. Re: FD-4 antenna oppinion ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 08:19:29 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3eb0d898$0$15468$626a54ce@news.free.fr>
Source record: 119562

Hello Jarek,

I use a home brewed version that works quite good from 80 to 10 inclusive WARCs with minor antenna tuning on the low bands.

It has the same dimensions than the 2 kW Fritzel FD4 model. I added a smaller one at 90 degrees off the big one for the 15m band. Both are in inverted V configuration.

I first tried with the 1:6 Balun on top fed by KX4 coax cable but the cable was too heavy for my portable mast so I stepped up for another feeding option: 1:6 CURRENT Balun out of the shack and 300 Ohms (not 450 Ohms) ladder line to the feed point (11 meter high).
I know the radical narrow-minded purists would say "it couldn't work" but if you don't try it you'll never know!

If I remember correctly the big OCFD is 42.5 meter long fed at 1/3-2/3 and the small one is 13.45 meter long fed at 1/3-2/3 also but you should re-calculate the length of the small one.

Perhaps, you could even work on 6 meter with the small OCFD, here it's not possible (resonance at 54.5 MHz) due to configuration.

I tried dipoles too and multi-dipoles but for simple multiband action the double OCFD is quite the best!

Well I have to say that I tested a Levy antenna with a Levy coupler and I was very impressed by it's performances but the specific Levy coupler is mandatory.

73 de F8BOE Olivier ...-.-

"Jaros&#65533;aw Misiak" <jmisiak@opole.oip.pl> a &#65533;crit dans le message de news: b8lfrcael1@nemesis.news.tpi.pl...
> Hello I am looking for some oppinions about FD4 windom antena (both
> versions 40... m and 20...m,) ?. I will try to make this antenna next
> weekend so all about it is very interesting for me also some www pages
> address with fd-4 descriptions.
>
> Jarek sp6ojk
>
>
>
>

2061. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 08:27:08 UTC
From: Zombie Wolf <zmbwf@acadia.net>
Message-ID: <vb1miosn7ekc4c@corp.supernews.com>
Source record: 119563

Hey! Somebody should send Prine one of these....

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030428192934.26988.00000272@mb-m26.aol.com...
> Finally great product that will complement Freaktals, CFAs, EHs and Art's
> reflecting directors as well as BS on this NG.
> Check out:
> http://www.angelfire.com/ca3/thebasement/txrx.html
>
> Bada BUm

2062. Re: Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 10:21:09 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <vu6sa.11296$pK2.14627@news.indigo.ie>
Source record: 119564

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Why?
PVC is used as radomes for WiFi Links!

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3EAFF24B.B87CF72@gte.net...
>
>
> Xanax wrote:
>
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all,
> > I got a pvc pipe that is 56mm in diameter.
> > I will be winding the helix on it for an Fc of 1535Mhz.
> > The 56mm diameter is with the limit of Circumfrence from .75 to 1.33 of
> > Wavelength.
> >
> > Now what about S or the axial length of one turn of wire.
> > the ratio of Circumfrence to wavelength is .897
> > .
> > I know that the Value of S has to be .212-.286 Circumfrence but does the
> > Value of S have to be the same ratio to Circumfrence as above .i.e 0.897
??
> >
> > Cheers
> > Xanax.
>
> I would question the use of PVC at 1GHz and above.
>
> Dale W4OP
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPrD1EyGakPXr24F/EQKaoQCfV5JmigmLa8FAQKFyPNl0wcVhiCYAn1U/
O7SurM8Bj0elC4ppLklJK/QP
=UepS
-----END PGP SIGNATURE-----
```

2063. Re: Where to place GaAsFET Pre AMP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 10:22:29 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <Kv6sa.11298$pK2.14747@news.indigo.ie>
Source record: 119565

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thanks

Will do.
"J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca> wrote in message
news:%DXra.13896$NX1.480395@news20.bellglobal.com...
> -----BEGIN PGP SIGNED MESSAGE-----
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
> ...iT ReLlY DoEsN'T MaTtEr...
> Hash: is bad for your health
> > -----END PGP SIGNATURE-----
>
> "Xanax"
> > and I'm not sure how to get DC power up to the
> > antenna to power the preamp if it needs to be there.
>
> It's quite common to feed the power (low voltage DC) up to the
> remote-mounted preamplifier by way of the same coax that brings the signal
> down. Then you need a "power injector" near the receiver to put the DC
onto
> the feedline and make sure you don't put the DC into the receiver front
end
> (in case it would damage the front end).
>
> Keep us posted on how the whole system works...
>
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPrD1YiGakPXr24F/EQJqEgCgmLWRaWNB+eMCITxjQ8K2I7wdfUMAnjIB
2U/d2suRHFCXFQ7iJ36fyQ3q
=CI28
-----END PGP SIGNATURE-----
```

2064. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 11:40:22 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EB107A6.8040406@mwci-news>
Source record: 119566

Peter Brackett wrote:
>
>
> "j" is just a "marker" and it always helps us to keep track of the two parts
> of z and when using the "j" operator you don't have to write the parts in
> any particular order. But you do have to rember the rules for manipulating
> j. Some folks think "j" is the square root of minus one j = sqrt(-1) but...
> that's absurd... "j" is just a "marker", even though it is true that "j" has
> the interesting property that j^2 = -1.

j can be thought of as a mathematical "operator"
that performs a 90 degree phase rotation of a
phasor (or vector) in the XY-plane or the polar
plane. When we multiply a scalar number (or a
vector or phasor) by j that is what happens. The
usual explanation j=sqr(-1) is another way of
defining this phase rotation.

sqr(-1) = e^(j pi/2) = j

This idea was introduced by Heaviside, Raleigh,
Kennelly and Steinmetz before 1900 to convert
linear differential equations, especially
simultaneous equations (often very messy) to
algebraic forms that are much easier to work with.
The general idea is a "transform" method,
something like the LaPlace transform. There are
many kinds of transform methods.

In a text (sentences) situation, j can be thought
of as a "marker" that conveys the "idea" of the 90
degree operation.

Bill W0IYH

2065. Re: Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 12:36:17 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <5x8sa.159613$Si4.127959@rwcrnsc51.ops.asp.att.net>
Source record: 119567

> I have had it for years but it's been bundled up lying in the crawl space
> under the house for I don't know how long.
>
> Tri-bander with four elements:
> -- driven element with traps for 15 and 10, and.
> -- three reflectors, one for each band.
>
> The matching element is a black plastic box with a long wire loop mounted
at
> the center of the driven element.
>
> I cannot locate the paperwork on this antenna -- can anyone help me
identify
> the model and possibly locate the manual on it?

Sounds like a TB5EM with the director cut off. Never heard of a TB4. At any
rate, the black box is a Balun.

W4ZCB

2066. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 12:56:40 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305010456.68311be4@posting.google.com>
Source record: 119568

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb0vn0a11u9fbf@corp.supernews.com>...
> It isn't a classic bobtail, at least. In the bobtail, the currents in
> the two horizontal sections flow in opposite directions, so there's
> minimal horizontally polarized radiation. The bobtail ends up being a
> three element binomial vertical array. The antenna Brian described would
> have considerable horizontally polarized radiation, and the vertical
> sections would be phased differently. It'd only take a couple of minutes
> with a modeling program to see what its pattern would look like.

If we get together Friday for the modeling session, which is likely,
I'll post a discussion of the results here over the weekend.

> Roy Lewallen, W7EL

Brian w3rv

> Richard Clark wrote:
> > On 30 Apr 2003 16:27:33 -0700, kelly@dvol.com (Brian Kelly) wrote:
> >
> >
> >>I'd appreciate any info on the history of the
> >>design - if there is a history.
> >>
> >>Brian w3rv
> >
> >
> > Would that be a grounded, inverted, bob-tail antenna?
> >
> > 73's
> > Richard Clark, KB7QHC

2067. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 13:04:49 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305010504.593a196@posting.google.com>
Source record: 119369

"G&R" <spam@limbo.hell> wrote in message
news:<lx_ra.5092$fg3.529171@news20.bellglobal.com>...
> Hi,
>
> Take a look on the web site:
>
> http://www.qsl.net/ve3sqb/
>
> and look for the Sky Hopper antenna.
>
> Should give you an idea of what it is.

Yup. Except that the Skyhopper is based on the Half-Square antenna
which has 1/4 wave long vertical elements and is corner-fed, the
horizontal element is simply a half-wave phasing line. The antenna
under discussion looks a lot like a Half-Square but has 1/2 wave long
vertical elements and the horizontal dipole is not just a phasing
line, it radiates.

> 73 Guenther VE3CVS
> info@degendesigns.com

Brian w3rv

2068. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 13:29:06 UTC
From: richardharrison@webtv.net
Message-ID: <20214-3EB12122-24@storefull-2313.public.lawson.webtv.net>
Source record: 119370

Peter, K1PO wrote:
"A complex number is NOT a vector."

It might as well be.

Current lags the voltage in an inductor by 90-degrees. Graphically, we show this by plotting the current vector at an angle of 90-degrees in the negative (clockweise) direction from the voltage vector. As the vectors rotate, they trace out sinusoidal waves in which the current vector lags the voltage vector by 90-degrees.

If resistance and inductance are placed in series and connected to an alternating source, the resulting current wwill lag by some angle. There`s no lag in a pure resistance. There is a 90-degree lag in a pure inductance. The lag will be somewhere in-between in a circuit with a net inductive reactance and a resistance.

To add and subtract complex numbers as used to represent the quantities above, operations are on the R + jX expressions and conducted the same as in simple arithmetic. Real and imaginary columns are added and subtracted separately.

Polar form is easy to use for multiplication and division. The magnitudes are multiplied and divided as in simple arithmetic, but the angles are added for multiplication or subtracted for division.

A complex number can be squared by writing it in polar form and multiplying it by itself, etc.

Vector analysis with crosses, dots, etc. is not a usual amateur topic.

Best regards, Richard Harrison, KB5WZI

2069. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 14:34:16 UTC
From: Kevin Schmidt <kevin.schmidt@virgilio.it>
Message-ID: <3EB13065.9040602@virgilio.it>
Source record: 119371

Richard wrote:
> I cannot get the same results with the same parameters.
>
> Parameters:
>
> Frequency: 7.059 Mhz
> R load: 1485.5 Ohms
> X load (jx) 1455.3 Ohms
>
> C1 max: 950 pF
> C1 Q : 1500
> C2 max : 950 pF
> C2 Q : 1500
> L Q : 300
>
>
> Input resistance: 50 Ohms
>
> W9CF's T-Network on automatic tune gives:
>
> C1: 61 pF
> C2: 950 pF
> L : 9.70 uH
>
> I was just trying to get T_Tuner to read same figures, but I don't seem
> to be able to. I change "A", but no joy.
>
> I know, the T network tuner offers such flexibility in settings, and I
> guess it's hard to pin down the best settings. But, I just wanted to
> try to match the settings with both these programs.
>
> In any event, should I always seek to set C2, capacitor connected to
> antenna, to the highest value possible?
>
> TIA. Rich.
>

I thought I would make a few comments about my tuner applet. I only became aware of this thread yesterday since I now read this newsgroup only occasionally.

I wrote the T-network applet as a amusement and most of the work went into coding the knobs and meter to look reasonably well and to make it give a feeling similar to that of a real tuner. The auto tune function was patched on as an afterthought. When I wrote it, I thought that the

minimum loss occured with one of the capacitors set at maximum, but I now see that that is incorrect. That rule is true for the lossiest case of a low impedance load, but is not true in general. The reason the web page did not explain that better is because I was unaware of it.

As an aside, the complete source of the applet is downloadable from the web page, so it is hard for me to understand how anyone can say it is undocumented. Perhaps its not documented the way you would like, but since the whole package is licensed under the GNU GPL, you are allowed to make any changes you like and distribute the changes. A quick look at the source will show that the original autotune algorithm consists of first trying the output capacitor at maximum and if that doesn't work trying the input capacitor at maximum. It was that simple.

I believe minimum inductor rule should be correct if the inductor losses dominate, so I have changed the algorithm to find the minimum inductor value. Note that since our tuners don't have a loss meter on the front, we need a simple rule like set one of the capacitors to max, or look for a match that minimizes the inductance. The web page now has, I hope, a better explanation of the autotune function.

73 Kevin w9cf

2070. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 14:39:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305010639.51416f29@posting.google.com>
Source record: 119372

perrypeters@msn.com (perrypeters) wrote in message
news:<31019be6.0304302245.771bfe46@posting.google.com>...
> HI Tom and Jaro
>
> Today i received an email supposedly from MICROSOFT it had an
> attachment which contained a virus, needless to say i did not download
> it.
> Looking through the list of forwarding addresses i saw yours and
> jaros email addresses, if you get such an email DO NOT DOWNLOAD.
>
> Perry

If I had a nickle for everyone of those I get , I wouldn't need to
work.
I get some that have nearly everyone on this group's address. I think
MS should find and sue the crap out of whoever is doing that. Heck, if
I could find them, I'd be glad to beat the crap out of them just for
spamming me day after day. No charge. I guess some people are actually
ignorant enough to open those things.
The spamming has really increased recently. Where before I might get
3-4-5 a day, now I might get 10-15-20 a day. There is no doubt. It
sucks, and so do the people that send out that crap. To all you future
spammers. Take note. I'm not overweight, my pecker still works, I
don't need the worlds smallest digital camera, and I collect all
e-mails from Nigerian scam artists to forward to the FBI, CIA, and Art
Bell. MK

2071. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:12:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB13978.1000205@ieee.org>
Source record: 119373

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "---I mean what turns around the reflected power from the load at the
> Zo-match point?"
>
> The reflection is never larger than the sender output. It is easier to
> put toothpaste back in the tube than to make the sender take back its
> output.

I wonder if your toothpaste will draw as much flack as my tennis ball? :-)

Waves flowing in opposite directions in a transmission line don't have
any effect on each other until they encounter a physical impedance discontinuity
where (b1=s11*a1+s12*a2) and (b2=s21*a1+s22*a2) occur. s11*a1 and
s12*a2 are on one side of the discontinuity and s21*a1 and s22*a2 are
on the other side. That doesn't look like toothpaste to me.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2072. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:15:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB13A0E.2050800@ieee.org>
Source record: 119374

Tarmo Tammaru wrote:
> I'm working on it. Didn't run to the patent office. Got new numbers which
> are converging on the ham bands. Length is now 114.8 feet. 450 ohm TL is 18
> feet. Balun is 2:1. I am going to try other lengths and Z0 for the TL. SWR
> on 10/15/20 is now around 1.5:1. 40 meters stinks.

If you don't want 40m to stink, go back to the original dimensions. CQ
magazine once ran an article about G5RV optimization. The results were
not far from the standard dimensions.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2073. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:24:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB13C35.6040800@ieee.org>
Source record: 119375

BuzzKenwood wrote:
> Would it have the save pattern if it was feed with ladder line?

The choice of feedline has no effect on the radiation pattern
unless there are common-mode currents flowing on the feedline.
With a balanced antenna, coax without a balun is more likely to
result in common mode currents than balanced ladder line if the
ladder line has a balun installed at the transmitter.

Common-mode currents on the feedline of a horizontal antenna
tend to supply vertically polarized radiation which subtracts
from the horizontally polarized radiation from the horizontal
elements.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2074. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:34:45 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB13E93.327B8358@att.net>
Source record: 119376

Dr. Slick,

Nice web page about elementary 2-D vectors.

Perhaps you may have noticed that the word "complex" never appears on
that page or the related pages. There is no mention of "real" and
"imaginary" parts, just x and y. Not a whole lot of support for your
claim that complex numbers and vectors are closely related.

73,
Dr. Gene
W4SZ

"Dr. Slick" wrote:

[big snip]

>
> You are wrong. A vector can be considered the addition of two
> orthogonal vectors, one on the real axis and one on the imaginary one.
>
> Have you ever heard of polar coordinates? And how you can
> convert from polar to cartesian and vice versa? Look:
>
> http://www.vanderbilt.edu/Engineering/CIS/Sloan/web/es130/vectors/vectut1.html

2075. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:38:22 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB13F6B.F709737@att.net>
Source record: 119377

Peter,

> Thoughts, comments,

You da man! (but you are probably wasting your time.)

What?

73,
Gene
W4SZ

Peter Brackett wrote:
>
> Richard:
>
> Heh, heh... You know as well as I do that...
>
> Terman [God love him.] was just plain *WRONG*.
>
> A complex number is *NOT* a vector.
>
> A complex number is an ordered pair of two real numbers say...
>
[big snip]
>
> Heeee, heeee...
>
> Thoughts, comments,
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.

2076. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 15:47:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <icg2bv8nohf5jksqabktcp77345fja267h@4ax.com>
Source record: 119378

On Thu, 01 May 2003 10:12:56 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>I wonder if your toothpaste will draw as much flack as my tennis ball? :-)
>
>That doesn't look like toothpaste to me.

That didn't take long.

2077. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:06:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3og2bv41gqu53bplsl9o2f1pc82u3dbm2l@4ax.com>
Source record: 119379

On Thu, 01 May 2003 15:47:04 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Thu, 01 May 2003 10:12:56 -0500, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>>I wonder if your toothpaste will draw as much flack as my tennis ball? :-)
>>
>>That doesn't look like toothpaste to me.
>
>That didn't take long.

:-)

Hi All,

I had a sudden recollection from a book I read written by Bill Mauldin
about the Korean conflict when he got into putting his Willy and Joe
cartoons together.

He told of his hearing from the front lines about some soldiers
observing the North Koreans having captured one of our new Recoilless
Rifles and their trying it out. Seems the observers had a view of the
opposite hillside where the assembled North Korean gun crew were
puzzling over just how it worked.

They carefully loaded it, aimed it, adjusted things, aimed it again,
stood back to reconsider the situation, aimed it again, stood back
again and then pulled the lanyard to fire it. The back flash took out
most of the crew and in the confusion they forgot to spot their target
and see how well the shell had been placed (I'm sure all here can
understand that shortfall in the heat of the moment).

The bodies were carried off, replacements came forward, and the
officer turned the gun around to repeat the operation: load, aim,
stand back, fire.

Amazing how often newsgroups imitate this.

Anyway, thanx Bill, I wish you could read this tribute in imitation
from Cecil.

73's
Richard Clark, KB7QHC

2078. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:10:50 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <eGbsa.2348$Lm2.124264@twister.southeast.rr.com>
Source record: 119381
Body handling: HTML body converted to readable text

Forget about SWR, It has little to do with anythng except a change in SWR can be an indication that something has changed in your antenna /feedline system and needs investigation. Also some feedlines cannot tolerated high SWR at high power without arcing. However if you live in the world of "50 ohms" where 50 ohm transievers feed 50 ohm antennas via 50 ohm coax most of the myths of SWR while not being true will work for you. The secret to an efficent system is and always will be matching the impedance of the generator to the impedance of the load. Unless you live at 50 ohms then an SWR meter may not indicate this match.

"Bruce Wilson" wrote in message
news:eSara.120965$gK.226038@rwcrnsc52.ops.asp.att.net...
> Hi everyone.
>
> I'm trying to get a feel for the relationship between the efficiency of a
> transmitting antenna and the SWR. I rarely see any measurements on an
> antenna that include both a pattern (with appropriate comparison to a
> half-wave dipole or quarter-wave vertical) and the SWR bandwidth.
>
> I have a feeling that low SWR corresponds to the best efficiency, though I
> don't know the theory behind that idea.
>
> I also have the impression that a very broadband antenna, one that
presents
> a relatively low SWR in many bands without the need for a feedline tuner,
is
> of necessity inefficient (a trait referred to as a "radiating dummyload"
on
> occasion).
>
> My question comes at the crossover between the two. For example, I can use
a
> good feedline tuner and baluns to make a random wire present a reasonable
> SWR to the transmitter, but now I have a resonating feedline-antenna, not
> just a resonating antenna. I have a low SWR, but is the combination
> efficient? Is it possible to tell without measuring the field strength
> compared to a similarly-mounted dipole?
>
> I ask this as I design my first HF antenna, trying to choose between an
> tuner and random wire, a multiband dipole in inverted-V configuration, and
> broadband antenna (T2FD or G5RV), or just buy a commercial vertical and
add
> many radials. Estimating overall DX efficiency is the real problem I'm

> having. Is SWR a good predictor of efficiency?
>
> --
> Bruce Wilson
> http://science.uvsc.edu/chemistry/wilson
> KD7VEM
>
>

2079. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:11:51 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ZtCdnRScd-je2iyjXTWcqA@comcast.com>
Source record: 119380

Cecel,

Let me put this in a little more perspective.

First, I started out to prove that the G5RV is a piece of s#%&* and won't work as claimed.

Second, I don't really know what a G5RV is. The original version used 72 ohm twinlead, and appears to have been intended to work 80 and 20 meters with a pi network. People on this newsgroup talked about their 135 foot antennas, which I took as gospel. This turns out to be as generic as others with their 90 foot longwire (one word) antennas. Anyhow, 135 feet was my starting point, which I have since given up on. The reason I am doing it at all is that no G5RV fan posted any simulation results, which leads me to believe that they either didn't do it, or are keeping it secret.

Some people here talked about a maximum usable SWR of 50:1. This is inconsistent with the QST tuner test, which suggests more like 5:1. You really want less than 3:1 to use a built in automatic tuner. The iteration I am on now will do that on 80, 40, 30, 20, 15, and 10 meters, but requires a series capacitor to work the high end of 75 and 30 meters (same cap). It requires a series inductor to work 40. I am trying to arrange it so the lumped parameters can be on the shack end of the coax.

I don't get CQ. If you have their dimensions, please pass them on.

Tam/WB2TT
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB13A0E.2050800@ieee.org...
> Tarmo Tammaru wrote:
> > I'm working on it. Didn't run to the patent office. Got new numbers
which
> > are converging on the ham bands. Length is now 114.8 feet. 450 ohm TL is
18
> > feet. Balun is 2:1. I am going to try other lengths and Z0 for the TL.
SWR
> > on 10/15/20 is now around 1.5:1. 40 meters stinks.
>
> If you don't want 40m to stink, go back to the original dimensions. CQ
> magazine once ran an article about G5RV optimization. The results were
> not far from the standard dimensions.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>

> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2080. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:38:53 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305010838.175b2b71@posting.google.com>
Source record: 119382

"Zombie Wolf" <zmbwf@acadia.net> wrote in message
news:<vb1miosn7ekc4c@corp.supernews.com>...
> Hey! Somebody should send Prine one of these....
>
> "Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
> news:20030428192934.26988.00000272@mb-m26.aol.com...
> > Finally great product that will complement Freaktals, CFAs, EHs and Art's
> > reflecting directors as well as BS on this NG.
> > Check out:
> > http://www.angelfire.com/ca3/thebasement/txrx.html
> >
> > Bada BUm

The Jewish authorities now know who you are (hate crimes).
The Google people chaffing at the bit regarding the filthy
posting you made in your home language, as well as using this
forum as a basis for sending viruses, how long do you think
it will take for your radio licenses to be removed by the
F.C.C. and in Canada ?
Using fake names is not going to save you.
Art

2081. Re: Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:46:23 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <fqj2bv42efvvnnklndii9sc2is3h8pe1kq@4ax.com>
Source record: 119385

On Wed, 30 Apr 2003 16:00:08 GMT, Dale Parfitt <parinc@gte.net> wrote:

>
>
>Xanax wrote:
>
>> -----BEGIN PGP SIGNED MESSAGE-----
>> Hash: SHA1
>>
>> Hi all,
>> I got a pvc pipe that is 56mm in diameter.
>> I will be winding the helix on it for an Fc of 1535Mhz.
>> The 56mm diameter is with the limit of Circumfrence from .75 to 1.33 of
>> Wavelength.
>>
>> Now what about S or the axial length of one turn of wire.
>> the ratio of Circumfrence to wavelength is .897
>> .
>> I know that the Value of S has to be .212-.286 Circumfrence but does the
>> Value of S have to be the same ratio to Circumfrence as above .i.e 0.897 ??
>>
>> Cheers
>> Xanax.
>
>I would question the use of PVC at 1GHz and above.

works perfectly.

w.

2082. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:46:35 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305010846.3b4f61f9@posting.google.com>
Source record: 119383

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB09420.7050104@ieee.org>...
> Richard Clark wrote:
>
> > <Cecil.A.Moore@ieee.org> wrote:
> >>No, I don't mean at the load. I mean what turns around the reflected
> >>power from the load at the Z0-match point? Please try again.
> >
> > Why would he do that for a rhetorical question?
>
> It's not rhetorical for people who don't know the answer, Richard.
> Do you know the answer?

Cecil,
Why let him draw you into a fight? He is only trying to
cause you pain and trouble. He is gasping for somebody to respond
to his posts, but few are biting.
Regards
Art

2083. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:46:49 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <m-CcnWh-2pzj0iyjXTWcqg@comcast.com>
Source record: 119384

The "security patch" message is distributed by infected computers. More information is available at http://securityresponse.symantec.com/avcenter/venc/data/w32.gibe@mm.html

The original version showed a big address list, and thus it would be possible to warn recipients not to open it. Later versions don't show the list.

The thing is successful because people forget that Microsoft does not distribute security patches as spam.

Tom, N3IJ

"Mark Keith" <nm5k@wt.net> wrote in message news:25eb70d7.0305010639.51416f29@posting.google.com...
> perrypeters@msn.com (perrypeters) wrote in message news:<31019be6.0304302245.771bfe46@posting.google.com>...
> > HI Tom and Jaro
> >
> > Today i received an email supposedly from MICROSOFT it had an
> > attachment which contained a virus, needless to say i did not download
> > it.
> > Looking through the list of forwarding addresses i saw yours and
> > jaros email addresses, if you get such an email DO NOT DOWNLOAD.
> >
> > Perry
>
> If I had a nickle for everyone of those I get , I wouldn't need to
> work.
> I get some that have nearly everyone on this group's address. I think
> MS should find and sue the crap out of whoever is doing that. Heck, if
> I could find them, I'd be glad to beat the crap out of them just for
> spamming me day after day. No charge. I guess some people are actually
> ignorant enough to open those things.
> The spamming has really increased recently. Where before I might get
> 3-4-5 a day, now I might get 10-15-20 a day. There is no doubt. It
> sucks, and so do the people that send out that crap. To all you future
> spammers. Take note. I'm not overweight, my pecker still works, I
> don't need the worlds smallest digital camera, and I collect all
> e-mails from Nigerian scam artists to forward to the FBI, CIA, and Art
> Bell. MK

2084. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 16:53:41 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <h8k2bvg35uh33dk4b27f9nlnmkter95672@4ax.com>
Source record: 119386

On Thu, 1 May 2003 12:46:49 -0400, "Tom Coates" <tecoates@comcast.net>
wrote:

>excerpted...

I recently received a security patch from Microsoft. I haven't opened
the attachment, since I don't know whether it is legit. Below is how
the email reads.

Bob
k5qwg

MS User

this is the latest version of security update, the
"April 2003, Cumulative Patch" update which eliminates
all known security vulnerabilities affecting Internet Explorer,
Outlook and Outlook Express as well as five newly
discovered vulnerabilities. Install now to protect your computer
from these vulnerabilities, the most serious of which could allow
an attacker to run executable on your system. This update includes
the functionality of all previously released patches.

System requirements Win 9x/Me/2000/NT/XP
This update applies to Microsoft Internet Explorer, version 4.01 and
later
Microsoft Outlook, version 8.00 and later
Microsoft Outlook Express, version 4.01 and later
Recommendation Customers should install the patch at the earliest
opportunity.
How to install Run attached file. Click Yes on displayed dialog box.
How to use You don't need to do anything after installing this item.

Microsoft Product Support Services and Knowledge Base articles
can be found on the Microsoft Technical Support web site.
For security-related information about Microsoft products, please
visit the Microsoft Security Advisor web site, or Contact us.

Please do not reply to this message. It was sent from an unmonitored
e-mail address and we are unable to respond to any replies.

Thank you for using Microsoft products.

Best regards from
Microsoft Network Customer Support

ï¿½2003 Microsoft Corporation. All rights reserved. The names of the

actual companies
and products mentioned herein may be the trademarks of their
respective owners.

... end of email...

2085. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:09:14 UTC
From: nat.gurumoorthy@ubicom.com
Message-ID: <41325e56.0305010909.3f919177@posting.google.com>
Source record: 119387

HI Brian,
Here is the NEC2 dec for your antenna. The Horizontal section is
at 40'. By the way all the numbers are in mm. There is a scaling card
which will divide by 1000 to get everything to meters. The wires are
2mm which is #12 AWG. The model is over imperfect ground. The max gain
was about 2.71 dbi Impedence was 171 -j185. The lobes look fairly low
angle. The antenna is fairly omnidirectional which I think would be
good for Field Day.

```
------------------ Snip Here -----------------------
CM Brian w3rv Design
CM Model by Nat Gurumoorthy AB6SJ
CM 05/01/2003
CM I:\dangler.INP
CE
GW 1 15 -5029.2 0 12192 5029.2 0 12192 2
GW 2 15 -5029.2 0 12192 -5029.2 0 2133.6 2
GW 3 15 5029.2 0 12192 5029.2 0 2133.6 2
GS 0 0 0.001
GE
GN 0 0 0 0 4 0.001 0 0 0 0
EX 0 1 8 0 1 0
FR 0 1 0 0 14.2 0
PQ -1 0 0 0
PT -1 0 0 0
RP 0 61 31 1001 -90 0 3 6 1000
EN

------------------ Snip Here -----------------------
```

Enjoy
Nat Gurumoorthy AB6SJ

kelly@dvol.com (Brian Kelly) wrote in message
news:<d22b54c3.0304301527.2c89db39@posting.google.com>...
> A ham buddy of mine who is a well-known dx contester/EE and I got to
> shooting the breeze about quick-up alternatives to the usual Field Day
> dipoles. He came up with one I've never seen or heard about before
> and I'm wondering if anyone here has any info or experience or other
> inputs on the specific design. I haven't been able to find anything
> about it anywhere so far.
>
> It's quite simple. Build a standard dipole, say 33 feet long for 20M
> and coax feed it at the center as usual. Then dangle 33 foot long
> wires from each end of the dipole with the ends terminating near the

> ground. At first glance the two "danglers" would be phased verticals
> producing some low angle broadside gain. The horizontal "element" adds
> some higher-angle horizontal radiation with wide broadside lobes. The
> net result should result be an antenna with mixed H & V components,
> some gain and some currently-unknown takeoff angles quite possibly
> favorable for FD ops particularly from the coasts.
>
> We're getting together to model the design later this week for 20 & 15
> but in the meantime I'd appreciate any info on the history of the
> design - if there is a history.
>
> Brian w3rv

2086. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:19:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u8l2bv883u2o2dqhu44q15v9endscmqad3@4ax.com>
Source record: 119388

On Thu, 1 May 2003 12:46:49 -0400, "Tom Coates" <tecoates@comcast.net>
wrote:

>
>The thing is successful because people forget that Microsoft does not
>distribute security patches as spam.
>
>Tom, N3IJ
>

Hi Tom,

Lest we wander too far off:
>a worm that uses Microsoft Outlook and its own SMTP engine to spread
Success is entirely due to Microsoft, not the people using its
products.

MS has been posting an average of TWO patches a week for their
security failures for a couple of years now. How many have you
installed?

The alternative is to stop using the offending software and ignore the
patches entirely. There are alternatives and if anything, it is in
that failure to go there that users could be admonished for embracing
their own doom.

73's
Richard Clark, KB7QHC
Running patchless without incident for 8 years.

2087. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:28:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB15935.3080708@ieee.org>
Source record: 119390

Tarmo Tammaru wrote:
> First, I started out to prove that the G5RV is a piece of s#%&* and won't
> work as claimed.

What are the claims? When the G5RV was invented, there were no WARC bands.
The G5RV works pretty well on some part of all the rest of the HF bands
when the transmitter has a wide range adjustable pi-network which was the
case when the G5RV was invented.

> Second, I don't really know what a G5RV is.

It a 102 ft doublet fed in the middle with a tuned feeder section of
parallel feedline whose length is 1/2 wavelength on 20m. The horizontal
length is 3/2 wavelength on 20m, i.e. resonant.

> The reason I am doing it at all is
> that no G5RV fan posted any simulation results, which leads me to believe
> that they either didn't do it, or are keeping it secret.

Everything that you always wanted to know about G5RV's is covered in
a 36 page TechNote #124d (c)1990 from AntennasWest. They turned their line
over to "Antennas by Paul" in New Mexico. I see him occasionally at hamfests.
I don't know if the TechNote is still available from Paul or not.

If you have EZNEC, I can send you the EZNEC file for a G5RV.

> Some people here talked about a maximum usable SWR of 50:1. This is
> inconsistent with the QST tuner test, which suggests more like 5:1. You
> really want less than 3:1 to use a built in automatic tuner.

The G5RV was invented long before built in autotuners. An SWR of 50:1
on 600 ohm open-wire line results in 12 ohms at the current maximum
point. That's a 50 ohm SWR of less than 5:1. You need to say where
that SWR occurs.

> I don't get CQ. If you have their dimensions, please pass them on.

I don't still have a copy. I believe the article was written by Bill
Orr, W6SAI, sometime in the 1980's. Perhaps someone can look it up
for you.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2088. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:29:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b3m2bvs9tctmglfnt5rr4gnch6933l3fdi@4ax.com>
Source record: 119389

On Thu, 01 May 2003 11:53:41 -0500, Bob Miller
<bxmiller@texas.netNOSPAM> wrote:

>
>I recently received a security patch from Microsoft. I haven't opened
>the attachment, since I don't know whether it is legit. Below is how
>the email reads.
>
>Bob
>k5qwg

Hi Bob,

You have the foresight to use Forte Agent and this attack:
>a worm that uses Microsoft Outlook and its own SMTP engine to spread
would stop at your doorstep. That is not to say it couldn't take you
down, but at least, unlike SARS, you won't pass the contagion.

Lest that seem too vague: DON'T OPEN OR ACTIVATE THAT POST!

A fairly safe approach to Microsoft products is to simply move them to
the trashcan to fully enable their security features.

73's
Richard Clark, KB7QHC

2089. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:36:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <olm2bv0rss0rgvlokv6lgm1e7pcqci8qca@4ax.com>
Source record: 119391

On 1 May 2003 09:38:53 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>"Zombie Wolf" <zmbwf@acadia.net> wrote in message
news:<vb1miosn7ekc4c@corp.supernews.com>...
>> Hey! Somebody should send Prine one of these....
>>
>> "Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
>> news:20030428192934.26988.00000272@mb-m26.aol.com...
>> > Finally great product that will complement Freaktals, CFAs, EHs and Art's
>> > reflecting directors as well as BS on this NG.
>> > Check out:
>> > http://www.angelfire.com/ca3/thebasement/txrx.html
>> >
>> > Bada BUm
>
>The Jewish authorities now know who you are (hate crimes).
>The Google people chaffing at the bit regarding the filthy
>posting you made in your home language, as well as using this
>forum as a basis for sending viruses, how long do you think
>it will take for your radio licenses to be removed by the
>F.C.C. and in Canada ?
>Using fake names is not going to save you.
>Art

Hi Art,

Your concern is shared by all. I submitted your posting as an example
to:
groups-abuse@google.com

I encourage others to do likewise. :-)

73's
Richard Clark, KB7QHC

2090. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 17:40:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k1n2bv8isq40j2tpe1kja6p2r1mov0mca1@4ax.com>
Source record: 119392

On Thu, 01 May 2003 17:36:14 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>
>Hi Art,
>
>Your concern is shared by all. I submitted your posting as an example
>to:
> groups-abuse@google.com
>
>I encourage others to do likewise. :-)
>
>73's
>Richard Clark, KB7QHC

Reference number from Google:
#2205723
hold it just below the chin while facing the camera please.

2091. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 18:02:05 UTC
From: richardharrison@webtv.net
Message-ID: <20215-3EB1611D-27@storefull-2313.public.lawson.webtv.net>
Source record: 119394

CAM, W5DXP wrote:
"Waves flowing in opposite directions in a transmission line don`t have any effect on each other until they encounter a physical impedance discontinuity---."

True. What can a wave with its volts and amps out-of-phase do except be reflected?

Best regards, Richard Harrison, KB5WZI

2092. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 18:25:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB16690.D857DE9C@uci.edu>
Source record: 119395

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > The waves simply cancel in that direction, ...
>
> Can the energy in those waves cancel?

No. The energy is carried by the waves which constructively interfere
in the opposite direction.

2093. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 18:31:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb2pvnmql8uucc@corp.supernews.com>
Source record: 119396

The quarter wave horizontal wire in a half-square radiates.

Roy Lewallen, W7EL

Brian Kelly wrote:
>
> Yup. Except that the Skyhopper is based on the Half-Square antenna
> which has 1/4 wave long vertical elements and is corner-fed, the
> horizontal element is simply a half-wave phasing line. The antenna
> under discussion looks a lot like a Half-Square but has 1/2 wave long
> vertical elements and the horizontal dipole is not just a phasing
> line, it radiates.
>
>
>
>>73 Guenther VE3CVS
>>info@degendesigns.com
>
>
> Brian w3rv

2094. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 18:50:40 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <f3r2bv44ofljcqu6fq79k23qp8t24ubcb5@4ax.com>
Source record: 119397

On Thu, 01 May 2003 17:29:15 GMT, Richard Clark <kb7qhc@attbi.com>
sent into the ether:

>On Thu, 01 May 2003 11:53:41 -0500, Bob Miller
><bxmiller@texas.netNOSPAM> wrote:
>
>>
>>I recently received a security patch from Microsoft. I haven't opened
>>the attachment, since I don't know whether it is legit. Below is how
>>the email reads.
>>
>>Bob
>>k5qwg
>
>Hi Bob,
>
>You have the foresight to use Forte Agent and this attack:
>>a worm that uses Microsoft Outlook and its own SMTP engine to spread
>would stop at your doorstep. That is not to say it couldn't take you
>down, but at least, unlike SARS, you won't pass the contagion.
>
>Lest that seem too vague: DON'T OPEN OR ACTIVATE THAT POST!
>
>A fairly safe approach to Microsoft products is to simply move them to
>the trashcan to fully enable their security features.
>
>73's
>Richard Clark, KB7QHC
Well said Richard!
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

2095. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 19:03:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB16F87.204601E@uci.edu>
Source record: 119398

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >>You are still confused. Wave(V3,I3) and Wave(V4,I4) disappear from
> >>the universe through wave cancellation. Energy cannot disappear
> >>from the universe. The energy involved in the wave cancellation
> >>changes direction and joins Wave(Vfwd2,Ifwd2) just as it asserts
> >>on the Melles-Griot web page.
> >
> > So, back to the tennis ball. I know how a tennis ball bounces. How
> > exactly does energy bounce in this case? Show us a vector that is
> > forced to make a 180 somewhere at least.
>
> As others have noted, voltages and currents are not true vectors, they
> are phasors, i.e. two dimensional. The following are two phasor waves.
> 50 volts at zero deg, 1 amp at 180 deg
> 50 volts at 180 deg, 1 amp at zero deg

As I said earlier, voltage and current don't propagate. Waves do
propagate, and can be expressed as vectors. The vector can be written
in such a way that it represents the DIRECTION in which the wave is
travelling. Why haven't you written the problem in terms of wave
equations so that you can actually solve a wave reflection problem?

> What is it about the addition of those two phasors equaling zero volts
> and zero amps that you don't understand.

What is it about wave cancellation not being an actual cause of
reflection that you don't understand?

> You didn't answer my questions so I will repeat them. Given the equation:
>
> b1=s11*a1+s12*a2, which direction is the energy flowing?

Which energy?

> If b1 equals zero,
> where does the component energy go?

Why do you keep asking this question? There has never been any argument
about it. You certainly won't get one from me about where it goes. You
keep changing the topic of discussion for some reason. Guess you don't
want to talk about the real issue here.

2096. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 19:24:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb2t3p6s1u3m8b@corp.supernews.com>
Source record: 119399

Hooked one up to my HT, and it went totally dead. Haven't heard a thing since. Thought the HT was busted until I bypassed the HP-BSR. . .

Roy Lewallen, W7EL

Yuri Blanarovich wrote:
> Finally great product that will complement Freaktals, CFAs, EHs and Art's
> reflecting directors as well as BS on this NG.
> Check out:
> http://www.angelfire.com/ca3/thebasement/txrx.html
>
> Bada BUm

2097. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 19:47:40 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305011147.6ead730f@posting.google.com>
Source record: 119400

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8qbjk$7is$1@slb3.atl.mindspring.net>...
> Dr. Slick:
>
> What a bunch of bull! Just stop trying to change the subject!
>

I'm staying quite on subject!

> Come on Dr. Slick get real! Stop introducing all kinds of extraneous
> information.
>

It's very relevant to the discussion of why they are called Vector
network analyzers, but you are too stubborn to even look at what i am
saying!

I noticed you really like to snip off the things i write that you
don't want to answer to or don't understand! Typical NG trick to
avoid the topic!

> You posted a statement stating that a complex number is a vector, but
> clearly and plainly everybody knows that a vector is a vector and a complex
> number is a complex number and never the twain shall meet!
>

Everyone else's postings have been critical of your stance! They
are just being nicer! LOOK AT THE OTHER POSTS!

Once again for the bull-headed:

You are wrong. A vector can be considered the addition of two
orthogonal vectors, one on the real axis and one on the imaginary one.

Have you ever heard of polar coordinates? And how you can
convert from polar to cartesian and vice versa? Look:

http://www.vanderbilt.edu/Engineering/CIS/Sloan/web/es130/vectors/vectut1.html

How about euler's formula, where a phasor is broken down into the
real and imaginary parts? (I wasn't a math major, but this is
related)

http://www-structure.llnl.gov/Xray/comp/strufac.htm

See formula #3.

Dr. Slick

2098. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 19:54:27 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305011154.270cb924@posting.google.com>
Source record: 119401

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8q4gecri1@slb5.atl.mindspring.net>...

> Heh, heh... I'll never ever ever say "vector addition" when I mean "complex
> addition".
>
> Hey... I'd like to see how those folks divide one three element vector into
> another...

When would you ever need to do this?

You are making things up now. The vector cross product and dot
products were created because they can be used, but i have never heard
of dividing vectors.

Slick

2099. Re: Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 21:43:50 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <at43bvcskfrveeovejvs9sf72mka98mmgi@4ax.com>
Source record: 119393

On Wed, 30 Apr 2003 15:11:58 +0100, "Xanax"
<keepItInTheNewsGroups@news.com> wrote:

>
>-
>
>Now what about S or the axial length of one turn of wire.
>the ratio of Circumfrence to wavelength is .897
>.
>I know that the Value of S has to be .212-.286 Circumfrence but does the
>Value of S have to be the same ratio to Circumfrence as above .i.e 0.897 ??
>

the pitch is lamda/4 and is very uncritical.
I made several helixes with different S

Google for the program "HelixCalc.exe"

and the article

"The Gain of the Axial-Mode Helix Antenna"

w.

2100. Re: Ratio of C/S in Helix Antenna Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 22:06:47 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <%Pgsa.11427$pK2.14646@news.indigo.ie>
Source record: 119402

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Great
Thats help full
Cheers,
Xanax.
"Helmut Wabnig" <hXwabnig@aXon.at> wrote in message
news:at43bvcskfrveeovejvs9sf72mka98mmgi@4ax.com...
> On Wed, 30 Apr 2003 15:11:58 +0100, "Xanax"
> <keepItInTheNewsGroups@news.com> wrote:
>
> >
> >-
> >
> >Now what about S or the axial length of one turn of wire.
> >the ratio of Circumfrence to wavelength is .897
> >.
> >I know that the Value of S has to be .212-.286 Circumfrence but does the
> >Value of S have to be the same ratio to Circumfrence as above .i.e 0.897
??
> >
>
> the pitch is lamda/4 and is very uncritical.
> I made several helixes with different S
>
>
>
>
>
> Google for the program "HelixCalc.exe"
>
> and the article
>
> "The Gain of the Axial-Mode Helix Antenna"
>
>
>
> w.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPrGadSGakPXr24F/EQJ2ogCfRSaY4oS19D48k093HrHUeLWRyUwAnAgr
n09rtAWy1YJr0E1Q+B0VQfBD
=YCOm
```

```
-----END PGP SIGNATURE-----
```

2101. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 22:12:55 UTC
From: JR@nauti.net
Message-ID: <3EB19BE7.85086048@nauti.net>
Source record: 119404

Guys, I can tell you that my 102' (80-10) G5RV out performs my GAP Titan DX.

Tarmo Tammaru wrote:

> "Richard Clark" <kb7qhc@attbi.com> wrote in message
> news:8oc0bvsu5ftdlo7lblhnri0iqmj97tal6f@4ax.com...
> > On Wed, 30 Apr 2003 15:57:16 -0400, "Tarmo Tammaru"
> > <t-tammaru@home.com> wrote:
> >
> > >Richard,
> > >
> > >Using the 4:1 balun (on the G5RV I modeled) reduces the SWR on every ham
> > >band by a factor of 2X to 4X
> > >
> > >Tam/WB2TT
> >
> > Hi Tam,
> >
> > How did you model the BalUn?
> >
> > 73's
> > Richard Clark, KB7QHC
>
> I faked it. Defined the alternate impedance as 200 Ohms. I am assuming the
> 450 Ohm stuff gets connected to 50 Ohm coax at some point. Certainly,
> everybody who measured their SWR did it at 50 Ohms. I know there are people
> who run 450 Ohm random length line into their shack. That works for a random
> number of people. Not, I suspect, for those who chose a line length of 1/4
> wavelength at 80 meters.
>
> Tam/WB2TT

2102. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 22:22:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8s6nk$om0$1@sparta.btinternet.com>
Source record: 119405

> I once melted the plastic support on the coil in my antenna tuner.

==========

Cec, I must admit there's not much chance of the wire insulation being burnt
off a 600-ohm open-wire line even when its running 1.5 kW with an swr of 12
to 1. ;o)

Yours, Reg.

2103. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:04:53 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <pKhsa.2279$3f7.1856725@newssvr28.news.prodigy.com>
Source record: 119403
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

"Mike Coslo" <mcoslo@adelphia.net> wrote in message
news:3EB08EF0.1020607@adelphia.net...
> Possibly. Something has to explain why some used, still available
> equipment goes for more than new. Someone actually bought a used FT-50
> for 40 dollars more than I paid for mine brand new. All that, and no
> warrantee!

That's the feeding frenzy syndrome. A person gets caught up in the auction and doesn't check what a new one would be before bidding.

>
> People can buy and sell for whatever they want of course. But fair
> market price? Not even.

Sometimes yes and sometimes no. Some buyers expect to get something for a dime on the dollar and that's usually an unrealistic expectation especially if more that one person wants it.

>
> The only thing I would have to say about the whole auction thing is
> that consumerism has turned most people into very non-savvy buyers.
> After enough people get ripped on ebay (and yes, used equipment going
> for more than new is a person getting ripped) they will become educated,
> and the seller market there will go away. So maybe there is a purpose
> for the auctions, if only to serve as an example to others.

Any one who pays more used than new has only himself or herself to blame. They should have checked the new price before going into the bidding process. It is NOT the seller's fault if someone is so stupid as to bid that high. It is NOT the seller then who is ripping a person off. It's the bidder's own fault in that situation.

Dee Flint, N8UZE

2104. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:06:13 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8s995llh1@slb3.atl.mindspring.net>
Source record: 119406

Tom:

[snip]
> Mathematically, there's no reason a vector can't be composed of complex
> numbers: [a b c] where a, b, and c are complex. For that matter, why not
> use polynomials for a, b, and c if they follow all the right rules?
> 73,
> Tom Donaly
[snip]

I agree wholeheartedly, no reason whatsoever why vectors can't be complex,
most of the vectors I deal with daily are complexc, and that's exactly what
I posted up the thread.

What? You weren't reading?

--
Peter K1PO
Indialantic By-the-Sea, FL.

2105. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:14:51 UTC
From: jgboyles@aol.com
Message-ID: <20030501191451.19094.00000505@mb-m01.aol.com>
Source record: 119407

>Guys, I can tell you that my 102' (80-10) G5RV out performs my GAP Titan DX.

I have never compared the two, but conventional logic, plus numerous postings
on the subject(s) say you are correct.
73 Gary N4AST

2106. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:28:16 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8saif$i1d$1@slb9.atl.mindspring.net>
Source record: 119408

Dr. Slick:

I don't give a hoot about Vector Network Analyzers... I don't own any, and I'm not planning to buy any, and the name would not entice me at all, so please stop harrasing me about them.

All I ask is thay you please stop calling complex numbers vectors. By doing so you only encourage the miscreants among us, if you don't desist, then... I'll have no choice but to put you on report to the duty officer of the News Group!

My only point in posting to this thread was, and still is to make the simple point,

"Vectors are not Complex Numbers".

Period, end of story.

I have no iron in the fire or axe to grind here, I am not prejudiced, vectors and complex numbers are entitled to the same rights and freedoms as any other mathematical objects, but they don't all look the same to me.

There is nothing in these postings for me but the glow of knowing that I am helping humanity by keeping vectors and complex numbers separate and equal the way God meant them to be.

Frankly, on a personal level, I feel that complex numbers are more beautiful than vectors and I have a warm part in my heart for them.

Where in the world of vector spaces and vector calculus can you find a simple elegant equation directly relating the most fundamental mathematical constants 0, 1, pi and e, rationals and irrationals units of reals and of imaginaries and even binaries?:

1 + e^i*pi = 0

Dr. Slick I do hope you mend your ways and learn to stay out of the land of misnomers!

Best Regards,
--
Peter K1PO
Indialalantic By-the-Sea, FL.

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305011147.6ead730f@posting.google.com...
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8qbjk$7is$1@slb3.atl.mindspring.net>...

> > Dr. Slick:
> >
> > What a bunch of bull! Just stop trying to change the subject!
> >
>
> I'm staying quite on subject!
>
>
> > Come on Dr. Slick get real! Stop introducing all kinds of extraneous
> > information.
> >
>
> It's very relevant to the discussion of why they are called Vector
> network analyzers, but you are too stubborn to even look at what i am
> saying!
>
> I noticed you really like to snip off the things i write that you
> don't want to answer to or don't understand! Typical NG trick to
> avoid the topic!
>
>
>
> > You posted a statement stating that a complex number is a vector, but
> > clearly and plainly everybody knows that a vector is a vector and a
complex
> > number is a complex number and never the twain shall meet!
> >
>
> Everyone else's postings have been critical of your stance! They
> are just being nicer! LOOK AT THE OTHER POSTS!
>
> Once again for the bull-headed:
>
> You are wrong. A vector can be considered the addition of two
> orthogonal vectors, one on the real axis and one on the imaginary one.
>
> Have you ever heard of polar coordinates? And how you can
> convert from polar to cartesian and vice versa? Look:
>
>
http://www.vanderbilt.edu/Engineering/CIS/Sloan/web/es130/vectors/vectut1.html
>
>
> How about euler's formula, where a phasor is broken down into the
> real and imaginary parts? (I wasn't a math major, but this is
> related)
>
> http://www-structure.llnl.gov/Xray/comp/strufac.htm
>
> See formula #3.

>
>
>
> Dr. Slick

2107. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:34:52 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <32isa.11859$xf.7444@fe01.atl2.webusenet.com>
Source record: 119409

Yeh, got one from E-BAY - foney, someone fishing for info, wanting to know my login, and password- message has all the right looking logos on it - BUT REMEMBER IN THEIR SIGNUP : They will never ask you for that kind of information! and, further, when CLOSELY EXANINING that e-mail, a user name (not mine, nor the deal referred to's e-mail address's) showed up! Dont know who he (she, IT(?)) is, but someone with the time and resources could find. It isn't ONLY virus's, anymore, but also potential fraud! Be Forewarned! , and as to Microsquash, for updates (seems to cover ALL their software for the internet), simply, go to start (lower lefthand corner of your screen, then to "Windows Update" then follow the bounceing ball -you must be logged on to your server. as info, Jim NN7K

"perrypeters" <perrypeters@msn.com> wrote in message news:31019be6.0304302245.771bfe46@posting.google.com...
> HI Tom and Jaro
>
> Today i received an email supposedly from MICROSOFT it had an
> attachment which contained a virus, needless to say i did not download
> it.
> Looking through the list of forwarding addresses i saw yours and
> jaros email addresses, if you get such an email DO NOT DOWNLOAD.
>
> Perry

2108. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:40:16 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8sb8v$3j4$1@slb0.atl.mindspring.net>
Source record: 119410

Richard:

[snip]
> Vector analysis with crosses, dots, etc. is not a usual amateur topic.
>
> Best regards, Richard Harrison, KB5WZI
>[snip]

Amateurs! Who? What?

What about Maxwell's Equations aren't amateurs interested in those?

Actually in their modern form they are really Oliver Heaviside's equations, because Oliver was the first one to put them in the modern vector form. Heaviside never went to school beyond age 16 becoming a telegraph operator at an early age. Maxwell himself who was a professional and not an amateur like Heaviside wrote his celebrated equations as 22 different equations using Hamilton's Quarternions.

The amateur Heaviside reduced those 22 complex Quaternion heavy equations down to four simple elegant vector equations. Thanks Oliver. And then he showed how to "complexify" the vectors.

By the way, Oliver Heaviside was self taught and was a complete amateur, he only ever held one job in his life and that was as a telegraph operator for six years, the rest of his life he was unemployed.

Oliver was unemployed for the rest of his life and other than inventing what we now know as the LaPlace Transform method of solving differential equations, and the the modern form of Maxwell's equations, and coining the terms reactance and impedance, and solving the problem of underwater telegraphy and telephone transmissions, all of which he did as a mere amateur living in poor surroundings.

Amateurs are capable of lots more than you think Richard.

Comments, thoughts?

--
Peter K1PO
Indialantic By-the-Sea, FL.

2109. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-01 23:41:04 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8sbaf$q9t$1@slb6.atl.mindspring.net>
Source record: 119411

Hi Gene:

Thanks man!

Best Regards,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Gene Fuller" <W4SZzzzzz@att.net> wrote in message
news:3EB13F6B.F709737@att.net...
> Peter,
>
> > Thoughts, comments,
>
> You da man! (but you are probably wasting your time.)
>
> What?
>
> 73,
> Gene
> W4SZ
>
> Peter Brackett wrote:
> >
> > Richard:
> >
> > Heh, heh... You know as well as I do that...
> >
> > Terman [God love him.] was just plain *WRONG*.
> >
> > A complex number is *NOT* a vector.
> >
> > A complex number is an ordered pair of two real numbers say...
> >
> [big snip]
> >
> > Heeee, heeee...
> >
> > Thoughts, comments,
> >
> > --
> > Peter K1PO
> > Indialantic By-the-Sea, FL.

2110. Re: Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 00:14:59 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eb1b91c_1@news1.prserv.net>
Source record: 119412

I don't think Telrex made very many different tribanders. Their forte was monobanders, so it shouldn't be difficult to pin the model down. In 1956, they offered two tribanders like you describe, the TB-3 and the TBM-3. The TB-3 weighed 86 lbs., and had a turning radius of 19.5 feet. The TBM-3 was 47 lbs., and 15.5 feet. Both described as 2 el. on each band. Trouble is neither had traps.

--
Crazy George
Remove NO and SPAM from return address
"Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message
news:5x8sa.159613$Si4.127959@rwcrnsc51.ops.asp.att.net...
>
> > I have had it for years but it's been bundled up lying in the crawl
space
> > under the house for I don't know how long.
> >
> > Tri-bander with four elements:
> > -- driven element with traps for 15 and 10, and.
> > -- three reflectors, one for each band.
> >
> > The matching element is a black plastic box with a long wire loop
mounted
> at
> > the center of the driven element.
> >
> > I cannot locate the paperwork on this antenna -- can anyone help me
> identify
> > the model and possibly locate the manual on it?
>
> Sounds like a TB5EM with the director cut off. Never heard of a TB4. At
any
> rate, the black box is a Balun.
>
> W4ZCB
>
>

2111. Re: Boat Antenna for 2 meters????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 00:25:15 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <fNisa.11885$xf.9596@fe01.atl2.webusenet.com>
Source record: 119413

Right question-- WHAT KIND OF BOAT ?? I.E. , Fiberglass, or Wood (or Metal hull).
believe most marine antennas are constructed so as to NEED NO COUNTERPOISE (similar to Larsons, "OS" 1/2 wave verticals -- these made, in this instance for vehicles with a FIBERGLASS ROOF!, and work well.) but, with a aluminium hull, make sure your antenna's ground (assumes that typical 1/4, or 5/8 wave vertical) hits the hull, OR has a ground plane (middle of a 1/2 wave piece of metal, OR, 3-4 runs, 1/4 wavelength of burgular alarm tape , attached to the ground portion of the antenna).. tho, generally speaking, the higher the better, believe that for practicality, 10 foot, elevation, or even 20 foot elevation, will gain LITTLE, over sea level, as far as distance is concerned. Of course, IF you have the bux, Andrew (the hard line/Dish people) sells a blimp, AND A WINCH TETHER, CAN GO TO FAIR ALTITUDE, FOR AN ANTENNA, BUT BETTER HAVE A FEW BUX IN YOUR BACK POCKET (NOT TO MENTION THE HELIUM/HYRODGEN to fill it with! Jim NN7K

"Richard C. Ferryman" <Richard.Ferryman@btinternet.com> wrote in message news:uepgavgplo31qdcl37ue23de95dm95e0v8@4ax.com...
> On a boat - what type of boat?
> If a yacht with mast then get the aerial well up the mast around the
> crosstrees. Water is normally the lowest point wherever you are so an
> aerial near the deck is virtually at sea level, often below wave level
> and certainly not line of site to anything!
> Also do't use a large colinear; as you roll it will alternately beam
> your signal to the water or up to the sky. A 1/2 wave or 1/4 wave
> will be fine. If on salt water do use a fibreglass encased version.
> Even stainless steel gets etched and suffers from electrolytic action
> in the presence of salt air / water.
> If on a motor boat mount the aerial as high as practical.
> Don't use a marine aerial for 2m or vice verce as the match will be
> horrendous. Anyway you will probably require both marine aand amateur
> simultaneously.
> Richard
> "Ted Nugent" <eclip01@hotmail.com> wrote:
>
> >I am looking to put a 2 meter mobile rig on my boat
> >(aluminum hull) and am undecided on using a
> >regular VHF Marine antenna, or a standard 2 meter
> >mobile antenna with an NMO mount and mounting
> >it on the rear of the deck. Anyone here have any
> >experiences or recommendations on what to use?
> >Thanks .....
>

2112. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 00:38:34 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <lZisa.11892$xf.9387@fe01.atl2.webusenet.com>
Source record: 119414

Not verticle, -- Horizontal! been a number of years, in Oregon City, Oregon, few folks got liquered up couple days before field day, and strung a RHOMBIC, 10 wavelengths, between the trees on the parents of one of the parcipiant's farm! worked JA's all night long!, but not much good for more than locals, otherwise! !, but at least showed it could be done! Used to be a fun event, until everyone started takeing contests too seriously! (this about 35-40 years ago!) Jim NN7K

"Max" <ts850_guy@cogeco.ca> wrote in message
news:krRpa.4660$Qg2.676100@news20.bellglobal.com...
> Our local club will be running a few multiband verticals for 20m and up, I
> have acquired an SGC230 tuner and am wondering what would the best wire
> antenna be for 160-40m??
>
> Ideas?
>
> Thanks,
> Max
>
>

2113. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:13:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1C655.3080906@ieee.org>
Source record: 119415

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "Waves flowing in opposite directions in a transmission line don`t have
> any effect on each other until they encounter a physical impedance
> discontinuity---."
>
> True. What can a wave with its volts and amps out-of-phase do except be
> reflected?

Exactly what happens at the impedance discontinuity?
--
73, Cecil http://www.qsl.net/w5dxp

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2114. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:17:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1C716.9020707@ieee.org>
Source record: 119416

Art Unwin KB9MZ wrote:
> Why let him draw you into a fight? He is only trying to
> cause you pain and trouble.

OK, Art, from now on, I am only going to respond to technical
content. If I don't respond, it's because I could perceive no
technical content.
--
73, Cecil http://www.qsl.net/w5dxp

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2115. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:21:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1C834.3030302@ieee.org>
Source record: 119417

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>Can the energy in those waves cancel?
>
> No. The energy is carried by the waves which constructively interfere
> in the opposite direction.

Which is what I have been saying all along. Why does the energy in
canceled waves reverse direction of flow? It's obvious from the
equations, (b1=s11*a1+s12*a2) flowing toward the source, and
(b2=s21*a1+s22*a2) flowing toward the load, that the energy does
reverse its direction of flow in a matched system when b1=0.
--
73, Cecil http://www.qsl.net/w5dxp

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2116. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:24:59 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305011724.4580a36e@posting.google.com>
Source record: 119418

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb2pvnmql8uucc@corp.supernews.com>...
> The quarter wave horizontal wire in a half-square radiates.

Oops, the current only flows in one direction.

>
> Roy Lewallen, W7EL

w3rv

>
> Brian Kelly wrote:
> >
> > Yup. Except that the Skyhopper is based on the Half-Square antenna
> > which has 1/4 wave long vertical elements and is corner-fed, the
> > horizontal element is simply a half-wave phasing line. The antenna
> > under discussion looks a lot like a Half-Square but has 1/2 wave long
> > vertical elements and the horizontal dipole is not just a phasing
> > line, it radiates.
> >
> >
> >
> >>73 Guenther VE3CVS
> >>info@degendesigns.com
> >
> >
> > Brian w3rv

2117. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:38:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1CC20.8030300@ieee.org>
Source record: 119420

Jim Kelley wrote:
> Why haven't you written the problem in terms of wave
> equations so that you can actually solve a wave reflection problem?

I have. They do not reveal anything new.

> What is it about wave cancellation not being an actual cause of
> reflection that you don't understand?

You seem incapable of anything except uttering your matra: "You are wrong! You are wrong! You are wrong!" Why should you expect any understanding from me? You and Richard C. are really good at bitchin' and moaning. But you have yet to post anything remotely technical that agrees with the accepted laws of physics.

Every physics book that I have read, 30 or more, say isolated constructive interference cannot exist without a corresponding magnitude of destructive interference. In other words, destructive interference is a necessary and sufficient cause of constructive interference. Please demonstrate bright interference rings without any dark interference rings. Dr. Best's extra power term, 2SQRT(P1*P2), is even called the "interference term" in optics physics books even though Dr. Best has denied that term has anything to do with interference.

> Which energy?

:-) See what I mean? :-) Hear nothing - see nothing - utter matra.
--
73, Cecil http://www.qsl.net/w5dxp

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2118. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:39:00 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB1CC34.E7C86C18@cwis.net>
Source record: 119419

Brian,
Which direction, though?
'Doc

2119. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:40:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1CC99.3070209@ieee.org>
Source record: 119421

JR@nauti.net wrote:
> Guys, I can tell you that my 102' (80-10) G5RV out performs my GAP Titan DX.

Compared to the GAP Titan DX, the G5RV is a beam. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2120. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 01:44:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1CD8A.5000901@ieee.org>
Source record: 119422

Brian Kelly wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb2pvnmql8uucc@corp.supernews.com>...
>>The quarter wave horizontal wire in a half-square radiates.
>
> Oops, the current only flows in one direction.

How could that possibly be true for AC? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2121. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 02:14:40 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB1D490.D72DF7AE@cwis.net>
Source record: 119423
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

BJ wrote:

> I'm afraid to leave negative feedback which wouldn't help get my money
> anyway as he has already said he'll do likewise.

If you aren't getting a response from this guy, then it
seems fairly obvious that you probably won't be getting
any money back from him. It's also fairly obvious that if
you don't follow the standard procedure for a complaint,
then you are only 'helping' the problem, not solving it.
So, why 'do it' the right way? Write it off as a learning
experience, do the complaint thing the correct way, and
quit whining, it doesn't do anyone any good.

Smart eBay bidding rules:
1. Ask your self if it's really worth that much to
someone other than your self.
2. Always pay by postal money order or by credit card.
With those, you have recourse if there is fraud.
3. The 'seller' wants your money. Make him/her provide
adequate information as to who/what/where and what
shape the item is in.
4. If you have ~any~ doubts, don't bid.
5. If there is a problem. Complain to the seller, 'eBay',
and the Post Office/Credit company, in that order.
6. Stopping payment is ALWAYS an option when fraud is
involved. If you stop payment without adequate reason,
you are the one committing fraud (make sure you are right).

And the smartest thing anyone can tell you is to NEVER buy
something from 'eBay', only sell there.
'Doc

2122. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 02:18:05 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LuOcnf9_e6PFSCyjXTWcqw@comcast.com>
Source record: 119424

Thanks for the info. 102 ft & 34 ft was the second thing I tried. Thought there might have been an update.

Tam/WB2TT

2123. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 02:37:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1D9F1.1010301@ieee.org>
Source record: 119425

Tarmo Tammaru wrote:
> Thanks for the info. 102 ft & 34 ft was the second thing I tried.

34 ft seems too long. What is the VF of your twinlead?
--
73, Cecil http://www.qsl.net/w5dxp

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2124. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 02:47:22 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB1DC5B.3020300@adelphia.net>
Source record: 119426
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Dee D. Flint wrote:
> "Mike Coslo" <mcoslo@adelphia.net> wrote in message
> news:3EB08EF0.1020607@adelphia.net...
>
>>Possibly. Something has to explain why some used, still available
>>equipment goes for more than new. Someone actually bought a used FT-50
>>for 40 dollars more than I paid for mine brand new. All that, and no
>>warrantee!
>
>
> That's the feeding frenzy syndrome. A person gets caught up in the auction
> and doesn't check what a new one would be before bidding.
>
>
>>People can buy and sell for whatever they want of course. But fair
>>market price? Not even.
>
>
> Sometimes yes and sometimes no. Some buyers expect to get something for a
> dime on the dollar and that's usually an unrealistic expectation especially
> if more that one person wants it.

And that, my friend, is supply and demand! 8^)

>>The only thing I would have to say about the whole auction thing is
>>that consumerism has turned most people into very non-savvy buyers.
>>After enough people get ripped on ebay (and yes, used equipment going
>>for more than new is a person getting ripped) they will become educated,
>>and the seller market there will go away. So maybe there is a purpose
>>for the auctions, if only to serve as an example to others.
>
>
> Any one who pays more used than new has only himself or herself to blame.
> They should have checked the new price before going into the bidding
> process. It is NOT the seller's fault if someone is so stupid as to bid
> that high. It is NOT the seller then who is ripping a person off. It's the
> bidder's own fault in that situation.

Absolutely! Being stupid is not against the law. Any price arrived at
between buyer and seller is strictly their own business. But that said,
please forgive me if I am a little more sympathetic to the buyer in this
sad little scenario. I've listened to enough sellers with a carny's
attitude toward those "rubes" who buy off them to be annoyed with the
whole process.

It's probably not fashionable any more, But I was taught to not take advantadge of people less fortunate than or smart as myself. Everyone elses MMV..

- Mike -

2125. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 03:08:12 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030501230812.24185.00000674@mb-m27.aol.com>
Source record: 119427

>
>The Jewish authorities now know who you are (hate crimes).
>The Google people chaffing at the bit regarding the filthy
>posting you made in your home language, as well as using this
>forum as a basis for sending viruses, how long do you think
>it will take for your radio licenses to be removed by the
>F.C.C. and in Canada ?
>Using fake names is not going to save you.
>Art
>
>
>

Dear F Art,
this really tops it and looks like you are really losing it. You better seek some professional help. I am deeply saddened. Besides getting patent for CRAP you are halucinating and making accusation that you better have some basis for.

What is this crap about hate crime? What's Jewish has to do with anything? (Are you self-hating Jew?)

Sending viruses? You know crap how it works. I have hardware and software firewalls and no viruses are coming or going outa here.

What fake names? My full name is in the heading of each post. If someone uses Doc or Bada BUm (I learned that from Chipster) that's their business.
You come and take my license away!

Looks like you have the same desease as Freak, your ramblings and crap smells the same, no wonder you "defend" him.
If anyones license should be removed is yours, for "patenting" crap like "shorter reflector". You putting hams in the bad light and up for ridicule.

I am sorry to get off like this, but as Hitlery would say: "I am sick and tired of your crap". I thought that you would get better by communicating with normal people here on NG, but it looks like you joined loony bin and are beyond help.

What you going to "invent" next, wire, coax or fart?
Happy delusioning!

Bada BYm BUm Bang
(that is bang on a gong and not bullet going your way, just in case you want to claim that I threatened your whatever being :-)

2126. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 03:25:19 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305011925.6f4c750a@posting.google.com>
Source record: 119428

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<u8l2bv883u2o2dqhu44q15v9endscmqad3@4ax.com>...
> On Thu, 1 May 2003 12:46:49 -0400, "Tom Coates" <tecoates@comcast.net>
> wrote:
>
> >
> >The thing is successful because people forget that Microsoft does not
> >distribute security patches as spam.
> >
> >Tom, N3IJ
> >
>
> Hi Tom,
>
> Lest we wander too far off:
> >a worm that uses Microsoft Outlook and its own SMTP engine to spread
> Success is entirely due to Microsoft, not the people using its
> products.
>
> MS has been posting an average of TWO patches a week for their
> security failures for a couple of years now. How many have you
> installed?
>
> The alternative is to stop using the offending software and ignore the
> patches entirely. There are alternatives and if anything, it is in
> that failure to go there that users could be admonished for embracing
> their own doom.
>
>
> 73's
> Richard Clark, KB7QHC
> Running patchless without incident for 8 years.

I still use old netscape 3.1 for mail just for that purpose. I'm
fairly bulletproof as far as MS macro viruses. Of course, I never open
anything.
BTW, the 10-15 or more spams a day I get are after my ISP's spam
filter. If it were not for that, I'd probably get a 100 a day. It
fills up fast, and I have to go over and empty it every once in a
while. That in itself is a PIA, as I have to read thru to make sure I
don't delete a "real" e-mail. But the scuz spammers are getting around
that now by using fake e-mail addresses that look legit. I also run a
firewall, and it checks attachments also. I've probably got 10 of the
"MS patches" in the last 3 days. But I don't need no stinkin patches.

Nothing to patch. I wouldn't run "MS Outlook" for anything. :/ MK

2127. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 03:31:39 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305011931.3cf764e1@posting.google.com>
Source record: 119429

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EAFEFEA.9080905@ieee.org>...
> Reg Edwards wrote:
> > Cecil, is there a commercial tuner available which has a built-in cooling
> > fan ?
>
> I don't know, Reg. I do know the more power a tuner handles the bigger
> the box. Why do you suppose that is? Could it have anything to do with
> power dissipation?
>
> I once melted the plastic support on the coil in my antenna tuner.

I got a free MFJ 989C because a friend of mine kept doing the same
thing to it. I told him it was because of what he was trying to match
and the TL-922 which pumpeth RF a-plenty, but it went in one side, and
out the other. He then went and bought a Nye viking. He gave me the
989c which I fixed, and have been using ever since. Ain't burnt
plastic grand? :) MK

2128. FS tube tester, "Mighty Mite VII"

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 03:38:10 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <CKIsa.62464$cO3.4162178@bgtnsc04-news.ops.worldnet.att.net>
Source record: 119430

Sencore tc162, works fine, $100, weights only 7.5lbs, e-mail for pic or
details--
73's

--

Those who want to be successful, will find a way,
those that don't, will find an excuse!

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.474 / Virus Database: 272 - Release Date: 4/18/03

2129. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 03:53:04 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <PXIsa.73346$Y46.36262@fe05.atl2.webusenet.com>
Source record: 119431

They stink on 40 meters as well. For 20 and above they are OK. But if
you're gonna spend
$200+ for an antenna, why not spend the same money and get the whole range.
I was thinking
of F R E QU E N CY, Cecil. But after my stroke last December, I often get
things 'back'ards"
\
Jerry
OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:3EB094B1.4030201@ieee.org...
> Jerry Oxendine wrote:
> > I would opt for the TarHeel. Below 40 meters, hamsticks (except some
which
> > have been modified for innovative hams) absolutely STINK
performance-wise.
>
> Now, just a minute, Jerry. Isn't 10m "below" 40m? :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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2130. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 04:13:05 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB1F04A.26F377AE@att.net>
Source record: 119432

Cecil,

I too have read a lot of physics books, and I have never seen one of them that attached causality to destructive interference. I just looked at a few of my books to make sure.

Do you actually have 30 or more that make such a strong statement?

In my experience this is not the way a physicist thinks or writes. Virtually every reference I have examined treats interference in a non-passionate manner by simply writing the appropriate wave equations and applying linear superposition to determine the resultant fields. All sorts of fun things come out, including "constructive" and "destructive" effects.

However, "constructive" and "destructive" are not very useful for the detailed solution of problems. One can find these terms in first year physics textbooks, but advanced books such as Jackson or Born and Wolf don't even mention constructive and destructive. They simply work with the superposition of waves and deal with the complete range of amplitudes and phases that result.

This may seem like a picky point, but it appears to me that at least 90% of the argument in this endless thread revolves around causality. "Why does the energy turn around?"

If there is any hope of getting agreement (and that may not be important for RRAA) then it would be useful to minimize the extrapolation and hyperbole.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>

[snip]

>
> Every physics book that I have read, 30 or more, say isolated constructive
> interference cannot exist without a corresponding magnitude of destructive
> interference. In other words, destructive interference is a necessary and
> sufficient cause of constructive interference. Please demonstrate bright
> interference rings without any dark interference rings. Dr. Best's extra power
> term, 2SQRT(P1*P2), is even called the "interference term" in optics physics
> books even though Dr. Best has denied that term has anything to do with

> interference.

2131. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 04:53:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1F9B9.5000701@ieee.org>
Source record: 119433

Jerry Oxendine wrote:
> I was thinking of F R E QU E N CY, Cecil.

I know, Jerry, I was just pulling your leg. The devil made me do it.
--
73, Cecil http://www.qsl.net/w5dxp

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2132. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 05:15:31 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8sutjnhi1@sparta.btinternet.com>
Source record: 119434

> > Reg Edwards wrote:
> > > Cecil, is there a commercial tuner available which has a built-in
cooling
> > > fan ?
> >
> > I don't know, Reg. I do know the more power a tuner handles the bigger
> > the box. Why do you suppose that is? Could it have anything to do with
> > power dissipation?
> >
> > I once melted the plastic support on the coil in my antenna tuner.
>
> I got a free MFJ 989C because a friend of mine kept doing the same
> thing to it. I told him it was because of what he was trying to match
> and the TL-922 which pumpeth RF a-plenty, but it went in one side, and
> out the other. He then went and bought a Nye viking. He gave me the
> 989c which I fixed, and have been using ever since. Ain't burnt
> plastic grand? :) MK

==========

I reckon anybody who wrecks his/her tuner should blame his/her self rather
than him or herself.

Reg.

2133. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 05:19:02 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB1FFC6.7010402@ieee.org>
Source record: 119435

Gene Fuller wrote:
> Cecil,
>
> I too have read a lot of physics books, and I have never seen one of
> them that attached causality to destructive interference. I just looked
> at a few of my books to make sure.
>
> Do you actually have 30 or more that make such a strong statement?

They all seem to agree that isolated constructive interference is
impossible without destructive interference and vice versa. Since
destructive interference is where the excess energy comes from, it seems
a no-brainer to assign destructive interference as the source of constructive
interference especially in a closed system like a transmission line.

Destructive interference yields the energy credits. Constructive interference
yields the energy debits. Those debits and credits must average out to the
average energy level according to Hecht.

Except when a1 is orthogonal to a2, the following s-parameter analysis
of a physical impedance discontinuity in a transmission line will result
in destructive interference in one equation offset by an equal magnitude
of constructive interference in the other equation. That's essentially
what the Melles-Griot web page says and energy always travels from
the destructive side to the constructive side.

b1=s11*a1+s12*a2 b2=s21*a1+s22*a2

> However, "constructive" and "destructive" are not very useful for the
> detailed solution of problems. One can find these terms in first year
> physics textbooks, but advanced books such as Jackson or Born and Wolf
> don't even mention constructive and destructive.

That's strange, Hecht, in "Optics", has an entire chapter on interference.
His equation 9.16 dealing with Irradiance is Imin=I1+I2-2SQRT(I1*I2)
where he calls the 2SQRT(I1*I2) the "interference term" and says the
above equation represents "total destructive interference". Somewhere
else he says that for every -2SQRT(I1*I2) term there will be a equal
+2SQRT(I1*I2) term that will cause the *average* irradiance to equal
I1+I2. Hecht apparently doesn't think or write like a physicist either.

> This may seem like a picky point, but it appears to me that at least 90%
> of the argument in this endless thread revolves around causality. "Why
> does the energy turn around?"

You got it, Gene. Walter Maxwell says it turns around because of a virtual
short. Dr. Best says it doesn't turn around at all and interference

plays no part at a Z0-match point. Yet it is obvious that the energy reverses direction somehow. That "somehow" needs to be explained. Do you have any idea what turns that energy around?
--
73, Cecil http://www.qsl.net/w5dxp

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2134. From uk radio amateur

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 05:32:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8svu8pmi1@titan.btinternet.com>
Source record: 119436

> If you know how Regs software works, it
> should not be too difficult to write an application to explore the
> characteristics of a doublet for each amateur band, and thus derive the
> dimensions of a best fit aerial for a given set of bands. Whether it will
> radiate well on all these bands is another matter.

==========

Whether it will radiate well is often more to do with where the stuff is going rather than losses in the tuner or line or antenna or ground. Although a 160m dipole can have high radiating efficiency on 10m, if the whole lot is going narrowly off the ends or straight up into the air where nobody lives it will not do very well.

There's no need to know what the software is doing. I can assure you if I provided the Pascal source code you wouldn't have the remotest idea what on earth was going on. Some weeks after writing a program like DIPOLE3 it I have great difficulty in sorting out what it's supposed to be doing myself. To effect modifications it is often easier to go back to square one and rewrite everything.

As a special treat for G5RV worshippers, with one hit of a key, you can enter dimensions of the G5RV, height above ground and the lengths of the balanced and coax feedlines. You can insert a balun if you want. The L-network tuner is automatically adjusted to match a 50-ohm transmitter and its circuit configuration and L&C component values are displayed

The SWR and losses (efficiency) on both transmission lines and tuner are calculated. But for your purposes the most important output data are the input impedances (R+jX) of the antenna feedpoint, of the balanced line section, and of the coax section if you have one.

Having entered all dimensions into the program all you have to do is sweep the 'test' frequency up and down wherever you fancy.

As the test frequency passes through the various resonances the input impedances pass through a minimum and the reactances change sign. To assist with searching for resonances the reactances change colours as they change sign.

The spectrum can be swept from 1.8 to 30MHz in no more time than it takes to write down on paper a list of all resonant frequencies with the input impedances and SWR's on both lines at those frequencies.

If you not happy with the results there's no alternative but to change antenna or line lengths or both and sweep again.

Unless you have a number-crunching computer and 5000 man-hours of time to
write a Monte Carlo program to do the job by which time you would have done
yourself anyway.

Wait no more. Download DIPOLE3 now in a few seconds. Run immediately.

Reg, G4FGQ

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

2135. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 05:45:52 UTC
From: theplanters95@aol.comnospam
Message-ID: <20030502014552.26954.00000346@mb-m26.aol.com>
Source record: 119437

My wife does not like any antennas period! I see a work of art, she sees a pile of junk wire! She wants me to use my 2m antenna for 80m!

Any antenna on the SUV will need to be a compromise.

Randy

2136. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 06:06:44 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB20AF4.FD160FF1@cwis.net>
Source record: 119438

Randy,
A real ~MAN~ would tell her to shut up, and
don't look back at the antenna.

And for that one moment of 'manliness', spend
the next 20 years paying for it. Or at least as
long as it take the 'papers' to be served...
'Doc

2137. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 06:19:30 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB20DF2.785266FB@cwis.net>
Source record: 119439

Yuri,
Please don't scare, or embarrass Art in to leaving
the NG! He's the best 'comic relief' that's been here
since ol'Frac left. Sure, we know he isn't quite 'right',
(he's even said so him self), but it's our duty to make
his contributions useful. I can't think of a better use
than as an easy 'target', can you? As for his ideas, well,
even a monkey on a typewriter has ~some~ chance of writing
something besides garbage.
'Doc

PS - Sorry if I offended any monkeys out there...

2138. How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 08:15:06 UTC
From: Toni - ec3dds <ec3dds@hotmail.com>
Message-ID: <ic94bvg7hekevd57veqqechg3bj7soj37b@4ax.com>
Source record: 119440

Hi,

This weekend I'll probably be building a 2m folded dipole and I have a couple of doubts:

- How do I measure the velocity factor of a 75 ohms coax line with not much equipment? Transceiver, swr meter, resistors as needed... I guess the answer is actually building the coax 4:1 balun, loading with an appropriate resistor and adjusting length for proper swr. Is there a more accurate method?

- How can you approximate the "diameter" of 10x10mm L shaped aluminum for modeling purposes? Something between 10 and 14 mm?

Thanks for answers

Toni - ec3dds

2139. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 11:24:21 UTC
From: richardharrison@webtv.net
Message-ID: <28720-3EB25565-179@storefull-2318.public.lawson.webtv.net>
Source record: 119444

CAM, W5DXP wrote:
"Do you have any idea what turns that energy around?"

Simple. The reflection coefficient for the current is the negative of that for the voktage. This is the reason energy flow reverses direction at the point of reflection.

Best regards, Richard Harrison, KB5WZI

2140. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 11:28:56 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8tkpo$9a8$1@hercules.btinternet.com>
Source record: 119442

The velocity factor of all SOLID polyethylene cable is 0.67 regardless of impedance Zo

2141. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 11:38:42 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305020338.39417dae@posting.google.com>
Source record: 119443

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030501230812.24185.00000674@mb-m27.aol.com>...

> Dear F Art,
> this really tops it and looks like you are really losing it. You better seek
> some professional help. I am deeply saddened. Besides getting patent for CRAP
> you are halucinating and making accusation that you better have some basis for.
>
> Sending viruses? You know crap how it works. I have hardware and software
> firewalls and no viruses are coming or going outa here.

Yuri

hmm
The day after i replied to a post you made on 16/17 april
"removing reactance from antennas" i received an email supposedly from
Microsoft with an attachment which contained a virus. Prior to this,
and since, i have never received spam from anyone.
Now there's a "coincidence"

By the way, who did Art accuse?
Jaro

NB To whom it may concern MSN checks all emails and attachments for
virus, and as from now i only receive email from my address list.So
dont waste you time.

2142. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 12:46:33 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <s7p4bvgfer6a7790bci3bgai6p8aht6es1@4ax.com>
Source record: 119445

On 1 May 2003 20:25:19 -0700, nm5k@wt.net (Mark Keith) wrote:

>BTW, the 10-15 or more spams a day I get are after my ISP's spam
>filter. If it were not for that, I'd probably get a 100 a day. It
>fills up fast, and I have to go over and empty it every once in a
>while. That in itself is a PIA, as I have to read thru to make sure I
>don't delete a "real" e-mail. But the scuz spammers are getting around
>that now by using fake e-mail addresses that look legit. I also run a
>firewall, and it checks attachments also. I've probably got 10 of the
>"MS patches" in the last 3 days. But I don't need no stinkin patches.
>Nothing to patch. I wouldn't run "MS Outlook" for anything. :/ MK

My solution on spam was to change to a new email address, and go with
Texas.net's spam filter, set at its lowest level. Since doing that, I
get maybe one spam a month. Used to get 10 or 15 a day.

By the way, I'm still trying to figure out how to delete the
attachment that came with my bogus MSoft spam. Unfortunately, under my
Outlook Express folder, I can find no other folders, and certainly no
folder for "attachments". Where the hell does MSoft hide the damn
things?

Bob
k5qwg

2143. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 13:01:17 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305020501.499ee294@posting.google.com>
Source record: 119446

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB1CD8A.5000901@ieee.org>...
> Brian Kelly wrote:
> > Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb2pvnmql8uucc@corp.supernews.com>...
> >>The quarter wave horizontal wire in a half-square radiates.
> >
> > Oops, the current only flows in one direction.
>
> How could that possibly be true for AC? :-)

That's one of this antenna's tricks: The negative half of the current
piles up at the back of the entropy bus so ya only get DC flowing one
way.

2144. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 13:17:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB26FE8.1000806@ieee.org>
Source record: 119447

Theplanters95 wrote:
> My wife does not like any antennas period! I see a work of art, she sees a
> pile of junk wire! She wants me to use my 2m antenna for 80m!
>
> Any antenna on the SUV will need to be a compromise.

My compromise wouldn't be on antennas. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2145. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 13:23:33 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB27155.50009@ieee.org>
Source record: 119448

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "Do you have any idea what turns that energy around?"
>
> Simple. The reflection coefficient for the current is the negative of
> that for the voktage. This is the reason energy flow reverses direction
> at the point of reflection.

The basic problem is that for the reflected energy to be 100% re-
reflected at the Z0-match point, the reflection coefficient has
to be 1.0 but it isn't. Then what? a12*a2 flows right through the
match point and encounters a11*a1. If the system is matched, these
two quantities will be of equal magnitude and 180 degrees out of
phase and thus cancel. But where does that energy that was headed
toward the source go after it is canceled?
--
73, Cecil http://www.qsl.net/w5dxp

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2146. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:07:38 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB27BA9.ECF56404@att.net>
Source record: 119449

Cecil,

You persist in saying that the "energy turns around". As I explained the other day, this is an improper extrapolation of the conservation of energy principle.

One more time:

The conservation of energy principle says that for any enclosed region in space the net energy flow through the surface of that region is exactly balanced by the change in internal energy within the volume of that region.

Note carefully that there are no vectors or directions involved, other than into and out of. Energy can be transported into the volume in one direction and transported out of the volume in another (random) direction without any violation of conservation of energy, or even any requirement to account for the change in transport direction.

No more and no less. Energy does not mysteriously appear or disappear. That is all anyone can derive from the conservation of energy principle.

Now of course there may be other requirements, such as conservation of momentum, linear superposition of waves, and so on that require some sort of balancing within the test volume or at the point of discontinuity.

My advice is that you just drop the arguments based on conservation of energy. CoE simply does not offer any help for the detailed solution of this problem.

By the way, most textbooks I have seen don't really spend much time on serious discussion of conservation of energy. They tend to state it as an axiom and go on. An interesting in-depth discussion is found in the Feynmann lectures, which are widely available in a three volume set in libraries and bookstores.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:

[big snip]

>
> > This may seem like a picky point, but it appears to me that at least 90%
> > of the argument in this endless thread revolves around causality. "Why
> > does the energy turn around?"
>
> You got it, Gene. Walter Maxwell says it turns around because of a virtual
> short. Dr. Best says it doesn't turn around at all and interference
> plays no part at a Z0-match point. Yet it is obvious that the energy
> reverses direction somehow. That "somehow" needs to be explained. Do
> you have any idea what turns that energy around?
> --
> 73, Cecil http://www.qsl.net/w5dxp

2147. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:12:41 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns936F495BE8B1Cpookster@129.250.170.85>
Source record: 119452

theplanters95@aol.comnospam (Theplanters95) wrote in
news:20030502014552.26954.00000346@mb-m26.aol.com:

> My wife does not like any antennas period! I see a work of art, she
> sees a pile of junk wire! She wants me to use my 2m antenna for 80m!
>
>

Gently explain to her that ham radio is your hobby. You could have a hobby such as chasing other women, but isn't she lucky you don't? Also mention you have been a ham longer than you have been a husband (if true) and seniority takes precedence.

Or you could marry a woman like I did who was astonished that I could build radio stuff and thought I was the smartest guy in the world. I don't know if she *really* believed that, but she was smart enough to say so. And start referring to her as your "current" wife. :-)

--
Bill Turner
W7TI

2148. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:15:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb27d74$1_2@corp-goliath.newsgroups.com>
Source record: 119451

Gene Fuller <W4SZzzzzz@att.net> wrote:
>The conservation of energy principle says that for any enclosed region
>in space the net energy flow through the surface of that region is
>exactly balanced by the change in internal energy within the volume of
>that region.

In a lossless system, there is no change in internal energy. For every single cycle, the energy flow is constant. There are two energy inputs into the Z0-match point, one from the source and one reflected from the load. In a matched system, there is only one energy output toward the load. The reflected energy input flowing from the load winds up flowing back toward the load. It obviously changes its direction of flow in the process. Your words change nothing associated with that fact.

>Note carefully that there are no vectors or directions involved, other
>than into and out of. Energy can be transported into the volume in one
>direction and transported out of the volume in another (random)
>direction without any violation of conservation of energy, or even any
>requirement to account for the change in transport direction.

But accounting for the change in transport direction is absolutely necessary to resolve the argument between Walter Maxwell and Dr. Best. If you don't want to participate in the discussion, that's perfectly OK.

>Energy does not mysteriously appear or disappear.

That's my assertion. Every joule of energy can be tracked through the system. We know when it was generated and we know its direction and speed.

>My advice is that you just drop the arguments based on conservation of
>energy.

Translation: I don't like this subject because I might have to learn something new and I already know everything.

>By the way, most textbooks I have seen don't really spend much time on
>serious discussion of conservation of energy.

True, if they did, we probably wouldn't need to have this discussion.
--
73, Cecil, W5DXP

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2149. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:20:21 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB27EA5.87B2E305@att.net>
Source record: 119450

Cecil,

One more thing.

The conservation of energy principle says that the total energy must balance, not the energy assigned to individual wave components.

It is meaningless to try to apply CoE to anything other than total energy analysis at the discontinuity.

I believe that everyone agrees that overall conservation of energy is satisfied, i.e., total energy flowing into the discontinuity equals total energy flowing away from the discontinuity, with no change in stored energy at the discontinuity.

Nothing more can be derived from energy considerations.

73,
Gene
W4SZ

2150. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:43:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb2841b$1_2@corp-goliath.newsgroups.com>
Source record: 119455

Gene Fuller <W4SZzzzzz@att.net> wrote:
>The conservation of energy principle says that the total energy must
>balance, not the energy assigned to individual wave components.

Are you saying that the energy/time in an individual wave component
doesn't equal V*I with a direction? If you reject the wave reflection
model, you can't discuss reflected energy very well.

Gene, do you actually believe that every once in awhile even a nanojoule

of energy disappears from the system? If we can track a quark, why can't
we track a joule of energy?

>It is meaningless to try to apply CoE to anything other than total
>energy analysis at the discontinuity.

Here's what the Melles-Griot web page has to say about that:

"In the absence of absorption or scatter, the principle of conservation
of energy indicates all "lost" reflected intensity will appear as enhanced

intensity in the transmitted beam."

"Lost reflected intensity" tells us the original direction of that energy.
"Enhanced intensity in the transmitted beam" tells us the new direction.

Would you please contact Melles-Griot and tell them that their web
page is wrong even though they have confirmed the above experimentally?

>Nothing more can be derived from energy considerations.

Do you really believe that everything that can be known is already
known?
--
73, Cecil, W5DXP

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2151. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:43:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7a05bvshrg86ul1i5ra4qkgmsakssive2e@4ax.com>
Source record: 119453

On Fri, 02 May 2003 14:07:38 GMT, Gene Fuller <W4SZzzzzz@att.net>
wrote:
> An interesting in-depth discussion is found in the
>Feynmann lectures, which are widely available in a three volume set in
>libraries and bookstores.
>
>73,
>Gene
>W4SZ

Hi Gene,

That has been covered several times by myself and others (haven't you done this yourself at least once before?). Why would you think that one, two, three or more times ought to do it?

However, I am interested in the remaining moments of the countdown until you join the list of walking wounded. Really, that is the ONLY content that changes through these discussions as the diminishing pool of interested are converted to ground acolyte for baloney fill.

73's,
Richard Clark, KB7QHC

2152. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 14:55:33 UTC
From: isgs294@yahoo.com
Message-ID: <56e0cd4a.0305020655.4705427@posting.google.com>
Source record: 119454
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

If you completed with him you have the ability to pull his personal
contact information. as you have already been told go to
http://cgi3.ebay.com/aw-cgi/eBayISAPI.dll?MemberSearchShow and fill
out the form, get his address and phone. If those are not correct
notify ebay and they will remove him. If they are correct call hima nd
work out the issue. Seems your the only one who has had problems with
him.

"BJ" <bobjames_2003@tyahoo.com> wrote in message
news:<Z1vra.46989$4P1.4383605@newsread2.prod.itd.earthlink.net>...
> Ebay won't help - I keep getting canned messages back that they don't
> release personal info on people? Maybe someone here can help?
>
> I'm having a problem getting my money back from this guy and now he won't
> respond to emails or my requests for a refund although he says he has a 30
> day money back guarantee on his products.
>
> I'm afraid to leave negative feedback which wouldn't help get my money
> anyway as he has already said he'll do likewise.
>
> I want to alert his local authorities and see if that does any good! Anyone
> know who this guy is?
>
> Bob J.

2153. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 15:03:09 UTC
From: isgs294@yahoo.com
Message-ID: <56e0cd4a.0305020703.497b8263@posting.google.com>
Source record: 119456
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

How about giving us YOUR ebay id. Coal-76 seems to have an execlent
record. Whats yours? Looking at what he sells it small dollar items,
many home made ham radio/swl antennas. What auction was yours?

"BJ" <bobjames_2003@tyahoo.com> wrote in message
news:<Z1vra.46989$4P1.4383605@newsread2.prod.itd.earthlink.net>...
> Ebay won't help - I keep getting canned messages back that they don't
> release personal info on people? Maybe someone here can help?
>
> I'm having a problem getting my money back from this guy and now he won't
> respond to emails or my requests for a refund although he says he has a 30
> day money back guarantee on his products.

2154. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 15:43:16 UTC
From: richardharrison@webtv.net
Message-ID: <28720-3EB29214-207@storefull-2318.public.lawson.webtv.net>
Source record: 119459

Gene, W4SZ wrote:
"By the way, most text books I have seen don`t really spend much time on serious discussion of conservation of energy."

Maybe it goes by other names. A lot of texts include Kirchoff`s l;aws:

1) The current flowing to a given point in a circuit (a small net in terms of wavelength) is equal to the current flowing away from that point.

2) The algebraic sum of the voltage drops in any closed path in a circuit is equal to the algebraic sum of the electromotive forces in that path.

3) At a given temperature the emissive power of a body is the same as its radiation absorbing power for all surfaces.

Best regards, Richard Harrison, KB5WZI

2155. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 15:56:43 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305020756.1fdc5c01@posting.google.com>
Source record: 119457

Colonel Panik <nobody@frontier.net> wrote in message
news:<slrnbarha2.ut7.nobody@animas.frontier.net>...
> On 28 Apr 2003 23:29:34 GMT, Yuri Blanarovich hath writ:
> > Finally great product that will complement Freaktals, CFAs, EHs and Art's
> > reflecting directors as well as BS on this NG.
> > Check out:
> > http://www.angelfire.com/ca3/thebasement/txrx.html
>
> On *all* the 2M repeaters I'm familiar with, this device
> would result in nearly 24/7 silence. A Good Thing, IMHO.
>
> p.s. The 3rd word on your web site is spelled/chosen incorrectly.

czech-mate

2156. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 16:03:06 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB296B8.5503D160@att.net>
Source record: 119458

Cecil,

If you read the exact words of the Melles-Griot material, without adding any of your own interpretations, you will find that they say exactly the same thing I am saying.

The total input energy equals the total output energy. There is nothing at all in reference to the energy of reflected waves, re-reflected waves, energy of constructive waves arising from the discarded energy of destructive waves, etc., etc.

All of that detail lives only in your head.

As Richard Clark has noted, this theme seems to be repeating. I will try to go quiet again.

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller <W4SZzzzzz@att.net> wrote:
> >The conservation of energy principle says that the total energy must
> >balance, not the energy assigned to individual wave components.
>
> Are you saying that the energy/time in an individual wave component
> doesn't equal V*I with a direction? If you reject the wave reflection
> model, you can't discuss reflected energy very well.
>
> Gene, do you actually believe that every once in awhile even a nanojoule
>
> of energy disappears from the system? If we can track a quark, why can't
> we track a joule of energy?
>
> >It is meaningless to try to apply CoE to anything other than total
> >energy analysis at the discontinuity.
>
> Here's what the Melles-Griot web page has to say about that:
>
> "In the absence of absorption or scatter, the principle of conservation
> of energy indicates all "lost" reflected intensity will appear as enhanced
>
> intensity in the transmitted beam."
>
> "Lost reflected intensity" tells us the original direction of that energy.

> "Enhanced intensity in the transmitted beam" tells us the new direction.
>
> Would you please contact Melles-Griot and tell them that their web
> page is wrong even though they have confirmed the above experimentally?
>
> >Nothing more can be derived from energy considerations.
>
> Do you really believe that everything that can be known is already
> known?
> --
> 73, Cecil, W5DXP
>
> ----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2157. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 16:23:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb56sucjj4u110@corp.supernews.com>
Source record: 119460

jaroslav lipka wrote:
>
> hmm
> The day after i replied to a post you made on 16/17 april
> "removing reactance from antennas" i received an email supposedly from
> Microsoft with an attachment which contained a virus. Prior to this,
> and since, i have never received spam from anyone.
> Now there's a "coincidence"
>
>
> By the way, who did Art accuse?
> Jaro
>
> NB To whom it may concern MSN checks all emails and attachments for
> virus, and as from now i only receive email from my address list.So
> dont waste you time.

It almost certainly is a coincidence. The "Microsoft security update" virus has been around for quite some time. A lot of the common email viruses you see these days (technically "worms") pick addresses out of the infected computer's address list to send the virus to. They often put another randomly selected address-book address in the forged "From" header field. If you have the full message including the header, you can use the SpamCop (http://www.spamcop.net) automated parser to determine the true source (to the ISP level, not the individual sender) of the virus you received. Then it's a good idea to send the ISP the message with full header, with an explanation that it originated at someone at their site. (Please don't use the automated SpamCop reporting service for this -- it's to be used only for spam, not virus reporting.) Responsible ISPs will notify the individual sending the virus that his machine is infected.

Because I'm in quite a few address books, I get a lot of this. I also quite frequently get messages accusing me of having sent the virus, because of my address having been used in the forged "From" header. When this happens, I ask for a copy of the full message (or at least the full header), report it as I've described, and the reports usually stop pretty quickly.

Don't confuse viruses with spam. Spam is intentionally sent unsolicited bulk and/or commercial email (UBE/UCE). Viruses are unwittingly sent (except of course for the original launching by the creator) by infected machines. Spam is, admittedly, sometimes unwittingly sent by an open relay, but the intent is different than for a virus.

If you have questions about a particular virus, or viruses in general, there are a lot of good resources available on the web. One of the more authoritative ones is Symantec's antivirus center, http://www.symantec.com/avcenter/.

An increasing number of ISPs are implementing automatic email virus detection. Since mine began doing that, I haven't received any infected mail -- just notices when one has been zapped, and a place to go get it if I *really* want it. People who have a tendency to open attachments without being certain of the source might ask their ISPs to consider implementing this service. The one my ISP uses is called "Dr. Web". On the down side, some ISP antivirus software strips any attachments having .exe and certain other extensions (even when embedded in a zip file), so I now find it necessary to alter the extension when sending someone an executable file as an attachment.

Roy Lewallen, W7EL

2158. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 16:45:20 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <b8u7b0$85l$0@208.206.142.101>
Source record: 119461

OC_CAM's Razor wrote:

> Jerry Oxendine wrote:
> > I was thinking of F R E QU E N CY, Cecil.
>
> I know, Jerry, I was just pulling your leg. The devil made me do it.

Cecil why do you do all those things when you know the true cause? :-)

2159. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 16:52:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3v75bvspp009gjq0fektnsmkc0ejbtg0ji@4ax.com>
Source record: 119462

On Thu, 24 Apr 2003 04:03:59 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Wed, 23 Apr 2003 21:07:40 -0500, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>
>>You are saying there is no reflection from the air to thin-film
>>interface where the index of refraction changes from 1.0 to 1.225.
>>I'm sure most physicists would like to know how you accomplish that
>>supernatural feat.
>
>Physicists, and good engineers, can accomplish it good enough.
>
...
>
>For any other readers that are looking for some redemption from this
>academic malarkey, Cecil has missed out on one of the principle
>Optical effects that relates directly to the loss of low angle
>radiation performance for a vertical over real ground.

Hi All,

Well, a week has passed (actually longer after compensating for the other clues offered to Cecil) and looks like the product of intensive study into Optiks by our cowboy philosopher has come to naught.

For the common installer of fiber optics in the dim past (love those metaphors), the solution was found in what we call Index matching fluid to serve this purpose to resolve this very notion (that Cecil seems to find impossible to accomplish). However, THAT was not the answer I had in mind in the query above. It is simply one answer that could have been offered. Not necessarily correct (and certainly not incorrect) nor efficient (but practiced more often than simply giving it up as hopeless) and hardly the last satisfactory answer - for those with any experience in the matter.

Let's simply return to that wheeze of a description employing "anti-glare" coatings to remove (guess what) glare from the view of a picture framed behind glass. The single, un-uttered characteristic of this "anti-glare" coating is its wavelength specificity in the form of: "what color is glare?" ;-)

Why, then, return to that stale line of illustration (just love it)? Well, it encompasses a vastly simpler illustration :-) of removing ALL reflection, not just one sliver of the spectrum. Consider this now notorious picture behind its glass (we will remove the interference of

the lame layer for this illustration) and let's establish some criteria.

First, fitting for any photo framed behind glass, we place it either on the wall, or standing up on a horizontal surface of nearby furniture (hopefully this is not so controversial as to engender 250 more postings of debate). In either position, it is likely to be at or below eye level (sorry to bring real and common expectations into this). Further, given the nature of common domestic or commercial venue lighting, that light comes from a source placed above and behind the viewer's eye (and thus above and illuminating the framed photo).

The light, then, strikes that surface of the glass covering the photo at an angle that reflects off at the same angle to the normal as the original ray, but on the opposite side of the same normal (first chapter stuff in every Optics book). As the normal to the surface is also largely parallel to the floor, it follows that a light source above this normal will find its reflection directed towards the floor. Unless the observer has collapsed to that same floor in a stupor of intoxication (from any source, including rapture), it follows that there is no reflection of the source light to be observed. But this is not the answer to the observation (love it) above. It is an answer, certainly, a correct one, but not the best (and it was certainly not anticipated nor offered). This fashion of removing glare was practiced in many store front windows in the past by angling the window, tilting it forward toward the observer in the street. The effect is compelling. Like I offered, a very simple example.

But now we are approaching my expected answer by degrees ;-) and all may note how geometry plays a role that demands little math, but does expect common sense. To this point, I have offered the various "answers" that corresponded to the several minor hints offered as suitable responses to the question above (barring its exact solution). As most may notice, very simple stuff but baffling theory still for guru-wannabees.

In the early days of the Laser, the enclosed tube of gas that was excited to optical resonance had problems with end seals in the glass tube generating incoherent reflections that reduced efficiency (sound familiar?) and had to be resolved. Now, the odd thing about this is that the ends of the tube are supposed to reflect as part of the resonance build up. So the problem became, how do you control the reflection. Put it another way, how do you remove the incoherent reflections but keep the coherent ones? (Sound like: how do we remove glare?)

In acknowledgement to my parenthetical statement in regards to glare, no, not an anti-glare coating (not then). No, scientists and engineers still had common sense (in fact most still do) and employed a slight variation to simply tilting the surfaces at the end of the tube at an angle that is a function of the indices of refraction:
tan (ib) = n21

where ib is the incidence angle wrt the norm of the surface
n21 = n2/n1
where n1 is the index for media 1; n2 the index for media 2
solving
>>interface where the index of refraction changes from 1.0 to 1.225.
reveals
n21 = 1.225/1
tan (ib) = 1.225
ib = arctan (1.225)
ib = 51ï¿½
For lased light (and other sources, especially many that qualify as "point" sources) this angle has a particular significance and has its own name that should be familiar to antenna enthusiasts. It is called the Brewster Angle.

This particular feature is so common that laser symbols explicitly portray these angled features at each end of the tube emitter (even if there is no tube - such is the legacy of this simple concept).
[ed. note: there are still mirrors placed outside of this tube, and just beyond the angled seals, the seals are matching devices! The mirrors serve the function of amplification and emission as one or both mirrors are not perfect by design.]

So What? A special angle to tilting the framed photo? Come on now! (Just so we put these juvenile whines out of the way.)

Brewster's Angle contains some interesting properties in the face of polarized light (glare, point, and lased sources qualify):
"...it is impossible for light to be reflected if its
electric field lies in the plane of polarization.
This "pi light" (pi for parallel to the plane of
incidence) will be transmitted..."
[Optics, Miles V. Klein, pg 493]

Now, this brings us back to another clue offered to show the falsity of:
>>You are saying there is no reflection from the air to thin-film
>>interface where the index of refraction changes from 1.0 to 1.225.
>>I'm sure most physicists would like to know how you accomplish that
>>supernatural feat.
where the argument has been perverted to a notion that Brewster's Angle and 40+ years of laser development is in some way a
>>supernatural feat.
when in fact, this statement is simply an ignorant one that pursues the mystic in contradiction to the tone offered.

What clue? Antennas, vertical ones at that, and their low angle loss. Why vertical? Polarization (actually my clue was two clues, neither caught even though this topic has been touched on more than once in this forum). The Vertical Monopole exhibits a radiation characteristic AT the Brewster Angle (sometimes called the "Critical Angle") where the ground absorbs all power incident at that angle, and

those angles that are sheer to the surface (what is called the
"suck-in" of the lobe over common ground models and measurements):
"...the Brewster angle condition is that at this angle,
since reflection is least, absorption must be greatest."
[TV and other Receiving Antennas, Bailey, pg 156
note this is closely followed in ppg 158..159 with
treatments for combining waves that confound other
poor arguments in these threads]

This brings a closing observation that I have employed in the past to this very point. Ground and loss insofar as a radiation property (and not for match issues) are NOT related through explanations that involve heat (rather it is a matter of entropy, perhaps the same thing, but not commonly argued as such). The "suck-in" of the lobe is not power lost to calories, but simply power captured and withheld from propagation entirely due to the indices of refraction.

The reputation of sea water being a great ground plane due to its high conductivity (sic) counts as one of the biggest myths going. ALL water, even that heavily doped with salt, or mercury for that matter, is an extremely poor conductor (let's face it, it is a dielectric, even if arguably poor). The boon of salt water (and a lot of water for that matter) is found in its index of refraction (a correlative to the dielectric characteristic) which offers an extremely LARGE Brewster angle (for the RF crowd, a very small angle close to the sheer of the surface).

Thus we find that Optics offers a considerable range of topic that is consistent with RF issues of radiation (it should, they are the same thing with the difference being one of perception only). We also find that approaching these two disciplines with tattered and unrelated notes that converge for the sake of cobbling up a crutch for an argument are often poorly treated and sometimes the neophyte falls prey to his new found wisdom and becomes his own victim of ignorance.

Dare I say it? :-)
I will respond only to technical comments and foolish ones besides.
Both will be responded to in kind.

73's
Richard Clark, KB7QHC

2160. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:27:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb2aa8a$1_2@corp-goliath.newsgroups.com>
Source record: 119464

Gene Fuller <W4SZzzzzz@att.net> wrote:
>All of that detail lives only in your head.

Nope, all of that detail lives in the wave reflection model.
Gene, do you accept the fact that some forward energy traveling
toward a mismatched load is reflected from the load, reverses
direction and becomes reflected energy. Sounds like you don't
accept the wave reflection model.

The wave reflection model is easy to prove with a TDR. Where
is the energy if not contained in the pulses?
--
73, Cecil, W5DXP

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2161. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:35:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb2ac4a$1_2@corp-goliath.newsgroups.com>
Source record: 119467

"Dick Carroll;" <dixie@townsqr.com> wrote:
>
>OC_CAM's Razor wrote:
>> The devil made me do it.
>
> Cecil why do you do all those things when you know the true cause? :-)

Well Dick, God is omniscient and knows what I am going to do
long before any situation occurs. So, you see, I don't have
any choice. If I decided not to do what God knows I am going
to do, he would simply use his omnipotent power to force me
to do what he knows I am going to do.
--
73, Cecil, W5DXP

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2162. Re: Return Loss Bridge Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:38:51 UTC
From: kg6zi@yahoo.com
Message-ID: <3f36625c.0305020938.406a5cd@posting.google.com>
Source record: 119463

Tom...

Thanks for the excellent reply. Your comments regarding the
actual detector and especially its non-linearity at low levels caused
the proverbal light to go on :)

Why not eliminate the internal detector and use an external
one such at my HP-412B (good for RF measurements to about 800Mhz)?
This would make the RLB an RF in/RF out of course.

How would I modify (eliminate) the detector in the circut (of
course changing the connector to an N probably)?

Dennis

2163. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:47:54 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305020947.f822b4d@posting.google.com>
Source record: 119465

nat.gurumoorthy@ubicom.com (Nat Gurumoorthy) wrote in message
news:<41325e56.0305010909.3f919177@posting.google.com>...
> HI Brian,
> Here is the NEC2 dec for your antenna. The Horizontal section is
> at 40'. By the way all the numbers are in mm. There is a scaling card
> which will divide by 1000 to get everything to meters. The wires are
> 2mm which is #12 AWG. The model is over imperfect ground. The max gain
> was about 2.71 dbi Impedence was 171 -j185. The lobes look fairly low
> angle. The antenna is fairly omnidirectional which I think would be
> good for Field Day.
>
>
> ------------------ Snip Here -----------------------
> CM Brian w3rv Design
> CM Model by Nat Gurumoorthy AB6SJ
> CM 05/01/2003
> CM I:\dangler.INP
> CE
> GW 1 15 -5029.2 0 12192 5029.2 0 12192 2
> GW 2 15 -5029.2 0 12192 -5029.2 0 2133.6 2
> GW 3 15 5029.2 0 12192 5029.2 0 2133.6 2
> GS 0 0 0.001
> GE
> GN 0 0 0 0 4 0.001 0 0 0 0
> EX 0 1 8 0 1 0
> FR 0 1 0 0 14.2 0
> PQ -1 0 0 0
> PT -1 0 0 0
> RP 0 61 31 1001 -90 0 3 6 1000
> EN
>
> ------------------ Snip Here -----------------------
>
> Enjoy

Tnx Nat I appreciate the effort you put into it. It looks like it
could be an interesting antenna. The modeling session on this end has
been put off until at least Monday PM.

> Nat Gurumoorthy AB6SJ

Brian w3rv

2164. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:49:50 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305020949.44b97a9a@posting.google.com>
Source record: 119466

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0305020338.39417dae@posting.google.com>...
> k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030501230812.24185.00000674@mb-m27.aol.com>...
>
>
> > Dear F Art,
> > this really tops it and looks like you are really losing it. You better seek
> > some professional help. I am deeply saddened. Besides getting patent for CRAP
> > you are halucinating and making accusation that you better have some basis for.
> >
> > Sending viruses? You know crap how it works. I have hardware and software
> > firewalls and no viruses are coming or going outa here.
>
>
> Yuri
>
> hmm
> The day after i replied to a post you made on 16/17 april
> "removing reactance from antennas" i received an email supposedly from
> Microsoft with an attachment which contained a virus. Prior to this,
> and since, i have never received spam from anyone.
> Now there's a "coincidence"
>
>
> By the way, who did Art accuse?
> Jaro

I thought that Google monitors the postings to ensure they

were not a vehicle for filth. Seems like that is incorrect

after seeing the filth message that Yuri was allowed to post.

Maybe they have no concern regarding shipping filth to

other countries and Yuri has spotted an opening for

the newsgroup to spread more of it around.

> NB To whom it may concern MSN checks all emails and attachments for
> virus, and as from now i only receive email from my address list.So
> dont waste you time.

2165. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:53:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb2b093$1_2@corp-goliath.newsgroups.com>
Source record: 119324

Richard Clark <kb7qhc@attbi.com> wrote:
A bunch of cute stuff irrelevant to the sliver of spectrum embodied
in coherent single-frequency waves in a transmission line. Try your
explaination again with a laser that satisfies the "enhanced intensity
in the forward wave" as described on the Melles-Griot web page.

Please describe how a laser beam orthogonal to the thin-film surface
doesn't cause a reflection at the discontinuity in the index of
refraction going from air (1.0) to thin-film (1.225). As I said
before, physicists would be very interested in how you manage to
accomplish that feat.
--
73, Cecil, W5DXP

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2166. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:55:45 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Q2OdnYj3jqyCLC-jXTWcqA@comcast.com>
Source record: 119468

Foam type (cellular polyethyline) RG59 and RG6 are listed as having a Vp
of .78 by Belden.

Tam/WB2TT
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8tkpo$9a8$1@hercules.btinternet.com...
> The velocity factor of all SOLID polyethylene cable is 0.67 regardless of
> impedance Zo
>
>

2167. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 17:59:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fdc5bvslb131tb7t5v4bp18msea3fcotg0@4ax.com>
Source record: 119319

On 2 May 2003 10:49:50 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

> I thought that Google monitors the postings to ensure they
>
> were not a vehicle for filth. Seems like that is incorrect
>
> after seeing the filth message that Yuri was allowed to post.
>
> Maybe they have no concern regarding shipping filth to
>
> other countries and Yuri has spotted an opening for
>
> the newsgroup to spread more of it around.

Hi Art,

Your concern is shared by all. The message above has been submitted
and responded to by Google staff:
>To: "Richard Clark" <kb7qhc@attbi.com>
>Subject: Re: [#2214083] Finally great product!
>From: groups-abuse@google.com
>Date: Fri, 02 May 2003 17:55:00 -0000
>
>Thank you for writing Google Groups Abuse. We treat violations to
>netiquette and our terms of service very seriously. Your complaint
>has been forwarded to our groups support team for investigation and
>further action, if required.
>
>We appreciate your taking the time to write us.
>
>Regards,
>The Google Team

Reference number 2214083 (hold firmly beneath your chin and face the
camera please).

73's
Richard Clark, KB7QHC

2168. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:00:25 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305021000.5d1df374@posting.google.com>
Source record: 119320

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b8sutjnhi1@sparta.btinternet.com>...
> > > Reg Edwards wrote:
> > > > Cecil, is there a commercial tuner available which has a built-in
> cooling
> > > > fan ?
> > >
> > > I don't know, Reg. I do know the more power a tuner handles the bigger
> > > the box. Why do you suppose that is? Could it have anything to do with
> > > power dissipation?
> > >
> > > I once melted the plastic support on the coil in my antenna tuner.
> >
> > I got a free MFJ 989C because a friend of mine kept doing the same
> > thing to it. I told him it was because of what he was trying to match
> > and the TL-922 which pumpeth RF a-plenty, but it went in one side, and
> > out the other. He then went and bought a Nye viking. He gave me the
> > 989c which I fixed, and have been using ever since. Ain't burnt
> > plastic grand? :) MK
>
> ============================
>
> I reckon anybody who wrecks his/her tuner should blame his/her self rather
> than him or herself.
> ---
> Reg.

The roller coils MFJ uses are a bit flimsy, but the real problem was
trying to match a "short" dipole on 80m and then trying to run about
1200w. It was some kind of G5RV contraption with coax/choke/ladder
line, etc. So much heat would build up in the tuner coil that the
plastic would melt, and then the windings on the roller coil would
expand to where you couldn't get a good connection with the roller. He
bought a replacement coil for $90, and proceded to melt it too.
After that, he bought the nye viking. I don't know if it held up or
not...I was able to repair the 2nd coil in the 989, and have been
using it since. They call that tuner a 3 KW tuner, but that is wishful
thinking if the mismatch is severe or a low Z/high reactance load like
he had. In a case like that, you have to derate the tuner if you want
it to stay in one piece. I guess my point was he was blaming the
tuner, when the real problem was his severe mismatch, and then running
a KW on top of that. As you can probably guess, his signal was lame
also, compared to an antenna like a coax fed dipole. Much of his power
was warming the tuner. I guess it chases any bugs out, but I'd rather

use ï¿½Raid in that case. MK

2169. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:05:29 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <rZGcnXtiO9_WLi-jXTWcqQ@comcast.com>
Source record: 119321

I think that was for a Vp of 1.0. Tried different lengths going down from there. After drastic changes I am seeing SWR < 1.5:1 on 10/15/20. Might have to build the thing.

Tam
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB1D9F1.1010301@ieee.org...
> Tarmo Tammaru wrote:
> > Thanks for the info. 102 ft & 34 ft was the second thing I tried.
>
> 34 ft seems too long. What is the VF of your twinlead?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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2170. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:07:12 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305021007.2095e3d0@posting.google.com>
Source record: 119322

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<s7p4bvgfer6a7790bci3bgai6p8aht6es1@4ax.com>...
> On 1 May 2003 20:25:19 -0700, nm5k@wt.net (Mark Keith) wrote:
>
>
> >BTW, the 10-15 or more spams a day I get are after my ISP's spam
> >filter. If it were not for that, I'd probably get a 100 a day. It
> >fills up fast, and I have to go over and empty it every once in a
> >while. That in itself is a PIA, as I have to read thru to make sure I
> >don't delete a "real" e-mail. But the scuz spammers are getting around
> >that now by using fake e-mail addresses that look legit. I also run a
> >firewall, and it checks attachments also. I've probably got 10 of the
> >"MS patches" in the last 3 days. But I don't need no stinkin patches.
> >Nothing to patch. I wouldn't run "MS Outlook" for anything. :/ MK
>
> My solution on spam was to change to a new email address, and go with
> Texas.net's spam filter, set at its lowest level. Since doing that, I
> get maybe one spam a month. Used to get 10 or 15 a day.
>
> By the way, I'm still trying to figure out how to delete the
> attachment that came with my bogus MSoft spam. Unfortunately, under my
> Outlook Express folder, I can find no other folders, and certainly no
> folder for "attachments". Where the hell does MSoft hide the damn
> things?
>
> Bob
> k5qwg

Not sure, being I don't run outlook, but in NS, if you delete the mail
to the trash pile, the attachment goes with it. When you empty the
trashbin, the mail and it's attachment go in one piece. Normally, the
attachment should stay with the mail, unless you saved the attachment
to another folder. In that case, you would have to manually delete
that copy. MK

2171. Re: 43mm diameter pipe & helix antenna problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:11:05 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <9RycnUVK7ukoKS-jXTWcpw@comcast.com>
Source record: 119323

"JLB" <IHateSpam@nospam.net> wrote in message
news:1l_ra.5752$xf.3215@fe01.atl2.webusenet.com...
> Only if it is not a metal pipe.

At this frequency, I am not sure about plastc either. Might be best to slide
it off the pipe after it is wound.

Tam/WB2TT

2172. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:15:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mbd5bvs7j4v2lcj0sh6asrh0i3cgbhca81@4ax.com>
Source record: 119325

On 2 May 2003 12:53:23 -0500, "OC_CAM's Razor"
<Cecil.A.Moore@ieee.org> wrote:
>A bunch of cute stuff
:-)

2173. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:16:30 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0305021016.27230ae5@posting.google.com>
Source record: 119326
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<ptstavske7b7p4bgln4pb63atl6gral7ad@4ax.com>...
> On Tue, 29 Apr 2003 12:06:56 -0700, Dean Arthur
> <dearthur@silverstar.com> wrote:
>
> >I wonder how quick E-Bay would divulge info if sued in small claims
> >court for aiding and abetting thievery by claiming "confidentiality" of
> >thieve's records?
>
> :-)
> As if they had never considered nor encountered this in several
> billion trades. Look at the number of CEO's taking a bonus for
> delivering capital assets to morgue and try to call a cop. You might
> get off easy with 20 years in Sing-sing.
>
> Wait a year, bring it up again, and the GOP could use this outrage to
> lever us into taking out France for harboring known Bids of Massive
> Consumption.
>
> It sure takes a lot of excuses to not do the right thing first: drop a
> dime.
>
> 73's
> Richard Clark, KB7QHC

what's wrong with taking out france.????

2174. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:17:30 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB2B639.90521A6@att.net>
Source record: 119327

Cecil,

Since you seem to add your particular spin to most of what you read, you might as well go ahead and add your spin to what I accept or don't accept.

8-)

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller <W4SZzzzzz@att.net> wrote:
> >All of that detail lives only in your head.
>
> Nope, all of that detail lives in the wave reflection model.
> Gene, do you accept the fact that some forward energy traveling
> toward a mismatched load is reflected from the load, reverses
> direction and becomes reflected energy. Sounds like you don't
> accept the wave reflection model.
>
> The wave reflection model is easy to prove with a TDR. Where
> is the energy if not contained in the pulses?
> --
> 73, Cecil, W5DXP
>
> ----------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2175. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:21:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ukd5bv8vj7tkikg2f2sv3q5t3opbd3ot0a@4ax.com>
Source record: 119328
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

On 2 May 2003 11:16:30 -0700, gw@webhideout.com (gw) wrote:
>what's wrong with taking out france.????

The GOP would lose their model for administrative excellance.

73's
Richard Clark, KB7QHC

2176. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:25:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <50e5bv0p6ndcjsj9ulvh1j3b165l0k05tu@4ax.com>
Source record: 119329

On Fri, 02 May 2003 18:17:30 GMT, Gene Fuller <W4SZzzzzz@att.net>
wrote:
>Since you seem to add your particular spin to most of what you read, you
>might as well go ahead and add your spin to what I accept or don't
>accept.

Got your foot caught in the grinder? ;-)

2177. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:31:38 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB2B96D.3000009@attbi.com>
Source record: 119330

Hmmm...! My wife of 39 years, plus 3 years of dating, has a simple rule. [1] If she's in the car, No Mobile! [2] If she's in the family center, No Radio! [3] If she can hear it upstairs, No Radio!! Corollary: If she can see it, hear it, smell it, taste it, etc. No Radio!

Now, I've been licensed continuously for almost 50 years!! How did I do it??

Most marriages divide up the chores along some formula. So, I asked her if we could divide up the house so I can get some space for MY radio, I already have space for my wife! So, I was given a small foyer off of the family center. Immediately a conflict with #2 above. But I now have my space!! Solution for #2 above was easily found. A spare bedroom was converted into her private space [Ah Ha]. I made sure it was upstairs well away from MY SPACE.

Now, she previously agreed that she doesn't like mowing lawns, raking leaves, maintaining swimming pools, trimming the flower garden, so, I was given these 'men's' chores. I became responsible for the outside of the house <get the picture?>

She acknowledged about 7 years ago that we BOTH have to live in the same space so we both have rights! Eureka! I can do something with the outside she can do something with the inside and we each have our own space.

So, after 43 years of ham radio it is acknowledged by the senior member of the board, I'm retired, she's employed, that I may put up an antenna!! [[Hooray]].

Conclusion: I have just one antenna! It is 47 feet high. It is composed of four total components 1) The Rohn tower, 2) the Tennadyna T8 Log Periodic, 3) a dual band VHF/UHF vertical, 4) a center fed doublet with tuned feeders.

All supported on the 'ONE' antenna [Rohn 25].

Finally, the Coup De Gras. Being retired I'm home all the time and she works so I have non-interference time. For evenings I use CW and Headset.

MORAL to the story. Find a good woman to love. Love her with all your heart and devotion. Commit yourself to her well being. And pray like Heaven that she will finally 'APPROVE' your plans for one antenna.

Deacon Dave, W1MCE
+ + +

> theplanters95@aol.comnospam (Theplanters95) wrote in
> news:20030502014552.26954.00000346@mb-m26.aol.com:

>
>
>>My wife does not like any antennas period! I see a work of art, she
>>sees a pile of junk wire! She wants me to use my 2m antenna for 80m!
>>
>>

2178. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 18:42:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb5evoboal1r0a@corp.supernews.com>
Source record: 119331

The equivalent diameter of a flat conductor is 0.5 times the width. For a conductor with triangular cross section, it's 0.84 times the length of a side. And a square conductor is 1.2 times the length of a side. I'd guess that somewhere around 9 - 10mm would be pretty close.

Roy Lewallen, W7EL

Toni - ec3dds wrote:
>
> - How can you approximate the "diameter" of 10x10mm L shaped aluminum
> for modeling purposes? Something between 10 and 14 mm?
>

2179. Re: Efficiency vs Resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:09:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB2C255.756F4245@cwis.net>
Source record: 119333

Mark,
MFJ uses tuner power ratings in Pep, so, while
your tuner was still capable of legal limit. You
do have to remember to convert from 'advertising'
power units to something closer to 'real' power
units. Having said that, I did about the same
thing trying to tune a 20 meter dipole on 80 meters,
at 1200 watts. The capacitor knob melted in two,
but it almost worked. I figure that was pretty good
for MFJ stuff (the 986 is a nice tuner, but still
no miracles.) Also long enough ago that they still
used ceramic coil forms instead of PVC...
'Doc

2180. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:09:33 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8uflp$dm4bi$1@ID-150848.news.dfncis.de>
Source record: 119332

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8m87f$h1c$1@hercules.btinternet.com...

> 9mm is the winding pitch as correctly calculated by the program.

In the world of rthe computer program maybe, but not in the real
physical world.

> It first
> calculates pitch to calculate other values of greater interest.

True, that should be as it is.

> If I had
> omitted to display the exact pitch amongst the other results somebody
would
> have been sure to complain.

Untrue. If the program is going to give the wrong pitch reading, then
you should not display the pitch. It only leads to confusion.

> Good program writers must also be psychologists.
> Guess why the program asks for ratio of wire diameter to winding pitch
> rather than just wire diameter or just pitch.

Doesn't matter, the physical pitch calculation is wrong, when length is
9mm and turns is 2.

> To place things on a sound mathematical basis - if there are n turns
then
> winding pitch is coil length divided by n minus 1. This definition of
pitch
> is consistent with ANY number of turns - including ONE turn. The
length of
> a 1-turn coil is assumed by the program to be the wire diameter.
There's
> something in the program notes about.

The calculation that enables the program to work out inductance, but
otherwise nonsense when dealing with physically measurable pitch.

Since the pitch calculation will remain part of the program, I of course
will ignore it.

End of comments.

Rich.

2181. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:27:03 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB2C685.A10ABFC4@att.net>
Source record: 119334

Richard,

Naaah, feet are still intact.

Cecil is an amateur compared to some of the folks I have dealt with over the years. Some people can actually make their nonsense appear to be real.

8-)

73,
Gene
W4SZ

Richard Clark wrote:
>
> On Fri, 02 May 2003 18:17:30 GMT, Gene Fuller <W4SZzzzzz@att.net>
> wrote:
> >Since you seem to add your particular spin to most of what you read, you
> >might as well go ahead and add your spin to what I accept or don't
> >accept.
>
> Got your foot caught in the grinder? ;-)

2182. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:32:30 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb2c7ce$1_2@corp-goliath.newsgroups.com>
Source record: 119338

Gene Fuller <W4SZzzzzz@att.net> wrote:
>Since you seem to add your particular spin to most of what you read, you
>might as well go ahead and add your spin to what I accept or don't
>accept. 8-)

Hmmmmm, is your refusal to answer a simple question, a clue? :-)

I just downloaded an Agilent technical note that seems to
support the concept that the intrinsic power in a wave in
a transmission line is V*I and V/I=Z0.
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2183. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:37:15 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305021137.6b141ec6@posting.google.com>
Source record: 119335

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8saif$i1d$1@slb9.atl.mindspring.net>...
> Dr. Slick:
>
> All I ask is thay you please stop calling complex numbers vectors. By doing
> so you only encourage the miscreants among us, if you don't desist, then...
> I'll have no choice but to put you on report to the duty officer of the News
> Group!
>

I'll call vectors an addition of orthogonal vectors, which would
include a complex number like A+jB. This is correct usage.

You must have been sleeping during class when the teacher
discussed converting Cartesian coordinates to Polar!

Vector mag=(A^2+B^2)^0.5 , Vector phase= inverse tan(A/B)

Additionally, the Smith Chart bilinear transformation of a vector
reflection coefficient into a complex impedance is NOT the same as
converting Cartesian coordinates to Polar!

I'll report YOU if you don't stop spreading misinformation!

> Where in the world of vector spaces and vector calculus can you find a
> simple elegant equation directly relating the most fundamental mathematical
> constants 0, 1, pi and e, rationals and irrationals units of reals and of
> imaginaries and even binaries?:
>
> 1 + e^i*pi = 0
>

By Eulers formula:

e^j(phi)=cos(phi)+jsin(phi)

I don't fully understand it, but I believe this does imply that a
rotating vector or phasor can be converted to cartesian coordinates,
or a complex number!

So your above formula is correct by this: 1-1=0

> Dr. Slick I do hope you mend your ways and learn to stay out of the land of
> misnomers!
>

Peter, everyone else is disagreeing with YOU! Please read the
other posts! I hope you mend your ways and learn to admit when you

are wrong.

Best regards,

Dr. Slick

2184. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:48:08 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305021148.4397fe70@posting.google.com>
Source record: 119336

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8sb8v$3j4$1@slb0.atl.mindspring.net>...
>
> Amateurs are capable of lots more than you think Richard.
>
> Comments, thoughts?

You should listen to Richard.

Slick

2185. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:50:26 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305021150.4da83b3@posting.google.com>
Source record: 119337

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8s995llh1@slb3.atl.mindspring.net>...
> Tom:
>
> [snip]
> > Mathematically, there's no reason a vector can't be composed of complex
> > numbers: [a b c] where a, b, and c are complex. For that matter, why not
> > use polynomials for a, b, and c if they follow all the right rules?
> > 73,
> > Tom Donaly
> [snip]
>
>
> I agree wholeheartedly, no reason whatsoever why vectors can't be complex,
> most of the vectors I deal with daily are complexc, and that's exactly what
> I posted up the thread.
>

I'm glad there are other people like Tom and Richard to back me up on this one.

Slick

2186. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 19:55:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB2CD3C.A918C95D@uci.edu>
Source record: 119341

OC_CAM's Razor wrote:
> Please describe how a laser beam orthogonal to the thin-film surface
> doesn't cause a reflection at the discontinuity in the index of
> refraction going from air (1.0) to thin-film (1.225). As I said
> before, physicists would be very interested in how you manage to
> accomplish that feat.

Physicists put a material behind the film that has an index of
refraction of
1.5 in order to accomplish that feat. Physicists talk about the energy
that would have been reflected appearing in the expression for
transmission through that glass. But what physicists don't say and you
do is more relevant and interesting to the discussion.

ac6xg

2187. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:03:21 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305021203.70dc22fb@posting.google.com>
Source record: 119339

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<j17ravcouk2cloucvtdou66uans18gb3u3@4ax.com>...
> |
> | Minor detail, I would emphasize rho = [S11] , which indicates the
> |magnitude of the S11, as the voltage reflection coefficient is a
> |scalar, not vector, quantity.
> |
> Careful.
>
> How about rho = |s11|
>
> And this only works when it *is agreed* that rho is scalar. Some, but
> not all, of the literature uses Gamma for the vector quantity and rho
> for the magnitude. However, an awful lot of folks use rho for a
> vector quantity.
>
> Here are some of the options.
>
> Kraus: rho = complex
> Terman: rho = complex
> Johnson: uses kappa = complex
> Chipman: rho = complex
> ARRL Ant. Book: rho = complex
> Adam (HP): Gamma = complex, rho = scalar
> HP App Note 77-3: rho = complex
> HP App Note 219: rho = scalar
> GenRad: Gamma = complex (alternate rho = complex)
> Mathcad: Gamma = complex
>
> Even the folks at HP can't agree.
>
> My personal preference is the same as Steve Adam's as it removes the
> ambiguity.

So you and I agree with the convention that rho is the scalar magnitude.

Les Besser also defines Gamma=rho @ phase
angle, implying that the rho is the magnitude of the vector voltage
reflection coefficient (gamma).

I've seen SWR defined as this:

SWR= (1+rho)/(1-rho)

If rho was always defined as a vector or complex number, this
would not be correct, as the SWR is certainly scalar.

In which case, you would have to say;

SWR = (1+[rho])/(1-[rho])

But most sources i have seen don't say this! They don't bother
to put two straight lines to indicate magnitude on the rho.

Look on ANY sliding reflectometer calculator, and you will see a
PLAIN rho labeling a scalar gradation from 0 to 1.

> |rho, and also its equivalent scattering parameter S11 are just simple
> |complex numbers, not vectors.
> |

This is a matter of definitions, but in the engineering world,
the complex impedance S11 is also considered a vector of magnitude
0-1, with phase angle from 0-360.
If you look at how the Smith Chart was laid out, you will see
that the vector reflection coefficient has been laid over a "bilinear
transformation" of the complex impedance. This is what the Smith
Chart is all about: relating a vector measurement to a complex
impedance.

So you can say an S11=magnitude @ phase angle, OR... S11= 45 Ohms
+/- j 20 Ohms, for example. The two are interchangable on the Smith
Chart.

That is why then call them Vector Network Analysers.

A Scalar network analyzer can only measure attenuation or gain,
but not complex impedance.

Slick

2188. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:06:35 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8uj4bnuq1@hercules.btinternet.com>
Source record: 119340

Richard,

Would you like me to write for you a special version of the program. Could you suggest another name for "pitch", preferably with same number of letters?

But as you suggest, since nobody needs pitch for anything, perhaps the offending word could simply be deleted.

Yours, Reg.

2189. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:14:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8ujicaej1@titan.btinternet.com>
Source record: 119342

```
> > 1 + e^i*pi = 0
>
> By Eulers formula:
>
> e^j(phi)=cos(phi)+jsin(phi)
>
=========================

Round these parts Sqrt(-1) = j

i = current.
```

2190. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:14:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB2D19B.3A0F0FA9@uci.edu>
Source record: 119343

OC_CAM's Razor wrote:
> Gene, do you accept the fact that some forward energy traveling
> toward a mismatched load is reflected from the load, reverses
> direction and becomes reflected energy. Sounds like you don't
> accept the wave reflection model.

Occams Razor would lead one to believe that a simpler explanation is
more likely - one where energy doesn't really bounce back and forth just
to end up back where it would have without doing all the bouncing around
to begin with. Waves reflect. Power doesn't.

ac6xg

2191. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:31:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3tk5bv8fg6ugfphp5svg2qsbd6vkf75rlt@4ax.com>
Source record: 119344

On Fri, 02 May 2003 12:55:40 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>
>
>OC_CAM's Razor wrote:
>> Please describe how a laser beam orthogonal to the thin-film surface
>> doesn't cause a reflection at the discontinuity in the index of
>> refraction going from air (1.0) to thin-film (1.225). As I said
>> before, physicists would be very interested in how you manage to
>> accomplish that feat.
>
>Physicists put a material behind the film that has an index of
>refraction of
>1.5 in order to accomplish that feat. Physicists talk about the energy
>that would have been reflected appearing in the expression for
>transmission through that glass. But what physicists don't say and you
>do is more relevant and interesting to the discussion.
>
>ac6xg

Hi Jim,

What would be more interesting is why the Photo shops in the Mall
offer "anti-glare" mountings for dead-on, laser illumination of
photos, illuminated such that your head would have to be in the way to
observe the effect (for what? all of one dt?).

Of course, with a laser powerful enough....

007 to Goldfinger:
"You don't expect me to talk do you?
Goldfinger to 007:
"No Mr. Bond, I expect you to die!"

Whoops, looks like Cecil's crutch is made of rubber - but it should
bring hours of entertainment in the Galileo ward.

73's
Richard Clark, KB7QHC

2192. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 20:56:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB2DB6D.483FAFB0@uci.edu>
Source record: 119345

OC_CAM's Razor wrote:
> Since
> destructive interference is where the excess energy comes from, it seems
> a no-brainer to assign destructive interference as the source of constructive
> interference especially in a closed system like a transmission line.

Destructive interference - as a source of energy no less. No-brainer.
Interesting selection of words.

ac6xg

2193. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 21:05:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB2DD98.9948221B@uci.edu>
Source record: 119346

OC_CAM's Razor wrote:

> Dr. Best says it doesn't turn around at all and interference
> plays no part at a Z0-match point.

If Steve doesn't believe in interference, then you guys are probably
both half right. (Different halves.)

jk

2194. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 21:29:35 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <0ao5bvkdg0rtoj3ibukudk70qpq8rbuttb@4ax.com>
Source record: 119347

On 2 May 2003 13:03:21 -0700, radio913@aol.com (Dr. Slick) wrote:

[snip]
|>
|> My personal preference is the same as Steve Adam's as it removes the
|> ambiguity.
|
|
| So you and I agree with the convention that rho is the scalar magnitude.

Yep.
|
| Les Besser also defines Gamma=rho @ phase
|angle, implying that the rho is the magnitude of the vector voltage
|reflection coefficient (gamma).

Ah yes, I remember Les Besser. I think he and Steve Adam where
cohorts at one time in the teaching business. (Something like the
"Continuing Education Institute" leaps to mind)

I took a live course on "Microwave Theory and Application" from Adam
and a video-tape course from Besser on RF/Microwave Transistor
Amplifier Design." Man, Besser's voice was so monotone that I could
hardly stay awake. I was watching a tape at home one evening while my
better half cooked dinner. She could hear the audio and she said that
he was putting *her* to sleep. <g>

2195. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:14:19 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305021414.33939622@posting.google.com>
Source record: 119348

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb56sucjj4u110@corp.supernews.com>...
> jaroslav lipka wrote:
> >
> > hmm
> > The day after i replied to a post you made on 16/17 april
> > "removing reactance from antennas" i received an email supposedly from
> > Microsoft with an attachment which contained a virus. Prior to this,
> > and since, i have never received spam from anyone.
> > Now there's a "coincidence"
> >
> >
> > By the way, who did Art accuse?
> > Jaro
> >
> > NB To whom it may concern MSN checks all emails and attachments for
> > virus, and as from now i only receive email from my address list.So
> > dont waste you time.
>
> It almost certainly is a coincidence.

O yes, an absolute 'Coincidence', no doubt about it.
Don't we all get such E mail with a virus attached
with only names fron this newsgroup on a circulation list?
I fully expect somebody else got such an e mail with
a circulation list of Unwin, Lewallen and Clark who by a
simple (possible ??) 'Coincidence' were attacking a particular person
on a newsgroup that by sheer 'Coincidence' happened to be
this Google group.
Obviously just a series of 'Coincidences' that happened
'Coincidently' at the same time the particular people were active
on this newsgroup and 'Coincidently' discussing the same subject
and by some wierd 'Coincidence' did not involve other posters that
were not involved. I guess such 'Coincidental' strings happen all the
time.
Its just a 'Coincidence' it happened on this particular newsgroup.
By the way, read the post again regarding 'The Final Solution'.
Just another 'Coincidence' that we on this particular newsgroup
'accept' without comment as attacks continue on Jewish posters.....
the same as accepting vuruses which are also purely 'Coincidental'.

\The "Microsoft security update"
> virus has been around for quite some time. A lot of the common email
> viruses you see these days (technically "worms") pick addresses out of
snip.
>

> Roy Lewallen, W7EL

2196. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:22:25 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB2EFA2.477BDC7E@att.net>
Source record: 119349

Cecil,

Oops, the cat is out of the bag. I'm clueless.

8-)

73,
Gene
W4SZ

OC_CAM's Razor wrote:
>
> Gene Fuller <W4SZzzzzz@att.net> wrote:
> >Since you seem to add your particular spin to most of what you read, you
> >might as well go ahead and add your spin to what I accept or don't
> >accept. 8-)
>
> Hmmmmm, is your refusal to answer a simple question, a clue? :-)
>
> I just downloaded an Agilent technical note that seems to
> support the concept that the intrinsic power in a wave in
> a transmission line is V*I and V/I=Z0.
> --
> 73, Cecil, W5DXP
>
> ------------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2197. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:23:03 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8ur46$3ip$1@slb9.atl.mindspring.net>
Source record: 119350

Hi Reg:

OK, OK... I don't have any problem with either i or j and if you wish... "j" it is then. But sqrt(-1) makes the display on my calculator flash continuously! What?

Nevertheless, those who insist on calling a complex a vector will feel the wrath of Oliver Heaviside whenever they try to enter that great electrical laboratory in the sky, for it is Oliver who stands at the gates.

A vector can contain complexes but complexes can't contain vectors. A vector can be complex, but a complex cannot be a vector. A complex is just not a vector, as I'm sure you will agree!

That's just the way it is, and since Oliver introduced complex numbers, including the concepts and terms for reactance and impedance to our electrical world, and as well introduced the vector math and calculus required for a simpler understanding of Maxwell's electrodynamics, equations and the operaton of antennas, why then it's natural that Oliver is the one who enforces the use of the terms vector and complex number in the hereafter!

Reg, I know you to be a "fan" of Oliver Heaviside.

All hail Oliver Heaviside... the amateur electrician, who first took Maxwell's 22 very complex equations expressed using Hamilton's Quaternions, and made them into 4 simple equations explaining it all for us in terms of vectors and complex numbers.

Although he left school never to return at age 16, Oliver knew well and respected the difference between vectors and complex numbers.

cfr:

Paul J. Nahin, "Oliver Heaviside - The Life, Work, and Times of an Electrical Genius of the Victorian Age". The Johns Hopkins University Press, with IEEE Press, Baltimore, MD and London, UK 1988. ISBN: 0-8018-6909-9. LC Shelf Call: TK140.H43N34.

A fascinating read!

--
Peter K1PO
Indialalantic By-the-Sea, FL.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:b8ujicaej1@titan.btinternet.com...
> > > 1 + e^i*pi = 0

> >
> > By Eulers formula:
> >
> > e^j(phi)=cos(phi)+jsin(phi)
> >
> ========================
>
> Round these parts Sqrt(-1) = j
>
> i = current.
>
>
>

2198. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:24:52 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b8ur7k$pm2$1@slb3.atl.mindspring.net>
Source record: 119351

Dr. Slick:

Who the hell is "Les Besser"? And who needs him!

That was writ ironic.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305021203.70dc22fb@posting.google.com...
> Wes Stewart <n7ws@#arrl.net> wrote in message
news:<j17ravcouk2cloucvtdou66uans18gb3u3@4ax.com>...
> > |
> > | Minor detail, I would emphasize rho = [S11] , which indicates the
> > |magnitude of the S11, as the voltage reflection coefficient is a
> > |scalar, not vector, quantity.
> > |
> > Careful.
> >
> > How about rho = |s11|
> >
> > And this only works when it *is agreed* that rho is scalar. Some, but
> > not all, of the literature uses Gamma for the vector quantity and rho
> > for the magnitude. However, an awful lot of folks use rho for a
> > vector quantity.
> >
> > Here are some of the options.
> >
> > Kraus: rho = complex
> > Terman: rho = complex
> > Johnson: uses kappa = complex
> > Chipman: rho = complex
> > ARRL Ant. Book: rho = complex
> > Adam (HP): Gamma = complex, rho = scalar
> > HP App Note 77-3: rho = complex
> > HP App Note 219: rho = scalar
> > GenRad: Gamma = complex (alternate rho = complex)
> > Mathcad: Gamma = complex
> >
> > Even the folks at HP can't agree.
> >
> > My personal preference is the same as Steve Adam's as it removes the
> > ambiguity.

>
>
> So you and I agree with the convention that rho is the scalar
magnitude.
>
> Les Besser also defines Gamma=rho @ phase
> angle, implying that the rho is the magnitude of the vector voltage
> reflection coefficient (gamma).
>
>
> I've seen SWR defined as this:
>
> SWR= (1+rho)/(1-rho)
>
> If rho was always defined as a vector or complex number, this
> would not be correct, as the SWR is certainly scalar.
>
> In which case, you would have to say;
>
> SWR = (1+[rho])/(1-[rho])
>
> But most sources i have seen don't say this! They don't bother
> to put two straight lines to indicate magnitude on the rho.
>
> Look on ANY sliding reflectometer calculator, and you will see a
> PLAIN rho labeling a scalar gradation from 0 to 1.
>
>
>
> > |rho, and also its equivalent scattering parameter S11 are just simple
> > |complex numbers, not vectors.
> > |
>
>
> This is a matter of definitions, but in the engineering world,
> the complex impedance S11 is also considered a vector of magnitude
> 0-1, with phase angle from 0-360.
> If you look at how the Smith Chart was laid out, you will see
> that the vector reflection coefficient has been laid over a "bilinear
> transformation" of the complex impedance. This is what the Smith
> Chart is all about: relating a vector measurement to a complex
> impedance.
>
> So you can say an S11=magnitude @ phase angle, OR... S11= 45 Ohms
> +/- j 20 Ohms, for example. The two are interchangable on the Smith
> Chart.
>
> That is why then call them Vector Network Analysers.
>
> A Scalar network analyzer can only measure attenuation or gain,

> but not complex impedance.
>
>
> Slick

2199. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:25:34 UTC
From: Gene Fuller <W4SZzzzzz@att.net>
Message-ID: <3EB2F060.7B124D46@att.net>
Source record: 119352

Dr. Slick,

Peter is usually right. He is right this time as well.

73,
Dr. Gene
W4SZ

"Dr. Slick" wrote:
>
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8saif$i1d$1@slb9.atl.mindspring.net>...

[big snip]

> > Dr. Slick I do hope you mend your ways and learn to stay out of the land of
> > misnomers!
> >
>
> Peter, everyone else is disagreeing with YOU! Please read the
> other posts! I hope you mend your ways and learn to admit when you
> are wrong.
>
> Best regards,
>
> Dr. Slick

2200. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:31:46 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <3sr5bv0nvk8mh1m1vfdr7i8ras13q20bfq@4ax.com>
Source record: 119353

On 2 May 2003 15:14:19 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote a disjointed tirade:

[snip]

|O yes, an absolute 'Coincidence', no doubt about it.
| Don't we all get such E mail with a virus attached
| with only names fron this newsgroup on a circulation list?
|I fully expect somebody else got such an e mail with
|a circulation list of Unwin, Lewallen and Clark who by a
|simple (possible ??) 'Coincidence' were attacking a particular person
|on a newsgroup that by sheer 'Coincidence' happened to be
|this Google group.

Good grief Art, get a grip. I'm sure these guys have better things to
do than figure out how to send you a virus.

If you would get a text-only newsreader (Free Agent for instance) and
a text-only email program (Eudora for example) and then not open any
attachments, you wouldn't have these problems.

I have three email accounts. One with Juno that now gets all of the
spam sent to my *.arrl.net address that was obviously mined by dozens
of robots. A *.yahoo.com one for misc crap and my private one where my
ISP does a great job of killing virii.

Oh, and another thing, you wouldn't be sending out virus carrying
messages to anyone else. (I almost said "to your friends" but the way
you're going you aren't going to have any)

2201. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:35:17 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8urmt$dltn6$1@ID-150848.news.dfncis.de>
Source record: 119354

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8uj4bnuq1@hercules.btinternet.com...
> Richard,
>
> Would you like me to write for you a special version of the program.
Could
> you suggest another name for "pitch", preferably with same number of
> letters?
>
> But as you suggest, since nobody needs pitch for anything, perhaps the
> offending word could simply be deleted.
> ---
> Yours, Reg.

Reg

I think I'm pretty typical, and what has confused me I think will
confuse others. When the coil (in my example) in fact, really has a
winding pitch of 4.5mm because coil length is 9mm and it has 2 turns,
then it's not good for the program to declare a parameter called pitch
with a value of 9mm.

To be honest, unless I'm missing something and I'm out in left field,
this thread is one of the weirdest I've ever been involved in. :c)

Rich.

2202. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 22:47:28 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB2F562.3080405@attbi.com>
Source record: 119355

Here we go into the theology of PREDESTINATION!!

What a nice red herring laid upon a fairly nice thread.

Deacon Dave, W1MCE

OC_CAM's Razor wrote:
> "Dick Carroll;" <dixie@townsqr.com> wrote:
>
SNIP
>
> Well Dick, God is omniscient and knows what I am going to do
> long before any situation occurs. So, you see, I don't have
> any choice. If I decided not to do what God knows I am going
> to do, he would simply use his omnipotent power to force me
> to do what he knows I am going to do.
> --
> 73, Cecil, W5DXP
>
>
>
> ------------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
> http://www.newsfeed.com The #1 Newsgroup Service in the World!
> -----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2203. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:18:00 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <afu5bvkg3m8mu1lj1boff9ld2jjlehpsod@4ax.com>
Source record: 119356

On 2 May 2003 15:14:19 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
sent into the ether:

>Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb56sucjj4u110@corp.supernews.com>...
>> jaroslav lipka wrote:
>> >
>> > hmm
>> > The day after i replied to a post you made on 16/17 april
>> > "removing reactance from antennas" i received an email supposedly from
>> > Microsoft with an attachment which contained a virus. Prior to this,
>> > and since, i have never received spam from anyone.
>> > Now there's a "coincidence"
>> >
>> >
>> > By the way, who did Art accuse?
>> > Jaro
>> >
>> > NB To whom it may concern MSN checks all emails and attachments for
>> > virus, and as from now i only receive email from my address list.So
>> > dont waste you time.
>>
>> It almost certainly is a coincidence.
>
>O yes, an absolute 'Coincidence', no doubt about it.
> Don't we all get such E mail with a virus attached
> with only names fron this newsgroup on a circulation list?
>I fully expect somebody else got such an e mail with
>a circulation list of Unwin, Lewallen and Clark who by a
>simple (possible ??) 'Coincidence' were attacking a particular person
>on a newsgroup that by sheer 'Coincidence' happened to be
>this Google group.
>Obviously just a series of 'Coincidences' that happened
> 'Coincidently' at the same time the particular people were active
>on this newsgroup and 'Coincidently' discussing the same subject
>and by some wierd 'Coincidence' did not involve other posters that
>were not involved. I guess such 'Coincidental' strings happen all the
>time.
>Its just a 'Coincidence' it happened on this particular newsgroup.
>By the way, read the post again regarding 'The Final Solution'.
>Just another 'Coincidence' that we on this particular newsgroup
>'accept' without comment as attacks continue on Jewish posters.....
>the same as accepting vuruses which are also purely 'Coincidental'.
>

>
>
>
>
>\The "Microsoft security update"
>> virus has been around for quite some time. A lot of the common email
>> viruses you see these days (technically "worms") pick addresses out of
>snip.
>>
>> Roy Lewallen, W7EL
Art,
I am going to have to give you second Buffoon (Buffoon2) status if you
can't do a little research for your self. You DOLT, that MS patch
crap has been going around newsgroup posters addresses for several
years now. Pay attention here. Art, YEARS, Art are you listening?
You jackass, ask around and someone will show you how to do research.
I belong to rec.outdoors.fishing.bass and that same crap has been
hitting the posters there too. Only difference is they don't have
anyone like you in the group. Oops, wait a minute, we do have a
resident troll that you would get along with just fine. He acts just
as dumb as you.

Now, go into the bathroom and squeeze real hard, you'll feel better.
Then you can go ask people to explain things without all that pressure
making you do foolish things.

Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

2204. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:19:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb5v8l8kunhsd4@corp.supernews.com>
Source record: 119357

If you or another recipient of this virus-containing email will send me
the complete header, I'll be glad to identify the ISP where it
originated, and notify them.

My ISP nabbed some virus-containing email enroute to me on April 30.
I've requested a copy of it, but haven't received it yet.

I'm curious -- who have Unwin, Lewallen, and Clark been attacking, and
on what group? To my knowledge, I'm not subscribed to any Google groups.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
>
> O yes, an absolute 'Coincidence', no doubt about it.
> Don't we all get such E mail with a virus attached
> with only names fron this newsgroup on a circulation list?
> I fully expect somebody else got such an e mail with
> a circulation list of Unwin, Lewallen and Clark who by a
> simple (possible ??) 'Coincidence' were attacking a particular person
> on a newsgroup that by sheer 'Coincidence' happened to be
> this Google group. . .

2205. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:31:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb5vuknoasd664@corp.supernews.com>
Source record: 119358

Peter Brackett wrote:
> Hi Reg:
>
> OK, OK... I don't have any problem with either i or j and if you wish... "j"
> it is then. But sqrt(-1) makes the display on my calculator flash
> continuously! What?
> . . .

Time for a modern calculator, I guess that's what. My HP 48GX happily
and correctly returns (0.00, 1.00) for the square root of -1.

Roy Lewallen, W7EL

2206. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:36:48 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <WhDsa.4846$dq3.4006@fe05.atl2.webusenet.com>
Source record: 119359

See below because it is too for me to read! LOL!

Bumper sticker: "The more I learn about women, the more I love my truck (Chevy S-10)"!

Jerrry
K4KWH

Dave Shrader <david.shrader@attbi.com> wrote in message news:3EB2B96D.3000009@attbi.com...
> Hmmm...! My wife of 39 years, plus 3 years of dating, has a simple rule.
> [1] If she's in the car, No Mobile! [2] If she's in the family
> center, No Radio! [3] If she can hear it upstairs, No Radio!! Corollary:
> If she can see it, hear it, smell it, taste it, etc. No Radio!
>
> Now, I've been licensed continuously for almost 50 years!! How did I do
> it??
>
> Most marriages divide up the chores along some formula. So, I asked her
> if we could divide up the house so I can get some space for MY radio, I
> already have space for my wife! So, I was given a small foyer off of the
> family center. Immediately a conflict with #2 above. But I now have my
> space!! Solution for #2 above was easily found. A spare bedroom was
> converted into her private space [Ah Ha]. I made sure it was upstairs
> well away from MY SPACE.
>
> Now, she previously agreed that she doesn't like mowing lawns, raking
> leaves, maintaining swimming pools, trimming the flower garden, so, I
> was given these 'men's' chores. I became responsible for the outside of
> the house <get the picture?>
>
> She acknowledged about 7 years ago that we BOTH have to live in the same
> space so we both have rights! Eureka! I can do something with the
> outside she can do something with the inside and we each have our own
space.
>
> So, after 43 years of ham radio it is acknowledged by the senior member
> of the board, I'm retired, she's employed, that I may put up an
> antenna!! [[Hooray]].
>
> Conclusion: I have just one antenna! It is 47 feet high. It is composed
> of four total components 1) The Rohn tower, 2) the Tennadyna T8 Log
> Periodic, 3) a dual band VHF/UHF vertical, 4) a center fed doublet with
> tuned feeders.
>

> All supported on the 'ONE' antenna [Rohn 25].
>
> Finally, the Coup De Gras. Being retired I'm home all the time and she
> works so I have non-interference time. For evenings I use CW and Headset.
>
> MORAL to the story. Find a good woman to love. Love her with all your
> heart and devotion. Commit yourself to her well being. And pray like
> Heaven that she will finally 'APPROVE' your plans for one antenna.
>
> Deacon Dave, W1MCE
> + + +
>
>
>
>
> > theplanters95@aol.comnospam (Theplanters95) wrote in
> > news:20030502014552.26954.00000346@mb-m26.aol.com:
> >
> >
> >>My wife does not like any antennas period! I see a work of art, she
> >>sees a pile of junk wire! She wants me to use my 2m antenna for 80m!
> >>
> >>
>

2207. Re: Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:52:20 UTC
From: k9sqg@aol.com
Message-ID: <20030502195220.01566.00000561@mb-m28.aol.com>
Source record: 119360

I'd guess it is a Telex antenna rather than a Telrex but just a guess...

2208. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:54:42 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030502195442.25520.00000490@mb-m23.aol.com>
Source record: 119361

Thanks Roy for 'splaining it to the paranoids.

Besides firewalls and virus and attack checking programs, as anyone can see, I am with AOL and they also do some preventive checking (until something new cvomes on) and any crap I get it is forwarded to TOSREPORT@aol.com.

F.Art? Get some (professional) help, but not followers like Jaroslav.
Can you finally explain how you can make reflector shorter than driven element as described in your "patent" ?????????
This would shed some light on your "antenna inventor immigrant genius" persona and enlighten us biggoted antenna dummies.
I guess you have no balls, just scrambled brains and pathetic disconected crapola your are posting here.

Yuri BUm

2209. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-02 23:58:48 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030502195848.25520.00000491@mb-m23.aol.com>
Source record: 119362

FArt Unwind spews:
>
>> I thought that Google monitors the postings to ensure they
>> were not a vehicle for filth. Seems like that is incorrect
>> after seeing the filth message that Yuri was allowed to post.

What the hell I have to do with Google?

What filth you jerk?

Freak off to Freaktaland!

Bada BUm

2210. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 00:26:26 UTC
From: N4LQ <N4LQ@igLou.com>
Message-ID: <3eb30c8f_3@news.iglou.com>
Source record: 119363

Screw the Ironhorse into the Little Tarheel's base, doubling your gain and retaining the multiband coverage! Call it the Little horse heel or something.

--
Steve
"Theplanters95" <theplanters95@aol.comnospam> wrote in message news:20030430225417.28032.00000448@mb-m14.aol.com...
> Which hamstick company is better? Lakeview, proam/valor, mfj, or ironhorse?
>
> How do the hamsticks compare to the little tarheel screwdriver antenna?
>
> Bands of interest are 40-20-17-15-10-6m.
>
> Randy ka4nma

2211. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 01:32:47 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305021732.4a8e589c@posting.google.com>
Source record: 119364

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<3sr5bv0nvk8mh1m1vfdr7i8ras13q20bfq@4ax.com>...
> On 2 May 2003 15:14:19 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote a disjointed tirade:
>
> [snip]
>
> |O yes, an absolute 'Coincidence', no doubt about it.
> | Don't we all get such E mail with a virus attached
> | with only names fron this newsgroup on a circulation list?
> |I fully expect somebody else got such an e mail with
> |a circulation list of Unwin, Lewallen and Clark who by a
> |simple (possible ??) 'Coincidence' were attacking a particular person
> |on a newsgroup that by sheer 'Coincidence' happened to be
> |this Google group.
>
> Good grief Art, get a grip. I'm sure these guys have better things to
> do than figure out how to send you a virus.
>
> If you would get a text-only newsreader (Free Agent for instance) and
> a text-only email program (Eudora for example) and then not open any
> attachments, you wouldn't have these problems.
>
> I have three email accounts. One with Juno that now gets all of the
> spam sent to my *.arrl.net address that was obviously mined by dozens
> of robots. A *.yahoo.com one for misc crap and my private one where my
> ISP does a great job of killing virii.
>
> Oh, and another thing, you wouldn't be sending out virus carrying
> messages to anyone else. (I almost said "to your friends" but the way
> you're going you aren't going to have any)

With such friends that post on this newsgroup who needs enemies?
All you need is somebody to attack ! Who was on the virus circulate
list? Not any of the attack group, cabal or ethnic slanderers and
ofcourse not you.
As for me I do not accept any mail and my computor is not capable of
sending mail.Since I have no 'friends' why on earth would I need E
mail facilities.
Personal E mail is being pushed to a dead end because of lack of
control.
Use the newsgroup facilities when you want to attack anyone or to
recruit same to do it for you if you are so inclined.You surely will
feel quite warm and comfortable in attracting such suitable company

since you appear to have lost your sense of smell. Where-as others would question your judgement.
Antennas seem to be less of a function for it anymore, especially since 'coincidence ' is a major consideration and well known names embrace all as AOK.
Since YOU were not on the circulation list and the 'Final Solution' letter does not affect you and the filth letter was not sent in English it didn't offend you so why worry,everything for you must be hunky dory.
So now the question becomes why are you sending the above post to me? To join the crew! Certainly not as an innocent bystander. I judge you by the company you keep as I do Roy.
It shouldn't make any difference to his business as a good christian so he to will enjoy the fun.
Now for a slew of posts from others (your chosen warm buddies) who feel they must be heard with respect to comments levelled at me.
Wasn't it once said that if good men choose to remain silent when injustice is not levelled at them personally eventually they to will go under!

2212. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 01:49:42 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8v77m$jc6$1@sparta.btinternet.com>
Source record: 119365

I cannot resist relating the following short story.

In 1941, at the tender age of 16, I was an engineering apprentice at the British-Thompson-Houston electric motor works located in the suburbs of Birmingham (The original - Baron de Birmingham arrived with William the Conquerer or therabouts.) Products - anything from delicate selsyns, via 100 horse-power cast-rotors, to several thousand HP variable-speed motors to drive rolling machinery urgently needed to reduce white-hot copper billets, via diamond-dies progressively down to wire and destined to be returned to the works be wound on motor armatures by middle-aged women like my dear mother whose whose husbands and sons were scattered round the Earth in the armed services.

A few miles away, at Birmingham University, Randall and Boot were endevouring to take their recently-invented cavity magnetron from 3,000 up to 10,000 megacycles. Night after night the Luftwaffer droned overhead amid the barrage-balloons and exploding anti-aircraft shells. Fragments flew down. The clouds and smoke in the sky glowed red and flickered from the many fires burning in the city. My father, a surviving veteran of the trenches, shrapnel and mustard gas of WW1, 24 years previously, spent daytime at another local factory making nuts, bolts and rivets to be incorporated in Army tanks, Spitfires, Lancaster bombers of the Royal Airforce and motor-torpedo-boats of the Royal Navy. At night father was in the St Johns Ambulance Brigade and most of his daytime rivets ended up at the bottom the North Atlantic in newly-built merchant shipping which was being sunk at the rate of 10,000 tons every day taking their crews down with them to Davy Jones' Locker.

My formal mechanical engineering apprenticeship became somewhat disorganised. I was shifted to production in the machine shop. I became adept at precision machining of electric motor parts from blueprints. Working to within a few tenths of a thousand parts per inch became second nature. Grinding of tungsten-steel cutting-tool, setting and operating lathes, broaches, vertical and horizontal millers, planers, saws, etc., mopping-up cooling oil and clearing away razor-sharp swarf was part of the 6-day working week.

To return to a recent topic of this newsgroup, having set and operated thread-cutting machines I became knowledgeable about the design, shapes and lubrication of machine screw threads. So when I am now demanded to provide a "reference" from some sacred bible or other for a "definition of pitch" relating to the turns of enamelled copper wire on a solenoid tuning coil, perhaps I can be forgiven for suspecting a leg-pull. Who needs a university honours degree in stating the bleeding obvious? (Although from the immense volumes of spam received from Stateside I understand such degrees can be

attained within 7 days provided sufficient money changes hands.) (It's no wonder assistance had to be begged from the Russians to get men back into space.) (;o) = Smiley.)

Getting nearer to the crux of the matter - after daytime in the screeching machine shop with swarf and cutting lubricants, two or three evenings each week I went to night classes held at a local childrens' day school. One evening, from a mathematics text book, I had just grasped the awesome significance, indeed the depth of beauty, of -

1 + Exp(j*pi) = 0

and had read the following remark that Euler's brief equation was "The Eutectic Point of the whole of mathematics", when there came a wooshing, whirring noise from outside the classroom. I suppose there were half-dozen of us. But before the bang most of us, including the teacher, were already under the desks.

It wasn't a block-buster. But Euler and the Eutectic Point have remained impressed on my cerebral equipment ever since. Such were the beginings of my engineering education! I later switched to electro-magnetics, soldering irons and radar.

Soon gum-chewing Yanks began to arrive in the stately Queens which the passengers quite naturally and proudly assumed had been built in US shipyards.

You don't have to believe all this provided it takes your mind off that part of the dipole which does all the radiating.

Reg, G4FGQ

2213. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:17:06 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns936FC42E125F9pookster@129.250.170.84>
Source record: 119219

Dave Shrader <david.shrader@attbi.com> wrote in news:3EB2B96D.3000009
@attbi.com:

> And pray like
> Heaven that she will finally 'APPROVE' your plans for one antenna.
>

That was one of the most depressing posts I've seen in more than eight
years of surfing Usenet.

Surely somewhere there is a doctor who could take your cojones out of the
bottle of formaldehyde on the mantel and surgically re-install them.

It's worth a try.

--
Bill Turner
W7TI

2214. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:24:24 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <NCFsa.18652$xf.4365@fe01.atl2.webusenet.com>
Source record: 119366

Outlook works the same way- simply delete the message. the only time you will see it save an attachment is if you double click on the attachment, and then it gives you option to save that attachment to a folder, ect, or for a picture, for example, place the mouse pointer on the picture, then CLICK THE RIGHT button. a menu will drop down, allowing you to delete it, or save it to a file, and couple other options. . but, again, to get rid of it, simply DELETE IT ! -- Jim

"Mark Keith" wrote:
> > By the way, I'm still trying to figure out how to delete the
> > attachment that came with my bogus MSoft spam. Unfortunately, under my
> > Outlook Express folder, I can find no other folders, and certainly no
> > folder for "attachments". Where the hell does MSoft hide the damn
> > things?
> >
> > Bob
> > k5qwg
>
> Not sure, being I don't run outlook, but in NS, if you delete the mail
> to the trash pile, the attachment goes with it. When you empty the
> trashbin, the mail and it's attachment go in one piece. Normally, the
> attachment should stay with the mail, unless you saved the attachment
> to another folder. In that case, you would have to manually delete
> that copy. MK

2215. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:25:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB32887.2020605@ieee.org>
Source record: 119367

Jim Kelley wrote:
> Waves reflect. Power doesn't.

Here's an experiment for you. 100W signal generator driving
a 300 ohm load at the end of a piece of coax. The signal
generator is equipped with a circulator and a 50 ohm, 50W
circulator load. Wrap your fingers around the resistor and
turn on the signal generator. Get back to us if you can
still type.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2216. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:32:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB32A43.4000007@ieee.org>
Source record: 119368

Roy Lewallen wrote:
> My ISP nabbed some virus-containing email enroute to me on April 30.
> I've requested a copy of it, but haven't received it yet.

ieee.org nabs that same virus/worm for me a couple of times a week.
The way it works is to take control of a computer and send the
virus/worm to everyone in that computer's address book. I don't
think it has any effect on Netscape.
--
73, Cecil http://www.qsl.net/w5dxp

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2217. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:47:29 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <rYFsa.18843$xf.4018@fe01.atl2.webusenet.com>
Source record: 119220

For a velocity factor, WITH NO dielectric , it is 1.0 . But Velocity Factor can be measured , with a coax "tee" fitting, at a reciever. simply connect the second (test piece of)coax to the "tee fitting", along with your antenna. to a KNOWN on the air signal (If england has a equivalent of NOAA weather radio, or on the air , and not fully saturated signal, and an "s" meter. then simply prune the test piece of coax for MINIMUM signal strength. Make sure that the shield, and center conductors do not touch. This also works with flat line, when you get there, the length of that coax piece will be 1/4 wavelength !! then measure that length, and multiply by 4. then devide THAT number by the WAVELENGTH of the frequency your concerned with. that number (ratio) will be the velocity factor of your coax! oh, and btw, can do the same with P.C. board strip lines, (if big enuff piece), except you would SHORT the line, and the resuldts would be 1/2 wavelength! Then DOUBLE the resulting length , and devide for velocity factor! This how Leacher Lines work !! Jim NN7K

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:Q2OdnYj3jqyCLC-jXTWcqA@comcast.com...
> Foam type (cellular polyethyline) RG59 and RG6 are listed as having a
Vp
> of .78 by Belden.
>
> Tam/WB2TT
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:b8tkpo$9a8$1@hercules.btinternet.com...
> > The velocity factor of all SOLID polyethylene cable is 0.67 regardless
of
> > impedance Zo
> >
> >
>
>

2218. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:51:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB32EC7.4080209@ieee.org>
Source record: 119221

Jim Kelley wrote:
> Destructive interference - as a source of energy no less. No-brainer.
> Interesting selection of words.

Hecht in "Optics" does a pretty good job of explaining it.
It is well known that destructive interference results in excess
energy and constructive interference requires a supply of extra
energy from somewhere. At an isolated point away from any source,
the supply of energy is fixed. Constructive interference simply
will not materialize without an equal magnitude of destructive
interference.

In "Optics", Hecht calls the 2SQRT(I1*I2) term in the irradiance
equation the "interference term". He says destructive interference
and constructive interference must average out to the average
irradiance. What I am finding is pieces of the puzzle in a host
of different physics books. Unfortunately, I haven't found one
book that integrates all those pieces.

For instance, consider the standing waves on an unterminated piece
of transmission line. The SWR is infinite. Any destructive interference
between the two voltage waves is accompanied by an equal magnitude of
constructive interference between the two current waves, and vice versa.
Thus total voltage times total current times the phase angle between
them is a constant equal to the Poynting Vector.

Steve Best said two orthogonal EM waves could interfere destructively
without any trace of constructive interference. But he could not
get the fields aligned such that the E-field and H-field went to
zero at the same point. Seems it is impossible to do that.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2219. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:55:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB32F8A.4040002@ieee.org>
Source record: 119222

Richard Clark wrote:
> What would be more interesting is why the Photo shops in the Mall
> offer "anti-glare" mountings for dead-on, laser illumination of
> photos, illuminated such that your head would have to be in the way to
> observe the effect (for what? all of one dt?).

Anti-glare coatings work for non-coherent light. But the transmission
line under discussion is filled with coherent RF waves. So your
cute little diversion is just a straw man. Please repeat your
mental thought patterns using a coherent laser orthogonal to the
thin-film.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2220. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 02:58:18 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <d0c6bvcmu2skga56oq3fksgmi63gpt1u1e@4ax.com>
Source record: 119224

On Fri, 2 May 2003 19:24:24 -0700, <Jimnn7k@reno.rmci.net> wrote:

>Outlook works the same way- simply delete the message. the only time you
>will see it save an attachment is if you double click on the attachment, and
>then it gives you option to save that attachment to a folder, ect, or for a
>picture, for example, place the mouse pointer on the picture, then CLICK
>THE RIGHT button. a menu will drop down, allowing you to delete it, or save
>it to a file, and couple other options. . but, again, to get rid of it,
>simply DELETE IT ! -- Jim

Great, I deleted the message and I'm assuming I deleted the
attachment, in the process. Thanks.

Bob
k5qwg

2221. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 03:07:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <slc6bv0t9uro5uaha1eervlaig9ehnhsdl@4ax.com>
Source record: 119223

On Fri, 02 May 2003 21:55:06 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> What would be more interesting is why the Photo shops in the Mall
>> offer "anti-glare" mountings for dead-on, laser illumination of
>> photos, illuminated such that your head would have to be in the way to
>> observe the effect (for what? all of one dt?).
>
>Anti-glare coatings work for non-coherent light. But the transmission
>line under discussion is filled with coherent RF waves. So your
>cute little diversion is just a straw man. Please repeat your
>mental thought patterns using a coherent laser orthogonal to the
>thin-film.
:-)

2222. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 03:16:40 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <rwGsa.460$L62.132931@news20.bellglobal.com>
Source record: 119226

"Mr. Razor"
> ...take control of a computer and
> send the virus/worm to everyone
> in that computer's address book.

Add an entry to your address book as follows:

Name = *virus_trap
(the "*" makes it top of the list)
E-mail address = <illegaladdressxyz

Apparently, this simple entry can 'trip up' many such viruses.

2223. MFJ-900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 03:19:25 UTC
From: jkeller <jkeller@cox.net>
Message-ID: <2zGsa.328$hd6.279@fed1read05>
Source record: 119225

Does anyone know what kind of power it can handle?

Thanks,
Jim Keller
WB6YXY
Oceanside, Ca.

2224. Re: Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 03:38:17 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eb33a59_4@news1.prserv.net>
Source record: 119227

Don't think Telex ever built any 2 element trapped ham beams. The design Joe S. described is almost uniquely Telrex. Look up the Telrex Christmas Tree sometime for a point of reference on Telrex. Restoration of one was described in CQ 2 to 3 years ago. Telex was mostly audio gear and earphones in the early days, until they teamed up with Hy-Gain and got into the military antenna business. I have a HyGain/Telex T-3002 tower system with the R-3503 rotator out back, so I am familiar with Telex. Never could afford Telrex stuff.
W5VPQ
--
Crazy George
Remove NO and SPAM from return address
"K9SQG" <k9sqg@aol.com> wrote in message
news:20030502195220.01566.00000561@mb-m28.aol.com...
> I'd guess it is a Telex antenna rather than a Telrex but just a guess...

2225. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 03:39:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b8vdl5$t7k$1@hercules.btinternet.com>
Source record: 119228

> To be honest, unless I'm missing something and I'm out in left field,
> this thread is one of the weirdest I've ever been involved in. :c)
==========
> Rich, you are indeed missing something. Next time you start a wierd thread
make sure of what you are talking about by correctly spelling the program
name. That sort of carelessness in this age of computing is fatal. Better
still, don't mention a program name at all. The manner in which you operate
is liable to unjustly affect a program's reliability as perceived by the
bystanders. You've done it twice.

Reg.

2226. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 04:05:45 UTC
From: tdonaly@aol.com
Message-ID: <20030503000545.02720.00000515@mb-m13.aol.com>
Source record: 119229

Gene Fuller wrote,
>
>Dr. Slick,
>
>Peter is usually right. He is right this time as well.
>
>73,
>Dr. Gene
>W4SZ

Hi Gene,
Peter? Usually right? I agree with Peter that vectors and complex numbers are different entities. When talking about vectors, however, you have to take into account who you're talking to. For instance, here's a definition of a vector space by Seth Warner from his book, Modern Algebra:
"DEFINITION: Let K be a division ring. A vector space over K or a K-vector space is an ordered triple (E,+,.) such that (E, +) is an abelian group and . is a function from K X E into E satisfying..."
(He then gives a few simple conditions for manipulating members of the two sets.) "Elements of E are called vectors, elements of K are called scalars, and . is called scalar multiplication."

Is this the way you were taught vector analysis in your undergraduate days in college? Were you taught that complex numbers, while they couldn't be vectors, could certainly be scalars -- at least according to the above definition? Is abstract algebra useful to physicists?
If it is, they have my deepest sympathy.
73,
Tom Donaly, KA6RUH

2227. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:04:19 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305022104.31d97188@posting.google.com>
Source record: 119230

Gene Fuller <W4SZzzzzz@att.net> wrote in message news:<3EB13E93.327B8358@att.net>...
> Dr. Slick,
>
> Nice web page about elementary 2-D vectors.
>
> Perhaps you may have noticed that the word "complex" never appears on
> that page or the related pages. There is no mention of "real" and
> "imaginary" parts, just x and y. Not a whole lot of support for your
> claim that complex numbers and vectors are closely related.
>

Even Peter is starting to agree:

"A vector can contain complexes but complexes can't contain vectors. A
vector can be complex, but a complex cannot be a vector. A complex is just
not a vector, as I'm sure you will agree!"

But you guys can believe whatever you wish.

Slick

2228. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:05:39 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305022105.6fbb090f@posting.google.com>
Source record: 119231

Gene Fuller <W4SZzzzzz@att.net> wrote in message news:<3EB2F060.7B124D46@att.net>...
> Dr. Slick,
>
> Peter is usually right. He is right this time as well.
>
> 73,
> Dr. Gene
> W4SZ

He is wrong, and where is your argument, or do you support him
just because you know him?

Slick

2229. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:12:09 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305022112.10cfa575@posting.google.com>
Source record: 119232

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<0ao5bvkdg0rtoj3ibukudk70qpq8rbuttb@4ax.com>...
> On 2 May 2003 13:03:21 -0700, radio913@aol.com (Dr. Slick) wrote:
>
> [snip]
> |>
> |> My personal preference is the same as Steve Adam's as it removes the
> |> ambiguity.
> |
> |
> | So you and I agree with the convention that rho is the scalar magnitude.
>
> Yep.
> |
> | Les Besser also defines Gamma=rho @ phase
> |angle, implying that the rho is the magnitude of the vector voltage
> |reflection coefficient (gamma).
>
> Ah yes, I remember Les Besser. I think he and Steve Adam where
> cohorts at one time in the teaching business. (Something like the
> "Continuing Education Institute" leaps to mind)
>
> I took a live course on "Microwave Theory and Application" from Adam
> and a video-tape course from Besser on RF/Microwave Transistor
> Amplifier Design." Man, Besser's voice was so monotone that I could
> hardly stay awake. I was watching a tape at home one evening while my
> better half cooked dinner. She could hear the audio and she said that
> he was putting *her* to sleep. <g>

LOL! Yeah, i recorded all his tapes! I always thought it would
be great to have a "Les Besser" party, and invite everyone over to
watch! Ha!

zzzzzz....

But, the man does know his stuff!

Unlike some people here...

Slick

2230. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:15:11 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0305022115.49a324d8@posting.google.com>
Source record: 119233
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<ukd5bv8vj7tkikg2f2sv3q5t3opbd3ot0a@4ax.com>...
> On 2 May 2003 11:16:30 -0700, gw@webhideout.com (gw) wrote:
> >what's wrong with taking out france.????
>
> The GOP would lose their model for administrative excellance.
>
> 73's
> Richard Clark, KB7QHC

how can you have administrative excellence when you have not cleaned
out the clinton holdovers and other liberal democrats who are mucking
up the works????.......if the shoe was on the other foot we all know
what would happen.....

2231. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:16:53 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305022116.2de69f48@posting.google.com>
Source record: 119234

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8ur7k$pm2$1@slb3.atl.mindspring.net>...
> Dr. Slick:
>
> Who the hell is "Les Besser"? And who needs him!
>

Someone that knows a lot more about RF than you!

That's for certain! And you need to take a course or two, but
you probably couldn't afford to go. So maybe you should go back and
finish your high school diploma!

http://www.bessercourse.com/

Slick

2232. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:25:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <umk6bv4c0cmp7aulg67gu07lcdaeki5php@4ax.com>
Source record: 119235
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

On 2 May 2003 22:15:11 -0700, gw@webhideout.com (gw) wrote:

>how can you have administrative excellence
yeh, I know, everyone has to appologize for them.

2233. CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 05:57:57 UTC
From: Carl Domanico <carl.domanico@verizon.net>
Message-ID: <3EB35A63.1070905@verizon.net>
Source record: 119236

Hello People....Does anyone have any really solid information as to what is happening with dropping the code Proficiency test to be able to operate on all the HF Bands in a phone mode!! From the input I received so far it would appear that after this ITU meeting takes place...most all the countries will be in agreement for dropping the cw portion of the Licenseing exam...to be able to operate the High Frequencies via a phone mode.....If I'm not mistaken...I think this meeting is coming up, sometime this summer???

Any and all info that has some solidary to it would be greatly appreciated....

Thanks a Lot
Carl
N2MFW

2234. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 07:12:44 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8vq17$e3eh1$1@ID-150848.news.dfncis.de>
Source record: 119237

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8vdl5$t7k$1@hercules.btinternet.com...
> > To be honest, unless I'm missing something and I'm out in left
field,
> > this thread is one of the weirdest I've ever been involved in. :c)
> ==========
> > Rich, you are indeed missing something. Next time you start a wierd
thread
> make sure of what you are talking about by correctly spelling the
program
> name. That sort of carelessness in this age of computing is fatal.
Better
> still, don't mention a program name at all. The manner in which you
operate
> is liable to unjustly affect a program's reliability as perceived by
the
> bystanders. You've done it twice.
>
> Reg.

Reg

What makes me feel this is a strange thread is that I make these posts about a seeming discrepancy between what I think the pitch is if I had a coil in front of me and the pitch your program gives, yet I'm still feeling not one post succesfully puts my mind at ease. Perhaps because no-one has explained themselves properly or if I am at fault properly explained where my faulty reasoning is. Or just confirmed that I am right. There is to my mind something strangely deficient about the responses that have come up in this thread, as if there is a failure of someone to step in and put me right because they can see what I am missing. Or, stepped in and said yes Richard you are correct. Either are just as important.

One more time:

If I have a coil former with binding posts 9mm apart and make 2 equally spaced turns, the winding pitch is 4.5mm. The formula is l/t of l is length, t is turns.

Well, this is obvious, but I'm told that I am wrong, or I feel as if I'm being told that is wrong, that is the thing.

I'm told that the pitch is l/ (t - 1). Well, it isn't is it. I don't know what is being calculated, but it isn't the winding pitch of a coil. So, I assume it's a formuala the program uses to work out inductance.

But, it isn't pitch, so why does the program indicate a calculated pitch value based in this formula.

As long as I feel that someone is still saying that formula for pitch is 1/ (t - 1), I think am I missing something, or is whover is advocating it is living in a dream world of fantasy.

I will now make no other comment on this, but for me the pitch is l/t and I will igonore what the program says about what it says is pitch.

Rich.

2235. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 07:24:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb6rm17f8ule1@corp.supernews.com>
Source record: 119239

As Art recently said, Roy should be judged by the company he keeps.
Guess the jig is up. I *am* a CW operator. . .

Roy Lewallen, W7EL

Helmut Wabnig wrote:
>
> CW is a very efficient method for communicating with imprisoned
> criminals, murders, rapists and terrorists.
> . . .

2236. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 07:45:55 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b8vrv6$e5alu$1@ID-150848.news.dfncis.de>
Source record: 119240

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8vdl5$t7k$1@hercules.btinternet.com...
> > To be honest, unless I'm missing something and I'm out in left
field,
> > this thread is one of the weirdest I've ever been involved in. :c)
> ==========
> > Rich, you are indeed missing something. Next time you start a wierd
thread
> make sure of what you are talking about by correctly spelling the
program
> name. That sort of carelessness in this age of computing is fatal.
Better
> still, don't mention a program name at all. The manner in which you
operate
> is liable to unjustly affect a program's reliability as perceived by
the
> bystanders. You've done it twice.
>
> Reg.

First of all, I have not started any weird threads.

As to perceived reliability of programs, I honestly don't think you or anyone else have anything to worry about from anything I have posted.

You can make a case out for sending private emails when discussing programs I suppose. But that does not give others a chance to comment. Perhaps if I have a future enquiry about programs, I'll send a private email. Not that Microsoft has this luxury.

2237. Re: Who is ebay Coal-76?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 09:36:49 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB38DB1.EB5DC90C@cwis.net>
Source record: 119241
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.swap

gw said, in part...
> "how can you have administrative excellence"

Oxymoron. The association of the word 'excellence'
with administration, which implies government.
'Doc

2238. Re: G5RV Antenna Measurements with an MFJ-259B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 10:24:48 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <b8thcd$dgrth$1@ID-34767.news.dfncis.de>
Source record: 119441

WS6BKW is better then G5RV.

92 ft(28.1m) & 36.8ft(11.2m) 400Ohm VF 0.9
Twinlead d=1.63mm D=23mm
info "Rothammel Antennen Buch" 12 Aufl. Page 219

73! Alex

2239. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 11:00:28 UTC
From: Bruce Burke <wb4yucXX@junoXX.com>
Message-ID: <gjNsa.17974$jT3.9238@fe09.atl2.webusenet.com>
Source record: 119242

Our club over the years has had experimented with several antennas. We've used an inverted-L on 80 meters, which worked, but have settled on inverted Vees for 80/40 meters - no radials to trip over in the dark. We have also had a 2-element 20 meter home-brew quad, which worked great. It was made from some lumber and bamboo fishing poles.

Usually here in the far, far, south (Southern FLorida), we can get away with a 2 or three element beam for the high bands(20M and up) pointed NW and an armstrong rotor for tweaking, since that is the direction everyone is from us.

We've also managed to lose several balloons trying things with them. The latest was a battery operated packet station, which I believe is still at the bottom of a lake in a park when the balloon harness failed.

So have fun, and be creative.

2240. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 11:17:16 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <bk87bvkv9jqbsvq2k4rnrdqr3heodb60m3@4ax.com>
Source record: 119238

On Sat, 03 May 2003 05:57:57 GMT, Carl Domanico
<carl.domanico@verizon.net> wrote:

>Hello People....Does anyone have any really solid information as to what
>is happening with dropping the code Proficiency test to be able to
>operate on all the HF Bands in a phone mode!! From the input I received
>so far it would appear that after this ITU meeting takes place...most
>all the countries will be in agreement for dropping the cw portion of
>the Licenseing exam...to be able to operate the High Frequencies via a
>phone mode.....If I'm not mistaken...I think this meeting is coming up,
>sometime this summer???
>
>Any and all info that has some solidary to it would be greatly
>appreciated....
>

CW is a very efficient method for communicating with imprisoned
criminals, murders, rapists and terrorists.

The code is somewhat similar to "morse", no beep, no chirp.

Bang your head against the wall in a certain rhythm
and they all will listen to you.

the letters are grouped in five groups, the J omitted.

then A is first group/first letter, B is first group/second letter,
and so on. Small pause delimits intergroup ciphers,
groups delimited by a longer pause interval.

CW then sounds like follows:

bang bang bang bang bang bang bang (pause)
bang bang bang bang bang
bang bang bang bang bang bang
bang bang bang bang bang bang bang bang

w.
--
On the Internet nobody knows that I am a dog.

2241. Need alignment: Heathkit SB-401 / SB-303.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 11:42:28 UTC
From: RM <rsmyers@rogers.com>
Message-ID: <3EB3AB32.BF77BDC8@rogers.com>
Source record: 119243

RE: Need alignment: Heathkit SB-401 / SB-303.

Is their anyone experienced with realigning / cleaning the switches / replacing parts (if required) etc., on my Heathkit SB-401 / SB-303 interconnected TX / RX pair? They worked fine until they were left alone for 4 or 5 years. Now they aren't quite right. But they are functioning.

I would like them gone through from head to toe. I'm not looking for bargain basement prices --- I want it done right.

I am in Ottawa Ontario Canada. Please email me if you can help or know of a place that can do this right.

Thanks,
-- Rob Myers
VE3 JQL

2242. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 12:44:51 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030503084451.05012.00000542@mb-m05.aol.com>
Source record: 119245

>
>As Art recently said, Roy should be judged by the company he keeps.
>Guess the jig is up. I *am* a CW operator. . .
>
>Roy Lewallen, W7EL
>
>Helmut Wabnig wrote:
>>
>> CW is a very efficient method for communicating with imprisoned
>> criminals, murders, rapists and terrorists.
>> . . .
>
>
>
>

Aaah,
don't forget hate crimers.
Yeah, they should remove all testing and make announcement that all 27 MHz good buddies can now operate anywhere they like. Itsa freedom of speech after all.
</sarcasm>
Time to turn the tide of liberal feel good "philosophy".

Advice to new and prospective hams:
Learn the morse code, it will give you loads of fun, feeling of achievement and sanctuary from phone idiots and QRM. You never know when it will become handy and may save your life some day.
CW forever!

Yuri _._ ..._ _ _... .._

2243. Re: Alliance(?) and older cde controler box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 13:01:09 UTC
From: w9gb <abuse@comcast.com>
Message-ID: <p4Psa.712278$3D1.392700@sccrnsc01>
Source record: 119246

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:NTBJrbL+27r+EAY$@ifwtech.co.uk...
> w9gb wrote:
> >
> >In 1977 the Ham-3 rotor was released. The Ham-3 supported a new motor
> >with an internal brake, as well as a brass motor gear. The brake wedge
> >was redesigned, as was the brake housing, which gave the new unit a
> >capacity for more wind surface area. The control unit for the Ham-3
> >supported a new PC-board-mounted meter.
> >
> >In 1978 the Ham-4 or Ham-IV rotor was released. This rotor had a new
> >steel ring gear and a reinforced upper mast support. The only changes
> >to the control box were the addition of a new face plate, plastic top
> >and bottom covers, and a new meter with reversible meter scales. Also
> >in 1978 the TailTwister rotor, commonly refered to as the "T2X," was
> >introduced. The T2X is a Ham-4 with an even heavier upper mast support,
> >a heavier brake wedge and brake housing, and 40 additional ball
> >bearings. And the TailTwister control unit has three LED's that the
> >Ham-4 doesn't have.
> >
>
> Very interesting - thank you.
>
> Are there any upgrades that can be applied to the old Ham-M rotors using
> parts from the later models? (I'm thinking of the rotor itself, not the
> control box.)
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

Ian -

YES, the ring gear and hardened steel brake wedges being the most common
"upgrades".
Originally, the T2X had a specially made wedge that was much different than
the smaller models, but this proved to be a problem. After several different
designs the whole brake assembly was changed in 1983 to a similar, but not
identical system like the Ham-4. One point worth mentioning is that all
internal components such as the motor and all gears are the same as the
HAM-4... this is not widely known.

At least 2 companies in the US repair and sell parts for a variety of rotors
(Alliance, CDE, Hy-Gain/MFJ)

CATS
http://www.rotordoc.com/

CATS sells a Super Wedge. The Super Wedge is an improved direct replacement
wedge for Ham III and Ham IV rotators.
Presently holding antennas with boom lengths up to 40 feet, the Super Wedge
is guaranteed unbreakable.
Super Wedge also fits the Ham "M" and the Ham II rotors BUT requires a
housing change.
Contact Craig with questions (e-mail address on web site)

Norm's Rotor Service
5263 Agro Drive
Frederick, Maryland 21703
Telephone: (301) 874-5885

http://www.rotorservice.com/

73 de w9gb

2244. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 13:01:48 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <05Psa.2911$3f7.2399452@newssvr28.news.prodigy.com>
Source record: 119244

"Carl Domanico" <carl.domanico@verizon.net> wrote in message
news:3EB35A63.1070905@verizon.net...
Hello People....Does anyone have any really solid information as to what is happening with dropping the code Proficiency test to be able to operate on all the HF Bands in a phone mode!! From the input I received so far it would appear that after this ITU meeting takes place...most all the countries will be in agreement for dropping the cw portion of the Licenseing exam...to be able to operate the High Frequencies via a phone mode.....If I'm not mistaken...I think this meeting is coming up, sometime this summer???

Any and all info that has some solidary to it would be greatly appreciated....

Thanks a Lot
Carl
N2MFW

It is on the agenda but there is no guarantee that they will get around to voting on it. The agenda is quite lengthy and they don't get to everything. This has happened before. Until there is a vote, there is no way to even guess what will happen. Even if the world conference votes to drop it, there will be an additional lag for implementation. Also keep in mind that even if the international requirement is dropped, each individual country can decide to keep it for their specific licensing requirements. Some countries have already stated that they plan on keeping it no matter what. Here in the US, the FCC would put out a Notice for Proposed Rulemaking and allow time for comments. Then decide on whether to drop it or not and decide on an implementation time.

So don't hold your breath or wait around. It's many months away if it happens at all. Instead, learn that 5wpm. It takes about 30 hours for the average person to achieve this. Some take less, some take more. So get one of the good computer programs, practice an hour a day (break it into 15 to 30 minute sessions though for best results) and you could be on the air in a few weeks instead of waiting months or even years.

With the sunspot cycle heading downhill, good conditions on the bands will become less frequent. So waiting is wasting time.

Good luck,
Dee D. Flint, N8UZE

2245. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 13:34:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b90ggh$i9a$1@hercules.btinternet.com>
Source record: 119247

Rich, I think I can see how the problem arises. No doubt you've seen optical illusions where you are climbing a spiral staircase, for ever upwards and upwards, and then - click ! you find yourself back at the bottom again without ever ceasing to climb for ever upwards.

It's a matter of which of the three variables, length, turns or pitch, are to be regarded as dependent or independent variable.

Just to make sure about what we are doing, pitch is defined as the distance between the centres of adjacent turns on the coil. It has a constant value independent of its location along the coil.

The coil is required to be wound with a 9mm pitch. Indeed, we may already have a pre-wound, self-supporting, stock length of the stuff. We find from the manufacturer's data sheet that 2 turns are needed for the required inductance.

So we cut off exactly 2 whole turns from the 9mm-pitch stock. Bingo! - the job's done.

To investigate the mathematical relationship between the variables, there's only 3 of 'em, first measure length.

P = L/(N-1), L = P*(N-1), N = L/P+1.

Reg.

2246. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 13:55:38 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b90hoq$vj8$1@slb6.atl.mindspring.net>
Source record: 119248

Roy:

[snip]
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vb6rm17f8ule1@corp.supernews.com...
> As Art recently said, Roy should be judged by the company he keeps.
> Guess the jig is up. I *am* a CW operator. . .
>
> Roy Lewallen, W7EL
[snip]

Me too...

Don't be shy... You are in good company!

Only the "very best" of hamdom are CW operators.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vb6rm17f8ule1@corp.supernews.com...
> As Art recently said, Roy should be judged by the company he keeps.
> Guess the jig is up. I *am* a CW operator. . .
>
> Roy Lewallen, W7EL
>
> Helmut Wabnig wrote:
> >
> > CW is a very efficient method for communicating with imprisoned
> > criminals, murders, rapists and terrorists.
> > . . .
>

2247. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:01:39 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b90i42mqn1@slb6.atl.mindspring.net>
Source record: 119249

Reg:

Thanks, nice story!

It will also help me to remember Euler's celebrated equation with a little
more human interest.

BTW... there are no vectors in Euler's equation.

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b8v77m$jc6$1@sparta.btinternet.com...
> I cannot resist relating the following short story.
>
> In 1941, at the tender age of 16, I was an engineering apprentice at the
> British-Thompson-Houston electric motor works located in the suburbs of
> Birmingham (The original - Baron de Birmingham arrived with William the
> Conquerer or therabouts.) Products - anything from delicate selsyns, via
> 100 horse-power cast-rotors, to several thousand HP variable-speed motors
to
> drive rolling machinery urgently needed to reduce white-hot copper
billets,
> via diamond-dies progressively down to wire and destined to be returned to
> the works be wound on motor armatures by middle-aged women like my dear
> mother whose whose husbands and sons were scattered round the Earth in the
> armed services.
>
> A few miles away, at Birmingham University, Randall and Boot were
> endevouring to take their recently-invented cavity magnetron from 3,000 up
> to 10,000 megacycles. Night after night the Luftwaffer droned overhead
amid
> the barrage-balloons and exploding anti-aircraft shells. Fragments flew
> down. The clouds and smoke in the sky glowed red and flickered from the
many
> fires burning in the city. My father, a surviving veteran of the trenches,
> shrapnel and mustard gas of WW1, 24 years previously, spent daytime at
> another local factory making nuts, bolts and rivets to be incorporated in
> Army tanks, Spitfires, Lancaster bombers of the Royal Airforce and
> motor-torpedo-boats of the Royal Navy. At night father was in the St Johns
> Ambulance Brigade and most of his daytime rivets ended up at the bottom
the

> North Atlantic in newly-built merchant shipping which was being sunk at
the
> rate of 10,000 tons every day taking their crews down with them to Davy
> Jones' Locker.
>
> My formal mechanical engineering apprenticeship became somewhat
> disorganised. I was shifted to production in the machine shop. I became
> adept at precision machining of electric motor parts from blueprints.
> Working to within a few tenths of a thousand parts per inch became second
> nature. Grinding of tungsten-steel cutting-tool, setting and operating
> lathes, broaches, vertical and horizontal millers, planers, saws, etc.,
> mopping-up cooling oil and clearing away razor-sharp swarf was part of the
> 6-day working week.
>
> To return to a recent topic of this newsgroup, having set and operated
> thread-cutting machines I became knowledgeable about the design, shapes
and
> lubrication of machine screw threads. So when I am now demanded to provide
a
> "reference" from some sacred bible or other for a "definition of pitch"
> relating to the turns of enamelled copper wire on a solenoid tuning coil,
> perhaps I can be forgiven for suspecting a leg-pull. Who needs a
university
> honours degree in stating the bleeding obvious? (Although from the
immense
> volumes of spam received from Stateside I understand such degrees can be
> attained within 7 days provided sufficient money changes hands.) (It's no
> wonder assistance had to be begged from the Russians to get men back into
> space.) (;o) = Smiley.)
>
> Getting nearer to the crux of the matter - after daytime in the
screeching
> machine shop with swarf and cutting lubricants, two or three evenings each
> week I went to night classes held at a local childrens' day school. One
> evening, from a mathematics text book, I had just grasped the awesome
> significance, indeed the depth of beauty, of -
>
> 1 + Exp(j*pi) = 0
>
> and had read the following remark that Euler's brief equation was "The
> Eutectic Point of the whole of mathematics", when there came a wooshing,
> whirring noise from outside the classroom. I suppose there were half-dozen

> of us. But before the bang most of us, including the teacher, were already
> under the desks.
>
> It wasn't a block-buster. But Euler and the Eutectic Point have remained
> impressed on my cerebral equipment ever since. Such were the beginings of
> my engineering education! I later switched to electro-magnetics, soldering
> irons and radar.

>
> Soon gum-chewing Yanks began to arrive in the stately Queens which the
> passengers quite naturally and proudly assumed had been built in US
> shipyards.
>
> You don't have to believe all this provided it takes your mind off that
part
> of the dipole which does all the radiating.
> ---
> Reg, G4FGQ
>
>

2248. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:03:52 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b90i87cnp1@slb6.atl.mindspring.net>
Source record: 119250

Gene:

[snip]
"Gene Fuller" <W4SZzzzzz@att.net> wrote in message
news:3EB2F060.7B124D46@att.net...
> Dr. Slick,
>
> Peter is usually right. He is right this time as well.
>
> 73,
> Dr. Gene
> W4SZ
[snip]

Hey thanks for that vote of confidence! But in truth I'm very often wrong!

However I do hope you don't mind if I "snip" your short posting and show it
to my dear wife Mary.

She needs a good laugh!

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

>
> "Dr. Slick" wrote:
> >
> > "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8saif$i1d$1@slb9.atl.mindspring.net>...
>
> [big snip]
>
>
> > > Dr. Slick I do hope you mend your ways and learn to stay out of the
land of
> > > misnomers!
> > >
> >
> > Peter, everyone else is disagreeing with YOU! Please read the
> > other posts! I hope you mend your ways and learn to admit when you
> > are wrong.
> >
> > Best regards,

> >
> > Dr. Slick

2249. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:08:44 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b90ije$493$1@slb5.atl.mindspring.net>
Source record: 119251

Tom:

[snip]
> above definition? Is abstract algebra useful to physicists?
> If it is, they have my deepest sympathy.
> 73,
> Tom Donaly, KA6RUH
[snip]

Heh, heh... not to nineteenth century physicists, but it sure is to modern physicists.

Many topics of abstract algebra is at the center of much of modern particle physicists, quantum mechanics, and astrophysicists. Just check out a few back issues of Scientific American for an overview.

Prof. Hardy would roll over in his grave at Cambridge to know what applications are being made of pure mathematics today.

--
Peter K1PO
Indialantic By-the-Sea, FL.

2250. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:17:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b90j1i$g5o$1@slb0.atl.mindspring.net>
Source record: 119252

Dr. Slick:

Thanks for the URL reference on Les Besser. I recall now I had seen that name somewhere.

Now I undrestand, Dr. Besser is one of those high priced private education opportunists, ripping off poor misguided souls for thousands of dollars to learn, in a few days away from home, a watered down version of what they can learn in their local public library for free!

Beware of those kinds of "opportunistic oracles", they are subject to no peer review, criticism, oversight, or student feedback.

Hey at least your local USENET News Group, like this one presently constituted, allows for feedback to correct errors, who is to correct Dr. Besser, and how?

I do hope it was not money from your personal account that was sent to Dr. Besser.

Caveat Emptor!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305022116.2de69f48@posting.google.com...
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b8ur7k$pm2$1@slb3.atl.mindspring.net>...
> > Dr. Slick:
> >
> > Who the hell is "Les Besser"? And who needs him!
> >
>
>
> Someone that knows a lot more about RF than you!
>
> That's for certain! And you need to take a course or two, but
> you probably couldn't afford to go. So maybe you should go back and
> finish your high school diploma!
>
>
> http://www.bessercourse.com/
>
>
> Slick

2251. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:25:07 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b90jc2$e5bb7$1@ID-150848.news.dfncis.de>
Source record: 119253

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b90ggh$i9a$1@hercules.btinternet.com...
> Rich, I think I can see how the problem arises. No doubt you've seen
optical
> illusions where you are climbing a spiral staircase, for ever upwards
and
> upwards, and then - click ! you find yourself back at the bottom
again
> without ever ceasing to climb for ever upwards.
>
> It's a matter of which of the three variables, length, turns or pitch,
are
> to be regarded as dependent or independent variable.
>
> Just to make sure about what we are doing, pitch is defined as the
distance
> between the centres of adjacent turns on the coil. It has a constant
value
> independent of its location along the coil.
>
> The coil is required to be wound with a 9mm pitch. Indeed, we may
already
> have a pre-wound, self-supporting, stock length of the stuff. We find
from
> the manufacturer's data sheet that 2 turns are needed for the required
> inductance.
>
> So we cut off exactly 2 whole turns from the 9mm-pitch stock.
Bingo! - the
> job's done.
>
> To investigate the mathematical relationship between the variables,
there's
> only 3 of 'em, first measure length.
>
> P = L/(N-1), L = P*(N-1), N = L/P+1.
>
> Reg.

I still don't get it sorry.

First of all, I used your program to calculate inductance from a coil in
front of me (actually it's not in front of me, it's fictitious, but I
have mentally set it's parameters). I'm not seeking to derive the pitch
from the program, pitch is not the unknown value, just inductance. I'm

using the program to tell me what the inductance is for the coil that I have.

The coil has three binding posts, two at the ends, one in the middle. The distance between the end posts is 9mm, and there are 2 turns. Therefore the distance between adjacent turns is 4.5 mm, 4.5mm from the starting post to the middle binding post, another 4.5mm from middle binding post to end binding post. Pitch is then 4.5mm.

I put into your program coil diameter, length, number of turns and wire to pitch ratio. Of course I know what the pitch is it's 4.5mm, it's a fact, it does not need working out. The wire pitch ratio is 0.2444444, because the wire is 1.1mm diameter.

Okay I set the program running and get my inducance value, for the coil I know the physical dimentions of, particularly, I already know the pitch, I've known it from the start. But, when I look at the given value of pitch the program gives, it's not a value of 4.5mm at all, it gives a value of 9mm. Well, that is just plain wrong, I mean the coil in fron of me, that I'm tring to get the inductance of has a pitch of 4.5mm.

You ought to do what I'm doing, put into the program:

Coil Length: 9mm
Coil diameter: 48mm
Turns: 2
Wire Diameter to Pitch: 0.2444444 (1.1mm/4.5mm)
Test Freq. : 7 Mhz
Applied RMS volts: 100

What does the program say the pitch is of the coil that I'm trying to find the inductance of and which is on my (fictitious) workbench? Yes 9mm. But the pitch is 4.5mm. Also says wire diamter is 2.2mm, which is wrong.

Am I using the program incorrectly or what? I'm not using it to wind a coil, I'm using it to tell me the inductance of a coil im my possession.

Rich.

2252. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:32:45 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <ugk7bvklpp7mng4mkm4aelk5v7n7bvmjlh@4ax.com>
Source record: 119254

On 2 May 2003 18:32:47 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

[snip]
|As for me I do not accept any mail and my computor is not capable of
|sending mail.

Really? How is it that when you wanted me to model your infamous
antenna you sent me private email from: aunwin@fgi.net?

The subject line was: "actual figures to insert into your program", in
case you forgot.

I repeat, GET A GRIP!

2253. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:37:14 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305030637.5b3c9a12@posting.google.com>
Source record: 119255

'Doc <w5lz@cwis.net> wrote in message news:<3EB1CC34.E7C86C18@cwis.net>...
> Brian,
> Which direction, though?
> 'Doc

Arrrgh . . ! Bofum. The currents in the "dangler" thingey horizontal
run don't cancel like they do in a Bobtail.

2254. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 14:51:09 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <knl7bv45f97jnqn7ieqjjvg3t70ks9acvj@4ax.com>
Source record: 119256

On Sat, 03 May 2003 00:24:50 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

|As Art recently said, Roy should be judged by the company he keeps.
|Guess the jig is up. I *am* a CW operator. . .

Uh Oh! Me too.

2255. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 15:19:05 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305030719.3664b5f3@posting.google.com>
Source record: 119258

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb56sucjj4u110@corp.supernews.com>...

>
> It almost certainly is a coincidence. The "Microsoft security update"
> virus has been around for quite some time. A lot of the common email
> viruses you see these days (technically "worms") pick addresses out of
> the infected computer's address list to send the virus to. They often
> put another randomly selected address-book address in the forged "From"
> header field.

Hi Roy

what you say is probably true, but how do you explain this. I
have no address list for this address, and i have never sent or
received emails from this address

2256. antenna installation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 15:20:10 UTC
From: Mark <me@myhouse.com>
Message-ID: <vb7n7mf2r4vmfe@corp.supernews.com>
Source record: 119257

Can somebody tell me how to hook up a van gorden shorty all bander properly? I use an mfj 901B tuner and it is 70 ft tip to tip and I can't get the swr down below 2:1 on any band. What should I do with the excess ladder line? I use less than half the 100 ft that came with it.

2257. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 15:57:54 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b90ou2$14g$1@sparta.btinternet.com>
Source record: 119259

Rich,

Here's a nice little formula which might get you in the right ball park. I stole it from one of the ARRL or RSGB bibles. They stole it from Terman. Terman stole it from someone around 1920 and he stole it from Grover of the NBS who worked it all out in the first place. It is -

L = Square(NA) / (9A + 10B) micro-henrys.

A = coil radius in inches.
B = coil length in inches.
N = turns.

Reg.

2258. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 16:14:26 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030503121426.24185.00000836@mb-m27.aol.com>
Source record: 119260

JaroslavLipka wrote:
> what you say is probably true, but how do you explain this. I
>have no address list for this address, and i have never sent or
>received emails from this address
>
>
>
>

you posted to this NG with your address in full with no "interferers" anyone can see it by looking through archives and mining software has no problem of finding it and then selling or passing it to spamers - virusers.

Since I added "noSaddam" to my NG postings, it cut the crap down considerably. Live and learn and then make "coincidental" accusation to paranoids. Apology might be in order.

Yuri

2259. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 16:43:37 UTC
From: tdonaly@aol.com
Message-ID: <20030503124337.08268.00000781@mb-m03.aol.com>
Source record: 119261

Yuri wrote,
>
>JaroslavLipka wrote:
>> what you say is probably true, but how do you explain this. I
>>have no address list for this address, and i have never sent or
>>received emails from this address
>>
>>
>>
>>
>
>you posted to this NG with your address in full with no "interferers" anyone
>can see it by looking through archives and mining software has no problem of
>finding it and then selling or passing it to spamers - virusers.
>
>Since I added "noSaddam" to my NG postings, it cut the crap down
>considerably.
>Live and learn and then make "coincidental" accusation to paranoids. Apology
>might be in order.
>
>Yuri
>

I don't agree with Yuri's execrable politics, but no-one will ever convince me
that
he would stoop to sending anyone a virus-laden email. I've never read anything

on this newsgroup or anywhere else that might indicate Yuri is anything less
than
a man of honor and integrity. Strong opinions, right or wrong, aren't against
the law
yet, nor are they immoral, and shouldn't be used as the basis of criticizing
someone's character.
73,
Tom Donaly, KA6RUH

2260. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 16:50:31 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <rrSsa.718763$F1.93338@sccrnsc04>
Source record: 119262

I'll remember to do that right after I build my bomb shelter.
"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030503084451.05012.00000542@mb-m05.aol.com...
> >
> > You never know when it will become handy
> and may save your life some day.
> CW forever!
>
> Yuri _._ ..._ _ _... .._
>

2261. Re: SOLONOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 17:01:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mhr7bvc5rd6ptdmsdi2mn7mb8juqlaa77p@4ax.com>
Source record: 119263

On Sat, 3 May 2003 15:25:07 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:
>The coil has three binding posts, two at the ends, one in the middle.
>The distance between the end posts is 9mm, and there are 2 turns.
>...Pitch is then 4.5mm.
...
>Okay I set the program running ... But, when I look at the given value
>of pitch the program gives, ... it gives a
>value of 9mm.
...
>Am I using the program incorrectly or what? I'm not using it to wind a
>coil, I'm using it to tell me the inductance of a coil im my possession.
>
>Rich.

Hi Rich,

Well, we dwelled on the necessity of consulting documentation, so we put that aside to observe the quality of results from following that path. Acting like the good Pilgrim, staying on the way keeps us from falling into the Slough of Despond.

In this case, documentation had to drug out and worked hammer and tong and we can all judge the quality of THAT by the response of the author to your simple question above (having already seen that response, I am being ironic, of course).

Punchinello loves working both sides of an argument. One week you will find him railing against the lassitude of today's student with comments on how they expect to be spoon fed morsels of easily digestible answers in the place of bringing in the crop. The next week he has confected up another meringue of software to smooth the passage of those same spooned, treacle answers. You are simply out of synchronization to this alternating cycle.

73's
Richard Clark, KB7QHC

2262. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 17:03:40 UTC
From: wp20031@aol.com
Message-ID: <20030503130340.26582.00000400@mb-m22.aol.com>
Source record: 119264

>This weekend I'll probably be building a 2m folded dipole and I have a
>couple of doubts:
>
>- How do I measure the velocity factor of a 75 ohms coax line with not
>much equipment? Transceiver, swr meter, resistors as needed... I guess
>the answer is actually building the coax 4:1 balun, loading with an
>appropriate resistor and adjusting length for proper swr. Is there a
>more accurate method?

The published figures for VF of a particular coax type should be good.

But, if you still want to measure it....
Using the "handbook" formulas, cut a 1/4 wave piece of coax. Then use a dip meter, antenna noise bridge, or whatever to measure the actual resonant frequency.

The ratio of the two frequencies should give you a good approximation of the VF.

--Wayne

2263. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 17:49:18 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <n708bv0ulvmq0roff528bb3c4ijm399499@4ax.com>
Source record: 119265

On Sat, 03 May 2003 13:01:48 GMT, "Dee D. Flint" <deehays@qix.net>
wrote:

Me thinks some one needs to set the line length. That last post had
lines several feet long.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

2264. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 17:57:57 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <rtu7bvgisl9vstppsqiljvlu9ofhe0s5n5@4ax.com>
Source record: 119268

On 2 May 2003 11:07:12 -0700, nm5k@wt.net (Mark Keith) wrote:

>Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<s7p4bvgfer6a7790bci3bgai6p8aht6es1@4ax.com>...
>> On 1 May 2003 20:25:19 -0700, nm5k@wt.net (Mark Keith) wrote:
>>
>>
>> >BTW, the 10-15 or more spams a day I get are after my ISP's spam
>> >filter. If it were not for that, I'd probably get a 100 a day. It
>> >fills up fast, and I have to go over and empty it every once in a
>> >while. That in itself is a PIA, as I have to read thru to make sure I
>> >don't delete a "real" e-mail. But the scuz spammers are getting around
>> >that now by using fake e-mail addresses that look legit. I also run a
>> >firewall, and it checks attachments also. I've probably got 10 of the
>> >"MS patches" in the last 3 days. But I don't need no stinkin patches.
>> >Nothing to patch. I wouldn't run "MS Outlook" for anything. :/ MK
>>
MS does not do business that way. If it was urgent they would send
you a message to go to the "updates pages" and go through the regular
update procedure. It's a good idea to check the "windows updates" on
a weekly basis any way. (then you can get patches to fix the problems
with the previous patches)

When you receive one of those MS messages with the attachment,, you
know two things. It's bogus, and it most likely contains a worm.
The message and attachment are harmless *unless* you run the
attachment. They depend on the gullibility of the user to do the work
rather than go to the trouble of producing a true virus that doesn't
need intervention.

Outlook and Outlook Express delete the attachment along with the
message.

I prefer OE to Outlook even though Outlook is supposed to be the more
capable of the two.

I've used the same "published" e-mail address since 96. I get very
little spam *except* after I post something to one of the national
news organizations. Even though my address "isn't posted" in those
cases I always note a distinct rise in spam afterwards.

>> My solution on spam was to change to a new email address, and go with

I have other addresses, and I do use some to test the origin of some
spam, but have never found it to be much of a problem.

>> Texas.net's spam filter, set at its lowest level. Since doing that, I
>> get maybe one spam a month. Used to get 10 or 15 a day.

At peaks I get maybe 10 a day after going to one of those national
news organizations (CNNs page is particularly bad but the others are
not much better) Typically I receive about 3 a day for which the
<delete> key works just fine.

I don't like "spam filters". The turn up the occasional false positive
and that one message may have been one I was expecting, or even
depending on.

>>
>> By the way, I'm still trying to figure out how to delete the
>> attachment that came with my bogus MSoft spam. Unfortunately, under my
>> Outlook Express folder, I can find no other folders, and certainly no

There is none.

>> folder for "attachments". Where the hell does MSoft hide the damn
>> things?

It's attached to the message.
If there is no attachment showing, then the attachment was "stripped"
off. However some messages may contain a "bogus" link to a malicious
site.

I use Norton Virus Checker and it strips off attachments known to be
viruses.

It's generally thought that this/these last batch(s) of bogus MS
update attachments was sent out in bulk mailings rather than the
typical fashion of getting sent from computer to computer, although
most of the ones I've received have come from various computers.

One theory is that the things "phone home" providing the addresses
from the address books on the infected computers for the spammers to
harvest.

>>
>> Bob
>> k5qwg
>
>Not sure, being I don't run outlook, but in NS, if you delete the mail
>to the trash pile, the attachment goes with it. When you empty the
>trashbin, the mail and it's attachment go in one piece. Normally, the
>attachment should stay with the mail, unless you saved the attachment
>to another folder. In that case, you would have to manually delete
>that copy. MK

OE and Outlook work the same way.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

2265. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:05:26 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB404CB.3050504@attbi.com>
Source record: 119269

I don't know about very best! There are many, many excellent operators working in digital modes, microwave modes, space communication, distributed networks, etc. But I will concede that those among us who enjoy CW most likely have grey hair and have been licensed for more than a few years.

Deacon Dave, W1MCE, [approaching 50 years as W1MCE/WN1MCE]
+ + +

Peter Brackett wrote:

snip

>
> Only the "very best" of hamdom are CW operators.
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.

> snip

> "Roy Lewallen" <w7el@eznec.com> wrote
>
>>As Art recently said, Roy should be judged by the company he keeps.
>>Guess the jig is up. I *am* a CW operator. . .
>>
>>Roy Lewallen, W7EL

2266. Dual Band Cubex Quad For Sale

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:18:35 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EB407E8.9060500@tampabay.rr.com>
Source record: 119270

hello all
i have for sale a cubex kingbeeII cubical quad it is 4 eles on 6 meters
and 8 eles on 2 meters on an 8 foot boom
this antennas is just about a year old and in very good condition and is
fully assembled it sells new for $250 plus S/H
i am asking $175 perfer pick up in lakeland florida cause i dont wish to
have to take it apart
if interested please email me with any questions
if you want more details on the antenna check out www.cubex.com and
search for the KingBeeII
thanks

2267. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:41:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jl28bvsen45jf6gd9acm6r6agahqo9206g@4ax.com>
Source record: 119272

On Sat, 03 May 2003 17:57:57 GMT, Roger Halstead <rdhalste@tm.net>
wrote:

>Even though my address "isn't posted" in those
>cases I always note a distinct rise in spam afterwards.

Hi Roger,

Look at the end of the very first line above. This information is
made available from your posting header (always included, rarely
displayed except through this email convention above).

The resolution to this problem is to replace email with secure servers
that demand a valid (and not simply copied) return address. Microsoft
has had for several years a very dismal time pushing its own brand of
security (called .NET - avoid these products and their servers)
because they have not successfully convinced a savvy crowd of
developers who abandoned this Microsoft facile nonsense long ago.

Or you can rely on their butterfly....
(I especially like the implied condescension towards their customers,
liven up your email: your past messages were crap and you need new
friends.)

73's
Richard Clark, KB7QHC

2268. Re: antenna installation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:45:49 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <x7Usa.12446$fr6.487388@twister.southeast.rr.com>
Source record: 119273

I'm not familiar with this antenna, but open wire fed dipoles usually use
the ladder line as part of the antenna. I'd start by using all the ladder
line that came with the antenna and see if the SWR improves.

Good luck,

Bill, W4WNT

"Mark" <me@myhouse.com> wrote in message
news:vb7n7mf2r4vmfe@corp.supernews.com...
> Can somebody tell me how to hook up a van gorden shorty all bander
properly?
> I use an mfj 901B tuner and it is 70 ft tip to tip and I can't get the swr
> down below 2:1 on any band. What should I do with the excess ladder line?
I
> use less than half the 100 ft that came with it.
>
>

2269. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:51:23 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <LcUsa.3180$3f7.2504140@newssvr28.news.prodigy.com>
Source record: 119266

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:n708bv0ulvmq0roff528bb3c4ijm399499@4ax.com...
> On Sat, 03 May 2003 13:01:48 GMT, "Dee D. Flint" <deehays@qix.net>
> wrote:
>
> Me thinks some one needs to set the line length. That last post had
> lines several feet long.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)

I just assumed that since my reader automatically wraps
lines so do the readers that most people typically use.
May I inquire what software you are using?

Dee D. Flint, N8UZE

2270. REQ: Antenna Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:51:42 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <2dUsa.6892$%_3.4641608@newssrv26.news.prodigy.com>
Source record: 119267
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna

Greetings, soon I am looking at upgrading to General/Extra and I have a
Yaesu FT-100D
that I currently use for 6M thru 440. I want to put an HF antenna on it but
wanted some
opinions on what would be best. Preferrably for all bands, 6M thru 160M.

I've been contemplating the ATAS-100, but does that only cover 40M thru
160M?

Thanks in advance,
-Ian, KE6CBL

2271. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 18:53:00 UTC
From: dplatt@radagast.org
Message-ID: <vb840cf3di6t10@corp.supernews.com>
Source record: 119274

In article <d7855f42.0305030719.3664b5f3@posting.google.com>,
jaroslav lipka <jaroslavlipka@msn.com> wrote:

> what you say is probably true, but how do you explain this. I
>have no address list for this address, and i have never sent or
>received emails from this address

If you post to USENET from an address, the address is likely to be spidered by one of the various trojans/worms/viruses, and then mailed to. At least one variant is known to concentrate on individual newsgroups... so, people who tend to post in a given newsgroup are likely to end up being listed as co-recipients on a particular copy of the worm email.

It's also possible that some of these bits of mal-ware have been written to try "dictionary attacks" - making up plausible-sounding email addresses at random on various popular domains and trying them.

I receive several copies per week of these "Micro$oft security patch" trojan-horse worms, and I haven't seen any reason at all to believe that I am being individually targeted or attacked. They're just random attempts by the worm to spread itself. Annoying, yes, but my mailfilter recognizes and deletes most of them. Far less load on my system than Code Red or similar IIS Web-server worms.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2272. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:18:21 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87he8b7saq.fld_-_@barrow.com>
Source record: 119275

"Dee D. Flint" <deehays@qix.net> wrote:
>"Roger Halstead" <rdhalste@tm.net> wrote:
>>"Dee D. Flint" <deehays@qix.net> wrote:
>>
>> Me thinks some one needs to set the line length. That last post had
>> lines several feet long.
>>
>> Roger Halstead (K8RI EN73 & ARRL Life Member)
>> www.rogerhalstead.com
>> N833R World's oldest Debonair? (S# CD-2)
>
>I just assumed that since my reader automatically wraps
>lines so do the readers that most people typically use.
>May I inquire what software you are using?

Posting long lines that depend on autowrap with inserted soft newlines is an abomination that Windows (or perhaps actually the Apple people?) foisted off on the world out of ignorance (there weren't connected to the Internet until *way* late in the game, and didn't care anyway!).

In fact, there is a RFC somewhere (probably RFC-822 or its successor) which says that lines cannot be longer than some odd number characters (255 or 1024??? I don't remember and it isn't worth looking up). There were good historical reasons for that to be stipulated (Bitnet, for example, simply didn't like long lines!), but there are still stylistic reasons that make it the better way to go. Microsoft took the easy way, without checking to find out if it was the right way.

The fact is that I am the one writing and formatting this particular article, and *I* want (and should be the one) to determine how it is formatted when you view it. Usenet is *NOT* hypertext! That is because the author is the one determining which ideas a message attempts to express, and the formatting is part of how you and others will comprehend, hopefully, what those ideas are. Part of the creative expression of the ideas is formatting, and automatic reformatting destroys that part of the author's attempt at conveying ideas.

Short line lengths, for example. (I wrap my lines at 64 characters.) You may or may not realize the effects that line lengths have on how readers perceive what is written, if for example it does not affect _you_ personally the way it does some people. But as the writer I am the one who has to take that

into account. And while it may not be obvious in this
particular article, in many cases it is essential. Let me
make an effort!

"Indented quoted text from an outside reference
(not from the article I'm responding to) is one
example. This is indented left and right."

1) Another is any attempt at a bulleted list.

2) And the most serious case is probably anything
using ASCII art, for example simple schematics
used to illustrate a point.

A) Here is one example, which on some newsreaders
will not appear to be nicely formatted,

```
+-------------------------------+
| |
| This may or may not |
| look different from |
| the other examples. |
| It depends on your |
| software, not mine. |
| |
+-------------------------------+
```

B) Here is the exact same ascii text as the
above, with no left margin, which on some
newsreaders other will be a veritable mess!

```
+-------------------------------+
| |
| This may or may not |
| look different from |
| the other examples. |
| It depends on your |
| software, not mine. |
| |
+-------------------------------+
```

C) The following is the same ascii text, and hopefully
will show up correctly on almost every newreader. If
it doesn't, your newsreader is either grossly
malconfigured (e.g., a proportional font) or simply
unfit for use as a newsreader! The difference in this
particular example is that it contains no tabs, only
spaces and is indented at least one space on every line.
(Nice tricks of the trade to be aware of.)

```
+-------------------------------+
| |
| This may or may not |
```

```
| look different from |
| the other examples. |
| It depends on your |
| software, not mine. |
| |
+-----------------------------+
```

But worst of all, look what happens when long line lengths are used and various different newsreaders wrap them, especially when quoting them into a responding article... and you get wraps without appropriate "quoted text" indicators in the left margin. Ugly and damned hard to read.

As to software, I'll describe what I use. Unix. In this case it is Linux, and XEmacs running the "gnus" macros is what I use for email and Usenet. I have a window with 100 character lines which means I'll be able to see whole lines on all but the worst examples. My newsreader can, at the push of a key or two, reformat entire messages and do virtually anything anyone ever imagined. (Every time I imagine something new and useful, I add it! And so do thousands of users who are way smarter than me.)

Those of you stuck with Outhouse Express on Windows just have no idea what a real newsreader can do. (I'd argue that the same is true if you use any of the web browsers to read Usenet, but some claim they aren't as bad. I claim they are bad enough it makes no difference.)

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

2273. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:24:08 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <sHUsa.3192$3f7.2513952@newssvr28.news.prodigy.com>
Source record: 119271

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EB404CB.3050504@attbi.com...
> I don't know about very best! There are many, many excellent operators
> working in digital modes, microwave modes, space communication,
> distributed networks, etc. But I will concede that those among us who
> enjoy CW most likely have grey hair and have been licensed for more than
> a few years.
>
> Deacon Dave, W1MCE, [approaching 50 years as W1MCE/WN1MCE]
> + + +

Actually if you participate in the November CW sweeps where part of the exchange is year licensed, you'll find a number of licensees that are relatively new. I've been licensed since 1992 and there were quite a few who were newer. Of course there were plenty who were older than dirt too!

Dee D. Flint, N8UZE

2274. Re: antenna installation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:24:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB41758.6060506@ieee.org>
Source record: 119276

Mark wrote:
> Can somebody tell me how to hook up a van gorden shorty all bander properly?
> I use an mfj 901B tuner and it is 70 ft tip to tip and I can't get the swr
> down below 2:1 on any band. What should I do with the excess ladder line? I
> use less than half the 100 ft that came with it.

Certainly, don't just coil it up like coax. Here's what a BASIC program
I wrote says about optimum feedline lengths for a 70 ft. dipole fed with
450 ohm ladder-line.

7.2 MHz - 54', 115'
10.125 MHz - 71', 114'
14.2 MHz - 46', 77', 108'
18.14 MHz - 56' 80', 104'
21.3 MHz - 58', 78', 99'
24.95 MHz - 45', 63', 81', 99'
28.4 MHz - 54', 69', 85', 101'

You can see why 100' is the chosen length for 7+MHz operation.
Try hanging the ladder-line accordian-style or in a large
diameter spiral and use the entire 100 ft. length.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2275. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:53:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b916a1$sv8$1@news.service.uci.edu>
Source record: 119277

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB32EC7.4080209@ieee.org...
> Jim Kelley wrote:
> > Destructive interference - as a source of energy no less. No-brainer.
> > Interesting selection of words.
>
> It is well known that destructive interference results in excess
> energy and constructive interference requires a supply of extra
> energy from somewhere.

It is well known that interference does nothing more than create a patterned spacial distribution of energy - at most. Interference does not supply energy any more than it destroys it. But destructive interference does prevent a net transfer of energy in the cancelled direction.

> Steve Best said two orthogonal EM waves could interfere destructively
> without any trace of constructive interference. But he could not
> get the fields aligned such that the E-field and H-field went to
> zero at the same point. Seems it is impossible to do that.

Pretty tough to create interference between orthogonal waves, particularly if they're both propagating in the same mode.

73, ac6xg

2276. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:58:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b916jm$t7n$1@news.service.uci.edu>
Source record: 119279

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB1C834.3030302@ieee.org...
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>Can the energy in those waves cancel?
> >
> > No. The energy is carried by the waves which constructively interfere
> > in the opposite direction.
>
> Which is what I have been saying all along.

No. What you have been saying is energy turns around. Energy doesn't "turn around" except by reflection. You have repeatedly stated that interference causes the energy to change direction, and that is false.

> Why does the energy in
> canceled waves reverse direction of flow?

The answer is that energy in cancelled waves goes nowhere. There effectively is no energy in cancelled waves. Wave cancellation prevents the flow of energy in that direction.

73, ac6xg

2277. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 19:59:29 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vb87s2e94ub089@corp.supernews.com>
Source record: 119278

So am I. 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vb6rm17f8ule1@corp.supernews.com...
> As Art recently said, Roy should be judged by the company he keeps.
> Guess the jig is up. I *am* a CW operator. . .
>
> Roy Lewallen, W7EL
>

2278. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 20:04:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b916uu$c$1@news.service.uci.edu>
Source record: 119280

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB32887.2020605@ieee.org...
> Jim Kelley wrote:
> > Waves reflect. Power doesn't.
>
> Here's an experiment for you. 100W signal generator driving
> a 300 ohm load at the end of a piece of coax. The signal
> generator is equipped with a circulator and a 50 ohm, 50W
> circulator load. Wrap your fingers around the resistor and
> turn on the signal generator. Get back to us if you can
> still type.

I guess you didn't notice that I didn't say energy can't be transferred from one point to another. Obviously you don't understand the difference. Power doesn't propagate. It's simply the rate at which energy is transformed or transferred to a dissipative medium. You should know that. ;-)

73 ac6xg

2279. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 20:05:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vb887h9681f7c0@corp.supernews.com>
Source record: 119281

A bit of research on the web failed to show how this particular virus (W32.Leave.B.Worm) propagates. I didn't find any indication that it spreads in the manner I described, which is common for a lot of other current viruses.

In answer to your question, and because I can't find any evidence to the contrary, I'd guess that the viruses are being sent out like spam. This means that it's sent to "harvested" addresses. These addresses are gathered by automated programs from any addresses appearing on the internet, including addresses used in newsgroup postings. A lot of posters "munge" their addresses to prevent their being harvested. I don't bother, because my address is necessarily made public on my web site because of my business, and web sites are a prime source of harvested addresses -- so I get about 50 spam messages a day, which are the ones that get through my ISP's spam blocklist filters. Another common method used by spammers is a "dictionary attack", where common names and words are tried at random as usernames at known ISPs. (That looks unlikely in your case.)

The fact that you've revealed your address on the newsgroup makes you vulnerable to spam, and anything else like a virus that might be sent out in a similar way.

This is by far the most likely source of the virus-containing message. Accusing a particular person of deliberately sending it to you is a serious charge, and an accusation you shouldn't make without very substantial proof. And it doesn't look like you have anything anywhere close to that.

Art has publicly accused me on several occasions of doing things which I haven't done and saying things I haven't said, and it looks like this trend is now extending to Yuri (as a recipient of the accusations) and the increasingly long list of people Art feels have somehow wronged him. I hope you don't join him in making these unfounded accusations.

Roy Lewallen, W7EL

jaroslav lipka wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb56sucjj4u110@corp.supernews.com>...
>
>
>
>
>>It almost certainly is a coincidence. The "Microsoft security update"
>>virus has been around for quite some time. A lot of the common email

>>viruses you see these days (technically "worms") pick addresses out of
>>the infected computer's address list to send the virus to. They often
>>put another randomly selected address-book address in the forged "From"
>>header field.
>
>
> Hi Roy
>
> what you say is probably true, but how do you explain this. I
> have no address list for this address, and i have never sent or
> received emails from this address

2280. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 20:22:52 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305031222.2d131814@posting.google.com>
Source record: 119282

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b90j1i$g5o$1@slb0.atl.mindspring.net>...
> Dr. Slick:
>
> Thanks for the URL reference on Les Besser. I recall now I had seen that
> name somewhere.
>
> Now I undrestand, Dr. Besser is one of those high priced private education
> opportunists, ripping off poor misguided souls for thousands of dollars to
> learn, in a few days away from home, a watered down version of what they can
> learn in their local public library for free!
>

His course is excellent, but priced for corporations, I admit, and
my company paid for it. You learn more from people than books
anyways, as you can't ask a book a specific question.

> Beware of those kinds of "opportunistic oracles", they are subject to no
> peer review, criticism, oversight, or student feedback.
>
> Hey at least your local USENET News Group, like this one presently
> constituted, allows for feedback to correct errors, who is to correct Dr.
> Besser, and how?
>

Thanks to God, we can all correct YOU, Peter!

You once again open your mouth when you don't know what you are
talking about! There was plenty of student feedback at the end of the
3-day course, with a critique of the instructor.

And when the instructor was wrong, we DID correct him! He was a
human being you know. And wouldn't be as successfull as he is if he
pretended like he knew more than he does, like many people i know
(ahem..).

I've met a lot of PhDs that didn't impress me with their
knowledge or intelligence, so this is not the reason i trust Besser.
I trust his because his courses and videos make logical sense to me,
and i know enough myself to know that he definitely knows his sh**!

:)

Slick

2281. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 20:32:08 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305031232.d6ae7c5@posting.google.com>
Source record: 119283

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b90i42mqn1@slb6.atl.mindspring.net>...
>
> It will also help me to remember Euler's celebrated equation with a little
> more human interest.
>
> BTW... there are no vectors in Euler's equation.
>

I disagree because you can look at the Euler's equation as a
rotating unit vector: cos(phi) + jsin(phi). Think about it.

Here's another website about converting cartesian to polar
coordinates:

http://www.math.hmc.edu/calculus/tutorials/complex/

It's a free country, believe what you will!

Slick

2282. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 21:05:30 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b91auu$5ra$1@slb2.atl.mindspring.net>
Source record: 119284

Dr. Slick:

[snip]
> I've met a lot of PhDs that didn't impress me with their
> Slick
[snip]

So have I...

And, I have noted that most holders of the Ph.D. are social misfits who couldn't get a regular job and consequently stayed in school far too long. They are all experts at shovelling BuXX ShXX cuz they were taught by other Ph.D.'s to always have it "Piled Higher and Deeper" than everyone else. The Ph.D. clique is very incestuous.

Thoughts, comments?

--
Peter K1PO
Indialantic By-the-Sea, FL.

2283. Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 21:50:40 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b91djidjt1@slb3.atl.mindspring.net>
Source record: 119285

Cecil:

Rather than introduce those "messy" mathematical operation signs as subscripts [+ & - just have no lexical meanings and are confusing when used in naming variables] why not combine the best attributes of the simple scaler rho/tau notation of one-port networks that you are using, with the double subscripting of the Scattering formalism to create functions with names for a two port network or transmission line as follows:

rho11 - for the "front end" or port 1reflection coefficient.
rho22 - for the "back end" or port 2 reflection coefficient.
tau12 - for the port 1 to 2 transmission coefficient
tau21 - for the port 2 to 1 transmission coefficient.

Won't those 11, 12, 21, 22 subscripts look better than + and - sign subscripts?

What think?

BTW... there are some interesting names for logarithmic measures of the reflection coefficient in which you might have some interest for your new tutorial web page.

Writing rho(f) = |rho(f)| exp(j*phi(f)) in the exponential form which explicitly exhibits the magnitude and phase of the complex function rho with the magnitude of rho as |rho| and the phase of rho as phi and taking logs to base 10, then the "Return Loss" RL or "Echo Attenuation" Ae is defined as:

Ae = - 20 log(|rho|) in dB.

Myself, I prefer the term "Echo Attenuation" to "Return Loss" simply because to me it is much more descriptive.

Then the phase angle of phi of rho is often called the "Return Phase", or "Echo Phase".

Some make use of the first derivative of the Echo Phase phi(f) which respect to frequency and call it the "Echo Delay" and indicate it by te(f).

te(f) = - d(phi(f)/df in seconds is the Echo Delay.

Of course one should attach some subscript to phi(f) here to indicate that it is the phase of the reflection coefficient and not the transfer function phase. Some use a subscript e "for echo" to indicate that calling it phie(f).

te(f) is the same kind of function as the well known "Group Delay" for transmission functions, and, given your interest in "Reflections" you should

find te(f) to be very interesting since it measures the average time of return of the energy in the echo! I suppose Walter would have a great interest in this as well! It would make a great topic for a new Chapter in the next edition of his book "Reflections". I can see it now, Chapter One - The Echo Delay... ;-)

BTW... I have often plotted the Echo Delay at filter ports while designing duplex transmission systems to get an idea of how to estimate the arrival times of echos so as to be able to "equalize" the returning energy for adaptive impedance adjustment algorithms.

--
Aside:

There is a very interesting and simple relationship between the minimum Echo Attenuation Aemin in the Passband (a.k.a "Return Loss") and the minimum Stopband attenuation "Asmin" for families of filters. And that relationship is that for any filter family having identical loss poles and reflection zeros, the sum Aemin + Asmin = constant over a wide range of Echo Attenuations (Return Losses). In other words the sum of the minimum Return Loss in db in the passband plus the minimum stopband attenuation is a constant and so one can hold the filter design's loss poles and reflection zeros fixed and "in your head" vary the Return Loss in the passband to find the corresponding stopband attenuation.

There are also some interesting similar relationships with the Echo Delay, Return Delay.
--

So... what think, would rho11 and rho22 work for you?

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

2284. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:21:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB44100.3000706@ieee.org>
Source record: 119286

Jim Kelley wrote:
> It is well known that interference does nothing more than create a patterned
> spacial distribution of energy - at most. Interference does not supply
> energy any more than it destroys it.

The excess energy involved in destructive interference has to go somewhere.
The energy lacking in constructive interference has to come from somewhere.
I can see you haven't read the chapter on interference in "Optics" by Hecht.
That "patterned spacial distribution of energy" means there is less energy
in the dark rings than there is in the bright rings. The bright rings are
bright *because* the dark rings are dark and the energy MUST average out to
the average energy available. Do you disagree? If so, please demonstrate
interference where all the rings are brighter than average. Hecht says that
is not possible. Something about the limitations enforced by the conservation
of energy principle.

Dark = low energy. Bright = high energy. Average = average energy. Average
exists between the bright rings and the dark rings. What is it about those
very difficult to understand concepts (NOT!) that you don't understand?
Is there more energy in the bright rings than in the dark rings? If so, where
does that bright ring extra energy come from?

> Pretty tough to create interference between orthogonal waves, particularly
> if they're both propagating in the same mode.

Steve probably knows that by now. They indeed do interfere but the interference
is neither destructive or constructive.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2285. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:26:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB44213.2010101@ieee.org>
Source record: 119287

Jim Kelley wrote:
> No. What you have been saying is energy turns around. Energy doesn't "turn
> around" except by reflection. You have repeatedly stated that interference
> causes the energy to change direction, and that is false.

What is it about reflected energy not reaching the source that you don't understand. It is flowing toward the source and suddenly it is instead flowing toward the load. Flowing toward the source changes into flowing toward the load. The source and load are on opposite ends of an essentially one-dimensional situation. What is it about an 180 degree shift in direction of flow that you don't understand?

> The answer is that energy in cancelled waves goes nowhere.

Yes, yes, we know, Jim. That's why most of us have seen our coax transmission lines explode from all that energy piling up at the match point. (Somebody get the net, quick!)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2286. WTB: 2m antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:33:09 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <jsg8bvc0hpdveh938010m7jtq0pik31bg3@4ax.com>
Source record: 119288

Need:
2m FM antenna (doesn't matter if narrow or wideband)
pref 3db or more gain
pref in San Diego or LA Countys
Less than 7.5 feet tall
If directional, about a 3 foot turning radius
PL-239 connector

E-mail k g 6 o x a_@_h o t m a i l . c o m (without spaces and underscores) or reply on NG. Thanks.

John, KG6OXA

2287. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:33:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB443D6.5030705@ieee.org>
Source record: 119289

Jim Kelley wrote:
> I guess you didn't notice that I didn't say energy can't be transferred from
> one point to another. Obviously you don't understand the difference. Power
> doesn't propagate. It's simply the rate at which energy is transformed or
> transferred to a dissipative medium. You should know that. ;-)

You should also know that reflected power exists at any point where
reflected energy exists. During the transient buildup to steady-state, you
can observe the buildup of the reflected power on the transmission line.
May I suggest that you spend an evening curled up with Johnson's,
"Transmission Lines and Networks".
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2288. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:37:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB444B8.5070507@ieee.org>
Source record: 119290

Dr. Slick wrote:
> And when the instructor was wrong, we DID correct him!

When I was at Intel in AZ., we had an antenna course taught
by Dr. Balanis himself. One day he said, "Why do engineers
working for Intel know so much about antennas?" All of us
were Amateur Radio Operators. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2289. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:44:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB4465B.4070707@ieee.org>
Source record: 119292

Peter Brackett wrote:
> rho11 - for the "front end" or port 1reflection coefficient.
> rho22 - for the "back end" or port 2 reflection coefficient.
> tau12 - for the port 1 to 2 transmission coefficient
> tau21 - for the port 2 to 1 transmission coefficient.
>
> Won't those 11, 12, 21, 22 subscripts look better than + and - sign
> subscripts?
>
> What think?

Thanks Peter, I didn't even think of that. That would work for the
voltage parameters. How about the current parameters? How about
the power parameters?

I haven't had time to look up your references but it seems to me
that s-parameters normalized for energy components are exactly
what I need.

BTW, what direction do you think the energy components in
(b1=s11*a1+s12*a2) are flowing. I notice you have been silent
on the subject.

If I remember right, you think the extra energy in a transmission
line with a high SWR sloshes from side to side instead from end
to end. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2290. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 22:53:57 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <9MXsa.396$5h4.53043@nnrp1.ptd.net>
Source record: 119293

The ITU World Radiocommunication Conference ("WRC-03") is scheduled
for early June through July 4th in Geneva, Switzerland.

One of the items on the agenda is the revision of S25 of the ITU
Radio Regulations, which in S25.5 includes the current requirement
for a Morse test for licenses that convey privileges in the bands
below 30 MHz.

Conventional wisdom is that the requirement will be dropped from
the ITU Radio Regulations, which will give administrations the
freedom to modify their national rules to eliminate the Morse
requirement.

Many, many nations have already lowered their Morse test speed
to 5 wpm as an interim measure, and are expected to drop the
Morse requirement entirely once the international (treaty)
requirement is removed. (Many administrations are already on
record as saying that they WILL drop the Morse test as soon as
the treaty obligation is removed.)

73,

--
Carl R. Stevenson - wk3c
Grid Square FN20fm
<mailto:wk3c@wk3c.com> (general personal e-mail and NCI e-mail)
<mailto:wk3cqth@wk3c.com> (QSO, QSL, skeds, only, please)

NCI-1052
Executive Director, No Code International
Fellow, The Radio Club of America
Senior Member, IEEE
Member, QCWA (31424)
Member, ARRL
Member, TAPR
Member, The SETI League

Join No Code International! Hams for the 21st Century.
Help assure the survival and prosperity of ham radio.
http://www.nocode.org

>"Carl Domanico" <carl.domanico@verizon.net> wrote in message
news:3EB35A63.1070905@verizon.net...
>Hello People....Does anyone have any really solid information as to what is
happening with dropping the code Proficiency test to be able to operate on
all >the HF Bands in a phone mode!! From the input I received so far it

would appear that after this ITU meeting takes place...most all the
countries will be in >agreement for dropping the cw portion of the
Licenseing exam...to be able to operate the High Frequencies via a phone
mode.....If I'm not mistaken...I >think this meeting is coming up, sometime
this summer???
>
>Any and all info that has some solidary to it would be greatly
appreciated....
>
>Thanks a Lot
>Carl
>N2MFW

2291. different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 23:12:36 UTC
From: Dan Jacobson <jidanni@dman.ddts.net>
Message-ID: <87fznvlj4r.fsf@jidanni.org>
Source record: 119306

Just curious, for a receiver, for a given frequency but different
modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
be give different results or be worth the trouble?
--
http://jidanni.org/ Taiwan(04)25854780

2292. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 23:12:41 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305031512.13b5e651@posting.google.com>
Source record: 119294

Helmut Wabnig <hXwabnig@aXon.at> wrote in message

>
> CW then sounds like follows:
>
> bang bang bang bang bang bang bang (pause)
> bang bang bang bang bang
> bang bang bang bang bang bang
> bang bang bang bang bang bang bang bang

That would be an example of "Slopehead" CW. Too slow to be of any use to anyone. MK

2293. Re: Antenna Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 23:16:48 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b91il3$ei4mk$1@ID-134747.news.dfncis.de>
Source record: 119295

This is going to sound simplistic, but it works.
Put as much wire as you can as high in the air as
you can get it, in the form of a ceterfed dipole.
Feed the antenna with 450 ohm ladder line. Use a
tuner. Work all bands, some better than others,
with little fuss or muss, and best of all
relatively low cost. Yes unless you can get it
more than 1/4 wave length high, 65 feet at 80
meters, it will be a real cloud warmer, and DX
will take working, but it will be a lot of fun.
For DX start with a vertical. The radiate equally
poorly in all directions, but they radiate. The
HyGain 18ATV will work all bands from 80 -10 and
costs $80. With a little web surfing you can
probably build that antenna from scratch for half
that.

--
73 es cul

wb3fup
a Salty Bear

"IanCT" <IanCThurston@nospam.hotmail.com> wrote in
message
news:2dUsa.6892$%_3.4641608@newssrv26.news.prodigy.com...
> Greetings, soon I am looking at upgrading to
General/Extra and I have a
> Yaesu FT-100D
> that I currently use for 6M thru 440. I want to
put an HF antenna on it but
> wanted some
> opinions on what would be best. Preferrably for
all bands, 6M thru 160M.
>
> I've been contemplating the ATAS-100, but does
that only cover 40M thru
> 160M?
>
> Thanks in advance,
> -Ian, KE6CBL
>
>
>
>

>
>
>
>

2294. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 23:39:26 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <OqYsa.3246$3f7.2588910@newssvr28.news.prodigy.com>
Source record: 119291

"Floyd Davidson" <floyd@ptialaska.net> wrote in message
news:87he8b7saq.fld_-_@barrow.com...
> Posting long lines that depend on autowrap with inserted soft
> newlines is an abomination that Windows (or perhaps actually the
> Apple people?) foisted off on the world out of ignorance
> (there weren't connected to the Internet until *way* late in the
> game, and didn't care anyway!).
>

Actually with the advances in computers etc, it makes a good
deal of sense to let the receiving software wrap it. I often see
very chopped up lines when someone has inserted line feeds and
then whichever software I'm using to receive also inserts line feeds.
When this happens, it looks horrible.

By the way, most programs do let you configure to plain text,
non-true type fonts, inserted line feeds on send and so one. Yes
even Outlook express lets you configure it to your heart's content.

Dee D. Flint, N8UZE

2295. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-03 23:46:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB454CC.89B3759B@cwis.net>
Source record: 119296

Brian,
Good! I hate it when something only goes one way,
doesn't give you the option of backing up. Sort of
like not having a 'reverse' gear in a car. You can
still get to where you're going, but sometimes it
means a longer trip. Which ain't 'nez-sara-lee' bad.
'Doc

2296. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 00:00:42 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB4580D.1090204@attbi.com>
Source record: 119297

>
>
> Actually if you participate in the November CW sweeps where part of the
> exchange is year licensed, you'll find a number of licensees that are
> relatively new. I've been licensed since 1992 and there were quite a few
> who were newer. Of course there were plenty who were older than dirt too!
>
> Dee D. Flint, N8UZE
>
>
Actually I don't work the contest, QSO Party, SPRINTS, SWEESs circuit.
Simple reason[s]: 1] Family Commitments on weekends,
2] I have a regular Saturday afternoon and Sunday Commitment as Reverend
, AKA Deacon Dave, in a small NH Parish.

W1MCE

BTW: at 11 years, before relaxed requirements, you could qualify as an
OT <grin>.

2297. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 00:27:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b91mpq$37i$1@titan.btinternet.com>
Source record: 119298

> I disagree because you can look at the Euler's equation as a
> rotating unit vector: cos(phi) + jsin(phi). Think about it.

==========

There's no need to think about it. That they ARE vectors is so obvious I'm astounded anybody thinks it necessary to issue a reminder.

Do NONE of you guys believe ANYTHING till you see it written in gold leaf on parchment in a chained bible.

From Euler, via Demoivre, the enormous bank of trigometric and hyperbolic functions can be assembled in easy, elementary, algebraic steps if you can't find your volume of trigonometrical relationships. Before going into the examination room it's necessary only to remember that exp(jA)*exp(jB) = exp(j(A+B) and the trigonometrical relationships between sum and difference angles are fairly easy to re-constitute. However, a load of mixed incendiaries and high explosives from a Heinkel-111 is unlikely to assist with achieving the pass mark.

PS. How about dealing with your reflection problems in terms of functions of time rather than of frequency. Just replace j*omega with Heaviside's operator p.

PPS. There's also an 'energy method' of dealing with design and analysis of complex structures such as lattice girders, suspension bridges and suchlike which has been in use since the Victorian age. There are ample structural engineering text books which are of no direct use to electrical engineers. Stesses and reactions in tons/square inch do not easily translate into joules and coulombs. When applied to electrical networks the instantaneous energy stored in L's and C's and that dissipated in resistors are the quantities involved. Non-linear components like diodes and saturable reactors are treated in exactly the same way. All falls nicely into place. It's been 25 years since I looked into it. Don't know of any references except that there must be some papers in the IEE and no doubt the IEEE. I'm out of date. For all I know it may now be all the rage under another name.

When you get fed-up with reflections, virtual things and congugate-matches, check it out.

Reg.

2298. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 00:43:29 UTC
From: tdonaly@aol.com
Message-ID: <20030503204329.21987.00000701@mb-m11.aol.com>
Source record: 119300

Reg wrote,
>
>> I disagree because you can look at the Euler's equation as a
>> rotating unit vector: cos(phi) + jsin(phi). Think about it.
>
>================================
>
>There's no need to think about it. That they ARE vectors is so obvious I'm
>astounded anybody thinks it necessary to issue a reminder.
>
>Do NONE of you guys believe ANYTHING till you see it written in gold leaf on
>parchment in a chained bible.
(The rest snipped.)

What's your definition of a vector, Reg?
73,
Tom Donaly

2299. Mobile antenna recomendation needed for ft-8900r

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 00:43:56 UTC
From: wess@gtii.com
Message-ID: <vb8ogfn1po3784@corp.supernews.com>
Source record: 119299

Hi,

I just purchased a Yaesu FT-8900r and need recomendations for a good
antenna to mount in my Ranger Pickup. This is a 29/50/144/430 radio.

Thanks,

Wes
KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2300. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:09:10 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030503210910.19713.00000410@mb-m20.aol.com>
Source record: 119301

Here is some fresh info about spam and virus carriers at:

http://www.freerepublic.com/focus/f-news/905296/posts

Excerpt from the article by FOXnews for paranoids:

>>Earlier this week, AOL, Yahoo! and Microsoft announced a joint initiative to combat spam through techniques such as identifying and restricting messages with deceptive headers.

Persistent spammers have found ways to dodge similar obstacles.

Harrington said the automated tools spammers use to "harvest" e-mail addresses are "far more efficient and effective than we knew."

"Spammers are provided with an endless menu of new and fresh e-mail addresses to send to," she said. "That accounts for a good deal of the exponential increase in volume."

In 2001, the FTC received 10,000 junk e-mails each day forwarded by complaining consumers. The agency now receives 130,000 messages daily. <<

Yuri, da BUm

2301. Re: REQ: Antenna Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:13:31 UTC
From: Scott Vanzandt <zandt@midsouth.rr.com>
Message-ID: <c5q8bv056cr5ncoabf9573lrf39rlvesm2@4ax.com>
Source record: 119302
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna

The Atas does 70CM- 40Meters. It does not do 80 or 160. It is a very
low profile mobile antenna and tunes well. Other options are HiQ or a
more common screwdriver for multiband use. I use Hamsticks 1 per band
and stop the car and change antennas to change bands. Definitely
cheaper to start out at just $15 or so each.

Scott
N2WMD

On Sat, 03 May 2003 18:51:42 GMT, "IanCT"
<IanCThurston@nospam.hotmail.com> wrote:

>Greetings, soon I am looking at upgrading to General/Extra and I have a
>Yaesu FT-100D
>that I currently use for 6M thru 440. I want to put an HF antenna on it but
>wanted some
>opinions on what would be best. Preferrably for all bands, 6M thru 160M.
>
>I've been contemplating the ATAS-100, but does that only cover 40M thru
>160M?
>
>Thanks in advance,
>-Ian, KE6CBL
>
>
>
>
>
>
>

2302. Re: Mobile antenna recomendation needed for ft-8900r

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:19:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB46AB2.D3772EFF@cwis.net>
Source record: 119303

Wes,
How about two or three good antennas? One antenna
won't do it.
'Doc

2303. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:26:26 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305031726.61d56247@posting.google.com>
Source record: 119304

Floyd Davidson <floyd@ptialaska.net> wrote in message
news:<87he8b7saq.fld_-_@barrow.com>...

> Those of you stuck with Outhouse Express on Windows just have no
> idea what a real newsreader can do. (I'd argue that the same is
> true if you use any of the web browsers to read Usenet, but some
> claim they aren't as bad. I claim they are bad enough it makes
> no difference.)

Since I'm big on the KISS theory I simply use Internet Exploder via
Google for the reader and Microsloth Word 2000 for composing my rants.
No Outlook, no "reader" apps, looks OK huh?

w3rv

2304. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:30:59 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b91qgjjbe1@hercules.btinternet.com>
Source record: 119305

> What's your definition of a vector, Reg?
> 73,
> Tom Donaly

==========

A vector is exp(j*phi) = cos(phi) + jsin(phi)

It indicates the instantaneous direction and speed taken by a thirsty
mosquito.

There may be other definitions. What's yours?

Reg.

2305. Re: Mobile antenna recomendation needed for ft-8900r

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:45:35 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <ntr8bv4r8f9lqp6h7hgamfs10il7flvas4@4ax.com>
Source record: 119307

On Sat, 03 May 2003 20:43:56 -0400, wess@gtii.com wrote:

>Hi,
>
>I just purchased a Yaesu FT-8900r and need recomendations for a good
>antenna to mount in my Ranger Pickup. This is a 29/50/144/430 radio.
>
>Thanks,
>
>Wes
>KC8SPR

There are plenty of good dual banders for 144/440. Maybe a halo for 6
meters. A hamstick for 10.

I'm assuming the rig has separate antenna outlets for the different
bands. What does your owner's manual recommend?

Bob
k5qwg

2306. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 01:57:44 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305031757.736b190f@posting.google.com>
Source record: 119308

Roy Lewallen <w7el@eznec.com> wrote in message
>
> The fact that you've revealed your address on the newsgroup makes you
> vulnerable to spam, and anything else like a virus that might be sent
> out in a similar way.

I've had some that had nearly every single person on this NG listed.
It was obvious they were harvested by a usenet spam bot of some sort.
Very few people actually send viruses intentionally. It's old hat and
silly. To the people that actually could do such a thing, they
realize it's a waste of time. So they wouldn't bother. They would find
something more damaging and worthwhile "to them" to hack. Anyone can
send me all the viruses they want to. Doesn't bother me. None are
going to get past my defenses. Of all the viruses I've ever had, most
came from infected floppy disks. And even then , it's a 5 min process
to flush and repair the damage if any. To me, the newer e-mail macro
viruses are a non issue. I open no attachments at all unless I know
where it came from, and I use old netscape for mail, which is not
vulnerable to these macro antics. MK

2307. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:06:56 UTC
From: richardharrison@webtv.net
Message-ID: <14339-3EB475C0-200@storefull-2312.public.lawson.webtv.net>
Source record: 119310

Reg, G4FGQ wrote:
"There are ample structural engineering text books which are of no direct use to electrical engineers."

True, except for the arithmetic practice and corollary understanding provided. The trigonometry used in the composition and resolution of forces in static structures is much the same as that used in alternating current electrical circuits.

Over here, courses in physics, strength of materials, statics, dynamics, etc are often prerequisites for electrical engineering courses.

An electrical engineer may need to do some structural, chemical, or mechanical work. The real world may not be so spacialized where he must work. Even if specialists abound, they must communicate and that requires some understanding of each others work.

Best regards, Richard Harrison, KB5WZI

2308. Re: Field Day antenna ideas?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:08:53 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305031808.558cd00e@posting.google.com>
Source record: 119309

Bruce Burke <wb4yucXX@junoXX.com> wrote in message
news:<gjNsa.17974$jT3.9238@fe09.atl2.webusenet.com>...
> Our club over the years has had experimented with several antennas. We've
> used an inverted-L on 80 meters, which worked, but have settled on inverted
> Vees for 80/40 meters - no radials to trip over in the dark.

You'll also have a better overall signal to most points I bet. Coax
fed with no tuner is the best way to go. The inv-L is ok for long
haul, but closer in, the dipole will eat it for lunch. Maybe so even
at medium-long distances. Ground losses are less so that could make up
for the higher overall angle. Myself, I don't use antennas which
require a ground when portable. Well, I might at the beach...But in
that case, I usually just use my mobile antenna and just park near the
water.

>
> Usually here in the far, far, south (Southern FLorida), we can get away
> with a 2 or three element beam for the high bands(20M and up) pointed NW
> and an armstrong rotor for tweaking, since that is the direction everyone
> is from us.

We tie a string to the boom near an end element and let it hang loose.
When it's time to turn, someone grabs the string and starts walking
around the tower... MK

2309. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:29:43 UTC
From: richardharrison@webtv.net
Message-ID: <26293-3EB47B17-177@storefull-2311.public.lawson.webtv.net>
Source record: 119313

Reg, G4EGQ wrote:
"There may be other definitions (of a vector) what`s yours?"

The definition of a vector most familiar to me is:

"A quantity that has both magnitude and direction"

Often a vector is represented by a line segment whose length represents
the magnitude and whose orientation represents its direction.

Best regards, Richard Harrison, KB5WZI

2310. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:42:50 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030503224250.19713.00000417@mb-m20.aol.com>
Source record: 119311

>
>Just curious, for a receiver, for a given frequency but different
>modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
>be give different results or be worth the trouble?
>--
>http://jidanni.org/ Taiwan(04)25854780
>
>

Unless the mode is very wide band, like spead spectrum, for "regular" modes you mentioned, there is no need for different antenna designs. Antenna doesn't care about mode, it extracts signals from the space based on its design characteristics, like gain, radiation (reception) pattern, polarization, frequency of operation and bandwidth, not forgetting the matching between the antenna - feedline - receiver.

Yuri, K3BU

2311. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:46:28 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030503224628.19713.00000418@mb-m20.aol.com>
Source record: 119314

> Of all the viruses I've ever had, most
>came from infected floppy disks.

I got infected once with virus from brand new, sealed box of blank floppies,
formatted for DOS, yuck!

Yuri

2312. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 02:49:05 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <XPGdnVzqFMUG4imjXTWcqQ@ctc.net>
Source record: 119315

"Dan Jacobson" <jidanni@dman.ddts.net> wrote in message
news:87fznvlj4r.fsf@jidanni.org...
> Just curious, for a receiver, for a given frequency but different
> modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
> be give different results or be worth the trouble?
> --
> http://jidanni.org/ Taiwan(04)25854780

The mode will not make any differance in the antenna type. However you do have to match the polarity of the receive antenna to the transmitter antenna. For example on 2 meters ssb is usually transmitted with a horizontal antenna and FM is usually transmitted with a vertical antenna. If both stations flip the antennas to the same polarity there would ont be any differance.

2313. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 03:35:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB48A98.8000806@ieee.org>
Source record: 119316

Dan Jacobson wrote:
> Just curious, for a receiver, for a given frequency but different
> modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
> be give different results or be worth the trouble?

For instance, 2m SSB is normally horizontally polarized while
2m FM is normally vertically polarized.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2314. Re: Antenna Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 03:39:08 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <wX%sa.7018$%_3.4736246@newssrv26.news.prodigy.com>
Source record: 119312

Hi Mike,
I have my own tuners for making home dipoles and such, but I was thinking of mobile use. I was looking at the Outbacker, I think that's what it is, but it looks a little too bulky, that and I'd have to move the plug to whatever band I want to use. I'm still looking around.

Thanks!
-Ian

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message news:b91il3$ei4mk$1@ID-134747.news.dfncis.de...
> This is going to sound simplistic, but it works.
> Put as much wire as you can as high in the air as
> you can get it, in the form of a ceterfed dipole.
> Feed the antenna with 450 ohm ladder line. Use a
> tuner. Work all bands, some better than others,
> with little fuss or muss, and best of all
> relatively low cost. Yes unless you can get it
> more than 1/4 wave length high, 65 feet at 80
> meters, it will be a real cloud warmer, and DX
> will take working, but it will be a lot of fun.
> For DX start with a vertical. The radiate equally
> poorly in all directions, but they radiate. The
> HyGain 18ATV will work all bands from 80 -10 and
> costs $80. With a little web surfing you can
> probably build that antenna from scratch for half
> that.
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "IanCT" <IanCThurston@nospam.hotmail.com> wrote in
> message
> news:2dUsa.6892$%_3.4641608@newssrv26.news.prodigy.com...
> > Greetings, soon I am looking at upgrading to
> General/Extra and I have a
> > Yaesu FT-100D
> > that I currently use for 6M thru 440. I want to
> put an HF antenna on it but
> > wanted some
> > opinions on what would be best. Preferrably for
> all bands, 6M thru 160M.

> >
> > I've been contemplating the ATAS-100, but does
> that only cover 40M thru
> > 160M?
> >
> > Thanks in advance,
> > -Ian, KE6CBL
> >
> >
> >
> >
> >
> >
> >
> >
>
>

2315. WTB:Heath IT-5283 Signal Tracer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 03:42:07 UTC
From: SWL <radiovintage@hotmail.com>
Message-ID: <j_%sa.54276$4P1.5034888@newsread2.prod.itd.earthlink.net>
Source record: 119317
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

I am looking to buy a Heathkit IT-5283 Signal Tracer.Prefer one with probes
but will consider all even non working.Please state price and condition.
THANKS

2316. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 04:01:07 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <1109bv86tnos4ogbir3gl8uv19j88v9ji6@4ax.com>
Source record: 119318

On Sat, 03 May 2003 18:41:39 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Sat, 03 May 2003 17:57:57 GMT, Roger Halstead <rdhalste@tm.net>
>wrote:
>
>>Even though my address "isn't posted" in those
>>cases I always note a distinct rise in spam afterwards.
>
>Hi Roger,
>
>Look at the end of the very first line above. This information is
>made available from your posting header (always included, rarely
>displayed except through this email convention above).

That's not quite what I meant,

Unlike here, when you post to the forums of the national news agencies
like CNN, or who ever, they have a form that you fill out. Your
header is not included, nor is your address. They can see the IP from
which you posted, but those reading can not.

Including the address is optional, but they try to download cookies by
the bakers dozen.

Add subtract sounds like a symphony.
>
>The resolution to this problem is to replace email with secure servers
>that demand a valid (and not simply copied) return address. Microsoft

The return address can be munged/forged. Every once in a while some
one who has me in their address book gets a virus. Some viruses not
only send to those in the address books, but insert the addresses in
the from. I don't know how they get around the IP but that too is
possible.

This past week I've received notes from several ISPs telling me that
a customer received a message from me (address possibly forged) with a
virus attached.
I run continuous checks, use ZoneAlarm Pro, and use a termite checker
from my ISP. It always comes up clean. (so far) and I don't even
recognize the addresses listed.

>has had for several years a very dismal time pushing its own brand of
>security (called .NET - avoid these products and their servers)

dot net is a lot more than just security. It's a whole raft of
integrated apps, but like passport, I avoid it like the plague.
That means I have to find an older version of visual basic and Visual
C++ when I get my other computer back. I do not want the latest
versions of either as they both have dot net integrated. One more
reason to continue with Delphi.

>because they have not successfully convinced a savvy crowd of
>developers who abandoned this Microsoft facile nonsense long ago.
>
>Or you can rely on their butterfly....
>(I especially like the implied condescension towards their customers,
>liven up your email: your past messages were crap and you need new
>friends.)

What I want to know is "How did they know?" <:-))

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

>
>73's
>Richard Clark, KB7QHC

2317. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 04:24:36 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305032024.17bb62c2@posting.google.com>
Source record: 119169

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:<b91auu$5ra$1@slb2.atl.mindspring.net>...
> [snip]
> > I've met a lot of PhDs that didn't impress me with their
> > Slick
> [snip]
>
> So have I...
>
> And, I have noted that most holders of the Ph.D. are social misfits who
> couldn't get a regular job and consequently stayed in school far too long.
> They are all experts at shovelling BuXX ShXX cuz they were taught by other
> Ph.D.'s to always have it "Piled Higher and Deeper" than everyone else. The
> Ph.D. clique is very incestuous.
>

Just if you don't understand someone because they use buzzwords
like "Fourier tranform", "Laplace", or "quantum wells", it's quite
likely they are just using the words to impress people without really
understanding the concepts behind them.

I never claimed to be a math major, but i knew enough about
certain concepts to know when someone was bullsh**ing me.

You know, if you know %50 of a topic and then make up the other
%50, most of your co-workers can usually tell. They may not say
anything directly to you, out of kindness, but they know who is still
"faking-it", and who has "made it".

A key tip-off is the person who claims that everything is
understood by man, and that science can explain all. This is usually
a very insecure person who sells him/herself as a know-it-all.
What a crock of Sh**! If science ever stood still and never
questioned it's own "laws" and rested on it's laurels, we would never
move ahead!

Don't get me wrong, there were a lot of PhDs where i worked that
were quite brilliant and humble people.

Ironically, the people who knew their shit the most, were the
ones who said, "I don't know" the most!! Actually, it's not really
that ironic because the more you know, the more you know you don't
know that much!

"The whole problem with the world is that fools and fanatics are
always so

certain of themselves, but wiser people so full of doubts. "

Bertrand Russell (1872 - 1970)

Garvin Yee (Dr. Slick)

2318. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 04:38:32 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305032038.68ad389f@posting.google.com>
Source record: 119171

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<26293-3EB47B17-177@storefull-2311.public.lawson.webtv.net>...
> Reg, G4EGQ wrote:
> "There may be other definitions (of a vector) what`s yours?"
>
> The definition of a vector most familiar to me is:
>
> "A quantity that has both magnitude and direction"
>
> Often a vector is represented by a line segment whose length represents
> the magnitude and whose orientation represents its direction.
>

Richard, you are an oasis of reason in a sea of ____.

I fully agree with this definition, and offer that any complex
number A+jB will definitely have a magnitude and direction IN RELATION
TO THE ORIGIN.

This is what converting from cartesian to polar coordinates is all
about:

http://www.math.hmc.edu/calculus/tutorials/complex/

God, i feel like i'm teaching Jr. High class!

Slick

2319. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 04:55:18 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305032055.29e42d7@posting.google.com>
Source record: 119172

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b91mpq$37i$1@titan.btinternet.com>...
> > I disagree because you can look at the Euler's equation as a
> > rotating unit vector: cos(phi) + jsin(phi). Think about it.
>
> ================================
>
> There's no need to think about it. That they ARE vectors is so obvious I'm
> astounded anybody thinks it necessary to issue a reminder.
>

I know, but we are dealing with stubborn people here.

>
> PPS. There's also an 'energy method' of dealing with design and analysis of
> complex structures such as lattice girders, suspension bridges and suchlike
> which has been in use since the Victorian age. There are ample structural
> engineering text books which are of no direct use to electrical engineers.
> Stesses and reactions in tons/square inch do not easily translate into
> joules and coulombs. When applied to electrical networks the instantaneous
> energy stored in L's and C's and that dissipated in resistors are the
> quantities involved. Non-linear components like diodes and saturable
> reactors are treated in exactly the same way. All falls nicely into place.
> It's been 25 years since I looked into it. Don't know of any references
> except that there must be some papers in the IEE and no doubt the IEEE. I'm
> out of date. For all I know it may now be all the rage under another name.
>

Reg, well I'm a ME that is really out of date, because i've done
nothing but RF since i got out of college! (top ten blunders of my
life was not doing EE, so i still get treated like sh**, even if i
know the Smith Chart better).

It's been 10 years since i studied it briefly, but I believe the
energy method you are talking about is the Castigliano's Theorem,
which will give you the deflection of a structure due to a "virtual"
force that you set to zero:

http://www.aero.usyd.edu.au/structures/mos/mosch03e.htm

Don't ask me about the details, I'm more an RF engineer than
anything else!

Oh well, isn't it like 90% of people end up doing something not
exactly what their major was? It's still all engineering though.

Slick

2320. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 05:29:48 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <gz1ta.3339$3f7.2693012@newssvr28.news.prodigy.com>
Source record: 119170

"Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
news:9MXsa.396$5h4.53043@nnrp1.ptd.net...
> The ITU World Radiocommunication Conference ("WRC-03") is scheduled
> for early June through July 4th in Geneva, Switzerland.
>
> One of the items on the agenda is the revision of S25 of the ITU
> Radio Regulations, which in S25.5 includes the current requirement
> for a Morse test for licenses that convey privileges in the bands
> below 30 MHz.
>
> Conventional wisdom is that the requirement will be dropped from
> the ITU Radio Regulations, which will give administrations the
> freedom to modify their national rules to eliminate the Morse
> requirement.

But there is no guarantee or certainty that it will happen.

Dee D. Flint, N8UZE

2321. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 05:40:48 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305032140.3cc9ddc@posting.google.com>
Source record: 119173

kelly@dvol.com (Brian Kelly) wrote in message
>
> Since I'm big on the KISS theory I simply use Internet Exploder via
> Google for the reader and Microsloth Word 2000 for composing my rants.
> No Outlook, no "reader" apps, looks OK huh?
>
> w3rv

I've been using google for reading and posting for quite a while. I
also have a ISP news server, but ever since they overhauled it, their
feed is slower than a dog with two legs. Google is faster, and even
it's slow as a dog. My ISP server used to be real fast, but they
ruined it some way. I guess a different feed.
Actually, I've gotten kind of used to google. It has the advantage of
not dropping posts that are too old. Also I don't have to click each
individual post to read it. I read a whole page worth at a time. Could
be 5-6-7 posts a swat. I miss a good many on my ISP server that get
dropped. On google, I see everything no matter how old. I have to be
careful not to reply to a 5 year old thread with the same title..:/ MK

2322. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 05:58:59 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305032158.3f147cc8@posting.google.com>
Source record: 119174

"N4LQ" <N4LQ@igLou.com> wrote in message news:<3eb30c8f_3@news.iglou.com>...
> Screw the Ironhorse into the Little Tarheel's base, doubling your gain and
> retaining the multiband coverage! Call it the Little horse heel or
> something.
>
> --
> Steve

These "commercial" names for antennas are confusing. What is an
"Ironhorse"? Is that a "Little Tarheel" on steroids? Gain with an HF
mobile antenna? Over what?
I'd rather chalk up an increase in FS to an increase in efficiency,
not gain.
But no real matter. My "Plastic Bugcatchers" are probably superior to
both, or even the combined "Little Horse Heel". My plastic bugcatchers
should be superior to most screwdrivers. Why? More optimum coil
location "higher" for better efficiency and current distribution. I
use a 3 inch coil. Maybe if I name my antenna it will work better. I
think I'll name my antenna "Jose Jiminez". Maybe that will give me the
increased performance needed to talk to the moon. It'll be one A-OK
antenna thats for sure. :/ MK

2323. Re: 2m antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 06:03:03 UTC
From: "Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au>
Message-ID: <b92a2j$1iu4$1@austar-news.austar.net.au>
Source record: 119175

"Dr. John" <frellyou@privacy.net> wrote in message
news:jsg8bvc0hpdveh938010m7jtq0pik31bg3@4ax.com...
> Need:
> 2m FM antenna (doesn't matter if narrow or wideband)
> pref 3db or more gain
> pref in San Diego or LA Countys
> Less than 7.5 feet tall
> If directional, about a 3 foot turning radius
> PL-239 connector
>
> E-mail k g 6 o x a_@_h o t m a i l . c o m (without spaces and
underscores) or reply on NG. Thanks.
>
> John, KG6OXA

I didn't know they made a different antenna for FMN and FMW!! Well, you learn something new every day! ;-)

I've got one of those u-beaut versatile antenna's - works on 2m AM, FMN, FMW, USB, LSB, CW......., but they may not make them anymore.... ;-))

(hihi)

Martin, VK2UMJ

PS - Have you tried any of the numerous radio stores, or even making your own? Take a peek at the ARRL Antenna Book..

2324. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 06:05:04 UTC
From: tdonaly@aol.com
Message-ID: <20030504020504.08447.00000535@mb-m04.aol.com>
Source record: 119176

Reg wrote,
>
>
>A vector is exp(j*phi) = cos(phi) + jsin(phi)
>
>It indicates the instantaneous direction and speed taken by a thirsty
>mosquito.
>
>There may be other definitions. What's yours?
>---
>Reg.
>
>

I don't have one, I'm an amateur, but I can parrot several from as
many different disciplines. Your mosquito would be a double
vector if it were carrying a disease.
73,
Tom Donaly

2325. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 06:52:20 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87he8b4317.fld@barrow.com>
Source record: 119177

"Dee D. Flint" <deehays@qix.net> wrote:
>"Floyd Davidson" <floyd@ptialaska.net> wrote in message
>news:87he8b7saq.fld_-_@barrow.com...
>> Posting long lines that depend on autowrap with inserted soft
>> newlines is an abomination that Windows (or perhaps actually the
>> Apple people?) foisted off on the world out of ignorance
>> (there weren't connected to the Internet until *way* late in the
>> game, and didn't care anyway!).
>>
>
>Actually with the advances in computers etc, it makes a good
>deal of sense to let the receiving software wrap it. I often see

Absolutely NOT. Your software cannot figure out what the author
wanted it to look like. End of story.

>very chopped up lines when someone has inserted line feeds and
>then whichever software I'm using to receive also inserts line feeds.
>When this happens, it looks horrible.

See! That is your autowrap in action!

>By the way, most programs do let you configure to plain text,
>non-true type fonts, inserted line feeds on send and so one. Yes
>even Outlook express lets you configure it to your heart's content.

No matter how you configure it, it is still a very poor excuse
for a newsreader.

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

2326. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 07:06:48 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <878ytn42d3.fld@barrow.com>
Source record: 119178

nm5k@wt.net (Mark Keith) wrote:
>kelly@dvol.com (Brian Kelly) wrote in message
>>
>> Since I'm big on the KISS theory I simply use Internet Exploder via
>> Google for the reader and Microsloth Word 2000 for composing my rants.
>> No Outlook, no "reader" apps, looks OK huh?
>>
>> w3rv
>
>I've been using google for reading and posting for quite a while. I
>also have a ISP news server, but ever since they overhauled it, their
>feed is slower than a dog with two legs. Google is faster, and even
>it's slow as a dog. My ISP server used to be real fast, but they
>ruined it some way. I guess a different feed.

There are several really good news servers available for
relatively low cost. newsguy.com is one and supernews.com is
another.

Both are *far* better for most purposes than trying to track news on
google. Plus google has a *very* high latency between when an article
is posted and when it is made available.

>Actually, I've gotten kind of used to google. It has the advantage of
>not dropping posts that are too old. Also I don't have to click each
>individual post to read it. I read a whole page worth at a time. Could
>be 5-6-7 posts a swat. I miss a good many on my ISP server that get
>dropped. On google, I see everything no matter how old. I have to be
>careful not to reply to a 5 year old thread with the same title..:/ MK

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

2327. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 07:35:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b92fos$ek684$1@ID-150848.news.dfncis.de>
Source record: 119179

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b90ou2$14g$1@sparta.btinternet.com...
> Rich,
>
> Here's a nice little formula which might get you in the right ball
park. I
> stole it from one of the ARRL or RSGB bibles. They stole it from
Terman.
> Terman stole it from someone around 1920 and he stole it from Grover
of the
> NBS who worked it all out in the first place. It is -
>
>
> L = Square(NA) / (9A + 10B) micro-henrys.
>
> A = coil radius in inches.
> B = coil length in inches.
> N = turns.
>
> Reg.

This gives a figure very nearly to what SOLNOID2.EXE gives. So SOLNOID2.EXE is okay for computing the inductance of a coil of known dimensions. Of course it is. So, I'm happy with SOLNOID2.EXE, excepting that it insists in telling me pitch and wire diameter twice of what they really are. And this apparant discrepancy has never been satisfactorily explained. A formula has been quoted that might explain how pitch is derived in the program, but no explanation of why it's felt it's okay to accept the situation where the calculated pitch and wire diameters (that in my example) run to twice the values of the coil I'm calculating the inductance for. IOW, the calculated inductance is seemingly correct for a coil that has 2 turns of 1.1mmm wire, length of 9mm and with a winding pitch of 4.5mm. Yet, for the value of calculated inductance you will see at the botton of the screen in SOLNOID2.EXE the program say that the inductance values attach to a coil having a pitch of 9mm, wire diameter 2.2mm. That surely is an oddity. And I say the calculated values of pitch and wire diameter as shown in SOLNOID2.EXE are incorrect.

Anyone out there: Does anyone agree with me? And if not, why not.

2328. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 07:58:16 UTC
From: VK2HXY - Troy <SPAMvk2hxy@hotmail.com>
Message-ID: <9l3ta.1144$qK.31885@nnrp1.ozemail.com.au>
Source record: 119180

Nor is there a certainty that the world will end. The only thing that is certain my friend is life, death and taxes.

CW will be removed as an examinable requirement for access to the HF spectrum. So it should, you don't see examinations being conducted for those who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of operation, do you?

The argument that CW is required for access to HF because of an emergencies and the like excuse is long past its use by date...

I haven't heard one logical, non emotive, non old scholar argument to continue with CW being an examinable requirement.

Regards to all

73 de VK2HXY
Troy
Windsor - Australia.

"Dee D. Flint" <deehays@qix.net> wrote in message
news:gz1ta.3339$3f7.2693012@newssvr28.news.prodigy.com...
>
> "Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
> news:9MXsa.396$5h4.53043@nnrp1.ptd.net...
> > The ITU World Radiocommunication Conference ("WRC-03") is scheduled
> > for early June through July 4th in Geneva, Switzerland.
> >
> > One of the items on the agenda is the revision of S25 of the ITU
> > Radio Regulations, which in S25.5 includes the current requirement
> > for a Morse test for licenses that convey privileges in the bands
> > below 30 MHz.
> >
> > Conventional wisdom is that the requirement will be dropped from
> > the ITU Radio Regulations, which will give administrations the
> > freedom to modify their national rules to eliminate the Morse
> > requirement.
>
> But there is no guarantee or certainty that it will happen.
>
> Dee D. Flint, N8UZE
>
>

2329. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 08:16:23 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b92i8r$eu4e9$1@ID-134747.news.dfncis.de>
Source record: 119181

And if things have taken a skip polarity makes
very little difference at al. When running a FT-7
(15 watts) mobile I was regularly relayed into the
Delaware Traffic Net by out of state stations.

--
73 es cul

wb3fup
a Salty Bear
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in
message news:3EB48A98.8000806@ieee.org...
> Dan Jacobson wrote:
> > Just curious, for a receiver, for a given
frequency but different
> > modes (AM, Wide FM, Narrow FM, etc.) would
different antenna designs
> > be give different results or be worth the
trouble?
>
> For instance, 2m SSB is normally horizontally
polarized while
> 2m FM is normally vertically polarized.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored
Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup
Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different
Servers! =-----

2330. Re: Mobile antenna recomendation needed for ft-8900r

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 09:31:15 UTC
From: wess@gtii.com
Message-ID: <vb9nc729n4t8ee@corp.supernews.com>
Source record: 119182

Bob Miller <bxmiller@texas.netNOSPAM> wrote:

>On Sat, 03 May 2003 20:43:56 -0400, wess@gtii.com wrote:
>
>>Hi,
>>
>>I just purchased a Yaesu FT-8900r and need recomendations for a good
>>antenna to mount in my Ranger Pickup. This is a 29/50/144/430 radio.
>>
>>Thanks,
>>
>>Wes
>>KC8SPR
>
>There are plenty of good dual banders for 144/440. Maybe a halo for 6
>meters. A hamstick for 10.
>
>I'm assuming the rig has separate antenna outlets for the different
>bands. What does your owner's manual recommend?
>
>Bob
>k5qwg
>

It doesn't. One outlet that is duplexed (quadplexed?). I am looking
at a Comet UHV-6 at the moment.

I have a feeling I have a lot to learn...

Wes
KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2331. Construction details for quad wire loops ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 10:00:09 UTC
From: froggers <not.froggers@nospam.ntlworld.com>
Message-ID: <Sv5ta.1642$rz5.104145@newsfep1-win.server.ntli.net>
Source record: 119183

Can anyone let me have the details to build a approx. square wire loop
for 40 Mtrs for feeding with 50 ohm co-ax and mounting horizontally
and at low level (i.e. length and matching / feeding arrangement) ?

Also want to try a vertical loop for 10M (28.500 Mhz centre)
with horizontal and vertical polarisation - again fed back to the shack
with 50 Ohm co-ax.

Should either be open at the "far end" i.e. opposite the feed point ?

Thanks,

Tom

2332. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 10:10:02 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305040210.13d2a4ea@posting.google.com>
Source record: 119184

"Dee D. Flint" <deehays@qix.net> wrote in message
news:<gz1ta.3339$3f7.2693012@newssvr28.news.prodigy.com>...
> "Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
> news:9MXsa.396$5h4.53043@nnrp1.ptd.net...
> > The ITU World Radiocommunication Conference ("WRC-03") is scheduled
> > for early June through July 4th in Geneva, Switzerland.
> >
> > One of the items on the agenda is the revision of S25 of the ITU
> > Radio Regulations, which in S25.5 includes the current requirement
> > for a Morse test for licenses that convey privileges in the bands
> > below 30 MHz.
> >
> > Conventional wisdom is that the requirement will be dropped from
> > the ITU Radio Regulations, which will give administrations the
> > freedom to modify their national rules to eliminate the Morse
> > requirement.
>
> But there is no guarantee or certainty that it will happen.

Carl is going to Geneva to make sure it *does* happen Dee. And there's
a rumor floating around to the effect that his fellow NCI member and
ardent supporter Lenny will be his political advisor in Geneva.

> Dee D. Flint, N8UZE

w3rv

2333. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 12:27:38 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <_G7ta.3377$3f7.2779987@newssvr28.news.prodigy.com>
Source record: 119185

"Floyd Davidson" <floyd@ptialaska.net> wrote in message
news:87he8b4317.fld@barrow.com...
> "Dee D. Flint" <deehays@qix.net> wrote:
> >"Floyd Davidson" <floyd@ptialaska.net> wrote in message
> >news:87he8b7saq.fld_-_@barrow.com...
> >> Posting long lines that depend on autowrap with inserted soft
> >> newlines is an abomination that Windows (or perhaps actually the
> >> Apple people?) foisted off on the world out of ignorance
> >> (there weren't connected to the Internet until *way* late in the
> >> game, and didn't care anyway!).
> >>
> >
> >Actually with the advances in computers etc, it makes a good
> >deal of sense to let the receiving software wrap it. I often see
>
> Absolutely NOT. Your software cannot figure out what the author
> wanted it to look like. End of story.

And if the person who formats chooses a line length LONGER than my screen
width, I'll lose part of the line if it doesn't autowrap. It still won't
look like the author wanted it if part of the line gets dropped. End of
Story.

>
> >very chopped up lines when someone has inserted line feeds and
> >then whichever software I'm using to receive also inserts line feeds.
> >When this happens, it looks horrible.
>
> See! That is your autowrap in action!

Yes I get the information instead of some of it being off the edge of the
screen. Or are you going to mandate that all screens and readers have at
least a certain width?

>
> >By the way, most programs do let you configure to plain text,
> >non-true type fonts, inserted line feeds on send and so one. Yes
> >even Outlook express lets you configure it to your heart's content.
>
> No matter how you configure it, it is still a very poor excuse
> for a newsreader.

It does the things I want it to. I have no need for fancier features.

Dee D. Flint, N8UZE

2334. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 12:39:07 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <KR7ta.3378$3f7.2781849@newssvr28.news.prodigy.com>
Source record: 119186

"VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
> Nor is there a certainty that the world will end. The only thing that is
> certain my friend is life, death and taxes.
>

Exactly that is why one should wait around but meet the current
requirements. Life is too short to waste on waiting.

> CW will be removed as an examinable requirement for access to the HF
> spectrum. So it should, you don't see examinations being conducted for
those
> who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
> operation, do you?

Echolink is too new yet but the tests do include material on the use of
RTTY, packet, etc. Due to their nature, it's only necessary to understand
how to hook up the hardware and what the operating limits (such as max baud
rate of HF vs VHF) and procedures are. These questions are on the US tests.

>
> The argument that CW is required for access to HF because of an
emergencies
> and the like excuse is long past its use by date...
>
> I haven't heard one logical, non emotive, non old scholar argument to
> continue with CW being an examinable requirement.
>

It's a viable mode of operation. It is one of the fundamentals of radio.
It is part of a well rounded education in radio. It is an area where a
person needs actual experience to judge its usefulness. We are required to
learn a lot of things in other aspects of our life that are not germane to
our lives simply because it is considered one of the fundamentals and/or
part of a well rounded education. After all by the time you finish
elementary school, you can read, write, and add and subtract. More than
that is not necessary in daily life. So let's let people drop out of school
after 8th grade. The ordinary person doesn't need algebra or geometry or
chemistry or physics or Shakespeare. Only those who are going on to college
"need" that sort of stuff.

You see there is no logical, non-emotive, non-"I don't want to do it"
argument that is viable for dropping the CW requirement.

Dee D. Flint, N8UZE

2335. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 13:22:03 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB513FB.1080801@ieee.org>
Source record: 119187

Floyd Davidson wrote:
> There are several really good news servers available for
> relatively low cost. newsguy.com is one and supernews.com is
> another.

I work two days a week teaching pre-GED students. Sometimes
it is very slow and I can't get to my dial-up ISP from work.
So for $6 a month, I subscribe to http://www.usenet-access.com
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2336. Re: Construction details for quad wire loops ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 13:25:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB514B2.3090207@ieee.org>
Source record: 119188

froggers wrote:
> Can anyone let me have the details to build a approx. square wire loop
> for 40 Mtrs for feeding with 50 ohm co-ax and mounting horizontally
> and at low level (i.e. length and matching / feeding arrangement) ?

Check out my favorite loop antenna on my web page.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2337. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 13:40:51 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns937143F6D2523pookster@129.250.170.84>
Source record: 119190

nm5k@wt.net (Mark Keith) wrote in news:25eb70d7.0305032158.3f147cc8
@posting.google.com:

> I'd rather chalk up an increase in FS to an increase in efficiency,
> not gain.
>

To each his own, but an increase in gain means an increase in directivity
which may be useful in reducing QRM. If you increase only the efficiency
it means the QRM will be louder too.

--
Bill Turner
W7TI

2338. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 13:42:02 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87ptmy3k2d.fld@barrow.com>
Source record: 119189

"Dee D. Flint" <deehays@qix.net> wrote:
>"Floyd Davidson" <floyd@ptialaska.net> wrote:

>> >> Posting long lines that depend on autowrap with inserted soft
>> >> newlines is an abomination that Windows (or perhaps actually the

>> >Actually with the advances in computers etc, it makes a good
>> >deal of sense to let the receiving software wrap it. I often see
>>
>> Absolutely NOT. Your software cannot figure out what the author
>> wanted it to look like. End of story.
>
>And if the person who formats chooses a line length LONGER than my screen
>width, I'll lose part of the line if it doesn't autowrap. It still won't
>look like the author wanted it if part of the line gets dropped. End of
>Story.

Slow down and *think* about this for a minute. You are saying
that because some authors do it wrong, we should mess it up
totally for *all* messages. Yet the fact is there are far more
messages made terribly ugly by messed up quoted text run through
a poorly implemented autowrap editor than there are messages
with poorly formatted original text.

You want to cut of your nose to spite your face.

First, use a window that is wider than any but the most
obnoxious. Then 1) set it so that lines wrap if you must (I'd
rather use a manual command and not use autowrap), but in the
display only and not in the text that is sucked into your editor
when you respond with quoted text, and 2) use an editor that
allows you to reformat paragraphs appropriately. That last word
is the killer, because that means it must understand Usenet
formats, and keep the proper quoted text indicator in the left
margin. It probably needs several different styles of
reformatting, or quick ways to configure the format. (E.g.,
margins, line length, quoted text indicators, and end of
paragraph delimiters.)

The basic idea is that you want to avoid reformatting paragraphs
if at all possible. And when you do it, it is best to have a
selection of different methods to match different odd
formatting. And you want one kind of line wrap for reading and
potentially a different kind for quoting text.

However, you've missed the point anyway. Your original
statement was that the sender should use long lines and allow
the receiver to format paragraphs. *That* is what is wrong
(sending long lines), not using autowrap on at the receive end
per se. But still, your solution is to equally screw up every
message to match those that come pre-screwed up. Yeck!

>> >very chopped up lines when someone has inserted line feeds and
>> >then whichever software I'm using to receive also inserts line feeds.
>> >When this happens, it looks horrible.
>>
>> See! That is your autowrap in action!
>
>Yes I get the information instead of some of it being off the edge of the
>screen. Or are you going to mandate that all screens and readers have at
>least a certain width?

No, you are getting a mangled bit of encrypted information
in all the unformatted garbage. If it has been done
right to start with you don't have to worry about long lines,
lost lines, ill-formatted lines etc etc.

And if you don't automatically try to fix them when they
don't actually need it, you won't contribute to spreading
quoted text that looks like that too.

What I agree with mandating (and it *is* mandated, not just
"going" to be), is that lines should not be longer than 79
characters, and preferably would be fewer than 65. (What I
personally say, is no original line should be longer than 65,
and I think the 79 so often spoken of is just plain too many.)
That means a typical 80 character screen works just fine (and
the 100 line screen I use works really great even for most of
the idiots who won't follow the rules).

>> >By the way, most programs do let you configure to plain text,
>> >non-true type fonts, inserted line feeds on send and so one. Yes
>> >even Outlook express lets you configure it to your heart's content.
>>
>> No matter how you configure it, it is still a very poor excuse
>> for a newsreader.
>
>It does the things I want it to. I have no need for fancier features.

Are you sure of that? How do you know if you've never used
anything better? You really can't imagine what it is like to
use something like gnus, for example, if you've never seen it.

I look at a couple dozen newsgroups every day, and access them
through two (used to be three but I dropped one) news servers.
It also does email, and handles email as if it were news. I get
something like 40 or 50 mailing lists, and each goes into its
own "newsgroup". Each of my family members has a group. There

are a couple of other groups with several friends in each. If the headers have anything that indicates it is a response to a Usenet article it goes into another group. You get the idea... there are *dozens* of groups that my mail and news are sorted into.

And those groups are displayed differently for me. For example, if one of my kids (they are all middle aged parents, but still kids) sends me mail, that newsgroup will not only show up on my list, but will be highlighted in bright red. Darned hard to ignore! On the other hand, some of the mailing lists show up in very subdued colors that could stay there for a week and not bother me. (Actually, some of them won't even show up at all, because all I do is archive them.)

And all of this is handled in the traditional Emacs style that I'm comfortable with.

All the "unknown" email ends up in one group, and I manually look through it and delete all the spam with commands that delete whole blocks rather than item by item.

Put it this way, if you get 10 or 20 emails a day it can begin to be a burden keeping up. If you get 100 to 200 a day you'll definitely need to use an efficient system. If you get more than 200 emails a day, the *only* way to go is gnus.

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

2339. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 14:39:18 UTC
From: John <jwh_fla@hotmail.com>
Message-ID: <qC9ta.19618$g41.1466318@news1.east.cox.net>
Source record: 119191

I recently installed a little tarheel on my '99 Pathfinder. Can't compare since this is my first hf mobile antenna. It's designed to be mounted high on the vehicle to minimize ground losses. That's a problem with the glass on my liftgate. But it's still working well though 40m can be rough.

Worked od5hn (lebanon) this weekend on 20m on my way home from the around the corner Walmart. I'm gonna have to plan some auto trips...:)

73 de John, ks4xn

"Theplanters95" <theplanters95@aol.comnospam> wrote in message news:20030430225417.28032.00000448@mb-m14.aol.com...
> Which hamstick company is better? Lakeview, proam/valor, mfj, or ironhorse?
>
> How do the hamsticks compare to the little tarheel screwdriver antenna?
>
> Bands of interest are 40-20-17-15-10-6m.
>
> Randy ka4nma

2340. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 16:57:21 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <RDbta.3513$3f7.2848618@newssvr28.news.prodigy.com>
Source record: 119192

"Floyd Davidson" <floyd@ptialaska.net> wrote in message
news:87ptmy3k2d.fld@barrow.com...
> "Dee D. Flint" <deehays@qix.net> wrote:
> >"Floyd Davidson" <floyd@ptialaska.net> wrote:
>
> >> >> Posting long lines that depend on autowrap with inserted soft
> >> >> newlines is an abomination that Windows (or perhaps actually the
>
> >> >Actually with the advances in computers etc, it makes a good
> >> >deal of sense to let the receiving software wrap it. I often see
> >>
> >> Absolutely NOT. Your software cannot figure out what the author
> >> wanted it to look like. End of story.

So I must configure my software the same as the author's. Pray tell how am
I to do that?
Read his mind??? Everyone is different.

Also autowrap does NOT take out the line feeds already imbedded in the
original text.
It only inserts soft line feeds when the line is too long for the screen.
So if the original author
has put in hard line feeds, I'll see his lines as intended unless his
formatting was bad to start
with or unless of course he's used a different font or committed some other
sin.

However it is a nuisance to keep inserting the hard line feeds so I'm going
to stop with that after
this message. You should set your reader to wrap long lines. It won't mess
up the people
who send formatted text (unless they choose line lengths longer than your
screen).

When Outlook Express no longer suits me or becomes a nuisance for me, then
I'll change. I've
no need to change at this time. I choose not to sign up with a plethora of
newsgroups, etc as I've
other things to do with my time than spend it all on the computer.

You can't force other people to accommodate your preferences.

Dee D. Flint, N8UZE

2341. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 16:57:31 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <8chabvgcic60fm6c3c2r3ml1tum4a70l96@4ax.com>
Source record: 119193

On Fri, 2 May 2003 19:47:29 -0700, <Jimnn7k@reno.rmci.net> wrote:

>For a velocity factor, WITH NO dielectric , it is 1.0 . But Velocity
>Factor can be measured , with a coax "tee" fitting, at a reciever. simply
>connect the second (test piece of)coax to the "tee fitting", along with
>your antenna. to a KNOWN on the air signal (If england has a equivalent of
>NOAA weather radio, or on the air , and not fully saturated signal, and an
>"s" meter. then simply prune the test piece of coax for MINIMUM signal
>strength. Make sure that the shield, and center conductors do not touch.
>This also works with flat line, when you get there, the length of that coax
>piece will be 1/4 wavelength !! then measure that length, and multiply by
>4. then devide THAT number by the WAVELENGTH of the frequency your
>concerned with. that number (ratio) will be the velocity factor of your
>coax! oh, and btw, can do the same with P.C. board strip lines, (if big
>enuff piece), except you would SHORT the line, and the resuldts would be
>1/2 wavelength! Then DOUBLE the resulting length , and devide for
>velocity factor! This how Leacher Lines work !! Jim NN7K
>

I've used this method before, but using a VHF TV signal and
watching the TV. When the video signal drops down into the
snow, you know you're trimmed to the video carrier frequency.

Start with a physical quarter-wave piece of coax, and trim off
only a bit at a time (quarter inch or so). Works great.

-fb-

2342. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 17:32:52 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <8765oq39dn.fld@barrow.com>
Source record: 119194

"Dee D. Flint" <deehays@qix.net> wrote:
>"Floyd Davidson" <floyd@ptialaska.net> wrote in message
>news:87ptmy3k2d.fld@barrow.com...
>> "Dee D. Flint" <deehays@qix.net> wrote:
>> >"Floyd Davidson" <floyd@ptialaska.net> wrote:
>>
>> >> >> Posting long lines that depend on autowrap with inserted soft
>> >> >> newlines is an abomination that Windows (or perhaps actually the
>>
>> >> >Actually with the advances in computers etc, it makes a good
>> >> >deal of sense to let the receiving software wrap it. I often see
>> >>
>> >> Absolutely NOT. Your software cannot figure out what the author
>> >> wanted it to look like. End of story.
>
>So I must configure my software the same as the author's. Pray tell how am
>I to do that?
>Read his mind??? Everyone is different.

That isn't what I said, and that wouldn't work if you tried it.

>Also autowrap does NOT take out the line feeds already imbedded in the
>original text.

But a good reformatting command will, and that is essential.

>It only inserts soft line feeds when the line is too long for the screen.
>So if the original author
>has put in hard line feeds, I'll see his lines as intended unless his
>formatting was bad to start
>with or unless of course he's used a different font or committed some other
>sin.

See how obnoxiously formatted your lines above are? Why would
you purposely send messages like that? It's just plain *ugly*.

But, take the above paragraph as an example. I'll copy it below
just as it originally was, and then reformat it (not just wrap
lines, but do a reformat).

>Also autowrap does NOT take out the line feeds already
>imbedded in the original text. It only inserts soft line
>feeds when the line is too long for the screen. So if the
>original author has put in hard line feeds, I'll see his lines
>as intended unless his formatting was bad to start with or
>unless of course he's used a different font or committed some

>other sin.

So much nicer. I did format it with only 55 column lines. Note
that I did that *with* the margin and the quoted text markers in
place. My command to do that was "ESC 55 Q" with the cursor
set anywhere in the paragraph. On second thought, you'll
probably like 65 column lines better, so I'm going to redo it to
65 columns with "ESC 65 Q". On third thought, I'll copy it
again and reformat it back to 55 so you can see both:

>Also autowrap does NOT take out the line feeds
>already imbedded in the original text. It only
>inserts soft line feeds when the line is too long
>for the screen. So if the original author has put
>in hard line feeds, I'll see his lines as intended
>unless his formatting was bad to start with or
>unless of course he's used a different font or
>committed some other sin.

Having a good text editor that is designed to do Usenet articles
is really nice.

There is *NO NEED* to suffer reading ill formatted messages or
to send them. If I want to, the command "WW" while I'm reading
an article will reformat every paragraph in an article being
viewed, including paragraphs of quoted text. Not just wrap
lines in ugly ways, but actually *fix* the format.

>However it is a nuisance to keep inserting the hard line feeds so I'm going
>to stop with that after
>this message. You should set your reader to wrap long lines. It won't mess
>up the people
>who send formatted text (unless they choose line lengths longer than your
>screen).

Which is exactly what I told you, if you'd stopped to read it.

>When Outlook Express no longer suits me or becomes a nuisance for me, then
>I'll change. I've
>no need to change at this time. I choose not to sign up with a plethora of
>newsgroups, etc as I've
>other things to do with my time than spend it all on the computer.

If the ugly formatting of the article of yours that I'm reading
doesn't make you want to change something... well, I guess that
is *your* option!

However, you've missed the point. If you use piss poor software
you *can't* read a plethora of newsgroups, because you just
won't have time to do that and anything else! If you use *good*
software, you can do it quite easily and quickly without taking
all day.

I can read so many *only* because the software I use makes it
a snap.

>You can't force other people to accommodate your preferences.

But you can make the best use of your own time, and format your
own articles to make them more readable by others and configure
your own software to make their preferences acceptable when you
get their messages. What you are doing is making your messages
harder for others to read and wasting gobs of your own time
getting less out of Usenet than you could.

You've got a very serious case of kennel blindness going, where
you want to defend the software you use because you use it, rather
than learn something that, though it might lead to changes, would
in the long run make your life a lot more efficient.

In short, defending Outhouse Express is a lost cause. It is
well known to be about the worst excuse for a newsreader
in common use.

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

2343. Re: Construction details for quad wire loops ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 17:46:09 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305040946.452af55c@posting.google.com>
Source record: 119195

"froggers" <not.froggers@nospam.ntlworld.com> wrote in message
news:<Sv5ta.1642$rz5.104145@newsfep1-win.server.ntli.net>...
> Can anyone let me have the details to build a approx. square wire loop
> for 40 Mtrs for feeding with 50 ohm co-ax and mounting horizontally
> and at low level (i.e. length and matching / feeding arrangement) ?
>
> Also want to try a vertical loop for 10M (28.500 Mhz centre)
> with horizontal and vertical polarisation - again fed back to the shack
> with 50 Ohm co-ax.
>
> Should either be open at the "far end" i.e. opposite the feed point ?

Dial up http://www.cebik.com/radio.html.

>
> Thanks,
>
> Tom

Brian w3rv

2344. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 18:08:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b93kud$av2$1@sparta.btinternet.com>
Source record: 119196

I'm sorry to have taken such a long time to understand what you are getting at and to find an explanation for your problem.

In short, you have been entering an incorrect value for the effective length of the coil. ;o)

At the bottom of the front page of the program notes is the message "IMPORTANT: Coil length is the distance between the wire centres of the end turns of the coil."

As you might know coil inductance is formed from the sum of the inductances of individual turns plus the mutual inductances between each turn and all other turns. To make life easier for the computing engine (and the programmer) only whole numbers of turns are accepted by the program. Consequently, the coil is treated by the program as an assembly of individual single-turn coils connected together.

The physical relationship between each single turn and its companions is defined by the winding pitch which, as stated before, must be constant along the length of the coil. Furthermore, to avoid ambiguity, the position of each single turn must be defined with respect to its CENTRE and not to either of its ends. The centre of a single-turn coil is a point in space.

The effective magnetic length of the whole coil, therefore, is the distance between the wire centres half-way around the single-turn ends of the coil. It is in fact the average length of the whole coil as measured around its circumference.

Or in other words, effective coil length is the most extreme length of the coil less winding pitch. Unfortunately the program cannot do that for the user because at that stage it dosn't know what the pitch is. It hasn't sufficient information. But inductance is not sensitive to coil length when length is much smaller than coil diameter (as yours is).

So subtract pitch from extreme length of coil before entering it in the program and see what you get.

You will, of course, get another value of inductance. If, as I expect, you come back to ask which of the two inductance values is correct I shall truthfully reply neither of them.

It was your unusual two-turn coil with a wide pitch which set off this extended thread. For the much greater number of ordinary proportioned practical coils it doesn't matter much whether the correction is applied or not.

Your persistence has shown the program operating notes need additional clarification. Thanks very much. What's your call sign so I can acknowledge your assistance when an amended version is shoved up to the website.

Any further comments.

Reg.

2345. Re: Re: 2m antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 18:11:00 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <sllabvgk8u4pm6jk00goem3kcetjbs3d7d@4ax.com>
Source record: 119197

On Sun, 4 May 2003 16:03:03 +1000, "Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au>
belch-spoke these
words:

>"Dr. John" <frellyou@privacy.net> wrote in message
>news:jsg8bvc0hpdveh938010m7jtq0pik31bg3@4ax.com...
>> Need:
>> 2m FM antenna (doesn't matter if narrow or wideband)
>> pref 3db or more gain
>> pref in San Diego or LA Countys
>> Less than 7.5 feet tall
>> If directional, about a 3 foot turning radius
>> PL-239 connector
>>
>> E-mail k g 6 o x a_@_h o t m a i l . c o m (without spaces and
>underscores) or reply on NG. Thanks.
>>
>> John, KG6OXA
>
>I didn't know they made a different antenna for FMN and FMW!! Well, you
>learn something new every day! ;-)
>
>I've got one of those u-beaut versatile antenna's - works on 2m AM, FMN,
>FMW, USB, LSB, CW......., but they may not make them anymore.... ;-))
>
>(hihi)
>
>Martin, VK2UMJ
>
>PS - Have you tried any of the numerous radio stores, or even making your
>own? Take a peek at the ARRL Antenna Book..
>

By narrow/wide band, I meant whether it was tuned for around 130-160 mhz (wide) or 144-148
mhz
(narrow). I had heard this terminology used before and thought it was common
knowledge/speak.

I was looking for an antenna not profit-priced (used) or someone who would build one at
cost. I'm
not equipped to make antennas (no swr meter, no tuner, no blowtorch, torch hood, soddering
gun, or
sodder). I only make stuff myself if it's a last option.

John

2346. Re: Reconciling T_TUNER.EXE and T-Network Tuner of W9CF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 18:23:01 UTC
From: Kevin Schmidt <kevin.schmidt@virgilio.it>
Message-ID: <3EB55A7C.4010108@virgilio.it>
Source record: 119198

After this discussion about T-network tuners and my little applet in particular, I thought I had better go back and see if I could understand the adjustment for low loss better. For the lossiest low impedance case, the tuner performs best at one of its endpoint settings with one of the capacitors is at its maximum which also corresponds to a minimum inductance.

However, the discussion here concerned the other extreme of a high impedance load where many settings give reasonably low loss. Several people mentioned that tuning for smallest inductance was the optimum; however, that cannot be the case in general. For example for matching 50 ohms to 50 ohms, infinitely large capacitors and and infinitely large inductor will give a match and has zero loss for any Q. This indicates that a larger inductance gives a smaller loss at least in this contrived case.

I assumed an input resistance of R0=50 ohms, and that the load resistance RL is greater than R0. For lossless capacitors and a low loss inductor, I solved the network equations and then solved for the minimum inductor
reactance, which is sqrt(RL*R0). The value for lowest loss turns out to be an inductor reactance of [(R0+RL)/(RL-R0)]sqrt(RL*R0), assuming the other components have enough range to allow these settings. Note that the load reactance XL does not enter into this formula, but it generally needs to be substantially inductive to bring the output capacitor into an allowed range.

The analytic solution in the limit of very high inductor Q says that if we can adjust for minimum inductor we get a fractional loss of sqrt(RL*R0)*(RL+R0)/(R0*RL*Q) while for the optimal size inductor, the fractional loss is sqrt(RL*RO)*(RL-R0)/(R0*RL*Q).

To test this I put the values Z = 200+j200 at 7MHz into the Tuner applet with the default component values. The new applet version will autotune for lowest inductance and gives Cin = 230.3 pF, L = 2.3 uH, and Cout = 75.5 pF, with a loss of 2.6 percent. From the equation above, the smallest inductance should be at sqrt(200*50)/(2*pi*f) = 2.27 uH, so that agrees, and the fractional loss for Q=100, is sqrt(50*200)*(200+50)/(50*200*100) = 0.025 which also is in good agreement. The applet also contains capacitor losses and the inductor Q is not going to infinity so perfect agreement is not expected.

If I now readjust to increase the inductance by a factor of (200-50)/(200+50) = 5/3, or to 3.8 uH, and then adjust the capacitors by hand, I get Cin = 227.7 pF, L = 3.8 uH, and Cout = 234.2 pF, with a loss of 1.6 percent. The fractional loss from my equation above is

sqrt(50*200)*(200-50)/(50*200*100) = 0.015 again in good agreement.
So minimum inductance is definitely not the lowest loss setting in
general. Of course both 2.6 and 1.6 percent are excellent figures so in
reality it doesn't matter much, but tune for minimum inductance is not
the optimal rule. If I blindly apply the minimum inductance loss formula,
it gives for RL=50 a fractional loss of 2/Q. So the minimum inductor
case gives only 2 percent loss with a Q of 100. The optimal case is
the one mentioned above where the output capacitor resonates with the
inductive reactance of the load, the inductor is infinitely large and
therefore gives 0 loss, and the input capacitor is infinitely large. For
higher load resistances, the difference in the loss is given by the factor
(R0-RL)/(R0+RL). So by the time you get to something like RL = 500 ohms,
the minimum inductance formula gives for Q=100, 3.5 percent loss, while
with the optimal inductance the loss is 2.8 percent.

So my conclusion is that while tuning for minimum inductance is a good
rule, it does not always minimize the loss.

73 Kevin w9cf@ptolemy.la.asu.edu, http://fermi.la.asu.edu/w9cf

Ian White, G3SEK wrote:
> Mark Keith wrote:
>
>> There are cases where I prefer the L network, but the T network is not
>> too bad as long as you are careful tuning. In real world power
>> measurements, I found using the least inductance seemed to be the most
>> important for the least loss.
>
>
> That will always be true for the T-network. Always start from lowest
> inductance, and increase L in small steps until you can find a match.
> Then stop.
>
>> In about 95% of cases where least coil is used, C2 will be at maximum.
>> So they tend to go hand in hand.
>
>
> Again, true. If you can use an L-network, it will always have lower loss
> than a T (made from the same components). On the other hand, the T has a
> wider matching range.
>
> This points to an interesting solution devised by G3LNP: he modified an
> existing T tuner by mounting a simple cam switch on each capacitor
> shaft, which would short out the capacitor when turned to maximum. That
> gives the options of a normal T-network, plus two different
> configurations of L-network by shorting either C1 or C2.
>
> The operating instructions are: use one of the L configurations if you
> can, and if neither will match, switch to the T and use the lowest
> possible inductance.
>

> The only slight disadvantage is that the L-network requires a precise
> value of L, as well as a precise value of C, so it's more suited to a
> roller coil than to a switched inductor. On the other hand, the
> switchable arrangement offers lots of options for homebrewers. If you
> don't want to use cam switches, you could short out C1 and C2 by
> separate switches. Also, you could plan a switched inductor that is more
> finely adjustable than is normally necessary in a T-network.
>

2347. Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 18:43:23 UTC
From: GregEMT1@netzero.com
Message-ID: <3eb55f1a.49622282@news.earthlink.net>
Source record: 119200

I just got a MFJ-941D Versa Tuner II at the local hamfest, but the manual is not available on the MFJ website, like I was told. Any idea where to get a manual, or just something that can tell me how to use the thing?

Thanks,
Greg KF6ALC

2348. [OT] Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 18:44:46 UTC
From: Bob Schreibmaier <k3ph@ptd.net>
Message-ID: <ycdta.446$5h4.67314@nnrp1.ptd.net>
Source record: 119199

In article <KR7ta.3378$3f7.2781849@newssvr28.news.prodigy.com>,
deehays@qix.net says...
>
>"VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
>news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
>> CW will be removed as an examinable requirement for access to the HF
>> spectrum. So it should, you don't see examinations being conducted for
>those
>> who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
>> operation, do you?
>
>Echolink is too new yet but the tests do include material on the use of
>RTTY, packet, etc. Due to their nature, it's only necessary to understand
>how to hook up the hardware and what the operating limits (such as max baud
>rate of HF vs VHF) and procedures are. These questions are on the US tests.

The difference is that not knowing the answers to those
questions does not automatically disqualify one from
getting a license to operate on HF. Not knowing Morse
Code does.

IMHO, Morse Code is a very important part of Amateur
Radio, however, it's not as important as everything
else combined. Unfortunately, that's the way it's
treated in the current U.S. licensing requirements.

73,
Bob
K3PH

--
+---+
| Bob Schreibmaier K3PH | E-mail: k3ph@ptd.net |
| Kresgeville, PA 18333 | http://home.ptd.net/~k3ph |
+---+

2349. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 19:05:53 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305041105.36edbec1@posting.google.com>
Source record: 119201

Bill Turner <noway@nohow.com> wrote in message
news:<Xns937143F6D2523pookster@129.250.170.84>...
> nm5k@wt.net (Mark Keith) wrote in news:25eb70d7.0305032158.3f147cc8
> @posting.google.com:
>
> > I'd rather chalk up an increase in FS to an increase in efficiency,
> > not gain.
> >
>
> To each his own, but an increase in gain means an increase in directivity
> which may be useful in reducing QRM. If you increase only the efficiency
> it means the QRM will be louder too.

But his antenna is too short to have a different pattern than any
other 1/4 wave or shorter vertical. Also it would have negative gain
compared to any full size 1/4 wave vertical. You would have to use a
new reference unless you didn't mind negative gain numbers. "Doesn't
look good in antenna ad's". Maybe gain over a #2 pencil? :/ So the way
I see it, being the basic pattern can't really be altered from a 1/4
wave to achieve gain in a given direction, any increase in performance
should be classified as increased efficiency instead of "gain". Gain
has to have a reference. Now full size antennas at home, etc, I would
agree with you. MK

2350. Re: [OT] CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 19:13:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305041113.60d8540d@posting.google.com>
Source record: 119202

Floyd Davidson <floyd@ptialaska.net> wrote in message
>
> There are several really good news servers available for
> relatively low cost. newsguy.com is one and supernews.com is
> another.

Yea, I thought about that at one time, but now I don't really care too much.
It's not "that" important to me , to waste extra money on. I can wait a few hours.
>
> Both are *far* better for most purposes than trying to track news on
> google. Plus google has a *very* high latency between when an article
> is posted and when it is made available.

I haven't had any trouble, except having to wait a few hours for posts.

That's what I mean by speed. I used to get fresh posts in less than an hour. Sometimes almost instantly. Now it's like 12 hours. Google varies, and claims 9 hours max, but usually it's about 4-5 hours avg I guess. The only thing I don't like about posting from google is I can't munge my e-mail like I can on the other server. MK

2351. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 19:16:21 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3eb566b5$0$48904$edfadb0f@dtext02.news.tele.dk>
Source record: 119203

Hello Greg

> I just got a MFJ-941D Versa Tuner II at the local hamfest, but the
> manual is not available on the MFJ website, like I was told. Any idea
> where to get a manual, or just something that can tell me how to use
> the thing?

The manual for the MFJ-941E is there, maybe you use that instead.

Regards Max

2352. Re: Construction details for quad wire loops ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 19:19:57 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB567DD.6B805EA4@cwis.net>
Source record: 119204

Tom,
Use (984 / f) to find the approximate length, you
will have to 'trim' it for resonance. If you're going
to feed it with coax, then I'd recommend using a 75 ohm
'Q' section to match it to 50 ohms, or maybe a 2:1 balun.
For a 10 meter vertical loop, you might check a late
edition of the ARRL Handbook, there's one shown that is
kinda 'nifty' (old technical term).
'Doc

2353. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 19:40:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB56CC0.8080905@ieee.org>
Source record: 119205

nospam KF6ALC wrote:
> I just got a MFJ-941D Versa Tuner II at the local hamfest, but the
> manual is not available on the MFJ website, like I was told. Any idea
> where to get a manual, or just something that can tell me how to use
> the thing?

The 949 and 941 are close enough that the 949 manual might work for you.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2354. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 20:00:28 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <59sabv4npm6rggst64qitupapnrurtljkk@4ax.com>
Source record: 119206

On Sat, 03 May 2003 18:51:23 GMT, "Dee D. Flint" <deehays@qix.net>
wrote:

>
>"Roger Halstead" <rdhalste@tm.net> wrote in message
>news:n708bv0ulvmq0roff528bb3c4ijm399499@4ax.com...
>> On Sat, 03 May 2003 13:01:48 GMT, "Dee D. Flint" <deehays@qix.net>
>> wrote:
>>
>> Me thinks some one needs to set the line length. That last post had
>> lines several feet long.
>>
>> Roger Halstead (K8RI EN73 & ARRL Life Member)
>> www.rogerhalstead.com
>> N833R World's oldest Debonair? (S# CD-2)
>
>I just assumed that since my reader automatically wraps
>lines so do the readers that most people typically use.
>May I inquire what software you are using?

Two

Agent (not the free version) and OE.

Both came up with the long lines on that particular post. On this one
they are the normal length.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Dee D. Flint, N8UZE
>

2355. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 20:08:18 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB5730D.4080708@attbi.com>
Source record: 119207

SNIP
> Oh well, isn't it like 90% of people end up doing something not
> exactly what their major was? It's still all engineering though.
>
>
> Slick

I had an MIT PhD-EE/SLOAN FELLOW educated Vice President of Engineering as my supervisor for 3 to 4 years. His claim is that any motivated engineer with a broad Physics background and a good math background can be put to work anywhere and that engineer will be blunder proof in the new field in 3 months, competent in 6 months and publishing for peer review in 12 months.

Comments??

Deacon Dave, W1MCE

2356. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 20:10:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbasub8p77r7a@corp.supernews.com>
Source record: 119208

A point of clarification. "Gain" means the ratio of field strength between an antenna and a reference. By itself, the term doesn't convey any information about how the field strength difference was achieved. Bill's use of "gain" should be "directive gain" instead. This is gain that's achieved by concentrating the power in some directions by getting it from others. "Gain" can come about as a result of differences in directive gain, efficiency, or a combination of the two, between the antenna and the reference. "Directivity" is usually expressed as a number, and is referenced to a perfectly spherical (isotropic) pattern. "Directive gain" is usually expressed in dB, and can be referred to any reference, although isotropic is most common in the professional literature at least.

Bill points out that increased directive gain can be an advantage when receiving. And at HF, efficiency usually isn't important for receiving. On the other hand, increased directivity can be a disadvantage when transmitting if you can't rotate the antenna, since it reduces the number of directions you can effectively communicate with. And any increase in efficiency (and therefore gain) improves your transmitted signal. So, once again, no single solution is optimum for all applications.

Remember, when you increase efficiency, you increase gain. When you increase directive gain, you increase gain.

Roy Lewallen, W7EL

Mark Keith wrote:
> Bill Turner <noway@nohow.com> wrote in message
news:<Xns937143F6D2523pookster@129.250.170.84>...
>
>>nm5k@wt.net (Mark Keith) wrote in news:25eb70d7.0305032158.3f147cc8
>>@posting.google.com:
>>
>>
>>>I'd rather chalk up an increase in FS to an increase in efficiency,
>>>not gain.
>>>
>>
>>To each his own, but an increase in gain means an increase in directivity
>>which may be useful in reducing QRM. If you increase only the efficiency
>>it means the QRM will be louder too.
>
>
> But his antenna is too short to have a different pattern than any
> other 1/4 wave or shorter vertical. Also it would have negative gain

> compared to any full size 1/4 wave vertical. You would have to use a
> new reference unless you didn't mind negative gain numbers. "Doesn't
> look good in antenna ad's". Maybe gain over a #2 pencil? :/ So the way
> I see it, being the basic pattern can't really be altered from a 1/4
> wave to achieve gain in a given direction, any increase in performance
> should be classified as increased efficiency instead of "gain". Gain
> has to have a reference. Now full size antennas at home, etc, I would
> agree with you. MK

2357. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 20:48:43 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <cbu39b-7a6.ln@p400bob.lse.com.au>
Source record: 119209

Hi Ralph

I'd beg to differ somewhat on your last sentence.

I ran a number of experiments on 70cm FM many years ago. Generally speaking horizontal polarization was much better fixed to mobile than vertical when the path went over the horizon. I'm not just talking about the vertically vs horizonatally shaped aperture either. I would surmise that trees and buildings present more attenuation to vertical pol signals.

The horiz aperture shape also made a lot of difference. The flutter was (say) 30dB on vertical but only 5-6 on horizontal It was weird listening to a signal like it was really on 10M FM.General figure of merit was in the order of 9dB better horiz vs vert.

FYI the tests were done with a 22 el quad fixed and a 4.5dB colinear vs 3 leaf clover on the mobile. The quad could be rotated to change polarisation. Max range tested was about 70km, power was 5 watts. Fixed site was west of Sydney up on a hill. Mobile would drive towards/away from Sydney CBD. About 30 km of the trip was visible from the fixed location. The rest was hilly.

Also did some tests with a 3 el quad on the mobile. Results were dissappointing as flutter increased markedly. No doubt due to the restriction in multipath availability. Worked very well when the mobile stopped moving though! (Use to get some funny looks from other drivers!)

Cheers Bob VK2YQA

>
> "Dan Jacobson" <jidanni@dman.ddts.net> wrote in message
> news:87fznvlj4r.fsf@jidanni.org...
>> Just curious, for a receiver, for a given frequency but different
>> modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
>> be give different results or be worth the trouble?
>> --
>> http://jidanni.org/ Taiwan(04)25854780
>
> The mode will not make any differance in the antenna type. However you do
> have to match the polarity of the receive antenna to the transmitter
> antenna. For example on 2 meters ssb is usually transmitted with a
> horizontal antenna and FM is usually transmitted with a vertical antenna.
> If both stations flip the antennas to the same polarity there would ont be
> any differance.

2358. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 20:54:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b93uil$enmgh$1@ID-150848.news.dfncis.de>
Source record: 119210

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b93kud$av2$1@sparta.btinternet.com...
>
> At the bottom of the front page of the program notes is the message
> "IMPORTANT: Coil length is the distance between the wire centres of
the end
> turns of the coil."

Not easy to figure out what you are saying IMO. I read that as meaning coil length measured from centre of the wire at one end of the coil to the center of the wire at the other end of the coil. (As opposed to points on the circumference of the wire).

Okay then, what is the correct length of a coil whose physical length is 9mm from end binding post to end binding post, consisting of 2 equally spaced turns? Wire diameter 1.1mm. Also, what is the pitch?

Rich.

2359. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:02:09 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <ldfta.468337$OV.459132@rwcrnsc54>
Source record: 119211

I agree entirely.
"VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
> Nor is there a certainty that the world will end. The only thing that is
> certain my friend is life, death and taxes.
>
> CW will be removed as an examinable requirement for access to the HF
> spectrum. So it should, you don't see examinations being conducted for
those
> who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
> operation, do you?
>
> The argument that CW is required for access to HF because of an
emergencies
> and the like excuse is long past its use by date...
>
> I haven't heard one logical, non emotive, non old scholar argument to
> continue with CW being an examinable requirement.
>
> Regards to all
>
> 73 de VK2HXY
> Troy
> Windsor - Australia.
>

2360. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:09:05 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b93vhh$rs0$1@sparta.btinternet.com>
Source record: 119212

Insofar as analysis of the behaviour of dipoles fed via balanced lines is concerned, in the hands of do-gooders with bent SWR meters the G5RV is just a big red herring.

The G5RV, as he simply described it, succeeds very well with what Mr Varney designed it for.

Instead of making that useful antenna the starting point of any design it is best kept as just one of the infinite number of possible arrangements available to antenna designers.

Almost certainly that antenna had been previously used by others to meet the same simple "specification". Mr Varney, G5RV, was just the first person to describe it in an amateur publication and so publicised it. It deservedly caught on fast.

But his original version did not even specify the balanced line impedance Zo. He knew it didn't matter. He said it could be of any physical length provided it was 1/2-wavelength somewhere in the 20 metre band. So any modification depended on wishful thinking for it to work as intended.

Half-size and twice-size versions sometimes work after a fashion because, with radio, anything will work after a fashion. Any other versions have no connections with G5RV's. They are just other dipoles, centre fed over balanced lines.

Believe me, this is just a little food for thought. I have no intention to spread pessimisim world wide. There's quite enough of that about already. ;o)

Cheers, Reg, G4FGQ

2361. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:19:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b94047$l22$1@hercules.btinternet.com>
Source record: 119213

> Have been thinking of using the balanced tuner made by a German company
> http://www.hamware.de/hardware/tuner402/at402-e.htm .

==========

Made in Germany is a reasonable recommendation. But who is trying to
'cash-in' on using now deceased Varney's, G5RV's reputation?

2362. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:28:33 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b940m1$m0n$1@hercules.btinternet.com>
Source record: 119214

Was or is your supervisor of any use beyond expounding his wisdom?

2363. WTB:Heath IG-5280 RF Oscillator

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:32:43 UTC
From: SWL <radiovintage@hotmail.com>
Message-ID: <%Ffta.55577$4P1.5140218@newsread2.prod.itd.earthlink.net>
Source record: 119215
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Wanted to buy Heathkit IG-5280 RF oscillator.Not working ok.Please state
price and condition.
THANKS

2364. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:36:07 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b94147$mo1$1@hercules.btinternet.com>
Source record: 119216

Richard, you disappoint me. I thought we were getting along fine.

Reg.

2365. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 21:57:04 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b9427e$f9mmk$1@ID-150848.news.dfncis.de>
Source record: 119217

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b93uil$enmgh$1@ID-150848.news.dfncis.de...
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:b93kud$av2$1@sparta.btinternet.com...
> >
> > At the bottom of the front page of the program notes is the message
> > "IMPORTANT: Coil length is the distance between the wire centres of
> the end
> > turns of the coil."
>
> Not easy to figure out what you are saying IMO. I read that as meaning
> coil length measured from centre of the wire at one end of the coil to
> the center of the wire at the other end of the coil. (As opposed to
> points on the circumference of the wire).
>
> Okay then, what is the correct length of a coil whose physical length
is
> 9mm from end binding post to end binding post, consisting of 2 equally
> spaced turns? Wire diameter 1.1mm. Also, what is the pitch?
>
> Rich.

I asked you to tell me what the wire length was, just in case I was
misunderstanding you, but I think I can tell you what it is. It's 4.5mm.

It seems: For the purpose of SOLNOID2.EXE, coil length is strictly not
the physical length from end binding post to end binding post. It's from
half a turn in from each end of the binding posts.

So, for my example of coil physical length 9mm, 2 turns, half a turn in
from the end of a binding post is 2.25mm. So coil length to be enterd
into program is 4.5mm as per:

t------c1------t1------c2------t2

From t to t1 is first turn
From t1 to t2 is second turn
c1 and c2 is halfway points of turns

t to t2 is 9mm
t to c1 is 2.25mm
c1 to t1 is 2.5mm
t1 to c2 is 2.5mm
c2 to t2 is 2.25mm

For the purposes of S0LNOID2.EXE the coil length to be entered is
distance between c1 and c2 = 4.5mm.

Personally I think the instruction: "IMPORTANT: Coil length is the
distance between the wire centres of
the end turns of the coil." needs to be reworded to make the meaning
more clear.

With more and more turns discrepancy between actual physical length and
the length that is reqired by SOLNOID2.EXE converges. So, it could be
that even though (perhaps) many users of SOLNOID2.EXE have misunderstood
the intruction on length, it hasn't mattered , because coil turns have
been at a number which has not led to such a glaring discrepancy as I
experienced.

It appears that now we have a satisfactory resolution and answer to my
problem.

Cheers.

Rich.

2366. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:07:44 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b942rg$f60fe$1@ID-150848.news.dfncis.de>
Source record: 119218

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b9427e$f9mmk$1@ID-150848.news.dfncis.de...

>
> t------c1------t1------c2------t2
>
> From t to t1 is first turn
> From t1 to t2 is second turn
> c1 and c2 is halfway points of turns
>
> t to t2 is 9mm
> t to c1 is 2.25mm
> c1 to t1 is 2.5mm
> t1 to c2 is 2.5mm
> c2 to t2 is 2.25mm

Errata:

t to t2 is 9mm
t to c1 is 2.25mm
c1 to t1 is 2.25mm
t1 to c2 is 2.25mm
c2 to t2 is 2.25mm

> For the purposes of S0LNOID2.EXE the coil length to be entered is
> distance between c1 and c2 = 4.5mm.

2367. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:23:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB592DB.1020204@ieee.org>
Source record: 119121

Reg Edwards wrote:
> Half-size and twice-size versions sometimes work after a fashion ...

Half-size versions should work pretty well on 40m, 20m, & 10m.
Twice-size versions should work pretty well on 160m, 80m, & 40m.
The regular size version works pretty well on 80m, 40m, & 20m.
Proving, once again, antennas are scalable.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2368. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:26:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5937C.2040608@ieee.org>
Source record: 119123

Dee D. Flint wrote:
> No the 949 manual won't work for the 941D either (note see my other post
> about the D versus E).

Exactly how many ways are there to tune a T-net tuner?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2369. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:27:56 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b9441v$feqcj$1@ID-150848.news.dfncis.de>
Source record: 119122

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b942rg$f60fe$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b9427e$f9mmk$1@ID-150848.news.dfncis.de...
>
> >
> > t------c1------t1------c2------t2
> >
> > From t to t1 is first turn
> > From t1 to t2 is second turn
> > c1 and c2 is halfway points of turns

> Errata:
>
> t to t2 is 9mm
> t to c1 is 2.25mm
> c1 to t1 is 2.25mm
> t1 to c2 is 2.25mm
> c2 to t2 is 2.25mm
>
> > For the purposes of S0LNOID2.EXE the coil length to be entered is
> > distance between c1 and c2 = 4.5mm.

Or, if you have a coil in front of you that you can measure the physical
properties of:

Length of coil value *to be entered into SOLNOID2.EXE* =:

Physical length of coil - pitch.

2370. Need Info: Mars SP-1000, Japan, 4=Waters UEW 572-B Tubes

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:51:39 UTC
From: randylands@aol.com
Message-ID: <20030504185139.06049.00000662@mb-m07.aol.com>
Source record: 119126

Hello, looking for any info on a Mars SP-1000, Amp made in Japan.. it has 4 = Waters UEW 572-B Tubes.... Also has 2 Huge transformers.. any info would be greatly appricated.. Thanks, Randy........
Also have a Rohn Tower for sale

2371. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 22:54:45 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b945np$o8h$1@slb2.atl.mindspring.net>
Source record: 119127

Cecil:

[snip]
> If I remember right, you think the extra energy in a transmission
> line with a high SWR sloshes from side to side instead from end
> to end. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Only in the "steady state" Cecil, only in the "steady state".

There are certainly reflections and echos in transient situations, such as when a
TDR [time domain reflectometer] measurement is being made or when pulses are applied, etc...

This is just as there are no "reflections" in a DC system made up of a battery of internal
resistance Ri, delivering power to a load Ro, but one can readily compute a reflection
coefficient at the battery interface as rho = (Ro - Ri)/(Ro + Ri) and can prove that
maximum power is passed from the battery to the load when rho is zero, i.e. when
Ro = Ri. Indeed one can even assume say a capacitor connected across the load
resistor Ro to slow the extinction of the transient regime and then there will be some
semblance of "reflection" as the capacitor charges up to its' final steady state value.
But eventually with the battery and resistors it is all steady state DC with a residual
charge on the capacitor, and after the initial transients of turning on the switch there
are no reflections, echos, etc, just a smooth flow of power from the source to the
load with some energy stored in the capacitor across the load.

Well the same thing is true in the AC "steady state".

There are no reflections or echos up and down the line [end-to-end] after the AC steady
state is achieved. Any stored energy in such steady state AC systems is just sloshing
back and forth between the distributed inductance and distributed

capacitance in the system
similar to the charge stored on the capacitor across the load in the battery system I described
above. I like to think of this as side-to-side sloshing of energy rather than the end-to-end
sloshing that occurs with transients or as the line is charging up. Ya'll apparently like to
think of this as reflection and re-reflection, etc... but in the steady state it just ain't so.

Don't be fooled just because the same equations apply. Indeed the same equations apply
to both the transient regime and to the steady state regime. Just as with the DC battery
system described above. The intial echos don't persist just because the equations persist!

The energy that charges up the line during the transient start up period is simply stored
as oscillating energy being continuously swapped between the distributed capacitance
and distributed inductance along the line. All end-to-end echos and reflections slowly
extinguish and die out eventually. In amateur antenna systems on HF bands they
die out in microseconds e.g. as when amateurs are conducting SWR measurements, etc.

Indeed Cecil, think about this... all of the laws, and equations of steady state reflection
dynamics have to be true for all frequencies "f". Indeed just because ham VSWR
meters stop working at some lower frequency limit because of their inherent construrction
does not mean that the equations describing the physical phenomena are no longer
applicable. There is no special frequency "fs" below which the equations stop working!
rho is just as valid at DC as at any other frequency. And so the equatons/laws must be true
for f = 0 Hz or DC as well as for f = 14.250MHz! Make use of this insight to help understand
what is happening in the AC steady state. DC is only a steady state just as you have AC steady
states. And there are no more reflections running up and down a line for AC steady
state than there are for DC steady state.

Cecil during the time when most hams are "reading" their SWR meters, there are no echos!

There are no echos in the steady state! But the equation predicting echos, i.e.

rho = (R - Z)/(R + Z)

is still valid and predicts matching performance just as it does for the DC system.

That's it... in reality there are no end-to-end echos in steady state AC systems. Anyone who reads
such into reality from the equations is being fooled by the equations. Just because the equations
are as valid for transient echo situations as for the steady state does not mean that the transients
persist forever.

And so it is futile to pursue the arguments that ya'll often see on here and in Walter's book about
reflections, since there are no steady state reflections, and any one can speculate about such
reflections till the cows come home, "visualize" all kinds of reflections that obey
the equations, but jut because these "imagined" reflections obey the equations, that doensn't mean
the reflections are actually there.

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

2372. Re: 2m antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:04:43 UTC
From: ray gaschk <rgaschk@ca.astound.net>
Message-ID: <b946d6$d7j$1@news.astound.net>
Source record: 119130

Martin,
Please take a look at our antennas: elkantennas.com

The 2M/440 dualband has five color coded elements that screw onto color
coded boom.
Takes 2-3 minutes to assemble, great for emergency,portable use. Weight 1.3
lbs

Let me know your opinion. We sell ten times more of the dual bander than our
old 2M single band.
The dual band is now available from HRO
in Anaheim. If they are out of stock, let me know,
if you buy through HRO, I'll pay for shipping to
San Diego or LA area.
What is your location in VK land? We are located in Walnut Creek CA just 30
miles East of San Francisco.

No matter what antenna you choose, enjoy amateur radio.

73 from ray, w6fya for Elk Antennas
"Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au> wrote in message
news:b92a2j$1iu4$1@austar-news.austar.net.au...
> "Dr. John" <frellyou@privacy.net> wrote in message
> news:jsg8bvc0hpdveh938010m7jtq0pik31bg3@4ax.com...
> > Need:
> > 2m FM antenna (doesn't matter if narrow or wideband)
> > pref 3db or more gain
> > pref in San Diego or LA Countys
> > Less than 7.5 feet tall
> > If directional, about a 3 foot turning radius
> > PL-239 connector
> >
> > E-mail k g 6 o x a_@_h o t m a i l . c o m (without spaces and
> underscores) or reply on NG. Thanks.
> >
> > John, KG6OXA
>
> I didn't know they made a different antenna for FMN and FMW!! Well, you
> learn something new every day! ;-)
>
> I've got one of those u-beaut versatile antenna's - works on 2m AM, FMN,
> FMW, USB, LSB, CW......., but they may not make them anymore.... ;-))
>
> (hihi)
>

> Martin, VK2UMJ
>
> PS - Have you tried any of the numerous radio stores, or even making your
> own? Take a peek at the ARRL Antenna Book..
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/03

2373. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:05:08 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b946b8btm1@slb0.atl.mindspring.net>
Source record: 119128

Reg:

[snip]
> ============================
>
> A vector is exp(j*phi) = cos(phi) + jsin(phi)
[snip]

Reg, that's a complex number, not a vector.

A 4 dimensional vector of "reals" for instance might be:

v = (7, 4, -2, 9)

There can be also be vectors of complex numbers for instance a 4 dimensional complex vector might be written as:

u = (7+j2, 2-j3, -6+j2, 5 +j3)

7+j2 is a complex number that is contained in the complex vector u, but 7+j2 is definitely not a vector. Just because the rule for adding complex numbers and the rule for adding two dimensional vectors "happens" to be the same does not make a complex a vector!

Rotating complex numbers that rotate with constant angular velocity w = 2*pi*f where f is in Hz are often called "phasors"or sometimes "spinors" but are just complex numbers rotating with time at a constant angular velocity.

Me?

I personally prefer complex's to vectors, they are much more fun and more appealing to us techies, while vectors are more appealing to accountants and bookeepers!

Thoughts, comments?

--
Peter K1PO
Indialantic By-the-Sea, FL.

2374. Suburban Antenna Mounting

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:05:47 UTC
From: Joe Guthart <jguthart@attbi.com>
Message-ID: <f1hta.491945$Zo.107971@sccrnsc03>
Source record: 119129

I have a 2001 Suburban and want to mount a quad band antenna that is approx 54" tall. Any ideas on the best place to mount? Please advise. Thanks.

2375. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:08:02 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <m3hta.3691$3f7.2973697@newssvr28.news.prodigy.com>
Source record: 119119

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3eb566b5$0$48904$edfadb0f@dtext02.news.tele.dk...
> Hello Greg
>
> > I just got a MFJ-941D Versa Tuner II at the local hamfest, but the
> > manual is not available on the MFJ website, like I was told. Any idea
> > where to get a manual, or just something that can tell me how to use
> > the thing?
>
> The manual for the MFJ-941E is there, maybe you use that instead.
>

Nope the manual for the E version does not work for the D version. I had a D version but sold it. However prior to that I had occasion to compare the two and the operating procedure does differ. I no longer have enough info though to tell you how to operate it.

Dee D. Flint, N8UZE

2376. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:09:30 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b946qkuns1@slb5.atl.mindspring.net>
Source record: 119132

Cecil:

[snip]
> When I was at Intel in AZ., we had an antenna course taught
> by Dr. Balanis himself. One day he said, "Why do engineers
> working for Intel know so much about antennas?" All of us
> were Amateur Radio Operators. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Your CEO at that time, the CEO of Intel that is, Andy Grove is/was/still is
Dr. Andrew Grove, Ph.D.

You got two guesses as to his major.

--
Peter K1PO
Indialantic By-the-Sea, FL.

2377. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:09:37 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <R4hta.3693$3f7.2974046@newssvr28.news.prodigy.com>
Source record: 119120

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB56CC0.8080905@ieee.org...
> nospam KF6ALC wrote:
> > I just got a MFJ-941D Versa Tuner II at the local hamfest, but the
> > manual is not available on the MFJ website, like I was told. Any idea
> > where to get a manual, or just something that can tell me how to use
> > the thing?
>
> The 949 and 941 are close enough that the 949 manual might work for you.

No the 949 manual won't work for the 941D either (note see my other post
about the D versus E).

Dee D. Flint, N8UZE

2378. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:10:52 UTC
From: froggers <not.froggers@nospam.ntlworld.com>
Message-ID: <a6hta.3883$8c7.3275@newsfep1-gui.server.ntli.net>
Source record: 119131

Thanks to all who have replied so far - something to start working with !

Tom

2379. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:24:44 UTC
From: dickhinoh@aol.com
Message-ID: <20030504192444.24114.00000370@mb-m27.aol.com>
Source record: 119133

A Google search turned up the following web site
Scroll down to MFJ

http://www.manualmall.com/MA_PR.html

2380. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:31:55 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <Lphta.455$5h4.70323@nnrp1.ptd.net>
Source record: 119134

"Brian Kelly" <kelly@dvol.com> wrote in message
news:d22b54c3.0305040210.13d2a4ea@posting.google.com...
> "Dee D. Flint" <deehays@qix.net> wrote in message
news:<gz1ta.3339$3f7.2693012@newssvr28.news.prodigy.com>...
> > "Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
> > news:9MXsa.396$5h4.53043@nnrp1.ptd.net...
> > > The ITU World Radiocommunication Conference ("WRC-03") is scheduled
> > > for early June through July 4th in Geneva, Switzerland.
> > >
> > > One of the items on the agenda is the revision of S25 of the ITU
> > > Radio Regulations, which in S25.5 includes the current requirement
> > > for a Morse test for licenses that convey privileges in the bands
> > > below 30 MHz.
> > >
> > > Conventional wisdom is that the requirement will be dropped from
> > > the ITU Radio Regulations, which will give administrations the
> > > freedom to modify their national rules to eliminate the Morse
> > > requirement.
> >
> > But there is no guarantee or certainty that it will happen.
>
> Carl is going to Geneva to make sure it *does* happen Dee. And there's
> a rumor floating around to the effect that his fellow NCI member and
> ardent supporter Lenny will be his political advisor in Geneva.
>
>
> > Dee D. Flint, N8UZE
>
> w3rv

2381. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:33:11 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <Xqhta.3699$3f7.2983160@newssvr28.news.prodigy.com>
Source record: 119124

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB5937C.2040608@ieee.org...
> Dee D. Flint wrote:
> > No the 949 manual won't work for the 941D either (note see my other post
> > about the D versus E).
>
> Exactly how many ways are there to tune a T-net tuner?

The 941D was NOT a T-net tuner. That's why it won't work.

Dee D. Flint, N8UZE

2382. Re: More G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:36:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b94866$d9d$1@sparta.btinternet.com>
Source record: 119135

Hi Cec, I thought you might turn up.

I note you said "should work" rather than "would work".

"Might work with a tuner" is a logical prediction.

Anything might work with a tuner or your switchable transmission line. And if you use a tuner or switchable line then you havn't got a G5RV or any connection with it unless by some remote chance the top is 102 feet.

Of course, you can change the physical line length all over the shop and it's still a G5RV provided the line is 1/2-wavelength at 14.1 MHz and the top is 102 feet.

I've nothing against exact G5RV's in themselvs except that their name is highjacked as a sales gimmik for non-G5RV antennas and as a supposed educational talking point in newsgroups. I can understand the sentimental attachment. It was probably the first of a long sequence of antennas erected by many amateurs. And it worked !

Reg, g4fgq

2383. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-04 23:43:22 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <uAhta.3704$3f7.2987051@newssvr28.news.prodigy.com>
Source record: 119125

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB5937C.2040608@ieee.org...
> Dee D. Flint wrote:
> > No the 949 manual won't work for the 941D either (note see my other post
> > about the D versus E).
>
> Exactly how many ways are there to tune a T-net tuner?
> --

To further expand (besides it not being a T-net tuner), the 941D had two variable capacitors and a tapped coil inductor. The 941D did NOT use a cross needle meter. It had a single needle meter. You had to separately read each parameter (forward power, reflected power, and SWR). Before taking a reading, you also had to calibrate the scale and so on. The later tuners had cross needle meters.

If I'm not mistaken, MFJ also change the way the capacitor dials were set up so that the min and max capacitance read the opposite of what the old dials read. I'm not 100% certain on this point though.

Dee D. Flint, N8UZE

2384. Predicting HF antenna on yacht using backstay

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 00:04:49 UTC
From: "Richard C. Ferryman" <Richard.Ferryman@btinternet.com>
Message-ID: <k8abbv435eopbjh4lkbhbpaqgb98e35oi9@4ax.com>
Source record: 119136

I have tried a couple of demos (nec4win etc) to try and plot impedance curves for the backstay of a yacht used as an antenna. I modelled the mast (grounded) and the angled backstay (circa 43 feet from feed point to top insulator) but how can I determine the best length for all ham bands 80 to 15 metres usina an auto ATU. I want to keep the auto ATU within it's designed match range. All I see in my plot at present is the fundamental and odd harmonic resonances with the rest of the range at over 20:1 swr.
Suggestions please?
Richard G4BBH

2385. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 00:14:12 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b94ack$7rm$1@hercules.btinternet.com>
Source record: 119137

Peter, I've managed very well for 60 years without the need for names of mathematical functions, theorems, notations, etc. Never felt this to be a handicap. A Vector is something I have no recollection of ever using although I could have used them many times without being aware of it.

If they're not English names I would have difficulty in pronouncing them, never having had to use them in speech.

Praps it's due to the fact I have seldom had to work in a team of equals where documented tecnical communications have been needed. A sort of loner at my own level. Few lateral connections. Staff and management matters are a different ball park of course.

Reg. G4FGQ

2386. Re: Telrex antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 00:50:47 UTC
From: "Joe S." <maxleonard@hotmail.com>
Message-ID: <b94ch802bld@enews3.newsguy.com>
Source record: 119140

Many thanks to all who provided assistance with identifying this old Telrex tri-bander. I had forgotten about it until I dragged my antennas out from under the house to sell as a package because of moving. Think I'll keep this one -- it's mighty rugged and, as I recall, it was a good performer.

--

Regards,
Joe S.

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message news:3eb1b91c_1@news1.prserv.net...
> I don't think Telrex made very many different tribanders. Their forte was
> monobanders, so it shouldn't be difficult to pin the model down. In 1956,
> they offered two tribanders like you describe, the TB-3 and the TBM-3. The
> TB-3 weighed 86 lbs., and had a turning radius of 19.5 feet. The TBM-3 was
> 47 lbs., and 15.5 feet. Both described as 2 el. on each band. Trouble is
> neither had traps.
>
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message
> news:5x8sa.159613$Si4.127959@rwcrnsc51.ops.asp.att.net...
> >
> > > I have had it for years but it's been bundled up lying in the crawl
> space
> > > under the house for I don't know how long.
> > >
> > > Tri-bander with four elements:
> > > -- driven element with traps for 15 and 10, and.
> > > -- three reflectors, one for each band.
> > >
> > > The matching element is a black plastic box with a long wire loop
> mounted
> > at
> > > the center of the driven element.

> > >
> > > I cannot locate the paperwork on this antenna -- can anyone help me
> > identify
> > > the model and possibly locate the manual on it?
> >
> > Sounds like a TB5EM with the director cut off. Never heard of a TB4. At
> any
> > rate, the black box is a Balun.
> >
> > W4ZCB
> >
> >
>
>
>
>

2387. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 01:06:12 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b94de8$faqie$1@ID-134747.news.dfncis.de>
Source record: 119138

1. Set transmitter gain to absolute minimum,
after the tuner is adjusted it will handle
(according to MFJ) 300 watts.
2. Switch inductance control for maximum noise in
receiver
3. Key transmitter and adjust capacitors for
minimum SWR. They are interactive, adjust one at
a time.
4. Once SWR is matched increase transmitter
power - if you feel the need to pay the electric
company large sums of money.

--
73 es cul

wb3fup
a Salty Bear
"GregEMT1 (nospam) (KF6ALC)" <@netzero.com> wrote
in message
news:3eb55f1a.49622282@news.earthlink.net...
> I just got a MFJ-941D Versa Tuner II at the
local hamfest, but the
> manual is not available on the MFJ website, like
I was told. Any idea
> where to get a manual, or just something that
can tell me how to use
> the thing?
>
> Thanks,
> Greg KF6ALC

2388. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 01:22:45 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB5BCE5.92D6D77D@cwis.net>
Source record: 119141

"Dee D. Flint",
Despite all those changes the basic operation will
still be the same. Adjust capacitors for lowest reflected
power/SWR, using the least amount of inductance required.
Same basic operating method as any tuner...
'Doc

2389. Re: WTB: 2m antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 01:31:04 UTC
From: joe <a_good_joe@nospam.joe.com>
Message-ID: <3EB5BED6.9F767284@nospam.joe.com>
Source record: 119142

Hi,

You can build this 2m antenna for under $ 3.00 and don't need any swr/meter/solder etc. use crimp on lugs to attach elements to a so-239 with nut/bolts and you are in business.

http://www.cebik.com/hs.html

This site is a wealth of information about all kinds of amateur antenna

joe

"Dr. John" wrote:

> Need:
> 2m FM antenna (doesn't matter if narrow or wideband)
> pref 3db or more gain
> pref in San Diego or LA Countys
> Less than 7.5 feet tall
> If directional, about a 3 foot turning radius
> PL-239 connector
>
> E-mail k g 6 o x a_@_h o t m a i l . c o m (without spaces and underscores) or reply on NG. Thanks.
>
> John, KG6OXA

2390. mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 01:51:19 UTC
From: wings@dakotacom.net
Message-ID: <3eb5b6c1.6758739@news.dakotacom.net>
Source record: 119143

I am trying to maximize my reception area for a legal part 15 am station at 1.7 MHz. The rules allow for an antenna up to 3 meters long including feedline and ground lead with 100mW output power. I'm usung a "Gizmo" transmitter at 1700 kc in a residential neighborhood, so I'm height restricted to 10 M. I am challenged in this, due to the restrictions. Cant find swr meter for this low power, so low voltage light bulb used for peaking signal.

My most recent experiment was a DDRR style antenna, which gives very high radiation angles, and doesn't tune well. I need a strong ground wave, and don't care about dx much, so have thought about a "magnetic loop transmitting antenna", which may give the strongest ground wave when mounted no higher than 30 ft.

Have been playing with a dos program downloaded called "mloop31" that models stl's above 1 MHz. The design that gives me the highest effeciency that fits in a cube 3 meters on a side and >10Khz bandwidth, has 4 turns of #12 wire and is 3 meters wide and tall and and 2 meters long, giving about 4% effeciency at 1.7 MHz, which is pretty good. When I put these dimensions into programs for receiving loops, I get different values for tuning caps and slf resonance, and assume this is not a problem? Can others verify the accuracy of "mloop31"? I am very close to the 160 meter ham band in operation.

Where can I get 500 pF 100 volt tuning caps???

Would it be better to use 7 single turn loops wired in parallel, provided there was equal current in each wire? The loops could be 500 mm apart. Would this raise the radiation resisitance like a "multiple tuned" vertical? 7 wires would give 7^2= 49 times the radiation resistance with 1/7 the ohmic loss. The 4 turn loop gives about 16 X the radiation resistance of a single loop, but 4X the ohmic loss. however, the current is also 4X higher, so the multiple loop coil seems like it would work better, however I am limited to only 4 coils in series, while there's room for 7 in parallel.

I can't find many reference articles that explain this online. Thanks in advance,

Gene A. Townsend

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2391. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 02:11:31 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <nLjta.3739$3f7.3080136@newssvr28.news.prodigy.com>
Source record: 119139

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:b94de8$faqie$1@ID-134747.news.dfncis.de...
> 1. Set transmitter gain to absolute minimum,
> after the tuner is adjusted it will handle
> (according to MFJ) 300 watts.
> 2. Switch inductance control for maximum noise in
> receiver
> 3. Key transmitter and adjust capacitors for
> minimum SWR. They are interactive, adjust one at
> a time.
> 4. Once SWR is matched increase transmitter
> power - if you feel the need to pay the electric
> company large sums of money.

The 941D (which is what the original poster asked about) does NOT have a cross needle meter. Your directions work fine for cross needle meters but not for the meter on the 941D. You must separately read forward power, reflected power, and SWR by pushing different buttons. You must calibrate the scale before trying to read the SWR.

Later models of the 941 such as the 941E have a cross needle meter so your directions should work for that but will not give an accurate SWR reading on the 941D as the scale must be calibrated first.

Dee D. Flint, N8UZE

2392. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 02:40:28 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305041840.1fdd4e8@posting.google.com>
Source record: 119145

GregEMT1(nospam)@netzero.com (KF6ALC) wrote in message
news:<3eb55f1a.49622282@news.earthlink.net>...
> I just got a MFJ-941D Versa Tuner II at the local hamfest, but the
> manual is not available on the MFJ website, like I was told. Any idea
> where to get a manual, or just something that can tell me how to use
> the thing?

The basic tuning circuitry is the same in both the D & E models, the E model manual is available from the MFJ site. There are some minor differences however and I suggest that you pop the lid of your new D model and compare it's set of realities with the E model manual and take due note. None of the MFJ tuners are rocket science objects, they're just another marginally adequate enclosed pile of parts. Find out which way ya rotate the caps to max. The object from there is to find the sweet spot (lowest SWR) per band per antenna which can be obtained with the max capacitances and the least coil inductance (via the tap switch). It's just a knob twisting exercise no manual is going to do for you.

> Thanks,
> Greg KF6ALC

w3rv

2393. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 02:43:27 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305041843.6cfa7fad@posting.google.com>
Source record: 119146

"Dee D. Flint" <deehays@qix.net> wrote in message
news:<KR7ta.3378$3f7.2781849@newssvr28.news.prodigy.com>...
> "VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
> news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
> > Nor is there a certainty that the world will end. The only thing that is
> > certain my friend is life, death and taxes.
> >
>
> Exactly that is why one should wait around but meet the current
> requirements. Life is too short to waste on waiting.
>
> > CW will be removed as an examinable requirement for access to the HF
> > spectrum. So it should, you don't see examinations being conducted for
> those
> > who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
> > operation, do you?
>
> Echolink is too new yet but the tests do include material on the use of
> RTTY, packet, etc. Due to their nature, it's only necessary to understand
> how to hook up the hardware and what the operating limits (such as max baud
> rate of HF vs VHF) and procedures are. These questions are on the US tests.
>
> >
> > The argument that CW is required for access to HF because of an
> emergencies
> > and the like excuse is long past its use by date...
> >
> > I haven't heard one logical, non emotive, non old scholar argument to
> > continue with CW being an examinable requirement.
> >
>
> It's a viable mode of operation. It is one of the fundamentals of radio.
> It is part of a well rounded education in radio. It is an area where a
> person needs actual experience to judge its usefulness. We are required to
> learn a lot of things in other aspects of our life that are not germane to
> our lives simply because it is considered one of the fundamentals and/or
> part of a well rounded education. After all by the time you finish
> elementary school, you can read, write, and add and subtract. More than
> that is not necessary in daily life. So let's let people drop out of school
> after 8th grade. The ordinary person doesn't need algebra or geometry or
> chemistry or physics or Shakespeare. Only those who are going on to college
> "need" that sort of stuff.
>
> You see there is no logical, non-emotive, non-"I don't want to do it"

> argument that is viable for dropping the CW requirement.

Right on the money, well put Dee.

> Dee D. Flint, N8UZE

w3rv

2394. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 02:45:03 UTC
From: richardharrison@webtv.net
Message-ID: <25929-3EB5D02F-7@storefull-2312.public.lawson.webtv.net>
Source record: 119149

Peter, K1PO wrote:
"All end-to-end echos and reflections slowly extinguish and die out eventually."

In the meantime, significant things happen while those reflections are regularly repeated. Otherwise, how would my Bird wattmeter indicate a reflected energy if none exists?

Peter also wrote:
"There is no special frequency "fs" below which the equations stop working!"

Wavelength is the reciprocal of frequency. At a wavelength of 10 meters, volts at a point 2.5 meters away may be much different from those at hand even when the points are connected by a good conductor. Not so if the wavelength is 1000 meters.

Peter also says:
"DC is only a steady state just as you have AC steady states."

When the transient oscillations fade to insignificance following the start and stop of d-c, reflections end. Reflections are produced by changes. A-C has a practically continuously changing amplitude and is always making new reflections.

Wavelength is the wave velocity divided by the frequency. So, wavelength goes to infinity as frequency goes to zero. There can be no voltage difference at d-c in the steady-state caused by degrees of separation in wavelength. when the wavelength is infinite. Any separation in distance is zero degrees.

Reflection coefficient assumes a junction of a uniform transmission line with another impedance The Zo of that uniform transmission line is a function of its inductance. As d-c produces no reactance from an inductance, Zo means nothing to d-c. The effect of a lossless Zo goes to zero when the frequency drops to zero.

Best regards, Richard Harrison, KB5WZI

2395. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 02:55:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b94jf1$2lj$1@news.service.uci.edu>
Source record: 119147

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB44100.3000706@ieee.org...
> Jim Kelley wrote:
> > It is well known that interference does nothing more than create a
patterned
> > spacial distribution of energy - at most. Interference does not supply
> > energy any more than it destroys it.

> The excess energy involved in destructive interference has to go
somewhere.
> The energy lacking in constructive interference has to come from
somewhere.
> I can see you haven't read the chapter on interference in "Optics" by
Hecht.

Actually, I did read it - about 15 years ago. Apparently you can't see too
good. ;-) Turns out it says the same thing as you'll find in almost any
light and optics book. I'm familiar with interference - quite a bit more so
than you in fact. If you like, I can send you some pictures of the Zeeman
effect apparatus I designed and built. It uses a Burleigh Fabry-Perot
interferometer and a little 1/3 meter grating spectrometer to look a just
the green Mercury line.

> If so, please demonstrate
> interference where all the rings are brighter than average. Hecht says
that
> is not possible.

I wouldn't even have bothered to mention such a ridiculous notion. But I
guess you're just learning this stuff.

> Is there more energy in the bright rings than in the dark rings? If so,
where
> does that bright ring extra energy come from?

It comes from the light source, obviously. It certainly doesn't come from
the dark fringes. Light energy doesn't go to those - as you claimed to
know.

73, ac6xg

2396. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:00:54 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <Gtkta.3754$3f7.3120952@newssvr28.news.prodigy.com>
Source record: 119144

"'Doc" <w5lz@cwis.net> wrote in message news:3EB5BCE5.92D6D77D@cwis.net...
>
>
> "Dee D. Flint",
> Despite all those changes the basic operation will
> still be the same. Adjust capacitors for lowest reflected
> power/SWR, using the least amount of inductance required.
> Same basic operating method as any tuner...
> 'Doc

I've said this several times. The 941D is NOT a cross needle meter. It is essential that you calibrate the SWR scale for the power level that you are tuning at or you will get an incorrect readout. It is also essential that you take the time and effort to read the forward and reflected power by pushing the appropriate button or you may find that you don't have the power out you think you do. Most of the people that I have met don't have a clue how to do this when the unit does not have a cross needle meter. Yes it is true that the adjust the capacitors for the lowest reflected power/SWR but unless you check the forward power, that low reading MAY be due to the transmitter cutting back power.

Yes the basic principle is the same but the mechanics of achieving it are quite different.

Dee D. Flint.

2397. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:10:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5D617.3060409@ieee.org>
Source record: 119148

Peter Brackett wrote:
> You got two guesses as to his major.

Most of Intel's upper management were physicists.
--
73, Cecil http://www.qsl.net/w5dxp

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2398. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:17:27 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns9371CE67D3E29pookster@129.250.170.84>
Source record: 119153

Roy Lewallen <w7el@eznec.com> wrote in
news:vbasub8p77r7a@corp.supernews.com:

> So, once again, no single solution is optimum for all applications.
>
Truer words were never spoken, especially regarding antennas. :-)

--
Bill Turner
W7TI

2399. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:25:05 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305041925.78a9284f@posting.google.com>
Source record: 119150

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb887h9681f7c0@corp.supernews.com>...
> A bit of research on the web failed to show how this particular virus
snip

Wait a minuit now Roy, I have asked for input from this group for many
,many years on antenna design specifically with respect to antennas
that I have experimented with.Because they were new to you and others
it was easier for all to debunk rather than examine for technical
excellence. This lack of rapport has lead to fraustration on my part
admittedly. But if this is really a technical forum is it asking too
much for technical reasons for debunking rather than
inferring that I am a fool ?

The last illustration of my sharing of antennas led to more debunking
yet
what I drew up as a electrical complex circuit for Doctor Slinky is
rooted in solid technical design as were other statements on this
antenna group yet nobody even understood it enough for some wierd
reasons.
The circuit showed more than a T tuner circuit can provide i.e. it has
five variables (Cp, Cs, Lp, Ls and M). It is undeniably a circuit of
lossless,
tuned transformer network as known to any competent radio designer or
manufacture, yet all the gurus or experts have chosen to deride my
antenna rather than disprove basic enginneering data. True, Terman
used the same circiut in his disertation of properties of resonant
circuits but since I have using the same principles with respect to
antennas for some reason people debunk
academic facts.
It would have been much easier for all years ago to debunk my
statements
by refuting Terman or any other reputable writer than reacting as tho
it was a sequal to some silly or prior former design. My first patent
as was my second patent is rooted firmly in the above text by Terman.
My last drawings together
with the outline of my antenna as a sample of a lossless feed antenna
is also firmly rooted in Termans writings except his was applied to
actual radio circuits, where I applied the same reasoning to actual
antennas which also showed that efficiency is not linked to wavelength
as such as we now see with radiators.
When Doctor Link provided a standard formula with respect to what I wa
doing I felt sure that finally the truth could not be held back any
more but I was wrong
Roy the fact is that my last circuit drawing together with the antenna
outline

is based on solid academic grounds which no one can deny. Yet you or
any other
expert on this antenna technical group can provide not one iota of
fact that destroys the antenna concepts that I profer. If just one
person was able to present anything that undermined my concepts I
would have been happier years ago
and moved on. If anybody had clearly stated any reasons why Terman and
I was wrong it would have been so much better all around. So instead
of leading Jaraslav a particular way why not give one academic reason
as to why I am wrong
with my antenna design? Fact is nobody but nobody has brought forth a
technical reason for why I am wrong which then basically gives the go
ahead to those who are unable to understand basic engineering facts
and by your silence
assume that I am a fraud. Year after year I try to determine reasons
why
known engineers on this newsgroup cannot understand the basics of the
design,
each time I come back to the notion that maybe antenna gurus have no
affiliation to tranceiver design or interest in that area but each
time I come to that conclusion I conclude that is impossible
especially when certain threads on much more complicated subjects
present such to and fro technical aspects and knoweledge. So tell
Jaraslav why I or Terman am incorrect technically on antennas so he
can make his own mind, up instead of affixing a pre printed label
which gives the go ahead to certain posters to repeat the patterns of
past years.
As for others, go back to the drawings I gave on the prior post to
Doctor Slink
and point out where I am wrong technically without resorting to nitt
picking silly stuff remembering that I provided it as a basis for a
loss less feed
variable frequency antenna. Surely somebody studied the subject of
resonant
circuits in American Universities!
Art

>
> Art has publicly accused me on several occasions of doing things which I
> haven't done and saying things I haven't said, and it looks like this
> trend is now extending to Yuri (as a recipient of the accusations) and
> the increasingly long list of people Art feels have somehow wronged him.
> I hope you don't join him in making these unfounded accusations.
>
> Roy Lewallen, W7EL
>
> jaroslav lipka wrote:
> > Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb56sucjj4u110@corp.supernews.com>...
> >

> >
> >
> >
> >>It almost certainly is a coincidence. The "Microsoft security update"
> >>virus has been around for quite some time. A lot of the common email
> >>viruses you see these days (technically "worms") pick addresses out of
> >>the infected computer's address list to send the virus to. They often
> >>put another randomly selected address-book address in the forged "From"
> >>header field.
> >
> >
> > Hi Roy
> >
> > what you say is probably true, but how do you explain this. I
> > have no address list for this address, and i have never sent or
> > received emails from this address

2400. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:25:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5D99C.2060207@ieee.org>
Source record: 119151

Dee D. Flint wrote:
> To further expand (besides it not being a T-net tuner), the 941D had two
> variable capacitors and a tapped coil inductor.

With two caps and one tapped coil, it could only be a T-net or a Pi-net.
I don't think it was a Pi-net. I had one of them but I sold it. Open it
up and look inside and you should be able to figure everything out.
--
73, Cecil http://www.qsl.net/w5dxp

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2401. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:30:10 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <1kmbbv89qt3t82paja724t3q71u7247gfm@4ax.com>
Source record: 119152

On Sun, 04 May 2003 21:02:09 GMT, "CW" <clinton.magers@attbi.com>
wrote:

>I agree entirely.
>"VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
>news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
>> Nor is there a certainty that the world will end. The only thing that is
>> certain my friend is life, death and taxes.
>>
>> CW will be removed as an examinable requirement for access to the HF
>> spectrum. So it should, you don't see examinations being conducted for
>those
>> who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
>> operation, do you?
>>
>> The argument that CW is required for access to HF because of an
>emergencies
>> and the like excuse is long past its use by date...

Strange...I just volunteered to do some work for an agency. One of
the requirements was high speed CW proficency.

Roger
>>
>> I haven't heard one logical, non emotive, non old scholar argument to
>> continue with CW being an examinable requirement.
>>
>> Regards to all
>>
>> 73 de VK2HXY
>> Troy
>> Windsor - Australia.
>>
>

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

2402. Opinions on UHV-4 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:47:16 UTC
From: wess@gtii.com
Message-ID: <vbbnilhdsjbi56@corp.supernews.com>
Source record: 119154

Does anyone have experience with the comet uhv-4 antenna? I bought a FT-8900r over the weekend and the dealer at the swap meet tried to sell me a uhv-6. I passed since I already bought more radio than I planed to and wanted to take a breath.

Comet's website states that the uhv-4 is designed for my radio. Is this my only choice? Is it a good choice?

Any ideas on what mount to use on a ranger extended cab pickup would be welcome.

Thanks,

Wes, KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2403. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:53:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5E02E.3050803@ieee.org>
Source record: 119155

Jim Kelley wrote:
> Turns out it says the same thing as you'll find in almost any
> light and optics book.

That's exactly what I have been telling you, Jim. You are missing a fundamental fact about interference that you will indeed find in most optics books. Please review the "interference term" covered by Hecht, you know the one you read 15 years ago and have forgotten? Hecht says that the destructive interference and the constructive interference must average out to the average energy which means the extra energy in the bright rings comes from the lack of energy in the dark rings.

> I wouldn't even have bothered to mention such a ridiculous notion. But I
> guess you're just learning this stuff.

Actually, I am just trying to understand your contradictions. Energy that was traveling toward the source winds up traveling toward the load but it doesn't change directions? You are traveling East and then you are traveling West but you didn't change directions?

>>Is there more energy in the bright rings than in the dark rings? If so,
>> where does that bright ring extra energy come from?
>
> It comes from the light source, obviously. It certainly doesn't come from
> the dark fringes. Light energy doesn't go to those - as you claimed to
> know.

All energy comes from the big bang but that is as irrelevant as your statement. Given that the light source is Alpha Centauri, it is impossible for the source to increase its output just to satisfy the interference needs on planet Earth. All that is available is the average energy. The above average extra energy in the bright rings must come from the below average energy in the dark rings. Alpha Centauri doesn't know the interference is happening. Alpha Centauri output that average energy 9 years ago. All the Alpha Centauri light interference effects are local and average out to the average energy, no more, no less. That's obvious to the most casual observer. The same thing holds true for transmission lines where the source may be many wavelengths removed from the interference.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2404. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 03:55:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5E0C5.5020506@ieee.org>
Source record: 119156

Dee D. Flint wrote:
> I've said this several times. The 941D is NOT a cross needle meter.

Just adjust the thing for zero reflected power.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2405. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 04:00:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5E1F4.7020701@ieee.org>
Source record: 119157

Peter Brackett wrote:
> There are no reflections or echos up and down the line [end-to-end] after
> the AC steady
> state is achieved. Any stored energy in such steady state AC systems is
> just sloshing
> back and forth between the distributed inductance and distributed
> capacitance in the system ...

Not true, Peter, as can be proven by observing ghosting on a TV signal.
The ghosts are exactly the magnitude and at exactly the right position
to have made at least one round trip back to the match point. Einstein
said a model should be as simple as possible but not too simple. Yours
is too simple to match reality.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2406. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 04:11:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB5E46A.1020903@ieee.org>
Source record: 119158

Roger Halstead wrote:
> Strange...I just volunteered to do some work for an agency. One of
> the requirements was high speed CW proficency.

CW, unlike spark, is not going to be outlawed. Hams will always
be perfectly free to learn it and use it.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2407. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 04:21:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbbpllhmjbrl86@corp.supernews.com>
Source record: 119159

Art Unwin KB9MZ wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vb887h9681f7c0@corp.supernews.com>...
>
>>A bit of research on the web failed to show how this particular virus
>
> snip
>
>
> Wait a minuit now Roy, I have asked for input from this group for many
> ,many years on antenna design specifically with respect to antennas
> that I have experimented with.Because they were new to you and others
> it was easier for all to debunk rather than examine for technical
> excellence. This lack of rapport has lead to fraustration on my part
> admittedly. But if this is really a technical forum is it asking too
> much for technical reasons for debunking rather than
> inferring that I am a fool ?
> . . .

On the contrary. Far from "debunking" your antenna, I've simply asked on a number of occasions for some support of your claims, which you've never provided. This seems to be what has caused me to be, in your eyes, some sort of bigoted and evil naysayer.

I suggest doing a search at groups.google.com for postings I've made on this newsgroup which contain "unwin", which will bring a complete set of all responses I've made to your postings. I'm afraid you'll find that your memory is a bit hazy about just what I have and haven't said about you and about your antenna ideas.

But if you choose not to bother with this basic research, I'll understand.

Roy Lewallen, W7EL

2408. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 04:34:04 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305042034.3acba339@posting.google.com>
Source record: 119160

Roger Halstead <rdhalste@tm.net> wrote in message
news:<1109bv86tnos4ogbir3gl8uv19j88v9ji6@4ax.com>...

> This past week I've received notes from several ISPs telling me that
> a customer received a message from me (address possibly forged) with a
> virus attached.
> I run continuous checks, use ZoneAlarm Pro, and use a termite checker
> from my ISP. It always comes up clean. (so far) and I don't even
> recognize the addresses listed.

Offhand, I'd say you are infected with a macro virus, if you are
indeed sending them out. I've gotten those from people I don't knew,
or have ever talked to.
When I asked them about it, they had no idea they were infected. One
was a ham who I had never heard of at all. I'm not sure how these
viruses spread addresses, but they seem to be able to glean them from
places other than just your address book. Many will send to people you
don't even know. I'd get a fresh "good" antivirus software and run it.
You need one with a fresh signature file.
If you are sending out "hidden" e-mails unknown to you, you are
infected. Or I would think anyway. I guess the only other option would
be a forged address, but I don't see how they could forge your actual
routing info. IE: Someone can forge an address, but I can still
usually tell where it came from. Being all these people are accusing
you of this, I'd be real wary being most should be able to tell the
true routing. You probably are infected. MK

2409. FS:Mosley PRO-96

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 04:44:29 UTC
From: youngkim@yksystems.com
Message-ID: <ecc0cb9c.0305042044.7d61779f@posting.google.com>
Source record: 119161

I have a complete, taken out of service PRO-96 for sale. The previous owner painted with green color.
Pick up or delivery half way about 100 miles radius from SFO bay area.
Thanks.

2410. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 05:14:50 UTC
From: whagen6@cs.com
Message-ID: <20030505011450.04977.00000541@mb-m05.news.cs.com>
Source record: 119162

The MFJ259B antenna analyzer might be of assistance.

2411. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 05:22:01 UTC
From: whagen6@cs.com
Message-ID: <20030505012201.04977.00000542@mb-m05.news.cs.com>
Source record: 119163

those crazy people who call themselves 'lowfers', not to be confused with loafers, have to consider antenna situations such as yours to a further extreme. They are transmitting in bands way below the medium wave bands. The keys appear to be severe loading of vertical antennas, such as big capacitance hats, and giant loading coils. I think if you looked at antenna designs they use, and modified them to your parameters, you would be successful, dont forget to put down miles of counterpoise, as this is the other side of the double sided key to success.

2412. disregard my 2m antenna threads

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 06:39:51 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <hl1cbvcg6v1q6ccv82ta6a1ki569kenl0t@4ax.com>
Source record: 119164
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.equipment

Please disregard my 2m antenna threads.

I have decided on a 2m log periodic with 1:1 swr and a 24" boom which is fantastically great.

Thanks for your responses and I believe this is the right one for me.

73s
John, KG6OXA

2413. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 06:49:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b951eh$fa0dh$1@ID-150848.news.dfncis.de>
Source record: 119166

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b9427e$f9mmk$1@ID-150848.news.dfncis.de...

> It appears that now we have a satisfactory resolution and answer to my
> problem.
>
> Cheers.
>
> Rich.

Not quite.

Physical coil length: 9mm (0.354330 inch)
Physical coil diamter: 48mm (1.889763 inch)
No. of turns: 2

Calculated inductance:

By formula:

L = Square(NA) / (9A + 10B) micro-henrys.

A = coil radius in inches.
B = coil length in inches.
N = turns.

Result: 0.2964335 uH

By program at:

http://www.crystalradio.net/cal/indcal.html

Result: 0.2964335 uH

By SOLNOID2.EXE

(Entering a value of 4.5mm (0.177165 inch) for coil length.)

Result: 0.405 uH

Looks like there is still a problem here.

Rich.

2414. Re: How to measure coax velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 06:53:52 UTC
From: Toni - ec3dds <ec3dds@hotmail.com>
Message-ID: <1rubbv089cs64ujbrg383kk7tcjglvi0md@4ax.com>
Source record: 119165

Thank you for your answers.

I have a couple of comments:

- I need to actually measure the velocity because the coax cables I have access to are of unknown brand / characteristics. The only thing that is reasonably sure is that they are 75 ohms, as they are sold as such for TV downlead. The dielectric in my cable is something between foam and solid. It is definitely not solid but is much denser and stronger than the foam that I have seen in some coax cables.

- As for the method of cutting cable until a known signal disappears, it seems to be the best so far, and this weekend I've seen a variation of it in an antenna book: To avoid imprecision due to the never perfect T (where, exactly, should you start to measure?), it takes a different approach:

+ cut the "filter" wire to natural 3/4 wl.
+ Cut small pieces until you see a first null (3/4 electrical wl).
+ Measure to some repeatable mark near the T.
+ Cut again until you see a second null (1/4 electrical wl)
+ Measure again to the same mark
+ The difference between the two measurements is 1/2 electrical wl.

I will try to do this and see what happens.

Aside, with the antenna already built and the balun done with approximate length of wire, it works very well (with a bit high SWR, but well). I get very good signal reports.

Extraneously, against all (my) expectations, the antenna (folded 2m dipole with coax 4:1 balun) also works wonders as RX antenna for SWL on a handheld scanner. I know this should be impossible, but it works. If somebody imagines how this is possible, please explain. The only explanation I can find is that even if the loss is very high, the "all grounded" construction must give a signal with very low noise, and the preamp in the scanner compensates for the antenna loss.

Toni - ec3dds

2415. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 07:07:50 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <a5ota.138841$ja4.6395895@bgtnsc05-news.ops.worldnet.att.net>
Source record: 119167
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

If somebody opened up the unit to transmit out of band, they may have retuned the front end. On VHF, the front end selectivity is fairly selective, so if it was retuned in the 155MHz range, this would make the 2M band deaf. On the UHF range, those tuned cavities are really selective. If they were retuned to the 460MHz range, you probably wouldn't hear too much on 440.

Pete

Scott <scott_unit_69@yahoo.bomb> wrote in message news:3EAF88CD.26AC50E5@yahoo.bomb...
>
>
> Terry O'Neill wrote:
> >
> > Try
> >
> > http://80.162.141.166/mods.dk/manuals.php?radio=yaesu
>
> Thanks. That's a start because the radio seems to be deaf. We
> figured out enough of the keypad so he could test it. If it
> wasn't for my scanner, he would not have heard the repeater.

2416. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 07:17:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b9532g$fd55e$1@ID-150848.news.dfncis.de>
Source record: 119168

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:b951eh$fa0dh$1@ID-150848.news.dfncis.de...
>
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:b9427e$f9mmk$1@ID-150848.news.dfncis.de...
>
> > It appears that now we have a satisfactory resolution and answer to
my
> > problem.
> >
> > Cheers.
> >
> > Rich.
>
> Not quite.
>
>
> Physical coil length: 9mm (0.354330 inch)
> Physical coil diamter: 48mm (1.889763 inch)
> No. of turns: 2
>
>
> Calculated inductance:
>
> By formula:
>
> L = Square(NA) / (9A + 10B) micro-henrys.
>
> A = coil radius in inches.
> B = coil length in inches.
> N = turns.
>
> Result: 0.2964335 uH
>
> By program at:
>
> http://www.crystalradio.net/cal/indcal.html
>
> Result: 0.2964335 uH
>
>
> By SOLNOID2.EXE
>
> (Entering a value of 4.5mm (0.177165 inch) for coil length.)

>
> Result: 0.405 uH
>
>
> Looks like there is still a problem here.
>
> Rich.

It could well be the case, I realise, that SOLNOID2.EXE is more sophisticated than the formula or a program that uses the quoted formula (as perhaps the program in the link might do). Perhaps the formula is not good at small numbers of turns.

It's just confusing to dabblers to get different results from the same input data. You don't quite know what inductance value your coil is. So, *it seems* that there is a problem with one of the programs. Maybe there is, in as much as limits of programs are not always mentioned in the blurb. All this uncertainty makes one loose confidence in these inductance calculating programs. I don't know whether the inductance is 0.296 uH or 0.404 uH.

Rich.

2417. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 07:33:22 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305042333.22c7b27a@posting.google.com>
Source record: 119069

Dave Shrader <david.shrader@attbi.com> wrote in message
news:<3EB5730D.4080708@attbi.com>...
> SNIP
> > Oh well, isn't it like 90% of people end up doing something not
> > exactly what their major was? It's still all engineering though.
> >
> >
> > Slick
>
> I had an MIT PhD-EE/SLOAN FELLOW educated Vice President of Engineering
> as my supervisor for 3 to 4 years. His claim is that any motivated
> engineer with a broad Physics background and a good math background can
> be put to work anywhere and that engineer will be blunder proof in the
> new field in 3 months, competent in 6 months and publishing for peer
> review in 12 months.
>
> Comments??
>

I believe this to be generally true, but some stuff takes a long
time to soak in, it really depends on the will of the person.

Control systems engineering is really what phase-locked-loops are
all about, and mechanicals have to learn it too.

Slick

2418. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 08:21:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbc7o22cbek1f5@corp.supernews.com>
Source record: 119070

The _Radiotron Designer's Handbook_ (my favorite reference for inductors), Third Ed. (1945) has a number of different formulas for solenoids of different shapes. The one for short solenoids is claimed to be accurate to within 2% for diameter-length ratios from zero to 20. (+2% for 2.0 to 3.5 and at 20, and -2% for 10 - 12. Your inductor is 5.3.) The formula is:

L = (a^2 * N^2) / [[9 - (a/(5 * l))] * a + 10 * l]

where

a = coil radius (to wire center) in inches
l = coil length in inches
N = number of turns
L = inductance in uH

Unless I goofed up in the calculation, this gives 0.309 uH for your coil, very close to the 0.296 from the simpler formula.

Roy Lewallen, W7EL

Richard wrote:
> "Richard" <nearlynews_email@ntlworld.com> wrote in message
>
> Not quite.
>
>
> Physical coil length: 9mm (0.354330 inch)
> Physical coil diamter: 48mm (1.889763 inch)
> No. of turns: 2
>
>
> Calculated inductance:
>
> By formula:
>
> L = Square(NA) / (9A + 10B) micro-henrys.
>
> A = coil radius in inches.
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> N = turns.
>
> Result: 0.2964335 uH
>
> By program at:
>

> http://www.crystalradio.net/cal/indcal.html
>
> Result: 0.2964335 uH
>
>
> By SOLNOID2.EXE
>
> (Entering a value of 4.5mm (0.177165 inch) for coil length.)
>
> Result: 0.405 uH
>
>
> Looks like there is still a problem here.
>
> Rich.
>

2419. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 09:26:21 UTC
From: VK2HXY - Troy <SPAMvk2hxy@hotmail.com>
Message-ID: <j4qta.209$nh4.7724@nnrp1.ozemail.com.au>
Source record: 119072

Yes ok, very well done Roger, so what has this got to do with CW being an examinable requirement for access to the HF bands? Sure you are going to work for an 'agency' this has nothing to do with everyone having to pass an exam to access the HF bands... So again I reiterate, I haven't heard a logical argument to retain this requirement yet. Mostly emotive posts (not on this NG though) and those who are looking to retain the past, retaining tradition and the like.

So someone, anyone please, fill your boots and convince me the reasons as to why it should be compulsory to have this mode retained as a requirement to access HF. I am not against CW by any stretch of the imagination. I quite like CW, but don't believe that CW is now a necessary requirement to access the HF bands.

Lastly, just because CW is removed from the examination process does not mean that the mode will die off. I believe that some would chose to study the mode because it's another mode that has its benefits as we all well know. Just as some choose to use IRLP, Packet, RTTY, WSJT and a plethora of other modes. By the way, none of which are examinable modes in VK.

Thanks for the great discussion.

73 de VK2HXY
Troy
Windsor, Australia

"Roger Halstead" <rdhalste@tm.net> wrote in message
Strange...I just volunteered to do some work for an agency. One of the requirements was high speed CW proficency.

2420. Re: different antennas for different modes?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 09:27:22 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <LS-dnd1PYufjsyujXTWcqQ@ctc.net>
Source record: 119071

>
> I'd beg to differ somewhat on your last sentence.
>
> I ran a number of experiments on 70cm FM many years ago. Generally
speaking
> horizontal polarization was much better fixed to mobile than vertical when
> the path went over the horizon. I'm not just talking about the vertically
> vs horizonatally shaped aperture either. I would surmise that trees and
> buildings present more attenuation to vertical pol signals.
>
> The horiz aperture shape also made a lot of difference. The flutter was
> (say) 30dB on vertical but only 5-6 on horizontal It was weird listening
to
> a signal like it was really on 10M FM.General figure of merit was in the
> order of 9dB better horiz vs vert.
>
> FYI the tests were done with a 22 el quad fixed and a 4.5dB colinear vs 3
> leaf clover on the mobile. The quad could be rotated to change
> polarisation. Max range tested was about 70km, power was 5 watts. Fixed
> site was west of Sydney up on a hill. Mobile would drive towards/away from
> Sydney CBD. About 30 km of the trip was visible from the fixed location.
> The rest was hilly.
>
> Also did some tests with a 3 el quad on the mobile. Results were
> dissappointing as flutter increased markedly. No doubt due to the
> restriction in multipath availability. Worked very well when the mobile
> stopped moving though! (Use to get some funny looks from other drivers!)
>
> Cheers Bob VK2YQA
>
> >
> > "Dan Jacobson" <jidanni@dman.ddts.net> wrote in message
> > news:87fznvlj4r.fsf@jidanni.org...
> >> Just curious, for a receiver, for a given frequency but different
> >> modes (AM, Wide FM, Narrow FM, etc.) would different antenna designs
> >> be give different results or be worth the trouble?
> >> --
> >> http://jidanni.org/ Taiwan(04)25854780
> >
> > The mode will not make any differance in the antenna type. However you
do
> > have to match the polarity of the receive antenna to the transmitter
> > antenna. For example on 2 meters ssb is usually transmitted with a
> > horizontal antenna and FM is usually transmitted with a vertical

antenna.
> > If both stations flip the antennas to the same polarity there would ont
be
> > any differance.
>

Horizontal polarity is suspose to be slightly beter on vhf and above than vertical for longer ranges. I may not have stated what I ment to say. The antenna will work equally well on any mode if the polarity is the same. While you may do slightly beter on horizontal, it will do so for all modes not just ssb.

Many years ago several of us ran some tests on differant antennas for FM on 2 meters. Found out that the vertical antennas that were over 5/8 wave had way too much flutter at the edges of the repeater coverage while in motion. Took it to be all the flexing of the longer antenna and the patern of the antenna going up and down as the anenna flexed in the wind. It might have done beter if we had tied it with some nonconducting guy lines so it would have stayed vertical. Your horizontal antenna probalby did not do that or if it did the patern was such that it did not make much differance. Look at the patern of a horizontal antenna vers the vertical and you should see what I mean.

Also ran tests on other verticals and found there was no clear winner in the type of vertical antenna between the 1/4 and 5/8 wave in the hilly land in the state of North Carolina. It is mostly small rolling hills but toward one end of the state are some higher mountains. Up to about 6000 feet (highest on the east coast). Most of the other land is from about 500 feet to 1500 feet above sea level..

2421. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 09:44:40 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b95bqc$4s8$1@slb6.atl.mindspring.net>
Source record: 119073

Richard:

[snip]
> In the meantime, significant things happen while those reflections are
> regularly repeated. Otherwise, how would my Bird wattmeter indicate a
> reflected energy if none exists?
[snip]

Yes significant things happen, the line charges up and stores energy. In the
steady state it stores the energy in the distributed inductance and capacitance
of the line, oscillating back and forth between the distributed L and the distributed C just as energy is stored in an LC tank circuit, all the while passing a continuous flow of power down the line from the source to the load.

Your Bird wattmeter is nothing more than an analog computer which is configured as a reflectometer to make observations of the V and I at a point on the line and to then calculate and display the derived quantitiy usually known as the "reflected voltage" which in the scattering formalism is usually labeled "b". b = rho * a or b = s11 * a where a is the incident voltage and rho = s11 is the reflection coefficient. Although known in the scattering formalism as "voltage waves", a and b have units of volts and are mathematically expressed and calculated by the venerable Bird meter as:

b = V - RI and a = V + RI

where V is the voltage and I is the current observed and measured at the single point on the line where the Bird is inserted, and R is the reference impedance [for most Birds this is 50 Ohms]

And so all your Bird is doing is calculating "b" according to the equations it does not know about or see any "reflections" or "echos" even if they are present. In fact as I pointed out up the thread the equations are the same for both the transient regime [when reflections actually do occur] and for the continuous AC steady state regime when the source is delivering a continuous power flow to the load through a "fully charged" line.

And the same is true for the DC battery situation, in fact I have a circuit diagram here and a few examples of a reflectometer circuit that measures the so-called reflected wave "b" for all frequencies, including DC. And it works for both the steady state and for the transient regimes.

All who ascribe reflections and echos to signals on a transmission line during steady state operations are creating a fantasy which is patently untrue. I challenge anyone to show me "hard evidence" of these steady state echos. i.e. send me oscilloscope waveforms, chart recordings, computer simulations, anything, anything at all! You simply cannot, because there are no such reflections!

This fantasy of reflections in the steady state regime can certainly be constructed, as Walter Maxwell, Cecil and others attempt to do to fit the equations exactly, but that does not mean that such a solution to the equations exists in reality.

Read my lips... there are only actual echos and/or reflections in the transient period as the transmission line charges up, subsequently when all is "steady" there is only a steady power flow delivered from source to load through the charged line, at which time the same equations b = rho * a simply describe the degree of impedance matching.

Just because the equations of transmission dynamics admit of solutions does not mean they exist. Physicists and Engineers often encounter equations that admit many solutions. In differential equation courses these are known as the "general solutions" and to find out what is happening in reality one must solve for or seek out the "particular" solutions. Many equations, for instance the good old "wave equation" itself admits of many mathematical solutions, but one has to examine the boundary conditions and the actual physics itself to observe which of the admitted solutions to the equations are actually supported, i.e. the particular solution.

Although I have not read it in detail, Walter Maxwell's book "Reflections" where it describes what is happening in the steady state is relating a fantasy or imagined set of solutions/conditions. There are simply no "reflections" in the steady state. There is only a continous power flow down the line from source to load. And the degree of power matching, power loss, is described by the same equations giving the "reflected voltage" SWR, etc...

Questions?

--
Peter K1PO
Indialantic By-the-Sea, FL.
>
> Peter also wrote:
> "There is no special frequency "fs" below which the equations stop
> working!"
>
> Wavelength is the reciprocal of frequency. At a wavelength of 10 meters,
> volts at a point 2.5 meters away may be much different from those at
> hand even when the points are connected by a good conductor. Not so if
> the wavelength is 1000 meters.
>
> Peter also says:

> "DC is only a steady state just as you have AC steady states."
>
> When the transient oscillations fade to insignificance following the
> start and stop of d-c, reflections end. Reflections are produced by
> changes. A-C has a practically continuously changing amplitude and is
> always making new reflections.
>
> Wavelength is the wave velocity divided by the frequency. So, wavelength
> goes to infinity as frequency goes to zero. There can be no voltage
> difference at d-c in the steady-state caused by degrees of separation in
> wavelength. when the wavelength is infinite. Any separation in distance
> is zero degrees.
>
> Reflection coefficient assumes a junction of a uniform transmission line
> with another impedance The Zo of that uniform transmission line is a
> function of its inductance. As d-c produces no reactance from an
> inductance, Zo means nothing to d-c. The effect of a lossless Zo goes to
> zero when the frequency drops to zero.
>
> Best regards, Richard Harrison, KB5WZI
>

2422. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 09:48:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b95c1b$g9r$1@slb4.atl.mindspring.net>
Source record: 119074

Cecil:

[snip]
> Not true, Peter, as can be proven by observing ghosting on a TV signal.
> The ghosts are exactly the magnitude and at exactly the right position
> to have made at least one round trip back to the match point. Einstein
> said a model should be as simple as possible but not too simple. Yours
> is too simple to match reality.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Cecil, as you well know, a TV signal, as with a conventional radar signal
are not
"steady state" waveforms. TV waveforms are pulse waveforms and are mostly
in the
transient state depending upon what image is being transmitted.

I can readily prove this by transmitting an image that is regular enough to
form a steady
state AC signal and the ghosts will dissappear as the steady state sets up!

There are *no* reflections in the steady state. Period, end of story!

What?

--
Peter K1PO
Indialantic By-the-Sea, FL.

2423. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 09:54:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b95cd4$9op$1@slb3.atl.mindspring.net>
Source record: 119075

Reg:

Vectors come in handy when one has to deal with multi-port networks.

In usual ham radio work one seldom deals with more than one port at a
time. A port being a simple driving point impedance with one voltage
and one current to be considered simultaneously. Such simple situations
do not require a "vector" viewpoint.

With multi-port networks which have multiple driving points and multiple
transfer functions, one has to keep track of the various ports somehow and
this is usually done by numbering them, one, two , three, four, etc...
and then keeping track of them with "vectors" and "matrices".

This is why I say that vectors are of more use to accountants and bookeepers
than techies, since all what vectors are used for is to keep track of all
the
details of a myriad of ports each of which has complex numbers associated
with it. That's why the "Scattering Formalism" is cast in terms of vectors
and matrices and the scattering matrices all have those numerical subscripts
like s11, s12, s45, s55,
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b94ack$7rm$1@hercules.btinternet.com...
> Peter, I've managed very well for 60 years without the need for names of
> mathematical functions, theorems, notations, etc. Never felt this to be
a
> handicap. A Vector is something I have no recollection of ever using
> although I could have used them many times without being aware of it.
>
> If they're not English names I would have difficulty in pronouncing them,
> never having had to use them in speech.
>
> Praps it's due to the fact I have seldom had to work in a team of equals
> where documented tecnical communications have been needed. A sort of
loner
> at my own level. Few lateral connections. Staff and management matters are
a
> different ball park of course.
> ---
> Reg. G4FGQ
>
>
>

2424. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 10:45:43 UTC
From: richardharrison@webtv.net
Message-ID: <28576-3EB640D7-37@storefull-2316.public.lawson.webtv.net>
Source record: 119079

Gene wrote:
"The rules allow for an antenna up to 3 meters long including feedline
and ground lead with 100mW output power."

The proposed coil is 4 turns, a maximum diameter of 3 meters, and a
length of 2 meters. That`s about 40 meters in wire length to make up a
coil for 176-meter operation.

Do the "part 15" rules allow an antenna containing 40 meters of wire in
any configuration for operation at 1.7 MHz?

Best regards, Richard Harrison, KB5WZI

2425. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 11:03:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbch8k3aghqq56@corp.supernews.com>
Source record: 119077

Correction.

The formula I used is actually for a "current sheet" inductance -- the inductance of a solenoid made from thin thin tape, edge to edge, with no spacing. There's a correction for round wire. If I read the graphs correctly, the correction would increase the inductance by 0.054 uH if it were wound with 1mm diameter wire, for a corrected (low frequency) inductance of 0.363 uH. This is actually closer to Reg's program's value than to the value given by the simpler formula.

It shouldn't take too long to wind one up and measure it, although quite a bit of care would have to be taken in order to get decent accuracy.

Roy Lewallen, W7EL

Roy Lewallen wrote:
> The _Radiotron Designer's Handbook_ (my favorite reference for
> inductors), Third Ed. (1945) has a number of different formulas for
> solenoids of different shapes. The one for short solenoids is claimed to
> be accurate to within 2% for diameter-length ratios from zero to 20.
> (+2% for 2.0 to 3.5 and at 20, and -2% for 10 - 12. Your inductor is
> 5.3.) The formula is:
>
> L = (a^2 * N^2) / [[9 - (a/(5 * l))] * a + 10 * l]
> . . .

2426. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 11:11:22 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b95goj$fmapf$1@ID-150848.news.dfncis.de>
Source record: 119078

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vbc7o22cbek1f5@corp.supernews.com...
> The _Radiotron Designer's Handbook_ (my favorite reference for
> inductors), Third Ed. (1945) has a number of different formulas for
> solenoids of different shapes. The one for short solenoids is claimed
to
> be accurate to within 2% for diameter-length ratios from zero to 20.
> (+2% for 2.0 to 3.5 and at 20, and -2% for 10 - 12. Your inductor is
> 5.3.) The formula is:
>
> L = (a^2 * N^2) / [[9 - (a/(5 * l))] * a + 10 * l]
>
> where
>
> a = coil radius (to wire center) in inches
> l = coil length in inches
> N = number of turns
> L = inductance in uH
>
> Unless I goofed up in the calculation, this gives 0.309 uH for your
> coil, very close to the 0.296 from the simpler formula.

If I put length of coil in SOLNOID2.EXE as 9mm (and not 4.5mm), the
value comes out at 0.330 uH. But I'm not supposed to be putting in the
9mm figure.

It seems that the true value is around the 0.300 uH mark. But after
entering into SOLNOID2.EXE the adjusted coil length of 4.5mm,
SOLNOID2.EXE is giving a value around the 0.400 uH mark.

Unless I've made an error.

I imagine that as coil turns increase the discrepancy in the various
calculated values wherever you get them from may become less. It
is probably not sensible to rely on one formula to cover from one
turn to many turns. You could argue, maybe, that you should
have two programs, one for up to, say, 4 turns, then one for 4 and
above. But you can figure these changes into a program. Undeed maybe
SOLNOID2.EXE does that.

2427. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 11:21:25 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b95hbt$fmq90$1@ID-150848.news.dfncis.de>
Source record: 119080

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vbch8k3aghqq56@corp.supernews.com...
> Correction.
>
> The formula I used is actually for a "current sheet" inductance -- the
> inductance of a solenoid made from thin thin tape, edge to edge, with
no
> spacing. There's a correction for round wire. If I read the graphs
> correctly, the correction would increase the inductance by 0.054 uH if
> it were wound with 1mm diameter wire, for a corrected (low frequency)
> inductance of 0.363 uH. This is actually closer to Reg's program's
value
> than to the value given by the simpler formula.
>
> It shouldn't take too long to wind one up and measure it, although
quite
> a bit of care would have to be taken in order to get decent accuracy.
>
> Roy Lewallen, W7EL

Well, we have 0.300 uH, 0.363 uH and 0.400 uH. *If*, the true value is
around 0.363 uH, then indeed Reg's program is the more accurate. And
the salient point for me out of this is that the 0.400 uH figure
(actually 0.405 uH) is obtained by stating coil length to be 4.5mm.
(Although the nearest calculated SOLNOID2.EXEC figure would be the 0.330
uH value, but that is apparantly when you put in the wrong coil length
value(of 9mm). Interesting, putting in the wrong coil length value of
9mm results in possibly the more accurate calculation. :c)

2428. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 11:57:10 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <qksta.3829$3f7.3245266@newssvr28.news.prodigy.com>
Source record: 119076

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB5E0C5.5020506@ieee.org...
> Dee D. Flint wrote:
> > I've said this several times. The 941D is NOT a cross needle meter.
>
> Just adjust the thing for zero reflected power.
> --

This also occurs when the radio cuts back the power output when the SWR is too high. You MUST calibrate the SWR reading and read the forward power and read the reflected power. I had one of the 941Ds and you can't just go for a low or zero reflected power reading.

Dee D. Flint, N8UZE

2429. yaesu desk mic

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 12:58:42 UTC
From: andy JACKSON <andyjackson@twoeoneklp.freeserve.co.uk>
Message-ID: <b95n67$ut0$1@news7.svr.pol.co.uk>
Source record: 119081

i have a yaesu md-1 desk mic for sale,it comes with the paper work but no box,it is in good condisiton,the reason for selling i have bought a heil head set,i am looking for ?60 ono.any body intrested ple leave message (thank you for looking)

2430. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:00:19 UTC
From: richardharrison@webtv.net
Message-ID: <13678-3EB66E73-16@storefull-2315.public.lawson.webtv.net>
Source record: 119090

Peter, K1PO wrote:
"I challenge anyone to show me "hard evidence" of these steady state echos..."

First fact to mind is SWR. How do you explain the pattern produced by a trough (slotted line) if there is no reflected wave?

Best regards, Richard Harrison, KB5WZI

2431. Was: Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:06:36 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vbcods3tuge3a7@corp.supernews.com>
Source record: 119082

In my experience, an additional characteristic that is needed (in addition to "motivated") is curiosity. As I reflect (this type of reflection does exist for persons of my age) on four decades of my engineering students, the most successful as engineers (or patent attorneys) had as a common characteristic a strong curiosity in almost everything. Grades (above average) do not correlate.
However, I see fewer graduates who have the broad physics and good math background, mentioned by the good Deacon, that are a necessary condition. Some of this is certainly due to a smaller number of HS graduates applying for and filling a somewhat larger number of engineering "seats." Some of this is due to a reduction in the average math preparation in HS. In my opinion, most is due to factors that have suppressed curiosity and follow-through. It is not efficient to learn anything well. It requires effort and travels up closed alleys. Fewer are willing to stay the course and will do only what is required. I am asked to tell "exactly" what is needed to pass a course or to complete an assignment. For as long as I am able to do so, I decline the offer. It is a delight to find on this newsgroup persons with the curiosity and follow-through so needed to be a success in anything. Perhaps even the trolls serve a greater purpose. ...but now I digress ...
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Dave Shrader" <david.shrader@attbi.com> wrote in message >
> I had an MIT PhD-EE/SLOAN FELLOW educated Vice President of
Engineering
> as my supervisor for 3 to 4 years. His claim is that any motivated
> engineer with a broad Physics background and a good math background
can
> be put to work anywhere and that engineer will be blunder proof in the
> new field in 3 months, competent in 6 months and publishing for peer
> review in 12 months.
>
> Comments??
>
> Deacon Dave, W1MCE
>
>

2432. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:25:12 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB66638.6030107@ieee.org>
Source record: 119083

Peter Brackett wrote:
> This fantasy of reflections in the steady state regime can certainly be
> constructed, as Walter Maxwell, Cecil and others attempt to do to
> fit the equations exactly, but that does not mean that such a solution
> to the equations exists in reality.

How do you explain standing waves which are obviously caused by the
interference patterns between two waves moving in opposite directions?

> There are simply no "reflections" in the steady state. There is
> only a continous power flow down the line from source to load.

You can prove this wrong for yourself, Peter. Feed a 75 ohm TV with
1000 feet of 600 ohm open-wire line. The reflected energy can be
seen to make the round trip from load to match point at least once
as proven by the ghosting. "Models should be as simple as possible,
but not too simple."
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2433. Re: Opinions on UHV-4 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:29:54 UTC
From: lazy_man7@yahoo.com
Message-ID: <4131249b.0305050529.65edec1d@posting.google.com>
Source record: 119084

wess@gtii.com wrote in message news:<vbbnilhdsjbi56@corp.supernews.com>...

> Comet's website states that the uhv-4 is designed for my radio. Is
> this my only choice? Is it a good choice?
>

Diamond also makes an antenna "designed for the FT-8900". The model
is the HV7A. I dont' have either yet, but from reports on the ft-8900
yahoogroup, they are both great antennas. Check out the eham.net
reviews as well.

I have the FT-8900 and my plan is to get one of those two quad bands,
as well as a shorter dual band. The dual band would be the day to day
antenna, and the quad band would go up when I was on a trip. The
quadbands have a fold down feature, but I don't want to be bothered
with that everytime I'm in and out of the garage.

I can't help you with the mounting. STill trying to figure that out
on my minivan.

2434. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:36:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB668CA.4020601@ieee.org>
Source record: 119085

Peter Brackett wrote:
> Cecil, as you well know, a TV signal, as with a conventional radar signal
> are not
> "steady state" waveforms. TV waveforms are pulse waveforms and are mostly
> in the
> transient state depending upon what image is being transmitted.

Peter, as you well know, no RF signal is 100% identical from cycle to cycle.
Therefore, there is no such thing as perfect "steady state" waveforms.

> There are *no* reflections in the steady state. Period, end of story!

You obviously reject the wave reflection model so I will use your premise
and logic.

Since no two cycles of RF are ever exactly identical, perfect steady-
state conditions can never exist. That's simply the other side of the
coin to your perfection argument.

All we can ever do is reduce reflections to a negligible value, maybe
even to an unmeasurable value. We can *never* get rid of them entirely
because reality is not ever perfectly steady-state. Your perfect steady-
state conditions exist only in your mind.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2435. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:38:09 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EB66941.8020203@mwci-news>
Source record: 119086

Dave Shrader wrote:
>
> I had an MIT PhD-EE/SLOAN FELLOW educated Vice President of Engineering
> as my supervisor for 3 to 4 years. His claim is that any motivated
> engineer with a broad Physics background and a good math background can
> be put to work anywhere and that engineer will be blunder proof in the
> new field in 3 months, competent in 6 months and publishing for peer
> review in 12 months.
>
>

Expertise and trustworthy competence are not that
straightforward or simple for nearly all folks.
Impressive-sounding ideas like the above sound
impressive, like most such one-line "slogans", but
serve no really useful purpose.

Bill W0IYH

2436. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:44:26 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b95prq$7qb$1@hercules.btinternet.com>
Source record: 119087

I made the 2 turn coil.

I measured it with the Autek RF1 which gives 0.40 uH and the MFJ 259B which gives 0.34 uH.

==========

When using the two formulae has Richard remembered the definition of coil diameter in the program is "the diameter of the former on which the wire is round".

I do that sort of thing to assist coil designers. It's easier to measure former diameter than the distance between wire centres which I presume is what should be entered in the two simple formula.

==========

radius / length is not 5.3 - it is 2.67

Reg.

2437. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 13:45:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB66AFB.2020109@ieee.org>
Source record: 119088

Dee D. Flint wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
>>Just adjust the thing for zero reflected power.
>
> This also occurs when the radio cuts back the power output when the SWR is
> too high. You MUST calibrate the SWR reading and read the forward power and
> read the reflected power. I had one of the 941Ds and you can't just go for
> a low or zero reflected power reading.

Nope, you don't have to calibrate the SWR reading to adjust for zero reflected power. Zero times any calibration factor is still zero. The foldback circuitry will protect the transmitter. The way I once tuned my screwdriver antenna was to watch the forward power meter as I tune. When the meter indicates full power, the antenna is very close to being matched. The problem you are having so much trouble with is really trivial.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2438. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 14:11:42 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <jorcbv4nfd452r1ft9gksk0kmi7emaogmp@4ax.com>
Source record: 119089

On Mon, 05 May 2003 02:11:31 GMT, "Dee D. Flint" <deehays@qix.net>
wrote:

[snip]

|The 941D (which is what the original poster asked about) does NOT have a
|cross needle meter. Your directions work fine for cross needle meters but
|not for the meter on the 941D. You must separately read forward power,
|reflected power, and SWR by pushing different buttons. You must calibrate
|the scale before trying to read the SWR.

Good grief! Who gives a rat's behind about cross needle meters. My
Bird wattmeter doesn't have one and I can tune for minimum reverse
power just fine.

You don't need to "read" the @&^#* SWR, just minimize it and get on
with it. Most of these things can't accurately measure SWR anyway,
regardless of "calibration." If you have a PL-259 connector on the
cable 1.2:1 is the best you're going (or need) to do.

2439. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 14:20:59 UTC
From: richardharrison@webtv.net
Message-ID: <11240-3EB6734B-117@storefull-2317.public.lawson.webtv.net>
Source record: 119091

Peter, K1PO wrote:
"And so all your Bird is doing is calculating "b" according to the equation it does not know about or see any "reflections" or "echos" even if they are present."

The Bird 43 uses a directional coupler to sense and display energy traveling in only one direction at a time. If there is no reflected energy, the Bird indicates zero when it is switched to sense and display the reflected wave.

Best rergards, Richard Harrison, KB5WZI

2440. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 14:58:07 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305050658.514509f4@posting.google.com>
Source record: 119092

Roy Lewallen <w7el@eznec.com> wrote in message news:<vb887h9681f7c0@corp.s
>
> The fact that you've revealed your address on the newsgroup makes you
> vulnerable to spam, and anything else like a virus that might be sent
> out in a similar way.
>
> This is by far the most likely source of the virus-containing message.
> Accusing a particular person of deliberately sending it to you is a
> serious charge, and an accusation you shouldn't make without very
> substantial proof. And it doesn't look like you have anything anywhere
> close to that.
>

Hi Roy and others

Thanks for taking the time to research this problem, your
efforts are appreciated. I now know a lot more about spam and
virii than i did at the start of this thread.

When i made my first post i tried to word it in such a way
that it was not an accusation, if it was taken as such i offer my
unreserved apology to Yuri and hope he accepts it in the spirit it is
given.
Jaro

2441. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 15:06:53 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <suucbv40l5nvh1fe0lk67528ejaj9atk93@4ax.com>
Source record: 119094

On Mon, 05 May 2003 07:11:42 -0700, Wes Stewart <n7ws@#arrl.net>
wrote:

>Good grief! Who gives a rat's behind about cross needle meters. My
>Bird wattmeter doesn't have one and I can tune for minimum reverse
>power just fine.

That *can* be a bit of a problem with rigs that use a tapered shut
down. It could be possible that a lowering reflected power was the
result of a reduction of the rig's output. Of course, monitoring the
PA current would show that happening, but if you're only monitoring
the reflected power you *could* be led astray.

Danny

2442. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 15:19:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b95v13sst1@news.service.uci.edu>
Source record: 119093

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB443D6.5030705@ieee.org...
> You should also know that reflected power exists at any point where
> reflected energy exists. During the transient buildup to steady-state, you
> can observe the buildup of the reflected power on the transmission line.

Yes, during the build-up, that's exactly right. After that, energy is not
transferred to that point. No power.

2443. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 15:23:16 UTC
From: richardharrison@webtv.net
Message-ID: <14561-3EB681E4-196@storefull-2318.public.lawson.webtv.net>
Source record: 119096

Peter, K1PO wrote:
"And the same is true for the DC battery situation---."

It is true that a purely resistive bridge balances for either a-c or d-c. It also balances for transients or the steady-state.

A lossless transmission line has distributed inductance and capacitance. These form a "bucket brigade", serially passing energy from one tiny unit to the next in line.

D-C originating as a step-function on the line propagates down line as controlled by Zo, its voltage to current ratio. Zo in a perfect line is in-phase but extracts no loss. It is only a function of inductance and capacitance. It is a "dissipationless resistance" just as the impedance 377 ohms of free-space is.

If the line is terminated in a Z different from Zo, some of the incident energy bounces (a reflection). This reflection sets out to return to the sender. It too must conform to the voltage to current ratio: Zo. The bounces from the step function continue for as long as it takes to reach a steady-state. Then, for practical purposes, the transient-state is ended. D-C alone flows. No more reflections. Not so for a-c. It, in fact, has alternations, so reflections continue to be generated at the mismatch.

Best regards, Richard Harrison, KB5WZI

2444. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 15:45:26 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EB68716.12F81C73@yahoo.bomb>
Source record: 119095
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Pete KE9OA wrote:
>
> If somebody opened up the unit to transmit out of band, they may have
> retuned the front end. On VHF, the front end selectivity is fairly
> selective, so if it was retuned in the 155MHz range, this would make the 2M
> band deaf. On the UHF range, those tuned cavities are really selective. If
> they were retuned to the 460MHz range, you probably wouldn't hear too much
> on 440.

Just the out of band mod was done to it. No retuning was done.
The chain of ownership has been checked. I'll have to fire up
the 12VDC iron and check for cold solder joints...

(My AC iron has too much leakage. I need to buy a grounded iron.)

2445. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 15:47:43 UTC
From: richardharrison@webtv.net
Message-ID: <11241-3EB6879F-59@storefull-2317.public.lawson.webtv.net>
Source record: 119098

Jim Kelley wrote:
"After that (the transient period) energy is not transferred to that (reflection) point. No power."

Power is the rate of doing work. It is also the rate of transferring energy. Cecil`s IEEE dictionary says it better, but that`s the gist.

A-C and D-C are different. Transients disappear after a time when D-C starrts. Thanks to alternations, steady-state A-C continues producing reflections at impedance
bumps.

Best regards, Richard Harrison, KB5WZI

2446. Re: Opinions on UHV-4 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:13:38 UTC
From: wess@gtii.com
Message-ID: <vbd3b036td4602@corp.supernews.com>
Source record: 119097

lazy_man7@yahoo.com (lazy man) wrote:

>wess@gtii.com wrote in message news:<vbbnilhdsjbi56@corp.supernews.com>...
>
>> Comet's website states that the uhv-4 is designed for my radio. Is
>> this my only choice? Is it a good choice?
>>
>
>Diamond also makes an antenna "designed for the FT-8900". The model
>is the HV7A. I dont' have either yet, but from reports on the ft-8900
>yahoogroup, they are both great antennas. Check out the eham.net
>reviews as well.

Thanks for the tip. Leaning towards the comet since it looks like
with additional coils, it is a uhv-6.
>
>I have the FT-8900 and my plan is to get one of those two quad bands,
>as well as a shorter dual band. The dual band would be the day to day
>antenna, and the quad band would go up when I was on a trip. The
>quadbands have a fold down feature, but I don't want to be bothered
>with that everytime I'm in and out of the garage.

I'd like to mount my antenna on the roof but it won't pass the drive
in window test.

Mounting in stake pocket might be a good option for my truck. Trying
to learn if I can build one cheaper than buying.
>
>I can't help you with the mounting. STill trying to figure that out
>on my minivan.

Sidemount, lip mount seem to be choices.

73, wes, kc8spr

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2447. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:33:50 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305050833.47bc77c7@posting.google.com>
Source record: 119099

"Dee D. Flint" <deehays@qix.net> wrote in message
news:<nLjta.3739$3f7.3080136@newssvr28.news.prodigy.com>...
> "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> news:b94de8$faqie$1@ID-134747.news.dfncis.de...
> > 1. Set transmitter gain to absolute minimum,
> > after the tuner is adjusted it will handle
> > (according to MFJ) 300 watts.
> > 2. Switch inductance control for maximum noise in
> > receiver
> > 3. Key transmitter and adjust capacitors for
> > minimum SWR. They are interactive, adjust one at
> > a time.
> > 4. Once SWR is matched increase transmitter
> > power - if you feel the need to pay the electric
> > company large sums of money.
>
> The 941D (which is what the original poster asked about) does NOT have a
> cross needle meter. Your directions work fine for cross needle meters but
> not for the meter on the 941D. You must separately read forward power,
> reflected power, and SWR by pushing different buttons. You must calibrate
> the scale before trying to read the SWR.
>
> Later models of the 941 such as the 941E have a cross needle meter so your
> directions should work for that but will not give an accurate SWR reading on
> the 941D as the scale must be calibrated first.

I have 941D & 941E tuners and I take a different path out of this
swamp. When I put up an antenna connected to the 941D output the first
thing I do is attach an MFJ 259B antenna analyzer to the tuner input.
I set the analyzer freq to an operating freq in the band and diddle
the knobs on the tuner until I get the min. SWR according the 259B.
Which, in the case of any 941 might not yield an exact 1:1 match
because the tapped inductor is not continuously variable. I log the
C/L/C settings for future reference. Then I connect the xcvr to the
tuner input and I know I'm good to go without having looked yet at the
SWR meter in the 941 panel. And without putting any strain on the xcvr
PA or putting lengthy "tuner-upper" signals on the air.

From there I put the 259B away, put the xcvr online and leave the 941D
SWR meter switched more or less permanently into the reflected power
position. I do not calibrate the SWR meter. I care about minimizing
the reflected power, I do not care about knowing the output power
which will obviously take care of itself if I minimize the reflected
power. In this sense a mis-calibrated SWR meter can be an asset.

I simply "dip" the needle as necessary by tweaking the caps in the tuner when I move around in the band. When I go band-hopping I set the tuner up per my previously logged settings and from there all I have to do is the quickie dipping rountine at low power output.

This general technique applies to all tuners, 941D, 941E, whatever and is not dependent on calibrated SWR meters. Or with the initial help of an antenna analyzer. I am not a fan of crossed-needle SWR "meters".

>
> Dee D. Flint, N8UZE

Brian w3rv

2448. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:41:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB69429.E10133E@uci.edu>
Source record: 119111

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > No. What you have been saying is energy turns around. Energy doesn't "turn
> > around" except by reflection. You have repeatedly stated that interference
> > causes the energy to change direction, and that is false.
>
> What is it about reflected energy not reaching the source that you don't
> understand.

What is it about energy not reaching interference nulls that you don't
understand?

> > The answer is that energy in cancelled waves goes nowhere.

> That's why most of us have seen our coax transmission
> lines explode from all that energy piling up at the match point.

Obviously you are missing a point or two somewhere. I believe you must
actually endeavor to do so.

73, ac6xg

2449. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:41:32 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305050841.7a5c89db@posting.google.com>
Source record: 119100

```
"Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
news:<Lphta.455$5h4.70323@nnrp1.ptd.net>...
> "Brian Kelly" <kelly@dvol.com> wrote in message
> news:d22b54c3.0305040210.13d2a4ea@posting.google.com...
> > "Dee D. Flint" <deehays@qix.net> wrote in message
> news:<gz1ta.3339$3f7.2693012@newssvr28.news.prodigy.com>...
> > > "Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
> > > news:9MXsa.396$5h4.53043@nnrp1.ptd.net...
> > > > The ITU World Radiocommunication Conference ("WRC-03") is scheduled
> > > > for early June through July 4th in Geneva, Switzerland.
> > > >
> > > > One of the items on the agenda is the revision of S25 of the ITU
> > > > Radio Regulations, which in S25.5 includes the current requirement
> > > > for a Morse test for licenses that convey privileges in the bands
> > > > below 30 MHz.
> > > >
> > > > Conventional wisdom is that the requirement will be dropped from
> > > > the ITU Radio Regulations, which will give administrations the
> > > > freedom to modify their national rules to eliminate the Morse
> > > > requirement.
> > > >
> > > But there is no guarantee or certainty that it will happen.
> > >
> > Carl is going to Geneva to make sure it *does* happen Dee. And there's
> > a rumor floating around to the effect that his fellow NCI member and
> > ardent supporter Lenny will be his political advisor in Geneva.
> >
> >
> > > Dee D. Flint, N8UZE
> > >
> > w3rv

Uh . . . did you say something 'Ole Buddy??
```

2450. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:47:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6959D.DB853ADF@uci.edu>
Source record: 119110

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Turns out it says the same thing as you'll find in almost any
> > light and optics book.
>
> That's exactly what I have been telling you, Jim. You are missing a
> fundamental fact about interference that you will indeed find in most
> optics books. Please review the "interference term" covered by Hecht,
> you know the one you read 15 years ago and have forgotten?

:-) No, I knew it all along, and you recently discovered it. The
unfortunate part is that you apparently don't know how to apply what
you've learned.

> Hecht says
> that the destructive interference and the constructive interference must
> average out to the average energy which means the extra energy in the
> bright rings comes from the lack of energy in the dark rings.

No, that's not what it means. It means that all of the energy from the
source goes to the bright fringes, and none of it goes to the dark
fringes. For some reason you want everyone to think that it goes from
the source to the dark fringes first before it ends up at the bright
fringes. That is not correct, and is the basis for the error you made
in your paper and continue to propagate here.

Drivel about Alpha Centauri deleted in order to help keep Cecil focussed
on the topic.

73, ac6xg

2451. Re: Suburban Antenna Mounting

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:50:37 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305050850.a720c59@posting.google.com>
Source record: 119101

"Joe Guthart" <jguthart@attbi.com> wrote in message
news:<f1hta.491945$Zo.107971@sccrnsc03>...
> I have a 2001 Suburban and want to mount a quad band antenna that is approx
> 54" tall. Any ideas on the best place to mount? Please advise. Thanks.

Best location would be the center of the roof but that won't work,
trees and parking garages would demolish the antenna. Rear bumper
mount won't work, the antenna would be too close to your mammoth
rear-end sheet metal work. Leaves the option of installing it on a
front fender near a headlamp. Or a front bumper mount. Would look
quite odd but it would probably work.

w3rv

2452. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:54:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b964s4$fav88$1@ID-150848.news.dfncis.de>
Source record: 119102

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vbch8k3aghqq56@corp.supernews.com...
> Correction.
>
> The formula I used is actually for a "current sheet" inductance -- the
> inductance of a solenoid made from thin thin tape, edge to edge, with
no
> spacing. There's a correction for round wire. If I read the graphs
> correctly, the correction would increase the inductance by 0.054 uH if
> it were wound with 1mm diameter wire, for a corrected (low frequency)
> inductance of 0.363 uH. This is actually closer to Reg's program's
value
> than to the value given by the simpler formula.
>
> It shouldn't take too long to wind one up and measure it, although
quite
> a bit of care would have to be taken in order to get decent accuracy.
>
> Roy Lewallen, W7EL
>
> Roy Lewallen wrote:
> > The _Radiotron Designer's Handbook_ (my favorite reference for
> > inductors), Third Ed. (1945) has a number of different formulas for
> > solenoids of different shapes. The one for short solenoids is
claimed to
> > be accurate to within 2% for diameter-length ratios from zero to 20.
> > (+2% for 2.0 to 3.5 and at 20, and -2% for 10 - 12. Your inductor is
> > 5.3.) The formula is:
> >
> > L = (a^2 * N^2) / [[9 - (a/(5 * l))] * a + 10 * l]
> > . . .

This should be my final final on this subject.

Well, my impression is that no-one can rightfully say Reg's program is
fundamentally flawed in working out inductance. I suppose all
inductance calculating programs can be better, if refined and futher
refined, but Reg's program, I take it, is sufficiently accurate to avoid
the charge of being unnacceptably erronious.

Perhaps then, as I see it, the only problem was that the documentation
should have made it more clearer what figure should be entered as being
the coil length. Precisely, and without ambiguity, the coil length to
be entered is length of coil minus pitch. Which perhaps only serves any
major purpose when number of turns is small. At least then the wire

diameter and pitch value shown in the program reads correctly for small number of turns. And I would think, or hope, that also the calculated inductance value is closer to reality.

Rich.

2453. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:54:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB69750.E8A3AF83@uci.edu>
Source record: 119113

OC_CAM's Razor wrote:
> So you and Peter agree that math models dictate reality.

I believe math must be consistent with models of reality. Your model of reality is not consistent with the math.

> You seem to be saying that something supernatural happens

Not at all. However your model of energy being reflected from a null in an interference pattern does fit that description.

73, AC6XG

2454. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 16:55:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hn3dbvc7l9p4gion9ro5r26rkbhgi34i2j@4ax.com>
Source record: 119103

On 4 May 2003 20:25:05 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
>Doctor Slinky
>Doctor Link
>Doctor Slink
>Jaraslav
>So tell
>Jaraslav why I or Terman am incorrect technically on antennas so he
>can make his own mind, up instead of affixing a pre printed label
>which gives the go ahead to certain posters to repeat the patterns of
>past years.

Hi Jaro,

I see by other correspondence that you have been satisfied by Roy's
and other's efforts to explain issues germane to this thread. Further
discussion along that line does not seem to be part nor parcel to
Art's request.

To respond directly to his off-topic comment ("tell why"): If you
observe the corruption in names he applies above you may well infer
the poor quality of research and rambling reportage that we critique.

I am sure you needed none of this laid out before you, but Art will
harp on its lack alone before proceeding to responding (maybe) to
technical questions put to him. If you care to test the quality of
his responses, try asking him if
> My first patent as was my second patent is rooted firmly in the above text by Terman.
Then where does Terman describe a director being longer than a
resonant radiator, and a reflector being shorter? (Reference his same
patent for details.) Possibilities with weighting scores:
Avoided entirely 0.90
Denial 1.00
Personal Attack 0.87 (removed by filters from his quote here)
Technical evidence 0.01 (rounded up from inconsequential)
Admission of error 0.00 (no trace elements)

73's
Richard Clark, KB7QHC

2455. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:10:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2d6dbv4bpo9eo7g3l83n2d9h2ur73uveqs@4ax.com>
Source record: 119104

On 4 May 2003 20:25:05 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
> point out where I am wrong technically without resorting to nitt
>picking silly stuff

OK Art,

> My first patent as was my second patent is rooted firmly in the above text by Terman.
Where does Terman describe a director being longer than a
resonant radiator, and a reflector being shorter?

73's
Richard Clark, KB7QHC

2456. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:27:48 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB69F14.D4236FCD@cwis.net>
Source record: 119105

"Dee D. Flint",
Yes, I agree, it's possible for a tuner to
be mis-tuned, but the possibility of doing so is
not as great as you might think. I think you're
making much more out of the 'calibration' thing
that it deserves. Even if the transmitter 'cuts-
back', if you are paying attention to things as
you should be, you should catch it immediately.
I think the key phrase is, "Most of the people that
I have met don't have a clue how to do this when
the unit does not have a cross needle meter."
For those people, I would say the best thing they
could possibly do is read the operator's manual.
Don't have one? Then ask, as is being done here.
Right?
'Doc

2457. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:29:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB69F70.7030402@ieee.org>
Source record: 119107

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EB443D6.5030705@ieee.org...
>
>>You should also know that reflected power exists at any point where
>>reflected energy exists. During the transient buildup to steady-state, you
>>can observe the buildup of the reflected power on the transmission line.
>
> Yes, during the build-up, that's exactly right. After that, energy is not
> transferred to that point. No power.

So you and Peter agree that math models dictate reality. Reminds me of
my Mother's religion.

How many ham transmitters are 100% free of jitter of any kind? If there
is any jitter in the magnitude and/or phase, the system never reaches
steady-state and the reflected waves are detectable by their lack of
identity.

We can detect reflected waves with 1% jitter.
We can detect reflected waves with 0.1% jitter.
We can detect reflected waves with 0.01% jitter.
We can detect reflected waves with 0.001% jitter.

You seem to be saying that something supernatural happens when the
jitter goes from 0.00000000000001% to zero jitter. Where there were
detectable reflected waves before, they just magically disappear.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2458. Swr meters for quad band ft-8900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:31:04 UTC
From: wess@gtii.com
Message-ID: <vbd7r5i0jt75ec@corp.supernews.com>
Source record: 119106

I have a feeling that no normal swr meter will cover the 10m to 70 cm range of my ft-8900r so what would be two good choices or can I assume a that a out of box antenna (uvh-4) won't kill my radio until I can afford the required meters?

Tia, 73, Wes, Kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2459. deplexing? question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:33:39 UTC
From: wess@gtii.com
Message-ID: <vbd8003a72th3d@corp.supernews.com>
Source record: 119108

I recently bought a ft-8900r and I hope you all are not getting tired
of my posts but one topic at a time seems to work best in usenet.

The radio is internally ?plexed. If at some time I want to play with
antennas that are optimized for each band, can I use a plexer
backwards or should I just use an antenna switch?

Thanks, Wes, KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2460. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:35:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6A0EC.1050704@ieee.org>
Source record: 119109

Richard Harrison wrote:
> Jim Kelley wrote:
> "After that (the transient period) energy is not transferred to that
> (reflection) point. No power."
>
> Power is the rate of doing work. It is also the rate of transferring
> energy. Cecil`s IEEE dictionary says it better, but that`s the gist.
>
> A-C and D-C are different. Transients disappear after a time when D-C
> starrts. Thanks to alternations, steady-state A-C continues producing
> reflections at impedance
> bumps.

Both Jim and Peter are relying on 100% perfectly identical consecutive
waves which obviously cannot happen in reality. For any real-world
situation, a 100% perfect steady-state is never reached and reflected
waves are always detectable at the Z0-match point in a ham station on
a system with reflections. In short, we don't have to worry about
Jim and Peter's model ever occurring in reality.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2461. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 17:43:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6A2BD.4040301@ieee.org>
Source record: 119112

Richard Harrison wrote:
> Peter, K1PO wrote:
> "I challenge anyone to show me "hard evidence" of these steady state
> echos..."
>
> First fact to mind is SWR. How do you explain the pattern produced by a
> trough (slotted line) if there is no reflected wave?

Jitter at the Z0-match point contributed by the reflected wave is
certainly hard evidence. The jitter on one side of the Z0-match
point is different from the jitter on the other side.
--
73, Cecil http://www.qsl.net/w5dxp

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2462. Re: FT-727R user's manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:22:23 UTC
From: valmont <radiola.news.invalid@web2news.net>
Message-ID: <28751N543@web2news.com>
Source record: 119114
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Scott
> Pete KE9OA wrote:
>>
>> If somebody opened up the unit to transmit out of band,
>> they may have
>> retuned the front end. On VHF, the front end selectivity is fairly
>> selective, so if it was retuned in the 155MHz range, this
>> would make the 2M
>> band deaf. On the UHF range, those tuned cavities are
>> really selective. If
>> they were retuned to the 460MHz range, you probably
>> wouldn't hear too much
>> on 440.
>
> Just the out of band mod was done to it.

I knew it Scot. Typical cb ilegal at wrk.
--
Posted via http://web2news.com the faster web2news on the web

2463. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:23:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6AC07.BC91F44@uci.edu>
Source record: 119022

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > What is it about energy not reaching interference nulls that you don't
> > understand?
>
> There exists energy at an interference null, by definition. I don't
> believe there is any point in our universe where energy doesn't exist.
> Is this some more of your model dictating reality scenario?

No, just simple, straightforward logic and scientific fact. No amount
of your impudent conjecture can make it otherwise.

> > Obviously you are missing a point or two somewhere. I believe you must
> > actually endeavor to do so.

> If reflected energy is not re-reflected, it doesn't reach the source,
> and it is not dissipated, then your logic says it must pile up in the
> transmission line.

Only when you insist on misinterpretting what I'm saying. Your
presumption of reflected energy in the 'if' part of your statement is
where you have erred.

73, ac6xg

2464. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:29:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6AD88.5040204@ieee.org>
Source record: 119115

Jim Kelley wrote:
> :-) No, I knew it all along, ...

Yes, you have implied before that you already know everything
there is to know and there is nothing left to be discovered.
Come back in 100 years and see if you were right.

> No, that's not what it means. It means that all of the energy from the
> source goes to the bright fringes, and none of it goes to the dark
> fringes.

That's exactly what I have been saying, Jim. That's why the bright rings
are bright and the dark rings are dark. The bright rings contain more
energy than the dark rings. Again, please demonstrate bright rings in
the absence of dark rings. If you can do that, you will have proven
your point. How can you obtain more total energy than the average
available energy?

> For some reason you want everyone to think that it goes from
> the source to the dark fringes first before it ends up at the bright
> fringes.

That's simply not true. I will give you the benefit of the doubt that
you are only mistaken about what I said. I quoted Hecht. The expression
plus or minus 2SQRT(I1*I2)(cos(phase angle)) is known as the interference
term. Why do you think it is called that? Why do you think the destructive
interference must equal the constructive interference? It's the
conservation of energy principle at work. Any extra energy appearing
as constructive interference in the bright rings must come at the expense
of an equal magnitude of destructive interference in the dark rings. Hecht
says that in the interference chapter.

> Drivel about Alpha Centauri deleted in order to help keep Cecil focussed
> on the topic.

That "drivel" was important for you to see that you cannot always rely on your
magic source to be the immediate supplier of whatever extra energy is required.
As I understand what you are saying, if constructive interference only between
light waves from Alpha Centauri happens on Earth, Alpha Centauri immediately
increases its energy output to compensate for that constructive interference.
That's essentially what Dr. Best said a few months ago.

The "drivel" was to prove to you that the energy balance between light rings and
dark rings is a ***LOCAL*** occurrence. The source is absolutely oblivious and
doesn't even have to exist anymore.
--
73, Cecil http://www.qsl.net/w5dxp

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2465. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:37:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6AF86.5567EC86@uci.edu>
Source record: 119025

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>So you and Peter agree that math models dictate reality.
>
> > I believe math must be consistent with models of reality. Your model of
> > reality is not consistent with the math.
>
> My *reality* is consistent with my model, Jim.

I guess that's all that's important then. I had thought you were attempting to describe what actually occurs in transmission lines and thin film antireflective coatings. Your description depends on a phenomenon which doesn't occur in nature. So as long as you're just describing your reality of things, I guess I will drop my objection. You can publish whatever you like, of course.

> To prove your model correct,
> please demonstrate constructive interference in the complete absence of
> destructive interference when the source is 9 light-years away.

I wish I could claim it was my model. Physics says that energy and intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2 cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta = 0, I = zero. Energy is zero at interference nulls. Period. Note what the intensity is at the nodes. You might try re-working the problem taking that into consideration. Just some kindly advice, Cecil.

> > However your model of energy being reflected from a null in
> > an interference pattern does fit that description.

> Please cease with the straw men, Jim.

As soon as you stop arguing with me when I claim that energy does not come from nulls in interference patterns, you will eliminate the "strawman" as an issue. But you just keep on arguing about it.

73, ac6xg

2466. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:40:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6B029.9000807@ieee.org>
Source record: 119117

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>So you and Peter agree that math models dictate reality.

> I believe math must be consistent with models of reality. Your model of
> reality is not consistent with the math.

My *reality* is consistent with my model, Jim. To prove your model correct,
please demonstrate constructive interference in the complete absence of
destructive interference when the source is 9 light-years away.

> However your model of energy being reflected from a null in
> an interference pattern does fit that description.

Please cease with the straw men, Jim.
--
73, Cecil http://www.qsl.net/w5dxp

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2467. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:40:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1ibdbv06cqrq6vn5ei9tco5f7dh6pak9ik@4ax.com>
Source record: 119116

372 postings after having submitted a paper to Jim for review:
>I will give you the benefit of the doubt that
>you are only mistaken about what I said.

There would be 9 billion magazines on the rack if editors accepted
that kind of malarkey.

2468. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:49:56 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305051049.3e5a0eba@posting.google.com>
Source record: 119118

wings@dakotacom.net (Gene A. Townsend) wrote in message
news:<3eb5b6c1.6758739@news.dakotacom.net>...
> I am trying to maximize my reception area for a legal part 15 am
> station at 1.7 MHz. The rules allow for an antenna up to 3 meters
> long including feedline and ground lead with 100mW output power. I'm
> usung a "Gizmo" transmitter at 1700 kc in a residential neighborhood,
> so I'm height restricted to 10 M. I am challenged in this, due to the
> restrictions. Cant find swr meter for this low power, so low voltage
> light bulb used for peaking signal.
>
> My most recent experiment was a DDRR style antenna, which gives very
> high radiation angles, and doesn't tune well. I need a strong ground
> wave, and don't care about dx much, so have thought about a "magnetic
> loop transmitting antenna", which may give the strongest ground wave
> when mounted no higher than 30 ft.

Myself, I'd forget the loop. It will be a dud as far as ground wave to
locals.
You want a vertical. The best option would be to use a "fairly"
efficient loaded vertical that is 3 meters tall, and mount the xmtr at
the base of the antenna. No feedline. This is the usual "lowfer"
method. Being the feedline counts, but radiates like a dog in general,
you want to minimize it as much as possible. I'm not sure how a radial
system would figure into all this. That may count as part of the
antenna also... MK

2469. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:54:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6B371.3040800@ieee.org>
Source record: 119019

Jim Kelley wrote:
> What is it about energy not reaching interference nulls that you don't
> understand?

There exists energy at an interference null, by definition. I don't
believe there is any point in our universe where energy doesn't exist.
Is this some more of your model dictating reality scenario?

> Obviously you are missing a point or two somewhere. I believe you must
> actually endeavor to do so.

If reflected energy is not re-reflected, it doesn't reach the source,
and it is not dissipated, then your logic says it must pile up in the
transmission line. What other choice is there? A joule of energy is a
scalar akin to a bucket of water. Exactly how many joules of energy can
pile up in a transmission line before it melts or explodes?
--
73, Cecil http://www.qsl.net/w5dxp

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2470. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 18:58:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6B465.22BE74E2@uci.edu>
Source record: 119032

OC_CAM's Razor wrote:
> Come back in 100 years and see if you were right.

??? You're the one claiming to be Copernicus, Gallileo, and Einstein all rolled into one - not me. I'm just trying to explain physics to you.

> > For some reason you want everyone to think that it goes from
> > the source to the dark fringes first before it ends up at the bright
> > fringes.
>
> That's simply not true. I will give you the benefit of the doubt that
> you are only mistaken about what I said.

Here's the quote from your paper:

"If two coherent reflected waves are traveling toward the source and engagte in 100% destructive interference, the energy in those two waves is re-reflected back toward the load."

What I have been trying to tell you is that this in fact does not occur in reality. That is because when these waves engage in 100% destructive interference, this energy does not actually travel back toward the source, and is therefore NOT "re-reflected". That amount of energy was not reflected from the load to begin with. This should be a relief to you, because as I've said before at least a dozen times, there is no physical mechanism for the "re-reflection" of energy that you describe. All you've been able to do is say "it has to because of conservation of energy." What I'm telling you is that is DOESN'T have to because, under these circumstances, the waves involved in destructive interference don't transfer energy back to the second reflection point due to the fact that they are equal in amplitude and out of phase. There is no net energy transfer from the load to the discontinuity, thus no need for it to re-reflect back to the load. Nothing blows up, Cecil.

ac6xg

2471. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:03:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6B598.62DD96DA@uci.edu>
Source record: 119033

OC_CAM's Razor wrote:

> Would you care to demonstrate a point in the universe devoid of energy?

I think I know of one devoid of common sense.

> Well then, please correct me. I believe that dynamic flowing RF energy
> has to go somewhere. You seem to disagree.

Nope, I am in entire agreement with that.

> So where does the reflected
> energy go if it is not re-reflected back toward the load, is not incident
> to the source, and is not dissipated?

What reflected energy? You mean the energy contained in two waves that
completely cancel in the direction you're speaking of? Why, no energy
is contained in or transferred by waves that destructively interfere
100%.

73 de ac6xg

2472. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:04:49 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305051104.2def62cb@posting.google.com>
Source record: 119020

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<28576-3EB640D7-37@storefull-2316.public.lawson.webtv.net>...
> Gene wrote:
> "The rules allow for an antenna up to 3 meters long including feedline
> and ground lead with 100mW output power."
>
> The proposed coil is 4 turns, a maximum diameter of 3 meters, and a
> length of 2 meters. That`s about 40 meters in wire length to make up a
> coil for 176-meter operation.
>
> Do the "part 15" rules allow an antenna containing 40 meters of wire in
> any configuration for operation at 1.7 MHz?
>
> Best regards, Richard Harrison, KB5WZI

Yea, if the coil length counts, IE: loading coil on a vertical for
instance, that could be a problem as far as having an efficient
antenna. Seems to me , they should count the actual physical size of
the coil instead of wire length. But I haven't looked into that
operation much.
MK

2473. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:18:11 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <gtddbv0k7bhjhrliksf1ffvojr34p2ve6g@4ax.com>
Source record: 119021

On Mon, 5 May 2003 19:26:21 +1000, "VK2HXY - Troy"
<SPAMvk2hxy@hotmail.com> wrote:

>Yes ok, very well done Roger, so what has this got to do with CW being an
>examinable requirement for access to the HF bands? Sure you are going to

You made a turn there with out signaling.
I didn't say it had anything to do with being a requirement.
What I did do was link it to a statement (which you did not include)
that said the validity of CW in emergencies was no longer a valid
claim.

>work for an 'agency' this has nothing to do with everyone having to pass an
>exam to access the HF bands... So again I reiterate, I haven't heard a

Nor did I give one.
You are reading in a lot to a simple reply to one statement.

>logical argument to retain this requirement yet. Mostly emotive posts (not
>on this NG though) and those who are looking to retain the past, retaining
>tradition and the like.
>
>So someone, anyone please, fill your boots and convince me the reasons as to
>why it should be compulsory to have this mode retained as a requirement to

Why should I try to convince you? I made no such claim to begin.

>access HF. I am not against CW by any stretch of the imagination. I quite
>like CW, but don't believe that CW is now a necessary requirement to access
>the HF bands.

I never said it was. Nor did I even indicate it was.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Lastly, just because CW is removed from the examination process does not
>mean that the mode will die off. I believe that some would chose to study
>the mode because it's another mode that has its benefits as we all well
>know. Just as some choose to use IRLP, Packet, RTTY, WSJT and a plethora of
>other modes. By the way, none of which are examinable modes in VK.
>
>Thanks for the great discussion.
>
>73 de VK2HXY
>Troy

>Windsor, Australia
>
>"Roger Halstead" <rdhalste@tm.net> wrote in message
>Strange...I just volunteered to do some work for an agency. One of the
>requirements was high speed CW proficency.
>
>
>

2474. Re: MESSAGE FOR T DONALY AND JAROSLAV LIPKA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:21:38 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <gfbdbvkafco0mvb8472tfjkb7ekepk4q02@4ax.com>
Source record: 119023

On 4 May 2003 21:34:04 -0700, nm5k@wt.net (Mark Keith) wrote:

>Roger Halstead <rdhalste@tm.net> wrote in message
news:<1109bv86tnos4ogbir3gl8uv19j88v9ji6@4ax.com>...
>
>> This past week I've received notes from several ISPs telling me that
>> a customer received a message from me (address possibly forged) with a
>> virus attached.
>> I run continuous checks, use ZoneAlarm Pro, and use a termite checker
>> from my ISP. It always comes up clean. (so far) and I don't even
>> recognize the addresses listed.
>
>Offhand, I'd say you are infected with a macro virus, if you are
>indeed sending them out. I've gotten those from people I don't knew,
>or have ever talked to.

Computer checks clean. With my software and even my ISPs.
Plus there is a fire wall that doesn't let ET phone home.
I also use termite checkers and bot checkers.

No termites, no spyware, no viruses.

>When I asked them about it, they had no idea they were infected. One
>was a ham who I had never heard of at all. I'm not sure how these
>viruses spread addresses, but they seem to be able to glean them from

It's simple, but I don't think I'm going into a "how to" <:-))

>places other than just your address book. Many will send to people you
>don't even know. I'd get a fresh "good" antivirus software and run it.
>You need one with a fresh signature file.
>If you are sending out "hidden" e-mails unknown to you, you are
>infected. Or I would think anyway. I guess the only other option would
>be a forged address, but I don't see how they could forge your actual
>routing info. IE: Someone can forge an address, but I can still

I don't either, but the return address doesn't have to have the
correct routing. If it picks up my address as not-valid@tm.net the
checking software will use that and resolve the IP, rather than using
the original IP. Apparently there was a discrepancy between the
address and the IP as the message to me said my address had possibly
been forged. Almost all of the messages said that.

>usually tell where it came from. Being all these people are accusing
>you of this, I'd be real wary being most should be able to tell the
>true routing. You probably are infected. MK

The automated stuff just uses the return address, not the IP. There is probably some out there that does, but only in persistent cases.

Nope.
As I say the computer(s) have been checked thou roughly and not just by me.

Forging a return address is easy. You don't need the proper routing and what I see is only the routing from what ever outfit did the checking, not the original routing on the infected message.

BTW, my degree is CS, I worked in the field for a number of years and still stay up on the programming and internet end. That's one reason I complained when my ISP started filtering out viruses and only sending me a note. Prior to that I could do a tracert off the IP. About 95% (a very high percent) did not yield a valid source. Most often, only a range of subscribers would come up. the actual e-mail address was usually forged, a partial, or made up.

So, if you do a tracert and get better than a 5% return it's unusual. Out of 250 in one year I only was able to find three. I found a fourth because his ham call was part of the address, although the address was bogus. I found his real address on QRZ, sent him an e-mail, and received a thank you note back.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

2475. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:34:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6BCC3.8040702@ieee.org>
Source record: 119024

Jim Kelley wrote:
> No, just simple, straightforward logic and scientific fact. No amount
> of your impudent conjecture can make it otherwise.

Would you care to demonstrate a point in the universe devoid of energy?

> Your
> presumption of reflected energy in the 'if' part of your statement is
> where you have erred.

Well then, please correct me. I believe that dynamic flowing RF energy
has to go somewhere. You seem to disagree. So where does the reflected
energy go if it is not re-reflected back toward the load, is not incident
to the source, and is not dissipated?
--
73, Cecil http://www.qsl.net/w5dxp

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2476. Re: Swr meters for quad band ft-8900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:40:53 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <u4fdbv47kqfcqsp1n5f5fml79c2325ohdm@4ax.com>
Source record: 119029

On Mon, 05 May 2003 13:31:04 -0400, wess@gtii.com wrote:

>I have a feeling that no normal swr meter will cover the 10m to 70 cm
>range of my ft-8900r so what would be two good choices or can I assume
>a that a out of box antenna (uvh-4) won't kill my radio until I can
>afford the required meters?
>
>Tia, 73, Wes, Kc8spr

I wouldn't count on any multi-band antenna having low swr, out of the box, until you measure it.

I'm also surprised your rig doesn't have an swr meter built in. Oh, well.

Anyhow, the MFJ 864 covers all bands, 1.8 through 440 mhz with a cross needle swr readout. Costs about $85. See the mfjenterprises.com website. They have a buncha swr meters.

Bob
k5qwg

2477. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:47:14 UTC
From: wings@dakotacom.net
Message-ID: <3eb6bda2.1099884@news.dakotacom.net>
Source record: 119026

On 05 May 2003 05:22:01 GMT, whagen6@cs.com (William F. Hagen) wrote:

>those crazy people who call themselves 'lowfers', not to be confused with
>loafers, have to consider antenna situations such as yours to a further
>extreme. They are transmitting in bands way below the medium wave bands.
>The keys appear to be severe loading of vertical antennas, such as big
>capacitance hats, and giant loading coils. I think if you looked at antenna
>designs they use, and modified them to your parameters, you would be
>successful, dont forget to put down miles of counterpoise, as this is the other
>side of the double sided key to success.

That's pretty much what I'v been doimg. :-)

I thought that the ddrr was the ultimate short loaded vertical, but
for some unknown reason, it won't tune well in my system. I can try a
6m diameter cap hat on a 3m verticle with a high Q coil made from 1/4
inch copper. That should tune well.

I can run 4 #12 copper radials about 50 feet and attach them to the
chain limk fence thar surrounds my lot, that's about the best I can do
for counterpoise.

regards,

Gene A. Townsend

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2478. Re: deplexing? question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:47:49 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <zF2dnWlflfx_XSujXTWcow@ctc.net>
Source record: 119030

> I recently bought a ft-8900r and I hope you all are not getting tired
> of my posts but one topic at a time seems to work best in usenet.
>
> The radio is internally ?plexed. If at some time I want to play with
> antennas that are optimized for each band, can I use a plexer
> backwards or should I just use an antenna switch?

Yes, a duplexer will work just as well backwards. I use one in reverse to
split a 6 meter antenna from the lowband output of my Icom 706.

2479. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:47:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b96f59$3v2$1@titan.btinternet.com>
Source record: 119027

Rich, are you happy with the accuracy of self-capacitance and self-resonant
frequency. Do you think these might result in tuner problems ?

Reg.

2480. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:50:33 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305051150.3bd9d84@posting.google.com>
Source record: 119028

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<ugk7bvklpp7mng4mkm4aelk5v7n7bvmjlh@4ax.com>...
> On 2 May 2003 18:32:47 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> [snip]
> |As for me I do not accept any mail and my computor is not capable of
> |sending mail.
>
>
> Really? How is it that when you wanted me to model your infamous
> antenna you sent me private email from: aunwin@fgi.net?
>
> The subject line was: "actual figures to insert into your program", in
> case you forgot.
>
> I repeat, GET A GRIP!

I may not have any credability with you or anybody else but I am
stating the truth.
Something happenned with my E mail many, many months ago as I stated
on this thread so people would not waste their efforts in E mailing.
Some months ago I even went to the extent of placing my phone number
on this net because of my difficulties so that I could not be accused
of deliberate rudeness.
When my E mail is corrected so I can send and receive I will let you
know. I suspect that when I sent that E mail to you it was a question
of months
or even a year, certainly a very long time ago.

2481. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 19:53:20 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305051153.6a0cd95@posting.google.com>
Source record: 119031

Roy Lewallen <w7el@eznec.com> wrote in message news:<vbasub8p77r7a@corp.supernews.com>...
> A point of clarification. "Gain" means the ratio of field strength
> between an antenna and a reference. By itself, the term doesn't convey
> any information about how the field strength difference was achieved.
> Bill's use of "gain" should be "directive gain" instead. This is gain
> that's achieved by concentrating the power in some directions by getting
> it from others. "Gain" can come about as a result of differences in
> directive gain, efficiency, or a combination of the two, between the
> antenna and the reference. "Directivity" is usually expressed as a
> number, and is referenced to a perfectly spherical (isotropic) pattern.
> "Directive gain" is usually expressed in dB, and can be referred to any
> reference, although isotropic is most common in the professional
> literature at least.
>
> Bill points out that increased directive gain can be an advantage when
> receiving.

True, but there is no directive gain with a short vertical. We are
straying from the antenna being discussed to include directive gains.

>
> Remember, when you increase efficiency, you increase gain. When you
> increase directive gain, you increase gain.

True. I guess it's just a matter of picking nits..:/ I guess my point
is, when I compare gains of verticals, I use either isotropic
reference for theoretical antennas, or a 1/4 wave vertical in the real
world. Being as the shortened vertical acts basically the same as the
full size version as far as patterns,
there are no directive gains, only increases in efficiency compared to
the full 1/4 wave antenna. The way I see it, to have true "antenna
gains" in this case, you would need to use a larger than 1/4 wave
radiator. IE: 1/2 wave or whatever.
Even that gain is not directive as far as azimuth, but I still
consider the small extra gain as "antenna gain" as you would normally
think of it as far as extended element lengths, etc. But I don't
consider a shorter than 1/4 wave vertical to have any "antenna gains",
only efficiency gains if it's better than another equal length
"shorter than 1/4 wave" vertical. Another example of my weird thinking
on this would be to increase the number of radials under the antenna.
Sure, the antenna shows "gain" over the previous lesser radial
version, but the radiator itself has nothing to do with it. The gains
come from reduced ground loss. IE: higher efficiency.
But this "thinking" of mine only applies to shorter than 1/4 wave
verticals.

As far as larger antennas, and ones steerable, I agree with everything he said.
To apply to the mobile situation, if one claimed a certain HF mobile antenna had "gain" over another one, it's most certainly going to be an efficiency issue, rather then "antenna element gains" per say. And these "gains" would vary according to the size vehicle you mounted it on as far as ground losses, and the size , height above base, cap hat?, coil size and Q, etc as far as loading losses. So yes, adding the bigger antenna to the base of the smaller one to raise coil height increases "gain", but any gains are due to increases in efficiency compared to a full 1/4 wave, not due to any element length changes or whatever that would provide gain ala an extended vertical such as a 1/2 or 5/8 wave. To me, and my "weird" thinking , all shorter than 1/4 wave mobile verticals have negative gain, being I use a 1/4 wave monopole as the comparison reference. After all, trying to approach the efficiency of a full 1/4 wave is what we are trying to do in the case of all short HF mobile antennas. Like I said, it's basically a nit picking type of deal...:/

MK

2482. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 20:23:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbdi2b1jguo47@corp.supernews.com>
Source record: 119034

Mark Keith wrote:
>
> True, but there is no directive gain with a short vertical. We are
> straying from the antenna being discussed to include directive gains.
>
Using the conventional definition of comparison with a non-directive (spherical) pattern, a short dipole has a directive gain of 1.74 dB. A short vertical has the same directive gain, providing that you're using a hemispherical pattern as the reference for the vertical. But it's also fine to talk about directive gain with respect to some other reference. If a quarter wave vertical is your reference, for example, then a very short vertical has a directive gain of about -0.45 dB. (Remember that directive gain is a three-, not two-dimensional measure.)

I apologize for straying. I saw what I perceived to be a misunderstanding about terminology that applies to all antennas, not just the one under discussion.

> True. I guess it's just a matter of picking nits.. . . .

A whole lot of misunderstanding about antennas (and a mulitiude of other topics!) is caused by different people putting different meanings on different words. My posting was intended for people who want to communicate by using words that have commonly understood meanings. I'm confident that the rest of the readers felt free to ignore it.

Roy Lewallen, W7EL

2483. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:02:33 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6D169.3070400@ieee.org>
Source record: 119036

Art Unwin KB9MZ wrote:
> Something happenned with my E mail many, many months ago as I stated
> on this thread so people would not waste their efforts in E mailing.

A couple of years ago, someone email-bombed me with porno material,
hundreds of messages per hour for days, from an anonymous source
originating in Germany. I was forced to cancel that ISP and start
over.
--
73, Cecil http://www.qsl.net/w5dxp

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2484. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:02:43 UTC
From: wings@dakotacom.net
Message-ID: <3eb6cbb1.4699047@news.dakotacom.net>
Source record: 119035

On Mon, 5 May 2003 05:45:43 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Gene wrote:
>"The rules allow for an antenna up to 3 meters long including feedline
>and ground lead with 100mW output power."
>
>The proposed coil is 4 turns, a maximum diameter of 3 meters, and a
>length of 2 meters. That`s about 40 meters in wire length to make up a
>coil for 176-meter operation.
>
>Do the "part 15" rules allow an antenna containing 40 meters of wire in
>any configuration for operation at 1.7 MHz?

The part 15 rules are unclear as to the meaning of "length of the
antenna". Also unclear on meaning of transmission line and ground
lead. There are cases of part 15 antennas atop 100 foot towers that
were deemed compliant even though there were antenna currents in the
tower. The transmitters used the tower as the "ground" and the tower
was ruled to not be a "ground lead", although it clearly was.

Bt default, I would use the english definition of the length of any
3-dimensional solid to be the length of the longest side.

For a loaded vertical antenna with both cap hat and loading coil, it
is unclear if the cap hat and/or unwound loading coil are included in
the "length". Again, by default, a simple english use of "length of
the feedline, ground lead and antenna" less than 3 meters would be
that only those 3 items are included, and that others (like loading
devices) are not. Coils and cap hats are loading devices unless they
radiate, as is the case with stl antennas. The length of a coil will
usually radiate, so that IS included as part of the antenna length.

thanks foe the input,

besr regards,

Gene A. Townsend
>
>Best regards, Richard Harrison, KB5WZI
>

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2485. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:20:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g1kdbv4jlg1011dp46gb09o4qvspuipglh@4ax.com>
Source record: 119037

On Mon, 05 May 2003 11:58:45 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>OC_CAM's Razor wrote:
>"If two coherent reflected waves are traveling toward the source and
>engagte in 100% destructive interference, the energy in those two waves
>is re-reflected back toward the load."
>
>Nothing blows up, Cecil.

Hi Jim,

Better watch it, Galileo was prosecuted by gleeful editors for writing
papal bull to venetian Ham magazines. They quite rightly pointed out
that the pipeline between Alpha Centauri and here had already exploded
(we have enough Alpha Centaurians, thank you) and any attempts to
examine this Mystery of faith are anathema.

Your excerpt reveals this specie as closet writing, suitable for a
vanity publication (like the New Republic). Cecil should try sending
some money for "advertising" to some of these rags if he wants to
publish.

We are going on a year now since the first teaser was introduced? The
only record I see being broken is for the "pending" announcement of
Fractal Challenge results. ;-)

73's
Richard Clark, KB7QHC

2486. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:28:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b96kso$fjsgp$1@ID-150848.news.dfncis.de>
Source record: 119038

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b96f59$3v2$1@titan.btinternet.com...
> Rich, are you happy with the accuracy of self-capacitance and
self-resonant
> frequency. Do you think these might result in tuner problems ?
> ---
> Reg.

Reg

The only thing that concerns me about your program is whether it gives a reasonably accurate inductance value. It apears it does if I put in the correctly worked out coil length, which I was unable to do until I was told how to do that (coil length - pitch). Although it must be said in most cases the discrepancy would not have made much difference.

I don't know anything about electronics really. Only a smidgin. So I am out of my depth except in very basic electronics discussions.

Rich.

2487. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:37:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6D9B4.20206@ieee.org>
Source record: 119039

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>My *reality* is consistent with my model, Jim.
>
> I guess that's all that's important then. I had thought you were
> attempting to describe what actually occurs in transmission lines and
> thin film antireflective coatings. Your description depends on a
> phenomenon which doesn't occur in nature.

My reality is what actually occurs, Jim, as far as I can tell. Yours, OTOH, requires a supernatural miracle from heaven, a violation of the conservation of energy principle. Again, all you have to do to prove your side of the argument is to prove that constructive interference from a source 9 light-years distant, can occur without any accompanying destructive interference. We are still waiting for that proof. Exactly how do you come up with more energy than exists in the waves generated 9 years ago?

> I wish I could claim it was my model. Physics says that energy and
> intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2
> cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta =
> 0, I = zero. Energy is zero at interference nulls. Period.

There's ExH energy in the two interfering waves, Jim. Where did the energy go? Did it disappear from the universe? If not, where did it wind up if not contributing to the constructive interference between those two waves? You have not been able to demonstrate total wave cancellation without an equal magnitude of constructive interference in the opposite direction. If you can demonstrate that feat of energy disappearing from the universe, now would be a good time. Dr. Best couldn't do it, BTW.

> As soon as you stop arguing with me when I claim that energy does not
> come from nulls in interference patterns, you will eliminate the
> "strawman" as an issue. But you just keep on arguing about it.

I have not even posted the word "null" this entire year except to ask you what you meant by it. Why can't you win the argument without accusing me of saying something I never said? Are we talking about the IEEE Dictionary definition of a "null", or what?
--
73, Cecil http://www.qsl.net/w5dxp

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2488. Re: mag loop antenna for 1.7 MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:53:44 UTC
From: richardharrison@webtv.net
Message-ID: <11240-3EB6DD68-157@storefull-2317.public.lawson.webtv.net>
Source record: 119046

Gene wrote:
"The part 15 rules are unclear as to the meaning of "length of antenna"."

Terman has a simple inductance formula intended for coils with dimensions in inches, not feet. Reg Edwards, G4FGQ has free programs which may give the answers you want.

For grins, I plugged numbers into Terman`s formulas which may be totally inappropriate for sugh a large coil. I got an inductance of about 42 microhenrys and it would require about 210 picofarads to resonate at 1.7 MHz.. I have no idea if Terman`s formula can be stretched so far.

Best regards, Richard Harrison, KB5WZI

2489. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:54:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6DD78.DC983EFC@uci.edu>
Source record: 119054

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > What reflected energy? You mean the energy contained in two waves that
> > completely cancel in the direction you're speaking of? Why, no energy
> > is contained in or transferred by waves that destructively interfere
> > 100%.
>
> So you reject the wave reflection model where the energy/sec in every
> wave equals V*I and the V/I ratio is Z0.

Not at all. Reading comprehension a problem for ya, Cec? What I wrote above describes the case where net energy/sec equals zero because V3 = -V4 and I3 = -I4.

ac6xg

2490. Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:54:48 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <btmdbvkjvlo3sf4shcod73fvjobogduqnc@4ax.com>
Source record: 119040

At 100 watts being used for a dipole about 50 ft away from the
tranceiver, doe's the phisical size (large or small od) of coax make
any difference.
TIA
Boycott France and there products
and find another place to vacation.
The U.N is a JOKE!!!!

2491. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:55:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6DDB8.6010305@ieee.org>
Source record: 119041

Jim Kelley wrote:
> ??? You're the one claiming to be Copernicus, Gallileo, and Einstein
> all rolled into one - not me. I'm just trying to explain physics to
> you.

Right, by telling me that constructive interference doesn't equal
destructive interference. I was born at night, Jim, but it wasn't
last night.

> "If two coherent reflected waves are traveling toward the source and
> engage in 100% destructive interference, the energy in those two waves
> is re-reflected back toward the load."

Yep, that's true, Jim. I didn't say the "waves" were reflected. The waves
are canceled. We know the reflected energy doesn't continue traveling
toward the load. We know it cannot stand still. We know it is not
dissipated. We know it cannot go up or down or sideways. In a one-dimesional
system, like a transmission line, it has no choice except to head toward
the load. It was reflected energy. Now it's flowing toward the load. By the
definition of direction of energy travel in a transmission line, it has been
re-reflected. Is the definition of "re-reflected" what is hanging you up?

> What I have been trying to tell you is that this in fact does not occur
> in reality.

Of course it does, Jim. Measurements prove that is what happens. Did
you burn your fingers when you grabbed the load resistor in the
circulator?

> That is because when these waves engage in 100% destructive
> interference, this energy does not actually travel back toward the
> source, and is therefore NOT "re-reflected".

OK, I give up. Your supernatural God causes it to happen. I can stop
looking for a natural cause. Now are you satisfied?

> That amount of energy was not reflected from the load to begin with.

Mismatched loads don't reflect energy? (Somebody get the net!) Why
can we measure 200 watts forward and 100 watts reflected? Why do
the transmission line losses increase with increasing SWR?

> This should be a relief to
> you, because as I've said before at least a dozen times, there is no
> physical mechanism for the "re-reflection" of energy that you describe.

500 years ago, there was no physical mechanism for any re-reflection of
EM energy. Does that mean there was none? Are you claiming to be omniscient?

> There is no net
> energy transfer from the load to the discontinuity, thus no need for it
> to re-reflect back to the load.

So you don't accept the wave reflection model. Why didn't you just say so in the first place and save me all this grief? My article is based on the assumption that the wave reflection model is valid. If you don't accept that model, you can have nothing of value to add to my article.
--
73, Cecil http://www.qsl.net/w5dxp

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2492. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 21:57:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB6DE3A.1000003@ieee.org>
Source record: 119042

Jim Kelley wrote:
> What reflected energy? You mean the energy contained in two waves that
> completely cancel in the direction you're speaking of? Why, no energy
> is contained in or transferred by waves that destructively interfere
> 100%.

So you reject the wave reflection model where the energy/sec in every wave equals V*I and the V/I ratio is Z0. That's OK, Jim, but you have removed yourself from any rational discussion that depends upon the wave reflection model. You might as well be asserting that your God causes everything.
--
73, Cecil http://www.qsl.net/w5dxp

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2493. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:00:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6bndbvsnh1sv3vjkjqcmauqf6mmlqt3rb4@4ax.com>
Source record: 119043

On Mon, 05 May 2003 16:37:56 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>I have not even posted the word "null" this entire year except to ask
>you what you meant by it.

Some may note that within the space of the short sentence above, there
are two declarations, both of which are demonstrably false:

On Tue, 14 Jan 2003 13:28:07 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Does the destructive interference at
>a null in an antenna pattern know where the constructive interference is?

On Sat, 01 Feb 2003 15:25:10 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> Is Aleph(null) equal to Aleph(null)?

On Tue, 11 Mar 2003 22:55:48 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> The voltage interference is constructive at the open
>end of the stub and the forward and reflected voltages are both approximately
>40v and in phase at the current null point.

On Tue, 11 Mar 2003 22:55:48 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>At the voltage null point those
>two voltages are simply 180 degrees out of phase and phasor add to 0.035v.

and on and on and (we've been here haven't we?)....

If anyone wonders what the second falsehood is, NONE of these quotes
are in response to Jim.

73's
Richard Clark, KB7QHC

2494. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:01:36 UTC
From: tdonaly@aol.com
Message-ID: <20030505180136.01783.00000814@mb-m28.aol.com>
Source record: 119044

Cecil wrote,
>
>Richard Harrison wrote:
>> Jim Kelley wrote:
>> "After that (the transient period) energy is not transferred to that
>> (reflection) point. No power."
>>
>> Power is the rate of doing work. It is also the rate of transferring
>> energy. Cecil`s IEEE dictionary says it better, but that`s the gist.
>>
>> A-C and D-C are different. Transients disappear after a time when D-C
>> starrts. Thanks to alternations, steady-state A-C continues producing
>> reflections at impedance
>> bumps.
>
>Both Jim and Peter are relying on 100% perfectly identical consecutive
>waves which obviously cannot happen in reality. For any real-world
>situation, a 100% perfect steady-state is never reached and reflected
>waves are always detectable at the Z0-match point in a ham station on
>a system with reflections. In short, we don't have to worry about
>Jim and Peter's model ever occurring in reality.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Lossless transmission lines don't occur in reality, either, but that doesn't
stop you from talking about them, Cecil.
73,
Tom Donaly, KA6RUH

2495. Re: Finally great product!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:07:28 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030505180728.26511.00000486@mb-m22.aol.com>
Source record: 119045

>
> When i made my first post i tried to word it in such a way
>that it was not an accusation, if it was taken as such i offer my
>unreserved apology to Yuri and hope he accepts it in the spirit it is
>given.
> Jaro
>
>

Sounds like Dixie Chicks "apology" :-)
Whatever you did or coresponded with F.Art created pile of crap, mixing in Jews, making me spammer/viruser, threatening to take my license away, etc. You made post calling me something of lackey of somebody based on what? It helps to read some archives of NG to get the feeling of the NG and get the picture of the posters before engaging in fireworks.

Whatever apology is accepted in hope that you will stick to the subjects and technical matters as they relate to this NG without personal attacks or comments.
Any wild claims or baloney is always questioned on this NG, discussions welcome, but crap is dubunked as long as some sane people remain here.

Yuri da BUm

2496. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:18:11 UTC
From: richardharrison@webtv.net
Message-ID: <11240-3EB6E323-163@storefull-2317.public.lawson.webtv.net>
Source record: 119052

Jim, AC6XG wrote:
"Why, no energy is contained in or transferred by waves that
distructively interfere 100%."

Aircraft passing overhead produce FM and TV flutter at times when the reflected wave is about equal in magnitude and opposite in phase to the direct wave.

The nulls in that flutter are produced, in my opinion, when the waves induce signals which cancel in the rabbit ears.

Best regards, Richard Harrison, KB5WZI

2497. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:18:14 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b96nv9akr1@slb6.atl.mindspring.net>
Source record: 119047

Cecil:

[snip]
> All we can ever do is reduce reflections to a negligible value, maybe
> even to an unmeasurable value. We can *never* get rid of them entirely
> because reality is not ever perfectly steady-state. Your perfect steady-
> state conditions exist only in your mind.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Heh, heh... just as the voltage across a capacitor charging through a resistor up
to the source voltage never reaches its' limiting voltage, eh?

After about 5 or 6 time constants i.e. after about 5*R*C seconds has passed since
the capacitor started charging, for all practical purposes the steady state has been
reached! And that's good enough for most. Stop using Zeno's argument, Zeno has been dead for over 3000 years! And he has been debunked more than a few times.

I'm reminded of that slightly blue story of the Mathematician and the Engineer out
in the desert who were told there was a gorgeous naked lady available for play
a certain distance from their location. They were told they could only approach
her by taking one big step, followed by another step one half that size, and another
of yet 1/2 the last one, etc...

The Mathematician made some calculations using infinite series and came to the
conclusion that he could never reach said lady and he just lay down in the sand,
meanwhile the Engineer made some calculations and figured out that he could get close enough for all practical purposes, and set about to have some fun.

But hey us "Nerds" are here to discuss antennas and transmission lines, not girl chasing, so consider the following...

Assume that a ham closes the key on his CW transmitter which is connected to about
10 meters of 50 Ohm transmission line with unit velocity factor and a

mismatched
antenna on the other end. The time for light/radio waves to cross 10 meters
at
unit velocity factor is about 100/300E+06 = 1/3 of a microsecond. Now the
ham's transmitted energy courses down the 10 meters of line and hits the
antenna
mismatch, and some of it is reflected there and so during the next 1/3 of a
micro
second the echo returns toand impinges upon his transmitter. Lets assume
that
his transmitter also represents a mismatch so that some of the energy is
reflected
there and goes coursing back down the line again towards the antenna for
another
1/3 of a microsecond, well... after 5 or 6 of these return passages taking
all of 2/3 microsecond each for a total of say 6(2/3) = 12/3 = 4
microseconds
it's all over. You have hit steady state, no more echos are apparent, the
only
remnant is a sulking standing wave hanging there on the line representing
the
energy stored in/on the line sloshing back and forth between the distributed
capacitance and inductance of the line.

What?

And so for all practical purposes the steady state has been reached in 4
micro
seconds after the ham hit the key. Even Tom McElroy could not key fast
enough
to cut of the transmission in the middle of one of those echos!

Meanwhile the ham has not even bothered to begin thinking about when to
release the key from his first "dot" which as ya'll know takes a good
fraction of
a second to complete.

Cecil, get real!

In all cases of interest where hams are operating on HF in narrow band modes
or making SWR measurements, for all practical purposes their transmission
systems
are in steady state equilibrium after a couple of microseconds!

What?

Any more challenges? ;-)

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

2498. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:21:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb6e3f3$1_2@corp-goliath.newsgroups.com>
Source record: 119049

"Peter Brackett" <ab4bc@ix.netcom.com> wrote:
>Heh, heh... just as the voltage across a capacitor charging through a
>resistor up to the source voltage never reaches its' limiting voltage, eh?

Nope, you missed the point, Peter. After steady-state has been reached,
the subsequent cycles of the ordinary ham transmitter are not enough
alike to be declared identical. If there is any steady-state jitter,
it will show up as reflections. Your model of reality is too perfect
to ever exist in reality. Your kind of steady-state is impossible.

>Stop using Zeno's argument, ...

It's not Zeno's argument, see above.

>it's all over.

Nope, it's not. You are choosing to ignore jitter *during* steady-state.

>Cecil, get real!

You missed the point, Peter. You get real and stop relying on those
perfectly identical cycles. They don't exist.
--
73, Cecil, W5DXP

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http://www.newsfeed.com The #1 Newsgroup Service in the World!
-----= Over 100,000 Newsgroups - Unlimited Fast Downloads - 19 Servers =-----

2499. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:23:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eb6e473$1_2@corp-goliath.newsgroups.com>
Source record: 119050

tdonaly@aol.com (Tdonaly) wrote:
>Lossless transmission lines don't occur in reality, either, but that doesn't

>stop you from talking about them, Cecil.

That's true, Tom, but I *NEVER* said that lossless transmission lines exist
in reality.
--
73, Cecil, W5DXP

------------== Posted via Newsfeed.Com - Uncensored Usenet News ==----------
http://www.newsfeed.com The #1 Newsgroup Service in the World!
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2500. Re: disregard my 2m antenna threads

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:36:34 UTC
From: nospam@nouce.bellatlantic.net
Message-ID: <3eb6e7a4.3004638842@news.bellatlantic.net>
Source record: 119048
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.equipment

On Sun, 04 May 2003 23:39:51 -0700, Dr. John <frellyou@privacy.net>
wrote:

>Please disregard my 2m antenna threads.
>
>I have decided on a 2m log periodic with 1:1 swr and a 24" boom which is fantastically
great.
>
>Thanks for your responses and I believe this is the right one for me.

You want horizontal polarization or vertical? That does make a big
difference.

Allison

2501. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:38:51 UTC
From: richardharrison@webtv.net
Message-ID: <11240-3EB6E7FB-168@storefull-2317.public.lawson.webtv.net>
Source record: 119051

I did not say what happens to energy cancelled in an antenna. Well, some of the energy is simply re-radiated. That represents a change of direction for most re-radiated energy. At least 50% of all energy captured by the best conflict-free antenna is re-radiated, and that happens with a perfect match. An imperfect antenna loses or readiates more than 50% of the energy it captures. Some energy may be lost in the load for out-of-phase signals as if it was a common-mode. Some energy may be lost in the loss resistance of the antenna. Some energy as previously stated is consumed in the radiation resistance of the antenna. It is re-radiated.

Best regards, Richard Harrison, KB5WZI

2502. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:45:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB6E96F.267F7A75@uci.edu>
Source record: 119058

OC_CAM's Razor wrote:
> My reality is what actually occurs, Jim, as far as I can tell.

Only because you're in tunnel vision mode. Again.

> > I wish I could claim it was my model. Physics says that energy and
> > intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2
> > cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta =
> > 0, I = zero. Energy is zero at interference nulls. Period.

> There's ExH energy in the two interfering waves, Jim. Where did the energy
> go? Did it disappear from the universe? If not, where did it wind up if not
> contributing to the constructive interference between those two waves?

You're putting words in my mouth, Cecil. Try thinking only about what I DID say instead. The point is simply that energy doesn't have to re-reflect (your idea) in order to do so. The energy in question is NOT REFLECTED TO BEGIN WITH. The waves cancel in that direction. No net field, no net energy. There's no need for your inexplicable re-reflection to occur - nor your machinations to try to illustrate such. All that is required is a tiny reorientation in your thinking about the subject. Conservation of energy holds. Wave reflection holds. You just have to account for the fact that energy is not actually transferred in the direction of field cancellation, but is instead transferred in the direction of constructive interference. It's not a problem to show how the wave components move around in the system. The only problem is when to extend the idea too far, and start claiming that energy ALWAYS moves with them. It's true that energy almost always moves with waves. Except.....

In the special case we're looking at, the wave components cancel in the direction rearward of the load. That means that energy cannot move in that direction. Since it does not, we don't have to worry about energy finding a way to get back to the load. That is the problem with your paper. There's no physical mechanism to explain such a turnabout of energy. This doesn't bother you because you know the energy does actually end up at the load in the end anyway. The reason wave reflection doesn't actually present a problem is because in the matched case, energy doesn't reflect off the match. Since the energy doesn't reflect off the match, all of the energy from the source impinges upon the load boundary. A wave is reflected from the load but that wave, being equal in amplitude by opposite in phase (note the two reflection coeffieicients must be the same), is the one which cancels the reflection from the match, and no net energy moves in the rearward direction from either the match or the load.

This of course assumes steady state is actually reached, and that there are no losses, and that the amplitudes are perfectly matched, and the phases are exactly 180 degrees - granted, none of which ever actually occur in nature. In which case, some energy is obviously reflected back to the source.

Your wave reflection model works fine, Cecil - to a point. That 'point' is Fig. 3. in part II, and your claim about energy reversing direction. Otherwise, as I have said before, it's an excellent piece of work.

73, Jim AC6XG

2503. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 22:47:08 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <cMucndRVeo-ediujXTWcqw@ctc.net>
Source record: 119053

"> At 100 watts being used for a dipole about 50 ft away from the
> tranceiver, doe's the phisical size (large or small od) of coax make
> any difference.

It depends on the frequency. Below 30 mhz it will not be noticable. At 450 mhz it could be noticable. Think that around 80 watts at this frequcny is the power rating for some of the rg58 type coax. For 2 meters and below at this power level I think I would use rg-8x or maybe even some of the rg-6 70 ohm coax if it was not for most of it having an aluminum braid and hard to solder to.

2504. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 23:07:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <asqdbv86jvja2k9lo648sgpjd9flre0rc0@4ax.com>
Source record: 119055

On Mon, 5 May 2003 17:18:11 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Jim, AC6XG wrote:
>"Why, no energy is contained in or transferred by waves that
>distructively interfere 100%."
>
>Aircraft passing overhead produce FM and TV flutter at times when the
>reflected wave is about equal in magnitude and opposite in phase to the
>direct wave.
>
>The nulls in that flutter are produced, in my opinion, when the waves
>induce signals which cancel in the rabbit ears.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

I was wondering when matters would eventually get around to this and
characteristically, you lead the way.

Fresnel zones seem to be a strangely undiscussed topic for having all
the qualities of these problems. However, I won't be so naive to
expect that its discussion will resolve issues of poor style and even
poorer logic.

For the Optically challenged, yes, Terman covers this too.

73's
Richard Clark, KB7QHC

2505. Antenna Shootout Report Online HFpack Pedestrian Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 23:17:57 UTC
From: expeditionradio@aol.com
Message-ID: <20030505191757.25548.00000518@mb-m21.aol.com>
Source record: 119056

The new HFpack Pedestrian Antenna Shootout report is now online.
http://www.hfpack.com

HFpack is dedicated to furthering the state of the art for HF Portable. On 20 October 2002, HFpack held the 2nd Annual Pedestrian Antenna Shootout at USA's west coast ham convention "Pacificon" in Concord, California. The purpose of the shootouts is to measure pedestrian antennas in a controlled manner and report the results as a service to radio operators around the world. By comparing antennas, it helps everyone to understand the principles of good HF pedestrian antenna design and construction. The shootout separately tests vertical and horizontal antennas. The horizontal shootout event took place on 07 December 2002, at a salt marsh open field location near the western shore of San Francisco Bay.

HFpack.com is an international resource for portable High Frequency communications. HFpack provides an information exchange about transceivers, antennas, systems, packs, propagation, new developments and techniques in HF portable operation. The HFpack egroup and on-the-air schedules are active with amateur radio around the world.
The following HFpack calling frequencies are active daily:
14342.5USB, 18157.5USB, 7242.5LSB (or 7087.5LSB), 3997.5 (or 3687.5) +/-5kHz.

73---Bonnie KQ6XA

Note: Do not reply to this email.
The address is not used for reception of email.

2506. If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-05 23:20:05 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305051520.72c2b135@posting.google.com>
Source record: 119057
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I just got off of the phone with Toyota.
they told me that if a radio transmitter requires a license to operate,
then it's too powerful to use in a 2003 Toyota.

If you want to install a ham radio in your car without voiding your warranty,
then I guess you should not buy a new Toyota like I did...

- 73
KC6SOZ

2507. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 00:22:34 UTC
From: mike <spamme0@go.com>
Message-ID: <3EB7004A.AAE8642C@go.com>
Source record: 119059
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Great teaser.
So what's the symptom?
mike

geekdude wrote:
>
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

--
Bunch of stuff For Sale and Wanted at the link below.
Police Scanner, LCD overhead projector
Tek 2465, ham radio, 30pS pulser
Tektronix Concept Books, spot welding head...
http://www.geocities.com/SiliconValley/Monitor/4710/

2508. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 00:28:38 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3EB70137.5000306@get.lost>
Source record: 119060
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

geekdude wrote:
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...

You have apparently been talking to the Toyota Dept. of Morons, because
a license has nothing to do with power.

WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

2509. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 00:29:37 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <SIDta.53274$cB3.402425@nnrp1.uunet.ca>
Source record: 119061
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

So does that mean that if you were a CBer with a 100W linear you would be ok
in a Toyota?
I think maybe whoever in Toyota doesn't really understand what they are
saying. I think maybe a talk with someone else in Toyota is in order. I
would almost guess (and it's only a guess) they're probably concerned with
interference with a computer somewhere in the vehicle, but wouldn't the
operating frequency be more of a concern that the power output?
I wonder what would happen if you were driving down the road in your
Toyota and someone was right beside you with a 2 meter rig and transmitted.
Would you car all of a sudden become erratic?

Terry VE1TRB

"geekdude" <google@geekdude.com> wrote in message
news:fdb9e710.0305051520.72c2b135@posting.google.com...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your
warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/2003

2510. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 00:38:57 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3EB7039C.2070700@get.lost>
Source record: 119062

helmsman wrote:
> At 100 watts being used for a dipole about 50 ft away from the
> tranceiver, doe's the phisical size (large or small od) of coax make
> any difference.

Not really.

> TIA
> Boycott France and there products
> and find another place to vacation.

Learn proper spelling. Using rational arguments wouldn't hurt either.

> The U.N is a JOKE!!!!

So is any other government in the history of mankind, including the
current Wolfovitz administration.

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

2511. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 00:59:05 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB708A6.6020600@attbi.com>
Source record: 119063
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I'll stand to be corrected but I believe and understand that all
vehicles must meet FCC part 15 requirements.

I'd check with a better authority at Toyota.

Deacon Dave, W1MCE

geekdude wrote:
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

2512. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:01:07 UTC
From: richardharrison@webtv.net
Message-ID: <11241-3EB70953-71@storefull-2317.public.lawson.webtv.net>
Source record: 119067

Richard Clark wrote:
"I was wondering when matters would get around to this and characteristically, you lead the way."

Out-of-this-weorld postings inspired me to offer a free-space observation. I apologize for leading a transmission line discussion astray. Fresnel zones are another aspect of radiated energy and perhaps we should get back to guided waves.

I think study of Bird`s old application notes would help the understanding of many of the principles involved. They could now be rewritten to be more revealing as Bird has no secrets to hide anymore regarding their older models.

Bird considers only two waves, a forward wave and a reflected wave. That makes sense as waves of the same frequency from the same source and traveling in the same direction are merged. Waves traveling in opposite directions, travel right through each other with little effect on each other. They demonstrate an SWR pattern which is more style than substance.

Best regards, Richard Harrison, KB5WZI

2513. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:03:23 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <b96vm2$o7j$1@news1.kornet.net>
Source record: 119064
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EB708A6.6020600@attbi.com...
> I'll stand to be corrected but I believe and understand that all
> vehicles must meet FCC part 15 requirements.
>
> I'd check with a better authority at Toyota.
>
> Deacon Dave, W1MCE
This isn't the first manufacturer that has said this.. right in the owner's
manual of our new Chevy Tracker it says not to install any radio
transmitting equipment without consulting the dealer service facility.

:(

2514. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:09:11 UTC
From: Greg <cputec@hotmail.com>
Message-ID: <XWDta.11288$hT2.5134985@news2.news.adelphia.net>
Source record: 119065
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I'm a newbie HAM so if someone could fill me in here.......
We have a 2002 Toyota Sienna, are we talking that a HT with an output of around 6 watts could mess the car up, or are we talking full mobile radio with an output of 50W? (I'm sure my parents would not be happy if I messed up their new car :(

I know this is a newbie question, but if someone could fill me in I'd appreciate it!

Thanks,
Greg

"mike" <spamme0@go.com> wrote in message news:3EB7004A.AAE8642C@go.com...
> Great teaser.
> So what's the symptom?
> mike
>
> geekdude wrote:
> >
> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your
warranty,
> > then I guess you should not buy a new Toyota like I did...
> >
> > - 73
> > KC6SOZ
>
> --
> Bunch of stuff For Sale and Wanted at the link below.
> Police Scanner, LCD overhead projector
> Tek 2465, ham radio, 30pS pulser
> Tektronix Concept Books, spot welding head...
> http://www.geocities.com/SiliconValley/Monitor/4710/

2515. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:15:18 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <b970ccogo1@news1.kornet.net>
Source record: 119066
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Greg" <cputec@hotmail.com> wrote in message
news:XWDta.11288$hT2.5134985@news2.news.adelphia.net...
> I'm a newbie HAM so if someone could fill me in here.......
> We have a 2002 Toyota Sienna, are we talking that a HT with an output of
> around 6 watts could mess the car up, or are we talking full mobile radio
> with an output of 50W? (I'm sure my parents would not be happy if I
messed
> up their new car :(
>
> I know this is a newbie question, but if someone could fill me in I'd
> appreciate it!
>
> Thanks,
> Greg
>

Greg,

Good idea to contact a dealer service dept. Computers can be very sensitive
to RF, I know that my laptop tends to lock up if I use my HT in close
proximity to it.

2516. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:38:32 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <b973mo$ef8$0@208.206.142.101>
Source record: 118971

Roger Halstead wrote:

> On Sun, 04 May 2003 21:02:09 GMT, "CW" <clinton.magers@attbi.com>
> wrote:
>
> >I agree entirely.
> >"VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
> >news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
> >> Nor is there a certainty that the world will end. The only thing that is
> >> certain my friend is life, death and taxes.
> >>
> >> CW will be removed as an examinable requirement for access to the HF
> >> spectrum. So it should, you don't see examinations being conducted for
> >those
> >> who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes of
> >> operation, do you?
> >>
> >> The argument that CW is required for access to HF because of an
> >emergencies
> >> and the like excuse is long past its use by date...
>
> Strange...I just volunteered to do some work for an agency. One of
> the requirements was high speed CW proficency.

Very interesting, Roger. Are you free to elaborate?

Dick

2517. guys, need help desperately!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:43:26 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305051743.45b0ecb@posting.google.com>
Source record: 118972

Hi there,
I am doing thesis on reconfigurable patch antenna with
shorting pins. Idea is to place shorting pins at appropriate places to
get desired frequency. The shorting pins are soldered at the patch
side and left open at the ground plane. One end of the diode is
connected to the shorting post and the other to a discharging
capacitor which is connected to the ground. My problem is when the
diode is swithced on, i am able to switch the resonant frequency but
not the expected frequency. Initally i soldered both the ends and got
the expected freqeuncy. At the same spot if i tried with the diode its
not working. Guys hope u understood my problem. Kindly reply.

Thank you.

2518. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:46:00 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9744r$n68$1@slb6.atl.mindspring.net>
Source record: 118973

Richard:

[snip]
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:13678-3EB66E73-16@storefull-2315.public.lawson.webtv.net...
> Peter, K1PO wrote:
> "I challenge anyone to show me "hard evidence" of these steady state
> echos..."
>
> First fact to mind is SWR. How do you explain the pattern produced by a
> trough (slotted line) if there is no reflected wave?
>
> Best regards, Richard Harrison, KB5WZI
[snip]

Heh, heh... there is nothing to explain.

Why do you think they call them "standing" waves.

Simply because they stand still, they are not "travelling" waves.

In fact because they stand at a fixed position on the line they are merely
indicating that the stored energy
on the line is fixed in postition and sloshing back and forth between the
distributed capacitance and
inductance of the line and not coursing from end to end as you imagine.

The reflections or echoing of energy from end to end longitudinally on the
line only occurs during
the startup transients as the line is charged up with energy, once it is
fully charged, which only
takes a matter of microseconds for the average amateur radio installation
then the steady state
is arrived at wherein the standing wave is completely set up and there are
no longer any reflections.

Of course the same mathematics using the reflection coefficient rho in
either it's frequency domain
or time domain form may be used to reveal and or predict the echos during
the transient period
and/or the standing waves and impedance matching during steady state.

This is just the same as we use the Fourier Integral, or the LaPlace
Integral [oft times called
transforms] to predict either the time response [transient conditions] or
the steady state
frequency response. Apart from initial conditions [a.k.a boundary

conditions] one state
can be predicted from another, i.e. the transient response can be calculated from the frequency
domain description and vice versa through the appropriate Integral Transforms. The two
regimes do not exist at the same time, things "kick off" with the transient regime and then
gradually over several system time constants the steady state kicks in and the transient
state dies out. This is exactly what happens on a transmission line.

There ain't no echos/reflections on a transmission line during steady state, which for amateur
operations is most of the time. All those reflections being discussed ad nauseum are simply
fictions or fantasies. During the transient regime they exist, but not during the steady state.

I believe that most of Walter Maxwell's book "Reflections" is simply an artificial creation
which may "fit" the equations, but which in fact does not exist. Instead another regime
which also fits the equations is the true reality.

Again I challenge you to prove to me with direct evidence that such reflections exist in
the steady state. By direct evidence I mean, oscillograms, chart recordings, computer
simulations, or any other evidence which shows these fantasy echos directly.

You simply can't do it because they don't exist!

You can send me oscillograms of TDR "Time Domain Reflectometry" measurements, but
those are of echos and reflections in the transient regime, and they are in fact supported.

But try to do the same for the steady state, go ahead... "make my day!"

Best, :-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2519. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:47:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB7144A.D6749A9B@cwis.net>
Source record: 118974

helmsman,
The short answer is, no. The slightly longer answer
is, maybe, depends on the frequency, (but short answer
still applies). It depends on the loss per 100 feet at
a particular frequency range.
'Doc

2520. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:52:16 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB71550.1FC6ADC@cwis.net>
Source record: 118975

"Dee D. Flint",
So, the easy answer would be to not pay attention
to the SWR at all, only the reflected power. If the
reflected power is '0', then the SWR is close enough
to 1:1 that it just doesn't matter...
'Doc

2521. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:53:52 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <tv4ebvcjr79ijv3do57apjugeoutvr9vku@4ax.com>
Source record: 118976

On Mon, 05 May 2003 08:06:53 -0700, Dan Richardson
<ChangeThisToCallSign@mendolink.com> wrote:

|On Mon, 05 May 2003 07:11:42 -0700, Wes Stewart <n7ws@#arrl.net>
|wrote:
|
|>Good grief! Who gives a rat's behind about cross needle meters. My
|>Bird wattmeter doesn't have one and I can tune for minimum reverse
|>power just fine.
|
|That *can* be a bit of a problem with rigs that use a tapered shut
|down. It could be possible that a lowering reflected power was the
|result of a reduction of the rig's output. Of course, monitoring the
|PA current would show that happening, but if you're only monitoring
|the reflected power you *could* be led astray.

Yeah but... Most every rig has an output meter of some sort and most
of us have two eyes, one to look at the reflected power and one to
look at the output meter.<g>

Or if you have a Bird, just turn the slug once in a while to check.

Actually, I do have a Bird with a crossed needle meter and a dual
inline sampler, but it's on the two meter rig. I use a 2500W slug
forward and a 250W slug reverse, but I don't use no stinkin' tuner.

2522. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:55:56 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <ICEta.3194$VJ.268594@news20.bellglobal.com>
Source record: 118980
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"geekdude"
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter
> requires a license to operate, then it's
> too powerful to use in a 2003 Toyota.

Mercedes says not to use any transmitter with a built-in antenna inside the vehicle - and they apparently intend to even exclude handheld (600mW) cell phones. So long as you use an external antenna, then they're happy. They do provide an external cell phone antenna hidden in the bumper cover somewhere.

Obviously, they've painted the line a bit wide... I would think that an HF kilowatt with an external antenna would produce more EMI issues than a cell phone. And if a handheld cell phone really caused a problem, then we would have heard about it by now and they'd still have to fix the problem (due to market forces).

The automotive EMI issue is serious - in spite of the nonsensical boundaries quoted by the car makers. Modern cars have CAN bus, on-board diagnostics, as many as a dozen pyrotechnic devices, low voltage switching (signal, not power), sensors on everything, etc.

Even on my previous car, an old 1986 VW GTI, I could make various relays click when transmitting with 50watts on 10m with a rooftop antenna. I still wonder which relays were clicking... I just ignored the clicking. I wouldn't take such an approach today.

2523. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:57:47 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB7169B.352A1977@cwis.net>
Source record: 118977

Roy Lewallen wrote:

> Using the conventional definition of comparison with a non-directive
> (spherical) pattern, a short dipole has a directive gain of 1.74 dB.

Gain over what?
'Doc

2524. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 01:58:36 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b974sberh1@hercules.btinternet.com>
Source record: 118978

Coax feedlines - the larger the diameter over the plastic sheath the
greater the power handling capacity (it runs cooler) and the lower the
attenuation (dB per metre or per 100 feet.)

For investigating attenuation, SWR and temperature rise (power ratings)
versus dimensions download program COAXRATE from website below. Download in
a few seconds, run immediately, no training course needed.

========================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
========================

"helmsman" wrote -
> At 100 watts being used for a dipole about 50 ft away from the
> tranceiver, doe's the phisical size (large or small od) of coax make
> any difference.
> TIA
> Boycott France and there products
> and find another place to vacation.
> The U.N is a JOKE!!!!

2525. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:05:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbe62earrtr4b2@corp.supernews.com>
Source record: 118979

'Doc wrote:
>
> Roy Lewallen wrote:
>
>
>>Using the conventional definition of comparison with a non-directive
>>(spherical) pattern, a short dipole has a directive gain of 1.74 dB.
>
>
> Gain over what?
> 'Doc

The answer precedes the comma.

Roy Lewallen, W7EL

2526. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:23:35 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <H0Fta.4198$3f7.3503435@newssvr28.news.prodigy.com>
Source record: 119068

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB66AFB.2020109@ieee.org...
> Dee D. Flint wrote:
> > "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> >>Just adjust the thing for zero reflected power.
> >
> > This also occurs when the radio cuts back the power output when the SWR
is
> > too high. You MUST calibrate the SWR reading and read the forward power
and
> > read the reflected power. I had one of the 941Ds and you can't just go
for
> > a low or zero reflected power reading.
>
> Nope, you don't have to calibrate the SWR reading to adjust for zero
reflected
> power.

I see that I explained it in a fashion that was unclear and subject to misinterpretation. To get a correct reading of the SWR, you must calibrate the full scale SWR deflection for the power level used and then switch to the SWR reading itself. The calibration is only for the SWR reading. Of course you can read forward and reflected and calculate SWR by hand if you wish. Then you don't have to bother to calibrate for the SWR reading.

It's not exactly a trivial matter. Most people would like to read the SWR. If a person does not understand how to use and read the meters on the 941D, the SWR reading will not be correct.

Dee D. Flint, N8UZE

2527. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:25:13 UTC
From: Outsourced <nospam@nospam.com>
Message-ID: <r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com>
Source record: 118981
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Next time buy a vehicle that doesn't decimate the US machine tool
industry from a company that hires U.S. engineers. Or uses the U.S.
as a source of cheap, compliant labor. Sort of like a third world
country.

On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:

>I just got off of the phone with Toyota.
>they told me that if a radio transmitter requires a license to operate,
>then it's too powerful to use in a 2003 Toyota.
>
>If you want to install a ham radio in your car without voiding your warranty,
>then I guess you should not buy a new Toyota like I did...
>
>- 73
>KC6SOZ

2528. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:26:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b976hc$9r6$1@sparta.btinternet.com>
Source record: 118982

> The only thing that concerns me about your program is whether it gives a
> reasonably accurate inductance value.

==========

It does. Disregard what I said. The answer you got was right first time.
Just enter the overall end-to-end length from binding post to binding post
and ignore what it might report back about pitch and wire diameter for very
small numbers of turns.

A single turn also has correct inductance. Read instructions in notes for
one turn about setting coil length equal to wire diameter.

It will take some time to re-write, check and issue an amended version.
Thanks again for bringing attention to the error.

Reg.

2529. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:30:43 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <n7Fta.4202$3f7.3506310@newssvr28.news.prodigy.com>
Source record: 118969
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"geekdude" <google@geekdude.com> wrote in message
news:fdb9e710.0305051520.72c2b135@posting.google.com...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your
warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

Well 2m HTs and the low setting on most mobiles is equal or less than that used by a CB. So they are giving you the "short answer" just to get you out of their hair and to set up a CYA for themselves if you go ahead and put in a radio. Of course you could run into problems such as low voltage, alternator whine, your transmissions disrupting the car's systems but Toyota probably doesn't have the answers and so is taking the safe way out.

Dee D. Flint., N8UZE

2530. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 02:33:09 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <F9Fta.4204$3f7.3507405@newssvr28.news.prodigy.com>
Source record: 118970
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Brenda Ann" <brendad@shinbiro.com> wrote in message
news:b96vm2$o7j$1@news1.kornet.net...
>
> "Dave Shrader" <david.shrader@attbi.com> wrote in message
> news:3EB708A6.6020600@attbi.com...
> > I'll stand to be corrected but I believe and understand that all
> > vehicles must meet FCC part 15 requirements.
> >
> > I'd check with a better authority at Toyota.
> >
> > Deacon Dave, W1MCE
> This isn't the first manufacturer that has said this.. right in the
owner's
> manual of our new Chevy Tracker it says not to install any radio
> transmitting equipment without consulting the dealer service facility.
>

My Dodge Stratus manual says something to the effect that the car is
designed to accommodate radios BUT they will not guarantee that it will.
Putting a radio in is at the user's own risk.

Dee D. Flint, N8UZE

2531. Re: Swr meters for quad band ft-8900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:03:37 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030505230337.25017.00001232@mb-m02.aol.com>
Source record: 118983

>I have a feeling that no normal swr meter will cover the 10m to 70 cm
>range of my ft-8900r so what would be two good choices or can I assume
>a that a out of box antenna (uvh-4) won't kill my radio until I can
>afford the required meters?
>

That antenna will definately require tuning. I have a Diamond SX-600, which
covers 1.8 to 525 mhz.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2532. Re: Swr meters for quad band ft-8900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:04:21 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030505230421.25017.00001233@mb-m02.aol.com>
Source record: 118984

>I'm also surprised your rig doesn't have an swr meter built in. Oh,
>well.

I've never heard of a modern mobile FM rig with an SWR meter built in.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2533. Re: Re: disregard my 2m antenna threads

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:37:53 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <vdbebvgdpupaiapijkth9lnigu85ub40cu@4ax.com>
Source record: 118985
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.equipment

On Mon, 05 May 2003 22:36:34 GMT, nospam@nouce.bellatlantic.net belch-spoke these words:

>On Sun, 04 May 2003 23:39:51 -0700, Dr. John <frellyou@privacy.net>
>wrote:
>
>>Please disregard my 2m antenna threads.
>>
>>I have decided on a 2m log periodic with 1:1 swr and a 24" boom which is fantastically
great.
>>
>>Thanks for your responses and I believe this is the right one for me.
>
>You want horizontal polarization or vertical? That does make a big
>difference.
>
>Allison

According to the manufacturer, this one does both depending on the boom mount rotation.

John

2534. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:37:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB72E12.5030301@ieee.org>
Source record: 118986

Jim Kelley wrote:
> What I wrote
> above describes the case where net energy/sec equals zero because V3 =
> -V4 and I3 = -I4.

So what happens to V3*I3 + V4*I4?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2535. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:40:59 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB72ECB.3090409@ieee.org>
Source record: 118987

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>I have not even posted the word "null" this entire year except to ask
>>you what you meant by it.
>
> Some may note that within the space of the short sentence above, there
> are two declarations, both of which are demonstrably false:

I apologize for my senior moment. For some reason this morning, "null"
didn't ring a bell.
--
73, Cecil http://www.qsl.net/w5dxp

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2536. Re: guys, need help desperately!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:45:26 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB72FA0.409@attbi.com>
Source record: 118988

I don't really understand your circuit!

What I believe you are stating is that antenna components [pieces, length variations, etc.] are switched in and out by a decoupled diode. When the diode is back biased, OFF, presumably the antenna performs as expected.

However when the diode is switched ON, the frequency changes but not as expected.

In the ON condition, the diode will show a saturated BULK resistance in the sub ohm range, depending on diode design, with a shunt capacitor CONNECTED TO GROUND!! This Capacitance is now connected to the antenna plus diode and increases the capacitive value of the antenna to the ground plane.

I assume, if my understanding of your question is correct, that the effective antenna with the diodes switched ON increases the length as you desire AND ADDS the value of Capacitor as a shunt load on the antenna.

If I am correct, then the solution is to decouple the capacitor/diode connection with an inductive component [add an RF Choke to isolate the capacitive component]. Thus, a diode/inductor/capacitor arrangement should provide the desired isolation.

Deacon Dave, W1MCE

anand wrote:
> Hi there,
>
SNIP
Idea is to place shorting pins at appropriate places to
> get desired frequency. The shorting pins are soldered at the patch
> side and left open at the ground plane. One end of the diode is
> connected to the shorting post and the other to a discharging
> capacitor which is connected to the ground. My problem is when the
> diode is swithced on, i am able to switch the resonant frequency but
> not the expected frequency. Initally i soldered both the ends and got
> the expected freqeuncy. At the same spot if i tried with the diode its
> not working. Guys hope u understood my problem. Kindly reply.
>
> Thank you.

2537. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 03:55:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB73231.1080900@ieee.org>
Source record: 118989

Jim Kelley wrote:
> You're putting words in my mouth, Cecil. Try thinking only about what I
> DID say instead. The point is simply that energy doesn't have to
> re-reflect (your idea) in order to do so. The energy in question is NOT
> REFLECTED TO BEGIN WITH.

Of course it is, Jim. V3 is 180 degrees out of phase with I3. V4 is 180
degrees out of phase with I4. That's reflected energy *by definition*.

> The waves cancel in that direction. No net
> field, no net energy.

I agree but the discussion is not about "net" energy. The discussion
is about the two rearward traveling superposition components that cancel.

> You just have to account for the fact that energy is not
> actually transferred in the direction of field cancellation, but is
> instead transferred in the direction of constructive interference.

Yep, it goes from having its voltage and current 180 degrees out of
phase to having its voltage and current in phase. That's a re-reflection,
by definition.

> In the special case we're looking at, the wave components cancel in the
> direction rearward of the load. That means that energy cannot move in
> that direction.

We know absolutely that the reflected energy from the load is moving rearward.
Only a wave moving in that same rearward direction can cause wave cancellation.

> There's no physical mechanism to explain such a turnabout of energy.

Sure there is, Jim. If there's only two possible directions and we can
measure that it is not one of them, it has to be the other. It ain't
rocket science.

> Since the energy doesn't reflect off the match, ...

False assumption. s11*a1 reflects off the physical impedance discontinuity
and travels rearward. s12*a2 is also traveling rearward.
--
73, Cecil http://www.qsl.net/w5dxp

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2538. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 04:00:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB73360.4070809@ieee.org>
Source record: 118990

Peter Brackett wrote:
> You simply can't do it because they don't exist!

It's easy to prove, Peter. The jitter on one side of the Z0-match
is different from the jitter on the other side.
--
73, Cecil http://www.qsl.net/w5dxp

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2539. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 05:07:20 UTC
From: WA2PPI
Message-ID: <3eb74130.1559313@news2.skyweb.net>
Source record: 118991
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Before I bought a new Highlander, I called Toyota corporate customer service and asked if they had any service bulletins regarding installation of two-way radios in their vehicles. Answer: No. Then asked if they prohibited installation of two-way radios in their vehichles. Answer: They didn't recommend it, but they didn't prohibit it. Asked the local service manager if he had any advice or experience installing two-way radios in Toyotas. Answer: I haven't got any idea...click. (Needless to say, the local service department won't be seeing me for routine service.)

I'm in the process of installing an Icom 706 w/ bumper mounted hamsticks for HF and an on-glass antenna for 2-m and 70-cm. Guess I won't run full power at first......

WA2PPI

On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:

>I just got off of the phone with Toyota.
>they told me that if a radio transmitter requires a license to operate,
>then it's too powerful to use in a 2003 Toyota.
>
>If you want to install a ham radio in your car without voiding your warranty,
>then I guess you should not buy a new Toyota like I did...
>
>- 73
>KC6SOZ

2540. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 05:32:53 UTC
From: "Fred Wall, Jr" <nf8w@earthlink.net>
Message-ID: <9OHta.57868$4P1.5332038@newsread2.prod.itd.earthlink.net>
Source record: 118992

Excellant answer! Now I feel better as I think "Code Requirements" should stay.
Fred Wall, Jr NF8W
"Dee D. Flint" <deehays@qix.net> wrote in message
news:05Psa.2911$3f7.2399452@newssvr28.news.prodigy.com...

"Carl Domanico" <carl.domanico@verizon.net> wrote in message
news:3EB35A63.1070905@verizon.net...
Hello People....Does anyone have any really solid information as to what is happening with dropping the code Proficiency test to be able to operate on all the HF Bands in a phone mode!! From the input I received so far it would appear that after this ITU meeting takes place...most all the countries will be in agreement for dropping the cw portion of the Licenseing exam...to be able to operate the High Frequencies via a phone mode.....If I'm not mistaken...I think this meeting is coming up, sometime this summer???

Any and all info that has some solidary to it would be greatly appreciated....

Thanks a Lot
Carl
N2MFW

It is on the agenda but there is no guarantee that they will get around to voting on it. The agenda is quite lengthy and they don't get to everything. This has happened before. Until there is a vote, there is no way to even guess what will happen. Even if the world conference votes to drop it, there will be an additional lag for implementation. Also keep in mind that even if the international requirement is dropped, each individual country can decide to keep it for their specific licensing requirements. Some countries have already stated that they plan on keeping it no matter what. Here in the US, the FCC would put out a Notice for Proposed Rulemaking and allow time for comments. Then decide on whether to drop it or not and decide on an implementation time.

So don't hold your breath or wait around. It's many months away if it happens at all. Instead, learn that 5wpm. It takes about 30 hours for the average person to achieve this. Some take less, some take more. So get one of the good computer programs, practice an hour a day (break it into 15 to 30 minute sessions though for best results) and you could be on the air in a few weeks instead of waiting months or even years.

With the sunspot cycle heading downhill, good conditions on the bands will become less frequent. So waiting is wasting time.

Good luck,
Dee D. Flint, N8UZE

2541. Combining antennas for a car radio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 05:51:57 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <14Ita.223735$Si4.181300@rwcrnsc51.ops.asp.att.net>
Source record: 118993

Hi guys,

I have a decent quality car radio that broke in such a way as to be unable to control a CD changer anymore -- but the tuner works fine. I'm planning to stick it in a wooden box one of these days and just use it as a shelf radio at work or something.

I'd like to hook it up to an external AM and FM antenna -- probably just a folded dipole for FM, and a long wire for AM. How do I combine the antennas? Or should I even bother to try? I'm thinking car radios expect to be connected to something that's ~1/4 wavelength above a ground plane (the car's body) at ~100MHz ... and then switch in some matching network for AM, where the car's antenna is electrically quite short? Or is there something different going on?

Thanks,
---Joel Kolstad

2542. Rabbit ear TV antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 05:58:24 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <4alta.29183$pa5.30910@rwcrnsc52.ops.asp.att.net>
Source record: 118994

This is perhaps a somewhat naive question, but...

...if I were going to make a TV antenna, I'd be taking a horizontal dipole and calling it good (in the U.S. -- a vertical dipole in England and wherever else they use vertical polarization). What motivates the development the much more vertical oriented rabbit ear-style antenna? Does the sensitivty pattern change much? The impedance or bandwidth? Do people in England use rabbit ears tilted on their sides?

I took an antennas class in college nearly two years ago now and we didn't cover this!

---Joel Kolstad

2543. Re: SOLNOID2.EXE: Cannot get the right values.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:04:08 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b97mm7$gc9b2$1@ID-150848.news.dfncis.de>
Source record: 118995

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b976hc$9r6$1@sparta.btinternet.com...
> > The only thing that concerns me about your program is whether it
gives a
> > reasonably accurate inductance value.
>
> ============================
>
> It does. Disregard what I said. The answer you got was right first
time.
> Just enter the overall end-to-end length from binding post to binding
post
> and ignore what it might report back about pitch and wire diameter for
very
> small numbers of turns.
>
> A single turn also has correct inductance. Read instructions in notes
for
> one turn about setting coil length equal to wire diameter.
>
> It will take some time to re-write, check and issue an amended
version.
> Thanks again for bringing attention to the error.
> ---
> Reg.
>

Reg

Okay, so more accurate figure is when I put in the length from binding post to binding post. I thought there was a chance that could be the case after Roy reported what he thought the fugure should be (0.363 uH), but it was hard to tell.

So really the problem was just with the reported-back wire diameter and pitch for small turns. Okay, I'll just ignore these figures and download the amended version of SOLNOID2.EXE when it becomes available.

Thanks.

Rich.

2544. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:05:42 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB75EC6.325D859D@cwis.net>
Source record: 118996

Wes Stewart wrote:

> Actually, I do have a Bird with a crossed needle meter and a dual
> inline sampler, but it's on the two meter rig. I use a 2500W slug
> forward and a 250W slug reverse, but I don't use no stinkin' tuner.

Good for you (about the 'stinking' tuner)! I don't
use one on two meters either. But then, I didn't waste
money on a Bird... either.
'Doc

2545. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:23:41 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305052323.dce778e@posting.google.com>
Source record: 118997
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry

I purchased a Toyota in 1993. The service manual said that I could not use a transmitter in the car if it was over 10 watts I contacted Toyota customer support and they told me that I could use up to 50 watts and that they would change this in the 1994 service manual. I never did have a problem with my car from my radio. I just did not want them to be able to void my warranty based on the fact that I had installed a ham radio in my car.

I just purchased a new 4 Runner and while I was going through my paperwork for the old car, I came across the letter that Toyota had sent to me. This reminded me that perhaps I should ask again what the limit is now. I was stupid for not doing this bit of research before I paid for the car. When I contacted Toyota yesterday, the told me that "using any radio in the car that requires a license would void my warranty" and they would be happy to put that in writing and send it to me.

I am outraged because you could use a CB radio without a license. Output 4 watts into a mismatched antenna, and by their wording of this limitation this would not void the warranty. However I could use a 1 watt transmitter with a 1:1 match and I would technically be voiding my new car warranty.

Toyota's statement is way too harsh. It would exclude they use of any public service, ham, or even GMRS transceivers. Toyota needs to change their statement to be more realistic.

--
Chuck
KC6SOZ

"Terry" <ve1trb@hotmail.com> wrote in message
news:<SlDta.53274$cB3.402425@nnrp1.uunet.ca>...
> So does that mean that if you were a CBer with a 100W linear you would be ok
> in a Toyota?
> I think maybe whoever in Toyota doesn't really understand what they are
> saying. I think maybe a talk with someone else in Toyota is in order. I
> would almost guess (and it's only a guess) they're probably concerned with
> interference with a computer somewhere in the vehicle, but wouldn't the
> operating frequency be more of a concern that the power output?
> I wonder what would happen if you were driving down the road in your
> Toyota and someone was right beside you with a 2 meter rig and transmitted.
> Would you car all of a sudden become erratic?
>
> Terry VE1TRB

>
> "geekdude" <google@geekdude.com> wrote in message
> news:fdb9e710.0305051520.72c2b135@posting.google.com...
> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your
> warranty,
> > then I guess you should not buy a new Toyota like I did...
> >
> > - 73
> > KC6SOZ
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/2003

2546. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:51:31 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305052351.14d75214@posting.google.com>
Source record: 118998
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Zoran Brlecic <...WA7AA...@get.lost> wrote in message news:<3EB70137.5000306@get.lost>...
> geekdude wrote:
> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your warranty,
> > then I guess you should not buy a new Toyota like I did...
>
>

I know I was talking to a Moron at Toyota

I asked them if they wanted to reconsider making such a harsh statement
regarding their product. They said that they had already checked this out
with the department in charge of these things and that "any radio transmitter
that requires a license to operate is too powerful to use in their vehicle
without causing damage to the ECM because their engine uses so many
sensors." "the fact that Toyota changed their manual for me in 1993 did not
apply in this case because the ECM used in the 2003 4 Runner was more
sensitive than the 1993 model". They are going to send me a written statement
documenting this fact.

I guess I should not drive next to my local 1.5 Megawatt AM radio station or my
car might fail. Perhaps I should not slow down if a police car is behind me
because they might transmit a radio signal that will cause me to have an accident.
:-)

The people working at the Toyota Customer Assistance Center are complete idiots
that don't understand the first thing about radio frequency and radiated power.

Perhaps the car I just purchased is total junk if the sensors are so sensitive that
Toyota is afraid of a 500 mw GMRS HT.

Toyota, are you listening ???
You should clarify and change your rather harsh statement regarding this issue.

--
Chuck

500mw GMRS

> You have apparently been talking to the Toyota Dept. of Morons, because
> a license has nothing to do with power.
>
> WA7AA

2547. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:57:26 UTC
From: Harold Burton <hwburton@cableone.net>
Message-ID: <vbg52879esr1cb@corp.supernews.com>
Source record: 118918

"Zoran Brlecic" <...WA7AA...@get.lost> wrote in message
news:3EB80629.7050008@get.lost...
> helmsman wrote:
>
> > about.
>
> My main complaint was that you were simply parroting the cheap
> quasi-patriotic propaganda, while giving the whole argument zero
> thought. It is preferred to use one's reason in such situations, because
> if you had, you'd quickly realize that France was picked out by
> propagandists as a quick and easy scapegoat.

It seems more accurate to me simply to affirm that if France is being
scapegoated it's because they volunteered for the position. I may be
prejudiced because my mother-in-law was of French descent, but I've never
been a Francophile.

2548. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 07:57:32 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305052357.4935c3f6@posting.google.com>
Source record: 118999
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I am already sorry that I did.
However I think that this might go a bit further than one car manufacturer.

Are there any ham friendly car manufactures out there, U.S. or otherwise ?

--
Chuck

Outsourced <nospam@nospam.com> wrote in message
news:<r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com>...
> Next time buy a vehicle that doesn't decimate the US machine tool
> industry from a company that hires U.S. engineers. Or uses the U.S.
> as a source of cheap, compliant labor. Sort of like a third world
> country.
>
> On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
>
> >I just got off of the phone with Toyota.
> >they told me that if a radio transmitter requires a license to operate,
> >then it's too powerful to use in a 2003 Toyota.
> >
> >If you want to install a ham radio in your car without voiding your warranty,
> >then I guess you should not buy a new Toyota like I did...
> >
> >- 73
> >KC6SOZ

2549. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:10:34 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-34D25A.05094906052003@apollo-ge0.rdc-kc.rr.com>
Source record: 119000
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <fdb9e710.0305052351.14d75214@posting.google.com>,
google@geekdude.com (geekdude) wrote:

> Zoran Brlecic <...WA7AA...@get.lost> wrote in message
> news:<3EB70137.5000306@get.lost>...
> > geekdude wrote:
> > > I just got off of the phone with Toyota.
> > > they told me that if a radio transmitter requires a license to operate,
> > > then it's too powerful to use in a 2003 Toyota.
> > >
> > > If you want to install a ham radio in your car without voiding your
> > > warranty,
> > > then I guess you should not buy a new Toyota like I did...
> >
> >
>
> I know I was talking to a Moron at Toyota
>
> I asked them if they wanted to reconsider making such a harsh statement
> regarding their product. They said that they had already checked this out
> with the department in charge of these things and that "any radio transmitter
> that requires a license to operate is too powerful to use in their vehicle
> without causing damage to the ECM because their engine uses so many
> sensors." "the fact that Toyota changed their manual for me in 1993 did not
> apply in this case because the ECM used in the 2003 4 Runner was more
> sensitive than the 1993 model". They are going to send me a written statement
> documenting this fact.
>
> I guess I should not drive next to my local 1.5 Megawatt AM radio station or
> my
> car might fail. Perhaps I should not slow down if a police car is behind me
> because they might transmit a radio signal that will cause me to have an
> accident.
> :-)
>
> The people working at the Toyota Customer Assistance Center are complete
> idiots
> that don't understand the first thing about radio frequency and radiated
> power.
>
> Perhaps the car I just purchased is total junk if the sensors are so
> sensitive that
> Toyota is afraid of a 500 mw GMRS HT.

>
> Toyota, are you listening ???
> You should clarify and change your rather harsh statement regarding this
> issue.
>
> --
> Chuck
>
> 500mw GMRS
>
>
> > You have apparently been talking to the Toyota Dept. of Morons, because
> > a license has nothing to do with power.
> >
> > WA7AA

This might be part of the problem.

http://www.antony-anderson.com/cruise/7-mech.htm

--
email: dalej2@mac.com

2550. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:14:05 UTC
From: Claude Frantz <claude@pc0312a.rz.unibw-muenchen.de>
Message-ID: <3EB78AED.3D2814F6@pc0312a.rz.unibw-muenchen.de>
Source record: 119001
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

geekdude wrote:

> I guess I should not drive next to my local 1.5 Megawatt AM radio station or my
> car might fail. Perhaps I should not slow down if a police car is behind me
> because they might transmit a radio signal that will cause me to have an accident.
> :-)

That is the point ! If the car electronics is so sensitive that any
transmitter
in the vicinity becomes a danger, the whole car is a danger because it
cannot
be used in the real world, where transmitters can be near at any
location, even
if they cannot be seen.

2551. Mosely TA 33 Jr.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:39:00 UTC
From: w4tl@arrl.net
Message-ID: <ba1f6d65.0305060238.636cc491@posting.google.com>
Source record: 119002

I am in need of a manual for a Mosely TA 33 JR beam antenna. I am willing to pay for copying and mailing costs and can also accept a scanned image.

e-mail to w4tl@arrl.net

73

Terry Jones, W4TL

2552. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:40:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b983eqogi1@slb6.atl.mindspring.net>
Source record: 119003

Cecil:

Jitter?

What jitter are you speaking of?

Please share with us all this elusive jitter explanation of echos so that we can understand it.

Know any hams who have actually "seen" this jitter? What?

;-)

Best,

--
Peter K1PO

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB73360.4070809@ieee.org...
> Peter Brackett wrote:
> > You simply can't do it because they don't exist!
>
> It's easy to prove, Peter. The jitter on one side of the Z0-match
> is different from the jitter on the other side.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2553. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:58:19 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <m65fbvsm50f5m1j369b9o21uq90if1uj1h@4ax.com>
Source record: 119004

On Tue, 06 May 2003 00:38:57 GMT, Zoran Brlecic <...WA7AA...@get.lost>
wrote:

>helmsman wrote:
>> At 100 watts being used for a dipole about 50 ft away from the
>> tranceiver, doe's the phisical size (large or small od) of coax make
>> any difference.
>
>Not really.
>
>> TIA
>> Boycott France and there products
>> and find another place to vacation.
>
>Learn proper spelling. Using rational arguments wouldn't hurt either.
Spelling mistakes left in for people with nothing else to complain
about. As far as france is concerned they NOT our allies, but our
enemies. But thanks for the coax advise.
>
>> The U.N is a JOKE!!!!
>
>So is any other government in the history of mankind, including the
>current Wolfovitz administration.
>
>
>
>73 ... WA7AA

.
Boycott France and there products
and find another place to vacation.
The U.N is a JOKE!!!!

2554. Re: Mosely TA 33 Jr.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 10:59:23 UTC
From: Larry Saletzki <wa9vrh@mtco.com>
Message-ID: <fAMta.34975$A%3.446646@ord-read.news.verio.net>
Source record: 119005

Hi Terry, Go to: ftp://bama.sbc.edu/downloads/mosley/ta33jr/ There is a pdf file of the TA33jr there to download. There is also a TA33SR on the bama site. 73 Larry WA9VRH

"M. Terry Jones" <w4tl@arrl.net> wrote in message news:ba1f6d65.0305060238.636cc491@posting.google.com...
> I am in need of a manual for a Mosely TA 33 JR beam antenna. I am
> willing to pay for copying and mailing costs and can also accept a
> scanned image.
>
> e-mail to w4tl@arrl.net
>
> 73
>
> Terry Jones, W4TL

2555. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:03:57 UTC
From: Mike Yetsko <joe@user.com>
Message-ID: <vbf5p74v48k0a2@corp.supernews.com>
Source record: 119007
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Terry" <ve1trb@hotmail.com> wrote in message
news:SlDta.53274$cB3.402425@nnrp1.uunet.ca...
> So does that mean that if you were a CBer with a 100W linear you would be
ok
> in a Toyota?
> I think maybe whoever in Toyota doesn't really understand what they are
> saying. I think maybe a talk with someone else in Toyota is in order. I
> would almost guess (and it's only a guess) they're probably concerned with
> interference with a computer somewhere in the vehicle, but wouldn't the
> operating frequency be more of a concern that the power output?
> I wonder what would happen if you were driving down the road in your
> Toyota and someone was right beside you with a 2 meter rig and
transmitted.
> Would you car all of a sudden become erratic?
>
> Terry VE1TRB

A number of years ago, a german manufacturer issued a statement that
any transmitter that had an output power of more than 5W would
void warrantee.

I don't know if this was a 'corporate' statement, or something that came
from one of their 'groups' without being blessed by home corporate,
but it caused quite a stink on CompUServe at the time.

Contact the ARRL with a copy of the letter you received.

Then write their home office a nice letter telling them that the car does
not have an expectation of servicability if they hold to that statement,
and ask them how you should procede, in case you want to refund
the vehicle. Be polite. I'm sure you'll get a polite response. And
maybe wake up more of their corporate as to what kinds of morons
are allowed to send out 'corporate policy' letters.

Mike

2556. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:05:20 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b984tmgck1@slb3.atl.mindspring.net>
Source record: 119006

Cecil:

You didn't comment earlier on the well known name/terminology the
"Echo Attenuation" [Ae] which many apply to the quantity often called
"Return Loss" [RL].

Do you prefer Ae or RL as the short designation for -20 log(|rho|)?

Also I'm interested in your comments on the Echo Delay function.

The Echo Delay being the negative of the derivative with respect to
frequence of the phase angle phie of the reflection coefficient.

te(w) = -d(phie(w)/dw where w = 2*pi*f [f is Hz] has units of seconds.

A function derived from the frequency domain version of rho(w) which
has units of time must be of interest to all ya'll steady state echo folks.
Why haven't ya'll been invoking the Echo Delay function in support of
your arguments.

In general te(w) will be a function of w = 2*pi*f and not a constant, but
it may be constant over wide ranges of frequency in transmission line
applications.

What do you think is the physical significance of the echo delay te(w)?
Does it have a physical significance? Would a close examination of te(w)
reveal any insights into this steady state echo debate? Would te(w) be
useful to amateurs? What do you think might be the significance of the
area under a graph of te(w) between two frequencies defining the passband
of a signal being "reflected" by that particular rho? etc, etc, etc...

Surely a part of the complex number/function rho, the reflection
coefficient that has units of seconds must be of some interest to
"reflection" jocks! But I never hear all ya'll reflection jocks speaking
of it. What?

All the above are interesting questions, some of the answers may
help your arguments for steady state echos, then again they may
not?

But "jitter", heck that one is kinda weak is it not?

Just trying to provoke thought and scepticism within the religion of
"Reflections", I hope ya'll don't take offense?

Thoughts, comments?

:-)

--
Peter K1PO

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB66638.6030107@ieee.org...
> Peter Brackett wrote:
> > This fantasy of reflections in the steady state regime can certainly be
> > constructed, as Walter Maxwell, Cecil and others attempt to do to
> > fit the equations exactly, but that does not mean that such a solution
> > to the equations exists in reality.
>
> How do you explain standing waves which are obviously caused by the
> interference patterns between two waves moving in opposite directions?
>
> > There are simply no "reflections" in the steady state. There is
> > only a continous power flow down the line from source to load.
>
> You can prove this wrong for yourself, Peter. Feed a 75 ohm TV with
> 1000 feet of 600 ohm open-wire line. The reflected energy can be
> seen to make the round trip from load to match point at least once
> as proven by the ghosting. "Models should be as simple as possible,
> but not too simple."
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB66638.6030107@ieee.org...
> Peter Brackett wrote:
> > This fantasy of reflections in the steady state regime can certainly be
> > constructed, as Walter Maxwell, Cecil and others attempt to do to
> > fit the equations exactly, but that does not mean that such a solution
> > to the equations exists in reality.
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> How do you explain standing waves which are obviously caused by the
> interference patterns between two waves moving in opposite directions?
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> > only a continous power flow down the line from source to load.
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> You can prove this wrong for yourself, Peter. Feed a 75 ohm TV with
> 1000 feet of 600 ohm open-wire line. The reflected energy can be
> seen to make the round trip from load to match point at least once
> as proven by the ghosting. "Models should be as simple as possible,
> but not too simple."
> --
> 73, Cecil http://www.qsl.net/w5dxp

>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2557. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:05:52 UTC
From: Mike Yetsko <joe@user.com>
Message-ID: <vbf62spbg52014@corp.supernews.com>
Source record: 119008
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Brenda Ann" <brendad@shinbiro.com> wrote in message
news:b96vm2$o7j$1@news1.kornet.net...
>
> "Dave Shrader" <david.shrader@attbi.com> wrote in message
> news:3EB708A6.6020600@attbi.com...
> > I'll stand to be corrected but I believe and understand that all
> > vehicles must meet FCC part 15 requirements.
> >
> > I'd check with a better authority at Toyota.
> >
> > Deacon Dave, W1MCE
> This isn't the first manufacturer that has said this.. right in the
owner's
> manual of our new Chevy Tracker it says not to install any radio
> transmitting equipment without consulting the dealer service facility.

But GM (and Ford, Chrysler, and a lot of others) have SUGGESTED
installation guidelines for radio installation that DO allow, and even
assist you, in installing high power (over 100W) transmitters with
minimal impact to the vehicle.

Mike

2558. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:10:50 UTC
From: Mike Yetsko <joe@user.com>
Message-ID: <vbf62t8b7eed15@corp.supernews.com>
Source record: 119009
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"geekdude" <google@geekdude.com> wrote in message
news:fdb9e710.0305051520.72c2b135@posting.google.com...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your
warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

I wonder... WHO did you call at Toyota? Someone really in a position
to make a statement like this? Or a low level moron that can't answer
without having someone else to blame?

Maybe you didn't really get a 'corporate statement of policy' just some
low level no-nothing trying to sound important.

THIS I would want in writing. With a name on the bottom...

Mike

2559. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:31:04 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB79CBB.3090103@attbi.com>
Source record: 119010
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Saturn, no warranty problems with an ICOM 706 installed! In fact, they advised compatibility up to 1000 watts.

Ford [Ranger], Sales/Service were advised prior to purchase and indicated no problem with 706 installation.

I believe that it is necessary to advise them that the radiating antenna is located OUTSIDE of the vehicle. The vehicle then becomes part of the rf shield for the sensors/computers etc.

DD, W1MCE

2560. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 11:50:59 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <BkNta.3033$ER4.336778@news20.bellglobal.com>
Source record: 119013
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Dave Shrader"
> Saturn, no warranty problems with an ICOM 706 installed!
> In fact, they advised compatibility up to 1000 watts.
> Ford [Ranger], Sales/Service were advised prior to purchase
> and indicated no problem with 706 installation. I believe that
> it is necessary to advise them that the radiating antenna is
> located OUTSIDE of the vehicle. The vehicle then becomes
> part of the rf shield for the sensors/computers etc.

I thought that Saturns were mostly ~plastic~ body panels around a 'Swiss cheese' metal frame. I suppose the openings are small in comparison to HF wavelengths...

PS:
:-) Saturn cars have nice seats - they're good for Uranus. :-)

2561. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:06:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7A54D.5030008@ieee.org>
Source record: 119014
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

WA2PPI wrote:
> I'm in the process of installing an Icom 706 w/ bumper mounted
> hamsticks for HF and an on-glass antenna for 2-m and 70-cm. Guess I
> won't run full power at first......

Strange things can happen. When I tune up my 706 on 40m in my
1996 GMC pickup, the speedometer pegs at full scale whether
I am moving or not.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2562. Re: Rabbit ear TV antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:19:20 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0305060419.19ec996e@posting.google.com>
Source record: 119011

Hi Joel,
IMHO it is the impedance which is changed by "tilting" the dipole
halves to each other. Optimum matching to 75 ohms on the working
frequency should be achieved by changing both the length and angle of
the arms.

BR from Ivan

2563. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:25:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7A9C4.5040400@ieee.org>
Source record: 119015

Peter Brackett wrote:
> Jitter? What jitter are you speaking of?

Mainly phase jitter. It equates to slight changes in frequency
and is there in every ham transmitter. Jitter keeps a ham
transmitter from ever achieving that magic "steady-state" as
the zero-crossing point is continuously changing. I am predicting
that the jitter will be different on each side of a Z0-match point
because of the superposition of reflected waves.

One could introduce predictable jitter using a DDS generator to
make the problem easy to identify.
--
73, Cecil http://www.qsl.net/w5dxp

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2564. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:35:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7AC2B.8010400@ieee.org>
Source record: 119016

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Seems to me, a virtual image is produced by real reflections.
>
> You sure don't act like you've read any books on Optics, Cecil. But
> it is consistent with the quality of your argument in that vein.
>
> Like I said, try reading ONE through - at least through the first
> chapter.

I've read a bunch of them, Richard. I don't recall one ever asserting
that virtual images are caused by something other than real reflections.
There are thousands of diagrams of such and the reflections are always
real. Do you have a reference that asserts otherwise? If the reflections
are not really there, how can they cause a virtual image?
--
73, Cecil http://www.qsl.net/w5dxp

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2565. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:48:33 UTC
From: richardharrison@webtv.net
Message-ID: <13676-3EB7AF21-323@storefull-2315.public.lawson.webtv.net>
Source record: 118869

Peter, K1PO wrote:
"You simply can`t do it (show reflections exist in the r-f steady-state) because they don`t exist!"

An example is the short-circuit 1/4-wave stub.

Without reflection, this stub would be shorted at the operating frequency as well as all other frequencies and d-c.

In the round-trip including 180-degrees in the reflection, the total phase shift is 360-degrees. At the stub attachment point, the round-tripped energy is back in-phase with that on the line. Volts on the line encounter the same volts on the stub so there`s practically no difference of potential to make current flow into the stub. These stubs have in fact been called "metal insulators".

Phase is locked between the incident and reflected waves, so that the magnitudes of the incident and reflected waves remains at a stand-off throughout the cycle.

Best regards, Richard Harrison, KB5WZI

2566. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:52:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7B00A.7080702@ieee.org>
Source record: 119017

Peter Brackett wrote:
> You didn't comment earlier on the well known name/terminology the
> "Echo Attenuation" [Ae] which many apply to the quantity often called
> "Return Loss" [RL].
>
> Do you prefer Ae or RL as the short designation for -20 log(|rho|)?

At Intel, I always used Ae. I don't recall "return loss" ever being
used even among the high speed modem engineers.

> Why haven't ya'll been invoking the Echo Delay function in support of
> your arguments.

Broadening the discussion is the opposite direction from Ockham's Razor.

> What do you think is the physical significance of the echo delay te(w)?
> Does it have a physical significance?

I assume you would say it is not steady-state. :-)

> But "jitter", heck that one is kinda weak is it not?

Jitter from echoes can kill wireline modem communications. If there is no
such thing as reflections, why is echo cancellation necessary?
--
73, Cecil http://www.qsl.net/w5dxp

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2567. Re: Swr meters for quad band ft-8900

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 12:58:39 UTC
From: wess@gtii.com
Message-ID: <vbfc8p7mjm1qe7@corp.supernews.com>
Source record: 119018

Bob Miller <bxmiller@texas.netNOSPAM> wrote:

>On Mon, 05 May 2003 13:31:04 -0400, wess@gtii.com wrote:
>
>>I have a feeling that no normal swr meter will cover the 10m to 70 cm
>>range of my ft-8900r so what would be two good choices or can I assume
>>a that a out of box antenna (uvh-4) won't kill my radio until I can
>>afford the required meters?
>>
>>Tia, 73, Wes, Kc8spr
>
>I wouldn't count on any multi-band antenna having low swr, out of the
>box, until you measure it.
>
>I'm also surprised your rig doesn't have an swr meter built in. Oh,
>well.
>

It is a mobile.

>Anyhow, the MFJ 864 covers all bands, 1.8 through 440 mhz with a cross
>needle swr readout. Costs about $85. See the mfjenterprises.com
>website. They have a buncha swr meters.

I am ordering one in a few moments. Thanks for the tip.
>
>Bob
>k5qwg
>

Wes KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

2568. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 13:27:16 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EB7B7F4.4010405@attbi.com>
Source record: 118870
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

J. Harvey wrote:
> "Dave Shrader"
>
>>Saturn, no warranty problems with an ICOM 706 installed!
>>In fact, they advised compatibility up to 1000 watts.
>>Ford [Ranger], Sales/Service were advised prior to purchase
>>and indicated no problem with 706 installation. I believe that
>>it is necessary to advise them that the radiating antenna is
>>located OUTSIDE of the vehicle. The vehicle then becomes
>>part of the rf shield for the sensors/computers etc.
>
>
> I thought that Saturns were mostly ~plastic~ body panels around a 'Swiss
> cheese' metal frame. I suppose the openings are small in comparison to HF
> wavelengths...

Saturn's, at least my SL-1, had metal roof, metal trunk lid, metal
engine bonnet, etc. All on the honeycomb frame with plastic side panels
and door panels.

Put 120,000 miles of HF mobile on that car before I gave it to my
daughter. BTW, it's still running great!

Deacon Dave, W1MCE

2569. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:04:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7C0F2.7080109@ieee.org>
Source record: 118871

Richard Harrison wrote:
> An example is the short-circuit 1/4-wave stub. ... Volts on
> the line encounter the same volts on the stub so there`s practically no
> difference of potential to make current flow into the stub.

A stub does not block current from flowing into and out of
the stub itself. The SWR inside the stub approaches infinity.
A stub has the highest possible losses due to SWR.
--
73, Cecil http://www.qsl.net/w5dxp

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2570. Re: Combining antennas for a car radio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:06:49 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eb7c22a_1@news1.prserv.net>
Source record: 118872

Well, you could do like everyone else, hang a 4' piece of wire out of the antenna connector. The upscale bunch go get a used car radio antenna and plug it in, while the really ostentatious buy a new car radio antenna and plug it in. If you are in a shielded building, you might have to get the antenna near a window and run a car radio extension cable between. Otherwise, it's pretty darn complicated.

--
Crazy George
Remove NO and SPAM from return address
"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:14Ita.223735$Si4.181300@rwcrnsc51.ops.asp.att.net...
> Hi guys,
>
> I have a decent quality car radio that broke in such a way as to be unable
> to control a CD changer anymore -- but the tuner works fine. I'm planning
> to stick it in a wooden box one of these days and just use it as a shelf
> radio at work or something.
>
> I'd like to hook it up to an external AM and FM antenna -- probably just a
> folded dipole for FM, and a long wire for AM. How do I combine the
> antennas? Or should I even bother to try? I'm thinking car radios expect
> to be connected to something that's ~1/4 wavelength above a ground plane
> (the car's body) at ~100MHz ... and then switch in some matching network
for
> AM, where the car's antenna is electrically quite short? Or is there
> something different going on?
>
> Thanks,
> ---Joel Kolstad
>
>
>
>

2571. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:12:39 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3EB7C2D7.C4617BE0@sympatico.ca>
Source record: 118874
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

OC_CAM's Razor wrote:
>
> WA2PPI wrote:
> > I'm in the process of installing an Icom 706 w/ bumper mounted
> > hamsticks for HF and an on-glass antenna for 2-m and 70-cm. Guess I
> > won't run full power at first......
>
> Strange things can happen. When I tune up my 706 on 40m in my
> 1996 GMC pickup, the speedometer pegs at full scale whether
> I am moving or not.
> --
> 73, Cecil http://www.qsl.net/w5dxp

I had a Pontiac Grand-Am of the same vintage and when I transmitted with 30 watts on 2 metres my speedometer moved up about 10 mph, however there was no effect on the cruise control, just seemed to be the meter.

A 1976 Honda Accord had a left turn signal which would flash at a fantasic rate when using the 2 M tx. But no effect on the right turn.

My 1998 GMC Jimmy had continuing problems with the elctronics and the dealer, made me remove my radios and aftermarket security/remote starter before they would debug it - turned out it was the vehicle's fault and not anything I was doing.

Dave

2572. antenna design software

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:20:08 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EB7C488.9050105@tampabay.rr.com>
Source record: 118873

hey everyone
i need a program to design a 6 meter yagi
anyone know of a good one and where to get it?

2573. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:32:00 UTC
From: Robert Spooner <rls19@psu.edu>
Message-ID: <3EB7C760.3000903@psu.edu>
Source record: 118875
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I would also send a copy of the letter to Consumer Reports. They might
be interested in RF susceptability. It would certainly get Toyota a lot
of publicity if they published something about it.

73,
Bob AD3K

Mike Yetsko wrote:
> "Terry" <ve1trb@hotmail.com> wrote in message
> news:SlDta.53274$cB3.402425@nnrp1.uunet.ca...
>
>>So does that mean that if you were a CBer with a 100W linear you would be
>
> ok
>
>>in a Toyota?
>>I think maybe whoever in Toyota doesn't really understand what they are
>>saying. I think maybe a talk with someone else in Toyota is in order. I
>>would almost guess (and it's only a guess) they're probably concerned with
>>interference with a computer somewhere in the vehicle, but wouldn't the
>>operating frequency be more of a concern that the power output?
>> I wonder what would happen if you were driving down the road in your
>>Toyota and someone was right beside you with a 2 meter rig and
>
> transmitted.
>
>>Would you car all of a sudden become erratic?
>>
>>Terry VE1TRB
>
>
> A number of years ago, a german manufacturer issued a statement that
> any transmitter that had an output power of more than 5W would
> void warrantee.
>
> I don't know if this was a 'corporate' statement, or something that came
> from one of their 'groups' without being blessed by home corporate,
> but it caused quite a stink on CompUServe at the time.
>
> Contact the ARRL with a copy of the letter you received.
>
> Then write their home office a nice letter telling them that the car does
> not have an expectation of servicability if they hold to that statement,
> and ask them how you should procede, in case you want to refund

> the vehicle. Be polite. I'm sure you'll get a polite response. And
> maybe wake up more of their corporate as to what kinds of morons
> are allowed to send out 'corporate policy' letters.
>
> Mike
>
>
>

--
Robert L. Spooner
Registered Professional Engineer
Associate Research Engineer
Intelligent Control Systems Department

Applied Research Laboratory Phone: (814) 863-4120
The Pennsylvania State University FAX: (814) 863-7841
P. O. Box 30
State College, PA 16804-0030 rls19@psu.edu

2574. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:41:29 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <krhfbv4s5735vo171u25gneougtfbaicc0@4ax.com>
Source record: 118880

On Mon, 05 May 2003 18:53:52 -0700, Wes Stewart <n7ws@#arrl.net>
wrote:

>Actually, I do have a Bird with a crossed needle meter and a dual
>inline sampler, but it's on the two meter rig. I use a 2500W slug
>forward and a 250W slug reverse, but I don't use no stinkin' tuner.

No Tuner?????????? How dare you even harbor such a thought! Tuners are
the elixir of RF superiority. Why with a good tuner, an empty beer can
and the right band conditions you can work the world! <g>

Actually, I don't use no stinkin' SWR meter for adjusting a tuner
(bird brained or otherwise). Just a field strength meter. You just
adjust for maximum smoke. It's cheap easy to build and couldn't be
simpler to use.

Danny

2575. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:43:40 UTC
From: wb4mleAT@surfbestDOT.net
Message-ID: <cihfbv031e0u85n4vm3nmhnue4bvlidri8@4ax.com>
Source record: 118876

In this news thread geekdude commented:

>I just got off of the phone with Toyota.
>they told me that if a radio transmitter requires a license to operate,
>then it's too powerful to use in a 2003 Toyota.
>
>If you want to install a ham radio in your car without voiding your warranty,
>then I guess you should not buy a new Toyota like I did...
>
I got an email from Toyota in February 2003 (for my 2003 Corolla)
advising what types (type accepted), power up to 100 watts, and how to
properly locate, space and route your cabling. I cannot copy the email
to this list as I respect email manners. Not sure but I think I
submitted thru toyota.custhelp.com web site(you have to register as a
Toyota owner).
--
Eddie Seymour,WB4MLE
Delete the capital letters:
wb4mleAT@surfbestDOT.net

2576. Comet SB-14/SB-15 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:45:44 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030506104544.21092.00000701@mb-m18.aol.com>
Source record: 118877

Has anyone here used the Comet SB-14 or SB-15 triband mobile antennas? I am considering buying one of them. Would a magmount NMO mount be ok to support these antennas or do they need a trunk lip mount? That's assuming they go onto an NMO mount?

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2577. Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:46:21 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030506104621.21092.00000702@mb-m18.aol.com>
Source record: 118878

Can anyone recommend a triband mobile antenna for 6m/2m/70cm that will work
with a magmount NMO mount?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2578. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 14:51:02 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305060651.40e61d47@posting.google.com>
Source record: 118879

Roy Lewallen <w7el@eznec.com> wrote in message news:<vbdi2b1jguo47@corp.supernews.com>...
> Mark Keith wrote:
> >
> > True, but there is no directive gain with a short vertical. We are
> > straying from the antenna being discussed to include directive gains.
> >
> Using the conventional definition of comparison with a non-directive
> (spherical) pattern, a short dipole has a directive gain of 1.74 dB. A
> short vertical has the same directive gain, providing that you're using
> a hemispherical pattern as the reference for the vertical. But it's also
> fine to talk about directive gain with respect to some other reference.
> If a quarter wave vertical is your reference, for example, then a very
> short vertical has a directive gain of about -0.45 dB. (Remember that
> directive gain is a three-, not two-dimensional measure.)

True. That's why I said the gain from an "extended" vertical such as a
1/2 or 5/8 wave would qualify as "antenna gain" to me. I guess what
I'm trying to distinguish are gains from extended antenna element
lengths vs efficiency when describing verticals. Being the shorter
than 1/4 wave vertical will not have any gain from extended element
length compared to a monopole, any improvements in "gain" or FS, are
due to increased efficiency compared to the monopole. I'm not sure how
to label each type of gain. Antenna "element" gain ?? will always
reduce FS in some certain direction, while increasing in another.
Correct?

Just improving efficiency only to provide "gain", does not reduce FS
in any direction. It increases FS in all directions in equal ratios
equal to the original pattern. IE: if efficency is raised to provide a
1 db gain in a certain direction, you will see that same 1 db
improvement in all directions. I guess that one way to describe it...
You would not see that improvement in all directions if the gain is
provided by changing element lengths, etc alone. IE: 1/2 wave or 5/8
as an example. Some direction will always lose a bit.
I guess this is what I'm trying to say overall. These two different
methods of providing "gain", provide different results in the end.
>
>.
>
> A whole lot of misunderstanding about antennas (and a mulitiude of other
> topics!) is caused by different people putting different meanings on
> different words. My posting was intended for people who want to
> communicate by using words that have commonly understood meanings. I'm
> confident that the rest of the readers felt free to ignore it.

I guess it boils down to a personal disdain for calling improved efficiency only, as "gain". Although technically correct, I prefer to just call it improving efficiency. "Compared to a monopole in this case". I like to reserve "gain" for true antenna element "gains" which are due to extended elements, adding reflectors, directors, etc, and always leave at least one direction in poorer shape than it began. ...But this is a personal problem I guess...:/

I don't want to mangle the meaning of words, which I'm sure I do. But hopefully you all see where I'm coming from when describing "gains" as it applies to short mobile antennas. My terminology is probably suspect though...:/ MK

2579. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 15:04:34 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EB7CF02.71979F91@crosslink.net>
Source record: 119012
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

geekdude wrote:
>
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
It's not just Toyota. The owners guide for the 1998 BMW motorcycle I
used to own said operating a transmitter on/near it might cause the
brakes to malfunction. A ham who worked for BMw said it might QRM the
anti-lock brake computer but that he'd used a 5W handi with no ill
effect.

OTOH my Dodge PU has 7 !! computers running everything from "engine
management" to dash displays and I have a 50W dual band feeding a mag
mount. No problems - but YMMV so ...

73, K3DWW

2580. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 15:19:22 UTC
From: richardharrison@webtv.net
Message-ID: <13676-3EB7D27A-372@storefull-2315.public.lawson.webtv.net>
Source record: 118882

Peter, K1PO wrote:

"I challenge anyone to show me "hard evidence" of these steady state echos---."

"The change of load impedance presented to an r-f generator, from either that of the distant load or that of the transmission line in many cases, is proof of a reflected wave.

Without reflection, the generator would only confront Zo.

Without a transmission line, the generator would only confront ZL.

The stable long-term impedance which can be produced and which differs from either Zo or ZL is proof enough that reflection is a steady-state phenomenon.

Best regards, Richard Harrison, KB5WZI

2581. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 15:21:03 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mqjfbv4l0t26c1c55220nvi2k9dq9m4c3b@4ax.com>
Source record: 118881

On Tue, 06 May 2003 07:35:55 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Seems to me, a virtual image is produced by real reflections.
>>
>> You sure don't act like you've read any books on Optics, Cecil. But
>> it is consistent with the quality of your argument in that vein.
>>
>> Like I said, try reading ONE through - at least through the first
>> chapter.
>
>I've read a bunch of them, Richard. I don't recall one ever asserting
>that virtual images are caused by something other than real reflections.
>There are thousands of diagrams of such and the reflections are always
>real. Do you have a reference that asserts otherwise? If the reflections
>are not really there, how can they cause a virtual image?

Ya know, Cecil, here's a reference:
bottom of page 39 of "Optics," Miles Klein

This is from one of the more advanced topics of chapter 2 "Image
Formation." Virtual Images have been around a lot longer than you,
and there is a world of Physicists, Engineers, and Technicians who
have employed it without your confusion.

Your question reveals you have barely scratched the surface of studies
in Optics. Virtual Images are freshman year stuff and put to rest
after the first week of instruction. You complain of not being able
to find these common references for yourself, but I don't intend to
spoon feed you through this in the future as in the past. As I
offered before, try reading ONE book THROUGH before you wade through
the harder material.

That was your last hint for this round. The best you can hope for is
finding this trivial example that negates your claim, and then
backfilling your claim to fit the example - again.

73's
Richard Clark, KB7QHC

2582. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:14:42 UTC
From: richardharrison@webtv.net
Message-ID: <2703-3EB7DF72-130@storefull-2314.public.lawson.webtv.net>
Source record: 118887

CAM, W5DXP wrote:
"A (short-circuit 1/4-wave) stub does not block current from flowing
into and out of the stub itself."

Perhaps not. The final 1/4-wave of a shorted transmission line is in
fact a shorted 1/4-wave stub. !/4-wave back from the zero impedance of a
short on the line, current is very nearly zero and voltage is maximum.
That point, 1/4-wave back from the zero-impedance point, with its very
nearly zero current and maximum line voltage is a very high impedance.
There is some current flowing into the stub but it is very small indeed,
not nearly so large as the current into the short at the end of the
wires. In fact, if the stub were lossless, the current into the stub
would be zero. Look at the wave charts for transmission lines in any
good text for confirmation.

Metal insulators are a fact. Were they lossy they would not be commonly
used.

Best regards, Richard Harrison, KB5WZI

2583. Re: guys, need help desperately!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:15:55 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305060815.cfb596b@posting.google.com>
Source record: 118883

Hi there,
Thanks for the help. That was a huge releif for me.
Shall i contact u thru personal mail.

Thanks

2584. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:22:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oknfbvceb4m9lshdltkovmjihjo2oe35sr@4ax.com>
Source record: 118884

On Tue, 06 May 2003 15:21:03 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:
>virtual images are caused by something other than real reflections.

Hi All,

For the rest of you, the clipping above (which in fact reveals a point of ignorance) is one of the few statements that offers a connection to the topic at hand (read the subject line). I would offer another round of clues and appeals for answers to be submitted on the back of a $20 bill, but that one has been played out.

Let's just leave it at those who dwell on reflections as the sole source of Virtual Images spend too much time in front of a mirror.

73's
Richard Clark, KB7QHC

2585. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:24:17 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305060824.318a469d@posting.google.com>
Source record: 118885

Roy Lewallen <w7el@eznec.com> wrote in message
>
> A whole lot of misunderstanding about antennas (and a mulitiude of other
> topics!) is caused by different people putting different meanings on
> different words. My posting was intended for people who want to
> communicate by using words that have commonly understood meanings. I'm
> confident that the rest of the readers felt free to ignore it.
>
> Roy Lewallen, W7EL

Screw the Ironhorse into the Little Tarheel's base, doubling your gain
and
retaining the multiband coverage! Call it the Little horse heel or
something.

Dunno, I think this original statement is quite confusing. It could
convey the idea that the "antenna" itself would have 3 db gain. But
the increased element length itself makes for very, very, little
change. Also, the increase in "gain" would vary from band to band I
would imagine. A lower increase, the lower in freq you go. Sure, it's
very well possible you may see an increase in FS of 3 db on a certain
band. But I guess my point is, the element length increase has almost
nothing to do with it. It's purely an efficiency issue. Or to me,
anyway. I just like to keep "antenna" gain, and antenna or antenna
system "efficiency" seperate. When someone says you will double your
gain by lengthening a vertical, I will always assume they mean
"antenna" gain. And that can be true in some cases. IE: a 1/4 vertical
against a collinear or whatever. That type of "gain", IE directive,
reduces gain in some direction. But it's not the case on a short HF
mobile antenna. Increasing efficiency increases gain in all
directions. But, like I said, I guess I'm just in a nit picking mood
this week..:/ MK

2586. Re: guys, need help desperately!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:26:21 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305060826.45f3e5a0@posting.google.com>
Source record: 118886

If i try decreasing the value of the capacitor to 5pF from 1000pF, will that work.

Thank you.

2587. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 16:52:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qppfbv8rm91msri9gfen26uhfdrmgpn0qa@4ax.com>
Source record: 118888

On Tue, 6 May 2003 11:14:42 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:
>Metal insulators are a fact. Were they lossy they would not be commonly
>used.
>
>Best regards, Richard Harrison, KB5WZI

The term for this application is called artificial dielectric and
commonly employed as "lensing" for radiators.

Another literature search is launched into Optics ;-)

73's
Richard Clark, KB7QHC

2588. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:14:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB7ED78.A39896F6@uci.edu>
Source record: 118891

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > What I wrote
> > above describes the case where net energy/sec equals zero because V3 =
> > -V4 and I3 = -I4.
>
> So what happens to V3*I3 + V4*I4?

By now the math error should have become apparent to anyone bothering to read through this litany of insulting inuendos and allusions. The correct form is to take the product of the sums rather than the sum of the products.
(V3+V4) * (I3+I4) = 0

AC6XG

2589. Re: Comet SB-14/SB-15 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:14:35 UTC
From: Leaf <4leaf@prosensing.com>
Message-ID: <vbfrc1f1mhm1fc@corp.supernews.com>
Source record: 118889

The SB-15 works great. I have used its predecessor FJ-15S for the last 8 years with out any problems. However, the antenna will not tune on a mag mount nor will it work if it is not surrounded by a large ground plane. Diamond makes an exceptional through hole mount. If you cannot drill a hole in the roof of the car, I would look for a different antenna or you will be disappointed in its performance. Just remember that the antenna is very long and garages, tree limbs, or low wires can jump out and grab the antenna.

de N1SIF

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030506104544.21092.00000701@mb-m18.aol.com...
> Has anyone here used the Comet SB-14 or SB-15 triband mobile antennas? I am
> considering buying one of them. Would a magmount NMO mount be ok to support
> these antennas or do they need a trunk lip mount? That's assuming they go onto
> an NMO mount?
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

2590. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:18:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB7EE6C.BA43320C@uci.edu>
Source record: 118892

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > The waves cancel in that direction. No net
> > field, no net energy.
>
> I agree but the discussion is not about "net" energy.

When you're talking about the movement of energy, there really isn't any other kind.

73, AC6XG

2591. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:18:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7EE6E.3050508@ieee.org>
Source record: 118890

Richard Clark wrote:
> This is from one of the more advanced topics of chapter 2 "Image
> Formation." Virtual Images have been around a lot longer than you,
> and there is a world of Physicists, Engineers, and Technicians who
> have employed it without your confusion.

I'll repeat the challenge Richard: Please produce a reference that
asserts that virtual images are caused by reflections that are not
really there.

All I have said is that virtual images are caused by reflections
that are really there. You disagree so please prove it.
--
73, Cecil http://www.qsl.net/w5dxp

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2592. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:32:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7F19D.70104@ieee.org>
Source record: 118893

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "A (short-circuit 1/4-wave) stub does not block current from flowing
> into and out of the stub itself."
>
> Perhaps not. The final 1/4-wave of a shorted transmission line is in
> fact a shorted 1/4-wave stub. 1/4-wave back from the zero impedance of a
> short on the line, current is very nearly zero and voltage is maximum.

Net current is nearly zero and net voltage is maximum. The forward and
reflected voltage and current components are just as large as ever.

> That point, 1/4-wave back from the zero-impedance point, with its very
> nearly zero current and maximum line voltage is a very high impedance.

It is a very high *virtual* impedance as a *result* of superposition of two
voltages and two currents. It is an effect, not a cause of anything.

> There is some current flowing into the stub but it is very small indeed,
> not nearly so large as the current into the short at the end of the
> wires.

The current in the stub is no different from the current just outside
the stub. Consider the following lossless example:

Source--------------coax--------------x-----1/4WL coax-----short

Why would the forward current and reflected current be any different
at point 'x' than anywhere else? It's not. The forward current and
reflected current is the same all up and down the transmission line
including inside the stub. No reflections happen at point 'x'. All
reflections happen at the short. The SWR is infinite all up and down
the feedline including inside the stub.

> In fact, if the stub were lossless, the current into the stub
> would be zero. Look at the wave charts for transmission lines in any
> good text for confirmation.

That is an old wives' tale, Richard. The SWR in a lossless stub would
be infinite. Forward current flows unimpeded into the stub. Reflected
current flows unimpeded out of the stub. Forward current and reflected
current have no effect on each other.

The current you are talking about above in the text is the current
in the rest of the system, not in the stub. Stubs, with their near
infinite SWR are as lossy as they can possibly be.
--

73, Cecil http://www.qsl.net/w5dxp

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2593. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:40:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7F38B.7090802@ieee.org>
Source record: 118894

Richard Clark wrote:
> Let's just leave it at those who dwell on reflections as the sole
> source of Virtual Images spend too much time in front of a mirror.

Nice try at a straw man, Richard, but that is NOT what I said.

"Seems to me, a virtual image is produced by real reflections."

Here's what I meant by that statement: If a virtual image is
produced by reflections, it is produced by real reflections,
not by reflections that are not really there.

I certainly didn't say all virtual images are produced by reflections.
If you think that's what I said, you need to learn the difference
between inclusive and exclusive statements.

So since you disagree with me, it is your turn to prove that a
virtual image can be generated by reflections that are not really
there. You are such an expert, I know you can do it.
--
73, Cecil http://www.qsl.net/w5dxp

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2594. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:52:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7F665.6090906@ieee.org>
Source record: 118896

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>
>>>What I wrote
>>>above describes the case where net energy/sec equals zero because V3 =
>>>-V4 and I3 = -I4.
>>
>>So what happens to V3*I3 + V4*I4?
>
> By now the math error should have become apparent to anyone bothering to
> read through this litany of insulting inuendos and allusions. The
> correct form is to take the product of the sums rather than the sum of
> the products.
> (V3+V4) * (I3+I4) = 0

That's after the wave cancellation, Jim. (V3*I3) + (V4*I4) is what exists before wave cancellation. Where did that energy go? If those wave energy components never existed in the first place, then wave cancellation between those waves becomes impossible and you have something happening with no cause whatsoever except for obeying your whims.

You would have us believe that wave cancellation between two waves is possible without those waves ever having existed. You can't have it both ways, Jim. If those waves don't contain any energy, they never existed. If they never existed, they cannot possibly engage in wave cancellation. If they engage in wave cancellation, they must necessarily have existed before that. If they ever existed, they contained energy.
--
73, Cecil http://www.qsl.net/w5dxp

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2595. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 17:53:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB7F67F.568CD701@uci.edu>
Source record: 118895

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > ??? You're the one claiming to be Copernicus, Gallileo, and Einstein
> > all rolled into one - not me. I'm just trying to explain physics to
> > you.
>
> Right, by telling me that constructive interference doesn't equal
> destructive interference. I was born at night, Jim, but it wasn't
> last night.

Doesn't mean you're right, though. ;-) In fact Hecht says that
constructive interference doesn't equal destructive interference. When
I1=I2, the intensity in destructive interference equals zero, and the
intensity in constructive interference is four times I.

> > "If two coherent reflected waves are traveling toward the source and
> > engage in 100% destructive interference, the energy in those two waves
> > is re-reflected back toward the load."

> Yep, that's true, Jim.

I'm not surprised you agree with yourself, Cecil. ;-)

> I didn't say the "waves" were reflected. The waves
> are canceled.

Yes, and the point you're not getting is that no energy is transferred
to a point where waves cancel.

> Is the definition of "re-reflected" what is hanging you up?

Not so much that, as the lack of necessity for re-reflection.

> Measurements prove that is what happens. Did
> you burn your fingers when you grabbed the load resistor in the
> circulator?

I wouldn't have if the source was matched to the load - as in the case
we've been discussing.

> > That amount of energy was not reflected from the load to begin with.

> Mismatched loads don't reflect energy? (Somebody get the net!)

Again with the mismatched load? Which case do you want to talk about?
My objection is to your diagram, Fig. 3 in part II for a matched load,
and your accompanying description of the movement of energy.

> Why
> can we measure 200 watts forward and 100 watts reflected?

Is it because we're measuring the superposed sum of forward and
reflected energy in a standing wave pattern rather than simply measuring
the actual forward energy?

> Why do
> the transmission line losses increase with increasing SWR?

I think that's fairly well known. The nodes in the standing wave
pattern can have fairly high currents and I^2R losses.

> Are you claiming to be omniscient?

How would you honestly characterize such a question?

> > There is no net
> > energy transfer from the load to the discontinuity, thus no need for it
> > to re-reflect back to the load.

> So you don't accept the wave reflection model.

You presume in error. I accept that reflected waves which cancel due to
destructive interference transfer no energy.

73, AC6XG

2596. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:05:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB7F96C.84E084CF@uci.edu>
Source record: 118897

OC_CAM's Razor wrote:
> All I have said is that virtual images are caused by reflections
> that are really there. You disagree so please prove it.

Virtual images are created by lenses. Reflectors create reflected
images, not virtual images.

ac6xg

2597. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:09:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB7FA54.9040709@ieee.org>
Source record: 118900

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>I agree but the discussion is not about "net" energy.
>
> When you're talking about the movement of energy, there really isn't any
> other kind.

Well, that can be proven wrong, Jim. The net energy flowing through
a feedline is 100W. The forward power is 200W and the reflected
power is 100W. There are more losses in that line than if the system
were flat. That proves that more current is flowing in that transmission
than just I=SQRT(100W/Z0). I'm sorry you don't believe in the wave
reflection model but there is too much evidence to support it. Instead
of arguing with me, who don't you just start a thread titled:
"The Myth of the Wave Reflection Model"?

To refresh your memory, our discussion has been about the energy
components existing in the following:

b1=s11*a1+s12*a2 b2=s21*a1+s22*a2

|a1|^2 = Power incident on the (Z0-match point)

|a2|^2 = Power reflected from the load

|b1|^2 = Power reflected from the (Z0-match point)

|b2|^2 = Power incident on the load

Note the two reflected powers.
--
73, Cecil http://www.qsl.net/w5dxp

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2598. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:09:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB7FA5C.9C861796@uci.edu>
Source record: 118898

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > By now the math error should have become apparent to anyone bothering to
> > read through this litany of insulting inuendos and allusions. The
> > correct form is to take the product of the sums rather than the sum of
> > the products.
> > (V3+V4) * (I3+I4) = 0

> That's after the wave cancellation, Jim. (V3*I3) + (V4*I4) is what exists
> before wave cancellation.

No it doesn't. It can't. That's why you can't measure it.

> You would have us believe that wave cancellation between two waves is
> possible without those waves ever having existed.

There's no before or after. There's just is or isn't. 'Isn't' is true
for this case.

73 de ac6xg

2599. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:10:24 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305061010.3b6abf03@posting.google.com>
Source record: 118899
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota

wb4mleAT@surfbestDOT.net wrote in message
news:<cihfbv031e0u85n4vm3nmhnue4bvlidri8@4ax.com>...
> In this news thread geekdude commented:
>
> >I just got off of the phone with Toyota.
> >they told me that if a radio transmitter requires a license to operate,
> >then it's too powerful to use in a 2003 Toyota.
> >
> >If you want to install a ham radio in your car without voiding your warranty,
> >then I guess you should not buy a new Toyota like I did...
> >
> I got an email from Toyota in February 2003 (for my 2003 Corolla)
> advising what types (type accepted), power up to 100 watts, and how to
> properly locate, space and route your cabling. I cannot copy the email
> to this list as I respect email manners. Not sure but I think I
> submitted thru toyota.custhelp.com web site(you have to register as a
> Toyota owner).

I received a similar letter in 1994 for my 1993 Toyota 4Runner.
Here is a link to that letter:
http://www.geekdude.com/toyota-rfi-1994/

I expected the same type of response this time.
The response I got yesterday was totally unacceptable.

--
Chuck

2600. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:15:02 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305061015.c0a3dc1@posting.google.com>
Source record: 118902
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Mike Yetsko" <joe@user.com> wrote in message news:<vbf62t8b7eed15@corp.supernews.com>...
> "geekdude" <google@geekdude.com> wrote in message
> news:fdb9e710.0305051520.72c2b135@posting.google.com...
> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your
> warranty,
> > then I guess you should not buy a new Toyota like I did...
> >
> > - 73
> > KC6SOZ
>
> I wonder... WHO did you call at Toyota? Someone really in a position
> to make a statement like this? Or a low level moron that can't answer
> without having someone else to blame?
>
> Maybe you didn't really get a 'corporate statement of policy' just some
> low level no-nothing trying to sound important.
>
> THIS I would want in writing. With a name on the bottom...
>
> Mike

I spoke with the Toyota Customer Assistance Center.
They will send me this statement in writing.
I will post the letter on my web site when I receive it.

This is the same department that I received a letter from in 1994
that said that I could use up to 100 Watts using certain installation guidelines
http://www.geekdude.com/toyota-rfi-1994/

--
Chuck

2601. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:41:31 UTC
From: tdonaly@aol.com
Message-ID: <20030506144131.25304.00000466@mb-m23.aol.com>
Source record: 118903

Cecil wrote,
(snip)
>
>That is an old wives' tale, Richard. The SWR in a lossless stub would
>be infinite. Forward current flows unimpeded into the stub. Reflected
>current flows unimpeded out of the stub. Forward current and reflected
>current have no effect on each other.
>
>The current you are talking about above in the text is the current
>in the rest of the system, not in the stub. Stubs, with their near
>infinite SWR are as lossy as they can possibly be.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

I think you need to do some more cogitating, Cecil. The above is a nice collection of declarative sentences, but there is absolutely no attempt at proof,
either of the logical or experimental kind. In particular, you should re-examine
your ideas on the superposition of waves, and even more, on how you think charge
can travel in two directions at the same time, in the same place,
bearing in mind that charge is a conserved quantity.
73,
Tom Donaly, KA6RUH

2602. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:46:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB80318.B2BCBD65@uci.edu>
Source record: 118905

OC_CAM's Razor wrote:
> I'm sorry you don't believe in the wave
> reflection model but there is too much evidence to support it.

Your misuse of the wave reflection model is not my doing, Cecil.

73, ac6xg

2603. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:48:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8036A.8070307@ieee.org>
Source record: 118904

Jim Kelley wrote:
> In fact Hecht says that
> constructive interference doesn't equal destructive interference. When
> I1=I2, the intensity in destructive interference equals zero, and the
> intensity in constructive interference is four times I.

The intensities are obviously not equal but the absolute magnitudes
of the destructive and constructive "interference terms" are absolutely
equal. Note: "Interference term" is directly from Hecht.

Imax = I1+I2+2SQRT(I1*I2) eq:9.15 Imin = I1+I2-SQRT(I1*I2) eq:9.16

The destructive "interference term" equals -2SQRT(I1*I2)

The constructive "interference term" equals 2SQRT(I1*I2)

Last time I checked, |-2SQET(I1*I2)| = |2SQRT(I1*I2)|

The conservation of energy principle will not allow anything else.
Hecht says everything must average out to the average available energy.

> Yes, and the point you're not getting is that no energy is transferred
> to a point where waves cancel.

The point that you are missing is that without energy in those waves,
wave cancellation is impossible because the waves never existed in
the first place. If they never existed, they cannot possibly cancel.

>>Is the definition of "re-reflected" what is hanging you up?
>
> Not so much that, as the lack of necessity for re-reflection.

Energy is reflected from the load back toward the source. It winds up
flowing toward the load. By the commonly accepted definition of re-
reflection, re-reflection is what happened. I didn't invent the word.

> I wouldn't have if the source was matched to the load - as in the case
> we've been discussing.

I certainly have not been discussing a flat system. My entire discussion
has been about a mismatch existing at the load. A flat system is too
trivial to even need discussing.

> Again with the mismatched load? Which case do you want to talk about?
> My objection is to your diagram, Fig. 3 in part II for a matched load,
> and your accompanying description of the movement of energy.

There are no loads at all in Fig. 3. There are no matched loads in my entire
article. There is always a Pref2 being reflected from the load proving that

it is always a mismatched load.

> Is it because we're measuring the superposed sum of forward and
> reflected energy in a standing wave pattern rather than simply measuring
> the actual forward energy?

No, if we measured the superposed sum of forward and reflected energy
we would get the energy delivered to the load. A directional wattmeter
actually de-superposes the voltages and currents into forward and
reflected components.

>>Why do
>>the transmission line losses increase with increasing SWR?
>
> I think that's fairly well known. The nodes in the standing wave
> pattern can have fairly high currents and I^2R losses.

Actually, the nodes are the minimum values. The loops or anti-nodes
are where the maximum values are located. So what causes the current
maximums?

> You presume in error. I accept that reflected waves which cancel due to
> destructive interference transfer no energy.

Yep, that's what Dr. Best believes. I dubbed those waves, "voodoo waves".
Since they never carried any energy they never existed in the first place
so they never could have been canceled. It's a simple contradiction, Jim.
If the canceled waves ever existed, they contained energy, V*I. If they
never contained energy, they didn't exist and therefore couldn't cancel.

So Jim, how does the reflected wave from the load know whether it is
going to be canceled at a Z0-match or dissipated in a circulator load?
It has to know ahead of time so it will know whether to carry energy
with it from the load in case it needs to be dissipated or not carry
any energy from the load in case it needs to be canceled. Is this
anything like the lookahead-carry in a CPU? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2604. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:59:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB80606.4050408@ieee.org>
Source record: 118907

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>All I have said is that virtual images are caused by reflections
>>that are really there. You disagree so please prove it.
>
> Virtual images are created by lenses. Reflectors create reflected
> images, not virtual images.

Will you please cease with the straw men? I didn't say anything
about reflectors. Unless one is dealing with a source, all virtual
images and objects depend upon real reflected light. Hint: When
you see a bird in the yard, you are actually receiving reflected
light from that bird. Please set up a demonstration of a virtual
image where the reflected light is not real.
--
73, Cecil http://www.qsl.net/w5dxp

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2605. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 18:59:51 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3EB80629.7050008@get.lost>
Source record: 118906

helmsman wrote:

>>>Boycott France and there products
>>>and find another place to vacation.
>>
>>Learn proper spelling. Using rational arguments wouldn't hurt either.
>
> Spelling mistakes left in for people with nothing else to complain
> about.

My main complaint was that you were simply parroting the cheap quasi-patriotic propaganda, while giving the whole argument zero thought. It is preferred to use one's reason in such situations, because if you had, you'd quickly realize that France was picked out by propagandists as a quick and easy scapegoat. It is a standard practice to have a scapegoat in times of war and especially when gearing up for war on someone else's turf and with flimsy excuses.

Spelling, as far as I've been able to tell, gets progressively worse the louder the person claims to be a patriot.

>As far as france is concerned they NOT our allies, but our
>enemies.

And that would be because they would not sign a blank piece of paper that the Wolfovitz administration bullied a very few other countries into signing? This may be hard for you to accept, but other countries actually have their own domestic and foreign policy, unlike the White House that is in dire need of a strong pro-American lobby to counter some other.

WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

2606. Re: Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:06:16 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <IITta.8549$%_3.5376028@newssrv26.news.prodigy.com>
Source record: 118901

I put the Comet 6m/2m/440 antenna on a hatchback mount for my Explorer, but it's not NMO, it's PL-239.

I don't think you can find one for NMO, you might want to invest in an SO-238 magmount.

I love the antenna though, works great, folds down for putting the truck in the garage, sturdy at 80+ MPH.

r/
-IanCT

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030506104621.21092.00000702@mb-m18.aol.com...
> Can anyone recommend a triband mobile antenna for 6m/2m/70cm that will work
> with a magmount NMO mount?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

2607. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:08:27 UTC
From: wp20031@aol.com
Message-ID: <20030506150827.24039.00000496@mb-m27.aol.com>
Source record: 118908

>That is the point ! If the car electronics is so sensitive that any
>transmitter
>in the vicinity becomes a danger, the whole car is a danger because it
>cannot
>be used in the real world, where transmitters can be near at any
>location, even
>if they cannot be seen.

Ahhhhh....finally an explanation for all the cars that go off those mountain roads up near Mt. Wilson....

--Wayne

2608. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:11:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB808FC.8040605@ieee.org>
Source record: 118909

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>That's after the wave cancellation, Jim. (V3*I3) + (V4*I4) is what exists
>>before wave cancellation.
>
> No it doesn't. It can't. That's why you can't measure it.

OK then, you should be able to easily answer this question:

```
Source---------Z--+---------feedline----------mismatched load
| sw
+--/ --------circulator with load resistor
```

What we have is a Z0-matched system with the ability to switch in
and out a circulator with load resistor. Whether the switch is
in or out doesn't affect the source during steady-state. The switch
is in a box and its position is unknown. Call it Schrï¿½dinger's switch,
if you will. The reflected power at the load needs to make a decision.
If it is going to be canceled at the Z0-match point, it cannot bring
any reflected energy back with it from the load. But if it is going
to heat up the circulator resistor, it does need to bring that energy
along with it. Which decision does the reflected energy make, Jim?

> There's no before or after.

Whew, now time doesn't even exist. :-) I'm afraid I'm not up to
arguing that one.
--
73, Cecil http://www.qsl.net/w5dxp

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2609. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:19:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB80AD3.60203@ieee.org>
Source record: 118910

Tdonaly wrote:
> I think you need to do some more cogitating, Cecil. The above is a nice
> collection of declarative sentences, but there is absolutely no attempt at
> proof, either of the logical or experimental kind.

I have measured the SWR in a stub and can report that it is virtually
infinite. You are going to laugh at yourself when you try explain the
following:

Source---+-----------1001/4 WL lossless stub---------------short

Are you saying that there will be no forward and reflected
current in that 1001/4 WL stub? - that an SWR meter won't read
near infinity? Methinks thou hast been seduced by thy shortcuts.
--
73, Cecil http://www.qsl.net/w5dxp

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2610. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:21:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB80B23.4020002@ieee.org>
Source record: 118911

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>I'm sorry you don't believe in the wave
>>reflection model but there is too much evidence to support it.
>
> Your misuse of the wave reflection model is not my doing, Cecil.

Please show us that you know what you are talking about by solving
the Schrï¿½dinger's switch problem in another thread.
--
73, Cecil http://www.qsl.net/w5dxp

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------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2611. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:37:07 UTC
From: richardharrison@webtv.net
Message-ID: <8664-3EB80EE3-151@storefull-2311.public.lawson.webtv.net>
Source record: 118915

CAM, W5DXP wrote:
"The current in the stub is no different than the current just outside the stub."

I agree, in the transmission line example where the current has nowhere else to go.

Just as Bird says, you have your forward power and you have your reflected power. If you have 100% reflection from an open or a short, the reflected power equals the forward power.

How bad is the loss?

Suppose I have 50 watts in 50 ohms. I have 1 amp in my coax and 50 volts across it. This is making a round-trip. When the reflected power is reflected again at the sender, I may have 100 watts making circles through the forward and return path. Now I have 70.1 volts and 1.41 amps circulating in the system.

Power loss is proportional to amps squared, so I`ve doubled the loss on that score. I`ve doubled it again from losing power both coming and going. The worst that could happen is a quadrupled power loss. If you don`t have any loss to start with, 4 times nothing is still nothing.

Best regards, Richasrd Harrison, KB5WZI

2612. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:43:03 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305061143.3bbb83af@posting.google.com>
Source record: 118912
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

So if I understand that article correctly...

Cars are not shielded properly and possibly un-safe
when exposed to RFI. As cars are mostly plastic these
days, I don't see how they would make a good faraday cage.

If a cell phone on an airplane is un-safe because it
might interfere with the on-board electronics, then
the same might be true about all modern cars. The car
manufactures must know how un-safe their cars are if
they are making statements like using any radio that
requires a license in your car will void your warranty.

I would like to think that my car would be safe from
cruse control malfunction if I drive by someone
operating a 2 way radio.

I am starting to doubt the safety of all modern cars.
Perhaps the car manufacturers should put in some shielded
wiring and lower their profit margins in order to ensure
safety when consumers use their products in a world of
wireless communication devices.

Modern cars have a life threatening design flaw
and they are trying to cover it up !

--
Chuck

dj <DaleJ@nospam.com> wrote in message
news:<DaleJ-34D25A.05094906052003@apollo-ge0.rdc-kc.rr.com>...
> In article <fdb9e710.0305052351.14d75214@posting.google.com>,
> google@geekdude.com (geekdude) wrote:
>
> > Zoran Brlecic <...WA7AA...@get.lost> wrote in message
> > news:<3EB70137.5000306@get.lost>...
> > > geekdude wrote:
> > > > I just got off of the phone with Toyota.
> > > > they told me that if a radio transmitter requires a license to operate,
> > > > then it's too powerful to use in a 2003 Toyota.
> > > >
> > > > If you want to install a ham radio in your car without voiding your
> > > > warranty,
> > > > then I guess you should not buy a new Toyota like I did...

> > >
> > >
> >
> > I know I was talking to a Moron at Toyota
> >
> > I asked them if they wanted to reconsider making such a harsh statement
> > regarding their product. They said that they had already checked this out
> > with the department in charge of these things and that "any radio transmitter
> > that requires a license to operate is too powerful to use in their vehicle
> > without causing damage to the ECM because their engine uses so many
> > sensors." "the fact that Toyota changed their manual for me in 1993 did not
> > apply in this case because the ECM used in the 2003 4 Runner was more
> > sensitive than the 1993 model". They are going to send me a written statement
> > documenting this fact.
> >
> > I guess I should not drive next to my local 1.5 Megawatt AM radio station or
> > my
> > car might fail. Perhaps I should not slow down if a police car is behind me
> > because they might transmit a radio signal that will cause me to have an
> > accident.
> > :-)
> >
> > The people working at the Toyota Customer Assistance Center are complete
> > idiots
> > that don't understand the first thing about radio frequency and radiated
> > power.
> >
> > Perhaps the car I just purchased is total junk if the sensors are so
> > sensitive that
> > Toyota is afraid of a 500 mw GMRS HT.
> >
> > Toyota, are you listening ???
> > You should clarify and change your rather harsh statement regarding this
> > issue.
> >
> > --
> > Chuck
> >
> > 500mw GMRS
> >
> >
> > > You have apparently been talking to the Toyota Dept. of Morons, because
> > > a license has nothing to do with power.
> > >
> > > WA7AA
>
>
>
> This might be part of the problem.
>

> http://www.antony-anderson.com/cruise/7-mech.htm

2613. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:43:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB8104E.D899E918@uci.edu>
Source record: 118913

OC_CAM's Razor wrote:
>
> > There's no before or after.
>
> Whew, now time doesn't even exist. :-) I'm afraid I'm not up to
> arguing that one.

What part of the expression "steady state" don't you understand?

2614. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:47:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB81156.2503EBE6@uci.edu>
Source record: 118914

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>All I have said is that virtual images are caused by reflections
> >>that are really there. You disagree so please prove it.
> >
> > Virtual images are created by lenses. Reflectors create reflected
> > images, not virtual images.
>
> Will you please cease with the straw men? I didn't say anything
> about reflectors. Unless one is dealing with a source, all virtual
> images and objects depend upon real reflected light. Hint: When
> you see a bird in the yard, you are actually receiving reflected
> light from that bird. Please set up a demonstration of a virtual
> image where the reflected light is not real.

Maybe you should try reading it out loud, Cecil:

Virtual images are created by lenses. Reflectors create reflected
images, not virtual images.

2615. shorted 160 meter 1/4 wave stub data

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:56:46 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbg4sh8o9s6b16@corp.supernews.com>
Source record: 118916

Two shorted 160 meter 1/4 wave stubs and an MFJ 269 generated these data.
The analyzer cannot quantify R>1500; It just displays ">1500".
"RG8X" refers to Amelco RG8X, "RG8" refers to Times Microwave Ultraflex
cable.

frequency R in ohms
MHz RG8X RG8
1.80 195 295
1.81 228 350
1.82 267 410
1.83 323 500
1.84 380 590
1.85 464 695
1.86 564 820
1.87 670 1000
1.88 789 >1500
1.89 880 >1500
1.90 929 >1500
1.91 918 >1500
1.92 835 >1500
1.93 715 1000
1.94 604 825
1.95 515 700
1.96 403 595
1.97 333 500
1.98 304 423
1.99 253 378
2.00 235 325

73
H.
NQ5H

--
"The dinosaurs did not have a space program.
That's why they died."

2616. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 19:57:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB813B6.ED6341AA@uci.edu>
Source record: 118917

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > In fact Hecht says that
> > constructive interference doesn't equal destructive interference. When
> > I1=I2, the intensity in destructive interference equals zero, and the
> > intensity in constructive interference is four times I.
>
> The intensities are obviously not equal but the absolute magnitudes
> of the destructive and constructive "interference terms" are absolutely
> equal. Note: "Interference term" is directly from Hecht.
>
> Imax = I1+I2+2SQRT(I1*I2) eq:9.15 Imin = I1+I2-SQRT(I1*I2) eq:9.16
>
> The destructive "interference term" equals -2SQRT(I1*I2)
>
> The constructive "interference term" equals 2SQRT(I1*I2)
>
> Last time I checked, |-2SQET(I1*I2)| = |2SQRT(I1*I2)|

Your equation presumes cos theta equals one. That's only true for a
relative phase angle of zero degrees. In the general equation, the SQRT
term is multiplied by cos theta.

> There are no loads at all in Fig. 3. There are no matched loads in my entire
> article. There is always a Pref2 being reflected from the load proving that
> it is always a mismatched load.

No load at all, huh. How do you manage to match to an infinite load
impedance?

> A directional wattmeter
> actually de-superposes the voltages and currents into forward and
> reflected components.

Sure thing, Cec. ;-)

ac6xg

2617. 2 mtr beam for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 20:05:16 UTC
From: andy JACKSON <andyjackson@twoeoneklp.freeserve.co.uk>
Message-ID: <b994ht$e3u$1@news8.svr.pol.co.uk>
Source record: 118919

i have the following item for sale,it is a 16 ele yagi,aprox 18db gain it is about 13ft long,i have work loads of stations with this monster,the reason for the sale is i have bought a hf beam and something had to go,please email me or leave a message on the ng.i am looking for £30

2618. FA: HUGE ANTENNA SELECTOR SWITCH LF MF HF BANDS

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 20:14:13 UTC
From: Info <infoREMOVE@mhtradio.com>
Message-ID: <3EB81795.7181A1FB@mhtradio.com>
Source record: 118920

HUGE ANTENNA SELECTOR SWITCH LF MF HF BANDS
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3023012404

Check out my other radio equipment for auction.
http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=restiaux

2619. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 20:48:00 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-E99DDB.15471406052003@apollo-ge0.rdc-kc.rr.com>
Source record: 118921
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

I doubt it would lower their profit very much, but these big outfits
want to max out every penny they can. I bet a few dollars per unit
would rfi proof the cars. I would like to see consumers report provide
a article regarding this or at least include it in the annual car
review. If it's an illuminating problem then and only then will they do
something about it. The old saying goes, the squeeky wheel gets the
grease, it still holds true.

By the way, I would have to think the police vehicles are rfi proofed??

Buy American maybe huh...

73
Dale

In article <fdb9e710.0305061143.3bbb83af@posting.google.com>,
google@geekdude.com (geekdude) wrote:

> So if I understand that article correctly...
>
> Cars are not shielded properly and possibly un-safe
> when exposed to RFI. As cars are mostly plastic these
> days, I don't see how they would make a good faraday cage.
>
> If a cell phone on an airplane is un-safe because it
> might interfere with the on-board electronics, then
> the same might be true about all modern cars. The car
> manufactures must know how un-safe their cars are if
> they are making statements like using any radio that
> requires a license in your car will void your warranty.
>
> I would like to think that my car would be safe from
> cruse control malfunction if I drive by someone
> operating a 2 way radio.
>
> I am starting to doubt the safety of all modern cars.
> Perhaps the car manufacturers should put in some shielded
> wiring and lower their profit margins in order to ensure
> safety when consumers use their products in a world of
> wireless communication devices.
>
> Modern cars have a life threatening design flaw
> and they are trying to cover it up !
>

> --
> Chuck
>
>
> dj <DaleJ@nospam.com> wrote in message
> news:<DaleJ-34D25A.05094906052003@apollo-ge0.rdc-kc.rr.com>...
> > In article <fdb9e710.0305052351.14d75214@posting.google.com>,
> > google@geekdude.com (geekdude) wrote:
> >
> > > Zoran Brlecic <...WA7AA...@get.lost> wrote in message
> > > news:<3EB70137.5000306@get.lost>...
> > > > geekdude wrote:
> > > > > I just got off of the phone with Toyota.
> > > > > they told me that if a radio transmitter requires a license to
> > > > > operate,
> > > > > then it's too powerful to use in a 2003 Toyota.
> > > > >
> > > > > If you want to install a ham radio in your car without voiding your
> > > > > warranty,
> > > > > then I guess you should not buy a new Toyota like I did...
> > > >
> > > >
> > >
> > > I know I was talking to a Moron at Toyota
> > >
> > > I asked them if they wanted to reconsider making such a harsh statement
> > > regarding their product. They said that they had already checked this out
> > > with the department in charge of these things and that "any radio
> > > transmitter
> > > that requires a license to operate is too powerful to use in their
> > > vehicle
> > > without causing damage to the ECM because their engine uses so many
> > > sensors." "the fact that Toyota changed their manual for me in 1993 did
> > > not
> > > apply in this case because the ECM used in the 2003 4 Runner was more
> > > sensitive than the 1993 model". They are going to send me a written
> > > statement
> > > documenting this fact.
> > >
> > > I guess I should not drive next to my local 1.5 Megawatt AM radio station
> > > or
> > > my
> > > car might fail. Perhaps I should not slow down if a police car is behind
> > > me
> > > because they might transmit a radio signal that will cause me to have an
> > > accident.
> > > :-)
> > >
> > > The people working at the Toyota Customer Assistance Center are complete
> > > idiots

> > > that don't understand the first thing about radio frequency and radiated
> > > power.
> > >
> > > Perhaps the car I just purchased is total junk if the sensors are so
> > > sensitive that
> > > Toyota is afraid of a 500 mw GMRS HT.
> > >
> > > Toyota, are you listening ???
> > > You should clarify and change your rather harsh statement regarding this
> > > issue.
> > >
> > > --
> > > Chuck
> > >
> > > 500mw GMRS
> > >
> > >
> > > > You have apparently been talking to the Toyota Dept. of Morons, because
> > > > a license has nothing to do with power.
> > > >
> > > > WA7AA
> >
> >
> >
> > This might be part of the problem.
> >
> > http://www.antony-anderson.com/cruise/7-mech.htm

--
email: dalej2@mac.com

2620. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 20:56:45 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <ikVta.53603$cB3.406483@nnrp1.uunet.ca>
Source record: 118922
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

So does that mean that if you were an unlicensed CBer with a 100W linear you would be ok
in a Toyota?
I think maybe whoever in Toyota doesn't really understand what they are saying. I think maybe a talk with someone else in Toyota is in order. I would almost guess (and it's only a guess) they're probably concerned with interference with a computer somewhere in the vehicle, but wouldn't the operating frequency be more of a concern that the power output?
I wonder what would happen if you were driving down the road in your Toyota and someone was right beside you with a 2 meter rig and transmitted. Would you car all of a sudden become erratic?

Terry VE1TRB

"geekdude" <google@geekdude.com> wrote in message news:fdb9e710.0305051520.72c2b135@posting.google.com...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/2003

2621. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:06:36 UTC
From: tdonaly@aol.com
Message-ID: <20030506170636.21120.00000684@mb-m15.aol.com>
Source record: 118923

Cecil wrote,
>
>Tdonaly wrote:
>> I think you need to do some more cogitating, Cecil. The above is a nice
>> collection of declarative sentences, but there is absolutely no attempt at
>> proof, either of the logical or experimental kind.
>
>I have measured the SWR in a stub and can report that it is virtually
>infinite. You are going to laugh at yourself when you try explain the
>following:
>
>Source---+-----------1001/4 WL lossless stub---------------short
>
>Are you saying that there will be no forward and reflected
>current in that 1001/4 WL stub? - that an SWR meter won't read
>near infinity? Methinks thou hast been seduced by thy shortcuts.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

That's pretty much the reply I expected to get from you, Cecil. Other
people have learned how superposition works. Evidently, in your case
the instruction failed. Carry on, Cecil, I can see that any effort on my
part to educate the uneducable will be a waste of effort.
73,
Tom Donaly

2622. Burn all toyotas..no BURN EVERYTHING!! YEAH!! Geeeezzzzz

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:16:36 UTC
From: radioranch <radioranch@qth.com>
Message-ID: <3EB82634.6050604@qth.com>
Source record: 118924
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

geekdude wrote:
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

2623. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:24:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hh9gbvc33gtjlodgni0ndvrh0qtbk2559k@4ax.com>
Source record: 118925

On Tue, 06 May 2003 12:40:27 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Let's just leave it at those who dwell on reflections as the sole
>> source of Virtual Images spend too much time in front of a mirror.
...
>it is produced by real reflections,
>not by reflections that are not really there.
:-)
"I never saw a purple cow,
I hope to never see one,
but I can tell you this,
I'd rather see one than be one."
>
...
>
>So since you disagree with me, it is your turn to prove...

You asked for a reference, and you have yet to respond to it. Stop
admiring yourself in the mirror and carry your own water.

73's
Richard Clark, KB7QHC

2624. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:31:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ot9gbvcucu8bb6e01fp1evgat4rmlb7p0u@4ax.com>
Source record: 118926

On Tue, 06 May 2003 12:47:34 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:
>>all virtual
>> images and objects depend upon real reflected light. Hint: When
>> you see a bird in the yard, you are actually receiving reflected
>> light from that bird. Please set up a demonstration of a virtual
>> image where the reflected light is not real.
>
>Maybe you should try reading it out loud, Cecil:
>
>Virtual images are created by lenses. Reflectors create reflected
>images, not virtual images.

Hi Jim,

My clue didn't take a very deep reach, now, did it? I can tell you
didn't want this to drag out a week, littered with clues lost.

And yet Cecil still has a 50-50 chance of picking the wrong lens (for
the rest of you, an media interface with curvature - like the
ionosphere).

73's
Richard Clark, KB7QHC

2625. Re: shorted 160 meter 1/4 wave stub data

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:42:26 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <EDOdnY8H98PVsSWjXTWcoQ@crocker.com>
Source record: 118927

seems reasonable. computing backwards that gives rg8x about .25db/100' loss
at 1.9mhz, and the ultraflex somewhere around .1db/100' (harder to match
that without the peak, but you get the idea).

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:vbg4sh8o9s6b16@corp.supernews.com...
> Two shorted 160 meter 1/4 wave stubs and an MFJ 269 generated these data.
> The analyzer cannot quantify R>1500; It just displays ">1500".
> "RG8X" refers to Amelco RG8X, "RG8" refers to Times Microwave Ultraflex
> cable.
>
> frequency R in ohms
> MHz RG8X RG8
> 1.80 195 295
> 1.81 228 350
> 1.82 267 410
> 1.83 323 500
> 1.84 380 590
> 1.85 464 695
> 1.86 564 820
> 1.87 670 1000
> 1.88 789 >1500
> 1.89 880 >1500
> 1.90 929 >1500
> 1.91 918 >1500
> 1.92 835 >1500
> 1.93 715 1000
> 1.94 604 825
> 1.95 515 700
> 1.96 403 595
> 1.97 333 500
> 1.98 304 423
> 1.99 253 378
> 2.00 235 325
>
> 73
> H.
> NQ5H
>
>
> --
> "The dinosaurs did not have a space program.
> That's why they died."
>

>

2626. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:44:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB82CAF.FB6730C7@uci.edu>
Source record: 118928

OC_CAM's Razor wrote:
> OK then, you should be able to easily answer this question:
>
> Source---------Z--+---------feedline----------mismatched load
> | sw
> +--/ --------circulator with load resistor
>
> What we have is a Z0-matched system with the ability to switch in
> and out a circulator with load resistor. Whether the switch is
> in or out doesn't affect the source during steady-state. The switch
> is in a box and its position is unknown. Call it Schrï¿½dinger's switch,
> if you will. The reflected power at the load needs to make a decision.
> If it is going to be canceled at the Z0-match point, it cannot bring
> any reflected energy back with it from the load. But if it is going
> to heat up the circulator resistor, it does need to bring that energy
> along with it. Which decision does the reflected energy make, Jim?

Depends. In one place you mention a Z-match, and in another you
describe a mismatched load. Your circulator is missing a port. You
should have called it Shrodinger's Frankenstein.

Bottom line is, if there are reflections from the load (and the
circulator is connected in some meaninful way) the circulator load
resisitor will heat up. If the load is matched, then it won't. In
either case, energy doesn't wander around wondering which way to go.
Circuit conditions dictate where it will end up, and it goes directly
there.

73 de ac6xg

2627. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:50:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB82E18.30007@ieee.org>
Source record: 118929

Richard Harrison wrote:
> If you
> don`t have any loss to start with, 4 times nothing is still nothing.

Where do you buy that lossless transmission line? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2628. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:51:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b99ao5$i05$1@hercules.btinternet.com>
Source record: 118930

Cecil, have you tried offering an apple to the teacher? ;o)

2629. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:54:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB82F29.8020005@ieee.org>
Source record: 118932

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>>There's no before or after.
>>
>>Whew, now time doesn't even exist. :-) I'm afraid I'm not up to
>>arguing that one.
>
> What part of the expression "steady state" don't you understand?

No before and after during steady-state? During steady-state, during each cycle, the voltage goes from zero to maximum and back to zero. The zero is before the maximum which is before the next zero. Like I say, this ain't rocket science.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2630. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 21:55:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6hbgbv4vvc8m7rpa9dr1p89v1447he3nk0@4ax.com>
Source record: 118931

>Cecil, have you tried offering an apple to the teacher? ;o)
>
or a bowl of Chateau Neuf-de-Pape for the guru? ;-)

2631. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:12:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB83353.7090104@ieee.org>
Source record: 118933

Jim Kelley wrote:
> Virtual images are created by lenses. Reflectors create reflected
> images, not virtual images.

What light do lenses deal with? Usually reflections. Everything I see around me in my hamshack is a reflection except for my computer display.

Here's what I said: "Seems to me, a virtual image is produced by real reflections." The meaning is that virtual images are usually created using real reflected light originally reflected from the imaged object.

So let's see your virtual image created from something besides the original reflections from the original object being imaged. You might need a little help from Richard C. to accomplish that feat.
--
73, Cecil http://www.qsl.net/w5dxp

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2632. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:14:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB833D5.90D92EAF@uci.edu>
Source record: 118935

OC_CAM's Razor wrote:
> There are no matched loads in my entire
> article.

I was probably just misled by the caption for Fig 3. which reads
"Steady-State Energy Flow Diagram for a Matched System".

2633. 3/4 wave radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:16:21 UTC
From: Alex <piratearchive1@rogers.com>
Message-ID: <VuWta.123378$kYH.3053@news01.bloor.is.net.cable.rogers.com>
Source record: 118934

Does anyone have a link that would show me the radiation pattern for a 3/4 wave hf vertical?

2634. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:23:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB835E9.B45F5D8D@uci.edu>
Source record: 118939

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:

> > What part of the expression "steady state" don't you understand?
>
> During steady-state, during
> each cycle, the voltage goes from zero to maximum and back to zero.
> The zero is before the maximum which is before the next zero.

That's as good an answer as any, I suppose. :-)

ac6xg

2635. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:24:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8362B.9020200@ieee.org>
Source record: 118938

Jim Kelley wrote:
> Your equation presumes cos theta equals one.

Because your original statement presumes cos theta equals one. I just adopted what you were telling me. Apparently you don't realize that you cannot obtain your "four times I" value unless cos theta equals one.

>>There are no loads at all in Fig. 3. There are no matched loads in my entire
>>article. There is always a Pref2 being reflected from the load proving that
>>it is always a mismatched load.
>
> No load at all, huh. How do you manage to match to an infinite load
> impedance?

The load in Fig. 3 is completely unknown, Jim, is not shown in the drawing, and can assume an infinite number of values. Would you please confine yourself to the truth about my article? Virtually everything you have said about it is false.

>>A directional wattmeter
>>actually de-superposes the voltages and currents into forward and
>>reflected components.
>
> Sure thing, Cec. ;-)

Maybe if you understood how a Bird wattmeter works, it would help.
--
73, Cecil http://www.qsl.net/w5dxp

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2636. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:26:00 UTC
From: Doug Graves <res0pxse@verizon.net>
Message-ID: <YDWta.2716$WA3.508@nwrddc03.gnilink.net>
Source record: 118936
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

So it is better to buy a car or truck made by Ford or GM that is assembled in Canada or Mexico than to by a Toyota or Honda that is assembled in Ohio, Kentucky, or Tennessee with US made parts?

A little further research should reveal that as long as the transmitting antenna is located away from the on board computers, there is no issue. As an example, The transmitting antenna should not be installed on the front passenger side on the 2003 Toyota Camry (Assembled in Georgetown KY with US labor) since the main engine computer in located in that corner of the passenger compartment.

"Outsourced" <nospam@nospam.com> wrote in message
news:r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com...
> Next time buy a vehicle that doesn't decimate the US machine tool
> industry from a company that hires U.S. engineers. Or uses the U.S.
> as a source of cheap, compliant labor. Sort of like a third world
> country.
>
> On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
>
> >I just got off of the phone with Toyota.
> >they told me that if a radio transmitter requires a license to operate,
> >then it's too powerful to use in a 2003 Toyota.
> >
> >If you want to install a ham radio in your car without voiding your
warranty,
> >then I guess you should not buy a new Toyota like I did...
> >
> >- 73
> >KC6SOZ
>

2637. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:26:01 UTC
From: Doug Graves <res0pxse@verizon.net>
Message-ID: <ZDWta.2717$WA3.480@nwrddc03.gnilink.net>
Source record: 118937
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

So it is better to buy a car or truck made by Ford or GM that is assembled in Canada or Mexico than to by a Toyota or Honda that is assembled in Ohio, Kentucky, or Tennessee with US made parts?

A little further research should reveal that as long as the transmitting antenna is located away from the on board computers, there is no issue. As an example, The transmitting antenna should not be installed on the front passenger side on the 2003 Toyota Camry (Assembled in Georgetown KY with US labor) since the main engine computer in located in that corner of the passenger compartment.

"Outsourced" <nospam@nospam.com> wrote in message
news:r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com...
> Next time buy a vehicle that doesn't decimate the US machine tool
> industry from a company that hires U.S. engineers. Or uses the U.S.
> as a source of cheap, compliant labor. Sort of like a third world
> country.
>
> On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
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> >then it's too powerful to use in a 2003 Toyota.
> >
> >If you want to install a ham radio in your car without voiding your
warranty,
> >then I guess you should not buy a new Toyota like I did...
> >
> >- 73
> >KC6SOZ
>

2638. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:29:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB8374B.CC13E5F9@uci.edu>
Source record: 118940

OC_CAM's Razor wrote:
> So let's see your virtual image created from something besides the
> original reflections from the original object being imaged.

It's a point. <8-|

2639. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:29:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8374B.8060404@ieee.org>
Source record: 118941

Tdonaly wrote:
> Cecil wrote,
>>Are you saying that there will be no forward and reflected
>>current in that 1001/4 WL stub? - that an SWR meter won't read
>>near infinity? Methinks thou hast been seduced by thy shortcuts.
>
> That's pretty much the reply I expected to get from you, Cecil. Other
> people have learned how superposition works. Evidently, in your case
> the instruction failed. Carry on, Cecil, I can see that any effort on my
> part to educate the uneducable will be a waste of effort.

I told you you were going to laugh at yourself. This ain't rocket science.
A stub has the worst SWR possible and therefore the highest losses possible.
I have measured it. Please feel free to do so for yourself.
--
73, Cecil http://www.qsl.net/w5dxp

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2640. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:30:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB83795.70501@ieee.org>
Source record: 118943

Richard Clark wrote:
> You asked for a reference, and you have yet to respond to it.

I haven't seen any reference from you, just carping and harping.
--
73, Cecil http://www.qsl.net/w5dxp

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2641. Re: shorted 160 meter 1/4 wave stub data

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:30:57 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <G3-dnVuKOeswqiWjXTWcpA@crocker.com>
Source record: 118942

oops, me bad, did 1/2 wave open instead of 1/4 shorted... make that about .5db/100' for the rg8x and .25db/100' for the ultraflex.

"David Robbins" <k1ttt@arrl.net> wrote in message news:EDOdnY8H98PVsSWjXTWcoQ@crocker.com...
> seems reasonable. computing backwards that gives rg8x about .25db/100' loss
> at 1.9mhz, and the ultraflex somewhere around .1db/100' (harder to match
> that without the peak, but you get the idea).
>
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> news:vbg4sh8o9s6b16@corp.supernews.com...
> > Two shorted 160 meter 1/4 wave stubs and an MFJ 269 generated these data.
> > The analyzer cannot quantify R>1500; It just displays ">1500".
> > "RG8X" refers to Amelco RG8X, "RG8" refers to Times Microwave Ultraflex
> > cable.
> >
> > frequency R in ohms
> > MHz RG8X RG8
> > 1.80 195 295
> > 1.81 228 350
> > 1.82 267 410
> > 1.83 323 500
> > 1.84 380 590
> > 1.85 464 695
> > 1.86 564 820
> > 1.87 670 1000
> > 1.88 789 >1500
> > 1.89 880 >1500
> > 1.90 929 >1500
> > 1.91 918 >1500
> > 1.92 835 >1500
> > 1.93 715 1000
> > 1.94 604 825
> > 1.95 515 700
> > 1.96 403 595
> > 1.97 333 500
> > 1.98 304 423
> > 1.99 253 378
> > 2.00 235 325
> >
> > 73
> > H.

> > NQ5H
> >
> >
> > --
> > "The dinosaurs did not have a space program.
> > That's why they died."
> >
> >
>
>

2642. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:34:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8388E.4020606@ieee.org>
Source record: 118944

Richard Clark wrote:
> And yet Cecil still has a 50-50 chance of picking the wrong lens (for
> the rest of you, an media interface with curvature - like the
> ionosphere).

Use whatever lens you chose, Richard. Please demonstrate a virtual
image without using real reflections from the object being imaged.
We are patiently waiting for your miracle.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2643. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:45:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB83B07.ADE7962D@uci.edu>
Source record: 118945

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Your equation presumes cos theta equals one.
>
> Because your original statement presumes cos theta equals one.

No it does not. Hecht: "For I1=I2, I = 4*I1 cos^2 theta/2. The
interference pattern varies as the cosine squared."

You really should give it up, Cecil, unless you absolutely refuse to
admit an error of course.

2644. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:49:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB83C00.7040008@ieee.org>
Source record: 118946

Jim Kelley wrote:
> Depends. In one place you mention a Z-match, and in another you
> describe a mismatched load. Your circulator is missing a port. You
> should have called it Shrodinger's Frankenstein.

Is that your best objection? I'm not an ASCII Rembrandt? A Z0-match
is a match point. The load is at the end of the transmission line and
it is mismatched. Thus the reflected wave.

> Bottom line is, if there are reflections from the load (and the
> circulator is connected in some meaninful way) the circulator load
> resisitor will heat up. If the load is matched, then it won't. In
> either case, energy doesn't wander around wondering which way to go.

It has to do exactly that if it is following your ideas, Jim. According
to you, when the circulator is switched in, the reflected wave carries
energy. When the circulator is switched out the reflected wave carries
no energy. The reflected wave has to know ahead of time whether the switch
is closed or not. Thus your contradiction. You simply cannot have it both
ways. The reflected wave either carries energy or it doesn't. If it doesn't
it cannot heat up the load resistor. If it does, your theory falls flat on
its face.

So here's the question again. We know the reflected wave is carrying energy
because the switch is closed and the circulator load is hot. Some sneaky
person throws the switch without the reflected wave knowing it. The reflected
wave arrives with all that energy and no circulator load to dissipate it in.
When the reflected wave undergoes wave cancellation at the Z0-match point,
what does the reflected wave do with all that intrinsic energy, Jim? Do you
think it is sheer random coincidence that it is exactly the magnitude of
energy needed for the constructive interference process?
--
73, Cecil http://www.qsl.net/w5dxp

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2645. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:54:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB83D36.1090603@ieee.org>
Source record: 118947

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>There are no matched loads in my entire
>>article.
>
> I was probably just misled by the caption for Fig 3. which reads
> "Steady-State Energy Flow Diagram for a Matched System".

It's a Z0-matched system with a mismatched load, for God's sake.
How else could it have reflections from the load?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2646. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 22:55:35 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b99eii$2hh$1@slb3.atl.mindspring.net>
Source record: 118948
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Good points, especially about the assembled in USA stuff.

One more issue, and just trying to be a smart alec here. If real metal was used...even that issue would be reduced.

Dan/W4NTI

"Doug Graves" <res0pxse@verizon.net> wrote in message news:YDWta.2716$WA3.508@nwrddc03.gnilink.net...
> So it is better to buy a car or truck made by Ford or GM that is assembled
> in Canada or Mexico than to by a Toyota or Honda that is assembled in Ohio,
> Kentucky, or Tennessee with US made parts?
>
> A little further research should reveal that as long as the transmitting
> antenna is located away from the on board computers, there is no issue. As
> an example, The transmitting antenna should not be installed on the front
> passenger side on the 2003 Toyota Camry (Assembled in Georgetown KY with US
> labor) since the main engine computer in located in that corner of the
> passenger compartment.
>
>
> "Outsourced" <nospam@nospam.com> wrote in message
> news:r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com...
> > Next time buy a vehicle that doesn't decimate the US machine tool
> > industry from a company that hires U.S. engineers. Or uses the U.S.
> > as a source of cheap, compliant labor. Sort of like a third world
> > country.
> >
> > On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
> >
> > >I just got off of the phone with Toyota.
> > >they told me that if a radio transmitter requires a license to operate,
> > >then it's too powerful to use in a 2003 Toyota.
> > >
> > >If you want to install a ham radio in your car without voiding your
> warranty,
> > >then I guess you should not buy a new Toyota like I did...
> > >
> > >- 73
> > >KC6SOZ
> >
>

>

2647. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:02:04 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-A81AF7.18011706052003@apollo-ge0.rdc-kc.rr.com>
Source record: 118949
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Ya but, if the warranty is voided by using rf producing equipment then
no matter what you do to reduce the problem will do you no good. Your
warranty is still voided.

I would buy from a car company which supplies to the police deptments
and has sheilded computers with rfi protection, make them say that.
Otherwise I'll just buy old used vehicles. lets face the facts, the
new cars and trucks out there are $30k, $40k ect and to spend that much
and to be told that you can't use your little old ham radio for fear of
voiding the warranty or recking the dumb computer thingystuff then I
would tell them to stick it where the sun never shines.

I had been thinking of buying a Toyota van, but now I think I'll just
pass.

73
Dale

In article <ZDWta.2717$WA3.480@nwrddc03.gnilink.net>,
"Doug Graves" <res0pxse@verizon.net> wrote:

> So it is better to buy a car or truck made by Ford or GM that is assembled
> in Canada or Mexico than to by a Toyota or Honda that is assembled in Ohio,
> Kentucky, or Tennessee with US made parts?
>
> A little further research should reveal that as long as the transmitting
> antenna is located away from the on board computers, there is no issue. As
> an example, The transmitting antenna should not be installed on the front
> passenger side on the 2003 Toyota Camry (Assembled in Georgetown KY with US
> labor) since the main engine computer in located in that corner of the
> passenger compartment.
>
>
> "Outsourced" <nospam@nospam.com> wrote in message
> news:r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com...
> > Next time buy a vehicle that doesn't decimate the US machine tool
> > industry from a company that hires U.S. engineers. Or uses the U.S.
> > as a source of cheap, compliant labor. Sort of like a third world
> > country.
> >
> > On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
> >
> > >I just got off of the phone with Toyota.
> > >they told me that if a radio transmitter requires a license to operate,
> > >then it's too powerful to use in a 2003 Toyota.

> > >
> > >If you want to install a ham radio in your car without voiding your
> warranty,
> > >then I guess you should not buy a new Toyota like I did...
> > >
> > >- 73
> > >KC6SOZ
> >
>
>
>

--
email: dalej2@mac.com

2648. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:13:02 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305061513.7bf74674@posting.google.com>
Source record: 118950

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EB7F19D.70104@ieee.org>...
> Richard Harrison wrote:
> > CAM, W5DXP wrote:
> > "A (short-circuit 1/4-wave) stub does not block current from flowing
> > into and out of the stub itself."
> >
> > Perhaps not. The final 1/4-wave of a shorted transmission line is in
> > fact a shorted 1/4-wave stub. 1/4-wave back from the zero impedance of a
> > short on the line, current is very nearly zero and voltage is maximum.
>

I agree with Richard here, if you look at the Smith Chart, and
start at the short (zero impedance point), and move "towards the
generator" 1/4 wavelength, you will hit infinite impedance, which is
an open. This is all under idea conditions.

So the current would be very nearly zero at the input to the 1/4
wave stub.

>
> The current in the stub is no different from the current just outside
> the stub. Consider the following lossless example:
>
> Source---------------coax---------------x-----1/4WL coax-----short
>
> Why would the forward current and reflected current be any different
> at point 'x' than anywhere else? It's not. The forward current and
> reflected current is the same all up and down the transmission line
> including inside the stub. No reflections happen at point 'x'. All
> reflections happen at the short. The SWR is infinite all up and down
> the feedline including inside the stub.
>

With all due respect, Richard is correct on this one, Cecil. The
current flowing through the coax is not a DC current, so it is not the
same everywhere on the line. In a loss-less system, there zero
current flowing at point "x" at any time. At point "x", the voltage
peaks at a maximum (+) and a minumum (-) alternately, BUT NO CURRENT
EVER FLOWS THROUGH THIS POINT!

Conversely, at the short, the voltage is ALWAYS ZERO, but there
is a maximum current swing in BOTH directions, which alternates.

These points of peak voltages and peak currents alternate through
the entire line every 1/4 wavelength, beginning with current peak at
the short.

> > In fact, if the stub were lossless, the current into the stub
> > would be zero. Look at the wave charts for transmission lines in any
> > good text for confirmation.
>

Agreed Richard, see above.

> That is an old wives' tale, Richard. The SWR in a lossless stub would
> be infinite. Forward current flows unimpeded into the stub. Reflected
> current flows unimpeded out of the stub. Forward current and reflected
> current have no effect on each other.
>

Incorrect Cecil, no current should flow into the stub, see above.

> The current you are talking about above in the text is the current
> in the rest of the system, not in the stub. Stubs, with their near
> infinite SWR are as lossy as they can possibly be.

You just stated that, "The SWR in a lossless stub would
be infinite." This would be true is the stub is shorted or open.

But then you say, "Stubs, with their near
infinite SWR are as lossy as they can possibly be." Which is contrary
to what you just said, and is incorrect because any loss would make
the magnitude of the reflection coefficient less than one, which would
give you a less than infinite SWR.

Dr. Slick

2649. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:33:07 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <SCXta.231867$Si4.185410@rwcrnsc51.ops.asp.att.net>
Source record: 118951

So do I. One word per lifetime.
"Fred Wall, Jr" <nf8w@earthlink.net> wrote in message
news:9OHta.57868$4P1.5332038@newsread2.prod.itd.earthlink.net...
Excellant answer! Now I feel better as I think "Code Requirements" should
stay.

2650. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:33:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB84649.90104@ieee.org>
Source record: 118953

Jim Kelley wrote:
> Hecht: "For I1=I2, I = 4*I1 cos^2 theta/2. The
> interference pattern varies as the cosine squared."

Jim, you said "When I1=I2, ... the intensity in constructive
interference is four times I."

There is absolutely no mention of any cos or cos^2 term in your
original statement so if it exists, it has to be equal to one.
That's all I said. I was just inferring from what you said.

The only way for I=4*I1 is for the cos^2 term to be equal one.

> You really should give it up, Cecil, unless you absolutely refuse to
> admit an error of course.

Apparently you consider my trying to understand what you are saying
to be an error on my part. I really feel sorry for your students.
--
73, Cecil http://www.qsl.net/w5dxp

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2651. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:33:32 UTC
From: Hambone the Magnifico <paintcanfullofpcb@amishonline.com>
Message-ID: <3eb8463f$1@snipnews.snip.net>
Source record: 118952
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"geekdude" <google@geekdude.com> wrote in message
news:fdb9e710.0305061010.3b6abf03@posting.google.com...
> wb4mleAT@surfbestDOT.net wrote in message
news:<cihfbv031e0u85n4vm3nmhnue4bvlidri8@4ax.com>...
> > In this news thread geekdude commented:
> >
> > >I just got off of the phone with Toyota.
> > >they told me that if a radio transmitter requires a license to operate,
> > >then it's too powerful to use in a 2003 Toyota.
> > >
> > >If you want to install a ham radio in your car without voiding your
warranty,
> > >then I guess you should not buy a new Toyota like I did...
> > >
> > I got an email from Toyota in February 2003 (for my 2003 Corolla)
> > advising what types (type accepted), power up to 100 watts, and how to
> > properly locate, space and route your cabling. I cannot copy the email
> > to this list as I respect email manners. Not sure but I think I
> > submitted thru toyota.custhelp.com web site(you have to register as a
> > Toyota owner).
>
> I received a similar letter in 1994 for my 1993 Toyota 4Runner.
> Here is a link to that letter:
> http://www.geekdude.com/toyota-rfi-1994/
>
> I expected the same type of response this time.
> The response I got yesterday was totally unacceptable.
>
> --
> Chuck

Same thing goes for Subaru.

My owners manual for my 2002 Forester
clearly says not to install any kind of a
transmitter within the car as it will foul-up
operation of the Emissions Computer and
the Electronic Antilock Braking System
and Keyless Entry system.

2652. SOLNOID2.exe

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:45:18 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b99hee$1ta$1@hercules.btinternet.com>
Source record: 118954

Following the recent hullabaloo on this newsgroup -

NOW AVAILABLE ** New issue of Program SOLNOID2.exe

This popular program calculates inductance and other characteristics of single-turn loops and multi-turn coils, from solenoids, via helicals to (almost) straight lengths of wire. For a given test frequency the tuning capacitor value, coil impedance, two values of Q, etc., are computed. A useful statistic when designing coils for use in tuners, PA tanks and antenna loading coils etc., is the watts dissipated in the coil for given RF volts across it. The stray capacitance and self-resonant frequency may also be useful in some applications.

After two years an error has recently been detected by an observant and very persistent "Richard" to whom I am grateful. For very small numbers of turns combined with small wire diameters-to-winding pitch ratios, the calculated values of wire diameter and pitch returned to the user are incorrect. The error is greatest for 2 turns. However, the calculated inductance is correct for any number of turns including one.

The error has now been corrected and the opportunity taken to include a few minor operating improvements. The name of the new issue remains unchanged. The issue date on the facing page of the introductory text has been changed from 2000 to 6th May 2003.

You are cordially invited to download this new issue and use it to overwrite the old. Hic!

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

2653. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:49:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB849F0.C948EFBE@uci.edu>
Source record: 118955

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> > >
> >>There are no matched loads in my entire
> >>article.
> > >
> > > I was probably just misled by the caption for Fig 3. which reads
> > > "Steady-State Energy Flow Diagram for a Matched System".
> >
> > It's a Z0-matched system with a mismatched load, for God's sake.
> > How else could it have reflections from the load?

It's ridiculous to discuss _energy_ reflections from a load in which all the _energy_ from the source is delivered to the load. When the fields in the reflected waves cancel, as is the case in the steady state in an impedance matched system, _energy_ is not reflected, or re-reflected. _Energy_, real useable energy, simply isn't transferred back and forth in the way you envision.

(V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But their field cancellation represents zero energy transfer. Your mistake is in trying to make power (a virtual commodity in transmission lines), V3*I3 interfere with V4*I4. That simply cannot and does not happen. It's a conceptual error supported only by a math error.

Energy is only reflected in a mismatched system, and even then it is only that portion of the total energy represented by the uncancelled portions of the reflected waves; that for which the net fields are non-zero in the direction of interest. That is the benchmark in any situation in which travelling waves combine non-ortohogonally.

73, AC6XG

2654. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:55:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB84B82.1090502@ieee.org>
Source record: 118956

Dr. Slick wrote:
> I agree with Richard here, if you look at the Smith Chart, and
> start at the short (zero impedance point), and move "towards the
> generator" 1/4 wavelength, you will hit infinite impedance, which is
> an open. This is all under idea conditions.
>
> So the current would be very nearly zero at the input to the 1/4
> wave stub.

If you think zero current flows inside a stub, simply measure the currents with a directional wattmeter and calculate the RMS value of the forward and reflected current. They are at their maximum values. Losses are as high as can be.

> With all due respect, Richard is correct on this one, Cecil. The
> current flowing through the coax is not a DC current, so it is not the
> same everywhere on the line. In a loss-less system, there zero
> current flowing at point "x" at any time. At point "x", the voltage
> peaks at a maximum (+) and a minumum (-) alternately, BUT NO CURRENT
> EVER FLOWS THROUGH THIS POINT!

Forward and reflected current flow through that point undiminished. The fact that they add to zero doesn't mean they don't exist.

> These points of peak voltages and peak currents alternate through
> the entire line every 1/4 wavelength, beginning with current peak at
> the short.

Those are NET superposed values. The values of the forward and reflected voltages and currents remain relatively constant and flow uninhibited at the mouth of the stub.

> Incorrect Cecil, no current should flow into the stub, see above.

You are obviously talking about NET superposed current. I am talking about forward current and reflected currents. There is *absolutely nothing* to arrest the forward current flow into the stub. There is *absolutely nothing* to arrest the reflected current flow out of the stub. There is nothing to arrest either one of those currents. Like I say, if you don't believe me, use a directional wattmeter in the middle of the stub.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2655. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-06 23:56:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB84BB4.221925BF@uci.edu>
Source record: 118957

OC_CAM's Razor wrote:
> According
> to you, when the circulator is switched in, the reflected wave carries
> energy. When the circulator is switched out the reflected wave carries
> no energy.

I said no such thing. Besides how can the load resistor on the
circulator can't heat up when it's not in circuit?

You're not as smart as you think if that's what you think I've been
talking about for all these weeks. My comments have been strictly
limited to Fig. 3 in your paper; "a Matched System" in which all of the
power is presumably delivered to the load.

2656. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:01:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99id0fmn1@slb0.atl.mindspring.net>
Source record: 118958

Cecil:

[snip]
> One could introduce predictable jitter using a DDS generator to
> make the problem easy to identify.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[sip]

Sounds like Michelson's experiment to prove there really was an "aether"
only in you case, you are trying to prove that there really are echos.

;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2657. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:04:59 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99ijd$t7c$1@slb6.atl.mindspring.net>
Source record: 118959

Richard:

[snip]
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:13676-3EB7AF21-323@storefull-2315.public.lawson.webtv.net...
> Peter, K1PO wrote:
> "You simply can`t do it (show reflections exist in the r-f steady-state)
> because they don`t exist!"
>
> An example is the short-circuit 1/4-wave stub.
[snip]

That is nothing more than a distributed parallel LC tank circuit, where's
the echos in the steady state.

Sure there are echos if you pulse it or otherwise exite it in the transient
state, but in the steady state
the stored energy just sloshes back and forth between the distributed C and
L just as in the tank.

Got any more objections?

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2658. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:07:30 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99io4gnq1@slb1.atl.mindspring.net>
Source record: 118960

Tom:

[snip]
"Tdonaly" <tdonaly@aol.com> wrote in message
news:20030506144131.25304.00000466@mb-m23.aol.com...
> either of the logical or experimental kind. In particular, you should
> re-examine
> your ideas on the superposition of waves, and even more, on how you think
> charge
> can travel in two directions at the same time, in the same place,
> bearing in mind that charge is a conserved quantity.
> 73,
> Tom Donaly, KA6RUH
[snip]

Well said Tom!

--
Peter K1PO
Indialantic By-the-Sea, FL

2659. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:11:00 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99iulpdn1@slb0.atl.mindspring.net>
Source record: 118961

Richard:

[snip]
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:13676-3EB7D27A-372@storefull-2315.public.lawson.webtv.net...
> Peter, K1PO wrote:
>
> "I challenge anyone to show me "hard evidence" of these steady state
> echos---."
>
> "The change of load impedance presented to an r-f generator, from either
[snip]

Did I detect the word "change"?

Change is transient the last time I checked!

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

2660. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:22:07 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99jjh$s$1@slb2.atl.mindspring.net>
Source record: 118962

Cecil:

[snip]
> Jitter from echoes can kill wireline modem communications. If there is no
> such thing as reflections, why is echo cancellation necessary?
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Well now you've entered the spiders web.

You mean phase jitter or actual phase rotation of echos from distant unsynchronized analog wire line carrier systems.

It doesn't really exist any more in today's world but back when it did, your modem's echo canceller had better dang well be able to accomodate "echo roll" or else it was/is dead. But then the ones I designed always did. I remember testing our first "rolling echo canceller" on the "M to M" circuits... Miami, FL to Melbourne, Austrailia and Miami, FL, to Moscow, Russia. They were the only two places in the world which still had unsynchronized analog carrier systems. There were no line simulators available then that could emulate far end phase roll so we had to make the calls to prove the design. But I can tell you here and now that none of today's modems implements that kind of echo canceller! Heh, heh...

It just so happens that I spent about 1/2 my career on the research, conception, architecture, design, DSP programming and manufacturing of wire line modems.

I don't think you wanna go there with me.

Cecil, I'll say again, there *are* reflections, in the transient state, but there are *no* reflections in the steady state. In between those states, as the transients die out, and the steady state regime settles in, the echos are dying out and are no longer supported after the appropriate number of time constants has passed.

Long live echos...

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2661. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 00:33:57 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b99k9o$u50$1@slb1.atl.mindspring.net>
Source record: 118963

Cecil:

Intel was a great company, probably still is. If for no other reason than
it was/is run by "techies" and not MBA/crooks!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB5D617.3060409@ieee.org...
> Peter Brackett wrote:
> > You got two guesses as to his major.
>
> Most of Intel's upper management were physicists.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2662. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 01:02:21 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <ugmgbvk91b20qfoh494c299lkvq3rtldcr@4ax.com>
Source record: 118964

On Mon, 05 May 2003 20:47:54 -0500, 'Doc <w5lz@cwis.net> wrote:
>
>helmsman,
> The short answer is, no. The slightly longer answer
>is, maybe, depends on the frequency, (but short answer
>still applies). It depends on the loss per 100 feet at
>a particular frequency range.
> 'Doc

Disagree. Ever push 100 watts into 50 feet of RG-174
at 28 MHz (or even 21 or 14) and see what comes out the
other end? It's pretty lossy stuff.

Yes, an extreme example, but regardless of what the
studies say, size DOES matter ;-)

-fb-

2663. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 01:39:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB863D8.5A04F2FA@uci.edu>
Source record: 118965

OC_CAM's Razor wrote:
> Apparently you consider my trying to understand what you are saying
> to be an error on my part. I really feel sorry for your students.

I have some degree of patience with the students. I would begin to lose
patience when in trying to understand, they made insulting remarks,
ignored what I said to them, and argued with things that I hadn't said.
Thank God I've never encountered such a student.

ac6xg

2664. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 01:49:24 UTC
From: MDT Tech® <ssauer4O@repairman.com>
Message-ID: <3EB86624.1090901@repairman.com>
Source record: 118966
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

dj wrote:
> I doubt it would lower their profit very much, but these big outfits
> want to max out every penny they can. I bet a few dollars per unit
> would rfi proof the cars. I would like to see consumers report provide
> a article regarding this or at least include it in the annual car
> review. If it's an illuminating problem then and only then will they do
> something about it. The old saying goes, the squeeky wheel gets the
> grease, it still holds true.
>
> By the way, I would have to think the police vehicles are rfi proofed??
>
> Buy American maybe huh...
>
> 73
> Dale

Dale, has nothing to do with US made. I'm a ham, I run ham radios in all my Toyotas with zero trouble. I see plenty of hams come in with their Toyotas and they seem to come in on their own power. I have NEVER seen a ham radio make a Toyota fail.

2665. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 02:06:33 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <JSZta.17336$Lm2.1026563@twister.southeast.rr.com>
Source record: 118967

This is the answer to what you asked but I bet it is not the answer you want. OD effects loss of smaller coax by forcing the center conductor to be smaller to meet impedance specs. So yes, Smaller coax will have higher losses than larger coax.

"helmsman" <helmsman@mindspring.com> wrote in message news:btmdbvkjvlo3sf4shcod73fvjobogduqnc@4ax.com...
> At 100 watts being used for a dipole about 50 ft away from the
> tranceiver, doe's the phisical size (large or small od) of coax make
> any difference.
> TIA
> Boycott France and there products
> and find another place to vacation.
> The U.N is a JOKE!!!!

2666. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 02:31:08 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <b99r5cckk0@208.206.142.111>
Source record: 118968

'Doc wrote:

> Wes Stewart wrote:
>
> > Actually, I do have a Bird with a crossed needle meter and a dual
> > inline sampler, but it's on the two meter rig. I use a 2500W slug
> > forward and a 250W slug reverse, but I don't use no stinkin' tuner.
>
> Good for you (about the 'stinking' tuner)! I don't
> use one on two meters either. But then, I didn't waste
> money on a Bird... either.

I bought a nice shiny Bird 43 once... piece of junk. Sold it and kept my
Drake W4.

Dick

2667. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 02:33:11 UTC
From: richardharrison@webtv.net
Message-ID: <13678-3EB87067-55@storefull-2315.public.lawson.webtv.net>
Source record: 118819

CAM, W5DXP wrote:
"There is "absolutely nothing" to arrest the forward current into the stub."

I noted that was so in the case of the final 1/4-wave of a shorted transmission line, but I meant to imply that was not the usual 1/4-wave shorted stub. Energy delivery to the system depends on the match at the generator end of the line.

Stubs are usually used to reduce reflections in transmission lines. They aren`t destinations themselves. So most often there is an alternative destination which robs much of the energy in the feedline from the stub. Stubs are used to tune-out load reactance and to transform the load resistance to that of the line.

SWR in the stub can vary widely, but Terman has Fig 4-17 in his 1955 edition on page 109. This shows SWR is an inverse function of the length of the shorted stub. SWR is about 1 for a 1/4-wavelength and rises to 20 at about .04-wavelength, when the stub is placed as shown on the graph.

I have used 1/4-wave short-circuit stubs across the feedpoints of well-matched 50-ohm antennas as lightning protection. It works. The signal at the feedpoint encounters a parallel combination of a 50-ohm antenna and a stub of more than 1000 ohms. Kirchoff determines the current into each outlet for the limited energy from the feedline.

Initially, two 50-ohm loads in parallel confront the signal from the 50-ohm feedline. As soon as the reflection from the short makes it back to the feedpoint, the stub`s impedance soars.

Best regards, Richard Harrison, KB5WZI

2668. Re: Comet SB-14/SB-15 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 02:59:13 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030506225913.13239.00000647@mb-m10.aol.com>
Source record: 118821

>The SB-15 works great. I have used its predecessor FJ-15S for the last 8
>years with out any problems. However, the antenna will not tune on a mag
>mount nor will it work if it is not surrounded by a large ground plane.
>Diamond makes an exceptional through hole mount. If you cannot drill a hole
>in the roof of the car, I would look for a different antenna or you will be
>disappointed in its performance. Just remember that the antenna is very
>long and garages, tree limbs, or low wires can jump out and grab the
>antenna.
>

What's different about this antenna that makes it require such a solid ground?
Drilling a hole is out of the question. I almost wish there was a through the
glass tribander. I'm really only interested in talking locally from the car
anyway, not doing any SSB work.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2669. Re: Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 02:59:51 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030506225951.13239.00000648@mb-m10.aol.com>
Source record: 118820

>I put the Comet 6m/2m/440 antenna on a hatchback mount for my Explorer, but
>it's not NMO, it's PL-239.
>

Do you know the model number?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

2670. Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:11:05 UTC
From: Ken Coghill <wb4zoh@arrl.net>
Message-ID: <3EB87949.4000202@arrl.net>
Source record: 118822

Hello Group,
I'm sure this question has been asked and answered many times, but I've failed to notice.

I would like to help reduce the visibility a.k.a. camouflage a 2/440 J-Pole; aluminum or copper - have not decided which.

Any suggestions, recommendations? I've been advised not to use any metallic based paints.

Krylon has a "Camouflage Lt. Gray" but I've no information on the product even after emailing Krylon.

Thanks - For those going to Dayton - Have a great time!!! Maybe next for me and the Wife (KG4QXO).

Ken, WB4ZOH

2671. Re: Comet SB-14/SB-15 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:24:05 UTC
From: derswede@aol.comspam.com
Message-ID: <20030506232405.19783.00000885@mb-m20.aol.com>
Source record: 118823

>I am
>considering buying one of them. Would a magmount NMO mount be ok to support
>these antennas or do they need a trunk lip mount? That's assuming they go
>onto
>an NMO mount?

I like mine. Yup, a bit tall (guys at work make cracks about the 727's on final to the local airport having to pull up to clear the tip of the antenna!) but works MUCH better than the previous 2/440 (Larsen). Only used it a few time on 6 (50.125+/-) and swr seems decent there. 'Course, it is physically much larger than the Larsen, so the advantage is due to that.

Mine has the UHF connector mount (major "oops" at Shelby) but stopped by TenTec and got a trunklip mount to fit it (thanks, guys). Works FB, well constructed (better than some of their previous offerings). Mine's mounted on the company Grand Prix, so a trunk lip mount was the only choice.

Andrew

2672. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:27:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB87D2D.1020900@ieee.org>
Source record: 118824

Jim Kelley wrote:
> It's ridiculous to discuss _energy_ reflections from a load in which all
> the _energy_ from the source is delivered to the load.

What about the reflection coefficient, (ZL-Z0)/(ZL+Z0)? In the following
example rho equals -0.707

And all the energy from the source has *NOT* been delivered to the load.
Some of the energy from the source has been delivered to the reflected
and re-reflected waves. Once again an example:

100W----z-----one second long 300 ohm lossless feedline---51.5 ohm load

When steady-state is reached, the source has generated 300 more joules
than have been delivered to the load. Those 300 joules are distributed
as follows:

100 joules of generated energy in transit to the load.
100 joules of re-reflected energy flowing toward the load.
100 joules of reflected energy flowing back from the load.

> That simply cannot and does not happen.
> It's a conceptual error supported only by a math error.

Would an iota of proof be too much to ask, Jim, or should I just
simply bow to your divine assertions?
--
73, Cecil http://www.qsl.net/w5dxp

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2673. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:35:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB87EF2.3020004@ieee.org>
Source record: 118825

Jim Kelley wrote:
> You're not as smart as you think if that's what you think I've been
> talking about for all these weeks.

You said there is no energy in the wave reflected from the load when
it is canceled at a Z0-match. You said there is energy in the same wave
reflected from the load when it is run through a circulator+load.

How does the wave reflected from the load know whether to carry
energy along with it or not if it doesn't know whether it will be
canceled or dissipated as heat?

> My comments have been strictly
> limited to Fig. 3 in your paper; "a Matched System" in which all of the
> power is presumably delivered to the load.

And today you admitted that you didn't understand Fig. 3 worth a hoot.
That lack of understanding may be my fault but it renders invalid everything
you have said about it.
--
73, Cecil http://www.qsl.net/w5dxp

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2674. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:37:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB87F75.3090500@ieee.org>
Source record: 118826

Peter Brackett wrote:
> Sounds like Michelson's experiment to prove there really was an "aether"
> only in you case, you are trying to prove that there really are echos.

I don't have to prove echos, Peter. Anyone who has talked long distance
to Japan has heard the echos. The problem is that you say a long distance
telephone call is not steady-state. Right?
--
73, Cecil http://www.qsl.net/w5dxp

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2675. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:38:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB87FBE.3060006@ieee.org>
Source record: 118827

Peter Brackett wrote:
> Sure there are echos if you pulse it or otherwise exite it in the transient
> state, but in the steady state
> the stored energy just sloshes back and forth between the distributed C and
> L just as in the tank.

Hang a Bird wattmeter in the middle of the stub to verify that you
are right.
--
73, Cecil http://www.qsl.net/w5dxp

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2676. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:41:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8805D.2030903@ieee.org>
Source record: 118828

Peter Brackett wrote:
> Tom:
>>either of the logical or experimental kind. In particular, you should
>>re-examine
>>... on how you thinkcharge
>>can travel in two directions at the same time, in the same place,

> Well said Tom!

Apparently neither one of you have seen waves flowing into the shore
and away from the shore at the same time. Ever tossed two rocks into
a pond at the same time? Forward waves and reverse waves have virtually
no effect on each other.
--
73, Cecil http://www.qsl.net/w5dxp

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2677. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:43:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB880D7.4090207@ieee.org>
Source record: 118829

Peter Brackett wrote:
> Change is transient the last time I checked!

Yep, and every cycle RF voltage changes from zero to +V to
zero to -V, except for your DC examples, of course.
--
73, Cecil http://www.qsl.net/w5dxp

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2678. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:46:14 UTC
From: richardharrison@webtv.net
Message-ID: <25927-3EB88186-163@storefull-2312.public.lawson.webtv.net>
Source record: 118836

Peter, K1PO wrote:
"Change is a transient the last time I checked."

Not necessarily, if the change is a product of regular repetition. Peter is seeking evidence of echos from a steady-state source.

An alpenhorn`s tones surely reverberate when the hills come alive with the sounds of music.

To get an electrical reaction, use a reactance. Change the current in a reactance, and its self-inductance generates an opposing voltage proportional to L di / dt.

Makes no difference if a transient imposes a single self-induced counter-emf pulse, or if repeated alternations of a steady-state a-c of a radio-frequency rate provide the impetus. The point is that both transient pulses and steady-state can excite echos. Gunshots and alpenhorns, all are capable of reflections.

Best regards, Richard Harrison, KB5WZI

2679. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:50:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB88272.2090202@ieee.org>
Source record: 118830

Peter Brackett wrote:
> Cecil, I'll say again, there *are* reflections, in the transient state, but
> there are *no* reflections in the steady state.

And if all boundary conditions are not 100% perfectly identical to the
preceding cycle, achieving steady-state is an impossibility in reality.
You see, that's the other side of the coin used for your Catch-22 word game.
Reflections exist because a perfect steady-state is impossible to achieve
in reality. It falls into the same category as lossless transmission lines.
Fun to play mental games with but they just don't exist in reality.
--
73, Cecil http://www.qsl.net/w5dxp

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2680. Re: Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:51:20 UTC
From: splendor@ctgonline.org
Message-ID: <122EA893BB989BC0.622E5DC8DD90F790.E2CDCC59D248E64E@lp.airnews.net>
Source record: 118832

On Tue, 06 May 2003 23:11:05 -0400, Ken Coghill <wb4zoh@arrl.net>
wrote:

>Hello Group,
>I'm sure this question has been asked and answered many times, but I've
>failed to notice.
>
>I would like to help reduce the visibility a.k.a. camouflage a 2/440
>J-Pole; aluminum or copper - have not decided which.
>
>Any suggestions, recommendations? I've been advised not to use any
>metallic based paints.
>
>Krylon has a "Camouflage Lt. Gray" but I've no information on the
>product even after emailing Krylon.
>
>
>Thanks - For those going to Dayton - Have a great time!!! Maybe next
>for me and the Wife (KG4QXO).
>
>Ken, WB4ZOH

If the antenna hasn't been built yet, do what I did. I used large
black heatshrink tubing to cover most of the copper tubing, wrapped
with electrical tape where the tubing needed to be soldered, and then
snugged smaller pieces of the same heatshrink over the tape/heatshrink
junctions when all was said and done. Heatshrink is a nice flat
black... you can barely see my antenna from the street.

Paul WD9GCO

2681. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:51:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB882DE.4050404@ieee.org>
Source record: 118831

Peter Brackett wrote:
> Intel was a great company, probably still is. If for no other reason than
> it was/is run by "techies" and not MBA/crooks!

When I left, their stock went from 114 to 14. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2682. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 03:56:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB883D0.3020905@ieee.org>
Source record: 118833

Jim Kelley wrote:
> I have some degree of patience with the students. I would begin to lose
> patience when in trying to understand, they made insulting remarks,
> ignored what I said to them, and argued with things that I hadn't said.

Now you know how it feels. I treat people the way they treat me, Jim.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2683. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 04:02:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB8856F.8010900@ieee.org>
Source record: 118834

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "There is "absolutely nothing" to arrest the forward current into the
> stub."
>
> I noted that was so in the case of the final 1/4-wave of a shorted
> transmission line, but I meant to imply that was not the usual 1/4-wave
> shorted stub. Energy delivery to the system depends on the match at the
> generator end of the line.

Things don't change when you redraw the circuit, Richard. The following stub sucks energy into the stub away from the load. Virtually the only reflections in the entire system are at the open end of the stub.

```
Source--------------------------------------+----------------Load
|
+---1/4WL open stub--
```

The SWR inside the stub is approximately the same as the SWR between the source and the stub.

> SWR in the stub can vary widely, but Terman has Fig 4-17 in his 1955
> edition on page 109. This shows SWR is an inverse function of the length
> of the shorted stub. SWR is about 1 for a 1/4-wavelength and rises to 20
> at about .04-wavelength, when the stub is placed as shown on the graph.

Where is the SWR measured? Obviously not halfway down the stub.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2684. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 04:21:07 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <fa2hbv4v58ck7tk7l06o1du6d4vqj63m9h@4ax.com>
Source record: 118838

On Tue, 06 May 2003 22:51:58 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

|Peter Brackett wrote:
|> Intel was a great company, probably still is. If for no other reason than
|> it was/is run by "techies" and not MBA/crooks!
|
|When I left, their stock went from 114 to 14. :-)

There must have been a guy like you at Lucent. Except it is run by
crooks.

2685. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 04:26:21 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <0f2hbv8tnnvqp2ru2uqffc4u4tiqfnsrtr@4ax.com>
Source record: 118839

On 7 May 2003 02:31:08 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:

|
|
|'Doc wrote:
|
|> Wes Stewart wrote:
|>
|> > Actually, I do have a Bird with a crossed needle meter and a dual
|> > inline sampler, but it's on the two meter rig. I use a 2500W slug
|> > forward and a 250W slug reverse, but I don't use no stinkin' tuner.
|>
|> Good for you (about the 'stinking' tuner)! I don't
|> use one on two meters either. But then, I didn't waste
|> money on a Bird... either.

As I recall, the dual line sampler and meter cost all of $10 at a swap meet and I had the slugs. When I rebuild the EME antenna, I'll put the sampler at the antenna and monitor the power from there.

|
|I bought a nice shiny Bird 43 once... piece of junk. Sold it and kept my
|Drake W4.

And how does that Drake work at 500 mHz?

2686. Looking for advice re: cell phone antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 04:45:39 UTC
From: mackys@rhinokaosol.net
Message-ID: <1052282739.528042@turing.kaosol.net>
Source record: 118840

A brief summary of the situation...

My mom lives in a valley where cell signal is very close to nonexistant.

An external antenna adapter and cheap quarter-wave car antenna allowed us to successfully call out about half the time - if you stood in the top floor of the house, and held the antenna over your head, in the tips of your fingers. Dropped calls were frequent at this stage.

The addition of a 24x24", 22gauge steel sheet ground plane, with the plane placed on top of a 7' tall bookshelf, with the antenna base stuck to the underside of the plane, provided callout capability about 90-95% of the time, dropped calls about 20%, and even the occasional incoming call.

So, naturally, thinking more antenna would fix things, I went out and bought a +14db yagi. ;] This from HyperlinkTech. I dig the white powdercoated aluminium construction.

Now, it's going to take almost 50' of LMR-400 to connect the Yagi on the roof to my mom's office on the top floor. I have the cable, no problems. Also got a lightning protector and I'm planning to ground both the antenna mast and the protector with seperate 6ga wire to a copper stake in the ground. Getting the cable inside gracefully is also going to be fun, but I think I have that covered too. SO right now I'm just about set except I'm waiting for a 15' length of LMR-195 to go from where the antenna cable enters the wall, to the place where the phone will be. This needs to be custom because the antenna adapter for the cell phone has a goofy FME connector and the rest of the cable is N type.

So at this point, that's basically what I've got. Questions? Comments? "You stupid idiot"es? ;]

Now a couple more questions...

Now that it seems like one phone will work, my mom asks me, "Can we connect two cell phones to the single antenna?" I think this is possible, but may involve a hybrid coupler and resulting loss of 3dB. Am I right? If so, exactly how does one pull this off? Forgive me if this is obvious, I'm new at this stuff...

Second question. I'd rather like to eliminate the need for cabling attached to the cell phones. Kinda contrary to the point, right? I had this crazy idea that I could just hang a cheap quarter wave on the inside ceiling of the house and run a line to the yagi on the roof. Then slap a small-gain (10-20dB) bi-dir amp in there that covers the 800-900 and 1800-1900 MHZ cell bands. (Rfamplifiers.com has some that seem to fit the bill perfectly.)

The problems I see with this approach are that if the thing amps in 10dB both directions, I'm going to be bathing my parents in more RF than I'm strictly comfortable with. And, with 10dB of gain plus 14dB of yagi, I may make the tower unhappy because I'm sending it such a strong singal and possibly washing out other people's signals - a problem with most of the TDMA/CDMA cell phone com protocols. I'm also wondering why, if this really is this easy, can people get away with selling office building cell repeater setups for $7000, when my parts bill for this simple house repeater will come to less than $300.

So, questions or comments on this approach? Thoughts? "You idiots"es? ;]

Generally, I'm a very new to radio. I wouldn't know a VSWR if it came up and bit me on the ass. Are the cable runs I'm thinking about using here going to blow up my electronics due to reflected power? Any tips on antenna matching?

Lastly, a more general question: If you were in my shoes, what would you do?

I'd prefer posted responses, but if you must e-mail, remember that my address is spamtrapped - remove any african animals in it.

I'm looking forward to hearing responses. Curious to know just how badly I've made amateur mistakes. ;]

-Ben
--
I am Ben Cantrick. I still think the AnimEigo BGC dubs suck.
To foil spammers, no e-mail adress will be given here. (Spammers also suck.)
If you want to e-mail me, remove any African animals in my e-mail address.
Do I look like a freakin' people person?

2687. Re: Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:05:46 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <Ku0ua.8979$%_3.5490231@newssrv26.news.prodigy.com>
Source record: 118835

I don't remember, I'll have to look and i'll get back to you. I bought it at HRO in San Diego about 18 months ago.

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030506225951.13239.00000648@mb-m10.aol.com...
> >I put the Comet 6m/2m/440 antenna on a hatchback mount for my Explorer, but
> >it's not NMO, it's PL-239.
> >
>
> Do you know the model number?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

2688. Re: Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:16:37 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <VE0ua.8982$%_3.5492186@newssrv26.news.prodigy.com>
Source record: 118837

Paint it to match whatever is behind it, or if you can, put it in the attic
of your house. Camoflauge would be a good idea, get yourself a can of
black, brown, and dark green and have at it. hi!

Good luck!

-Ian

"Ken Coghill" <wb4zoh@arrl.net> wrote in message
news:3EB87949.4000202@arrl.net...
> Hello Group,
> I'm sure this question has been asked and answered many times, but I've
> failed to notice.
>
> I would like to help reduce the visibility a.k.a. camouflage a 2/440
> J-Pole; aluminum or copper - have not decided which.
>
> Any suggestions, recommendations? I've been advised not to use any
> metallic based paints.
>
> Krylon has a "Camouflage Lt. Gray" but I've no information on the
> product even after emailing Krylon.
>
>
> Thanks - For those going to Dayton - Have a great time!!! Maybe next
> for me and the Wife (KG4QXO).
>
> Ken, WB4ZOH
>

2689. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:25:45 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9a5ct$v9q$1@slb2.atl.mindspring.net>
Source record: 118841

Cecil:

[snip]
> I don't have to prove echos, Peter. Anyone who has talked long distance
> to Japan has heard the echos. The problem is that you say a long distance
> telephone call is not steady-state. Right?
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Right!

Hey, I have never said categorically there are no echos.

I have only said that in the steady state, the *only* time by the way that you can actually get good "readings" from your Bird Wattmeter, i.e. when there are no echos, is when echos do not exist.

And generally when the Bird is reading out "reflected power" for most amateur applications, i.e. "key down" there are none! In the steady state "reflected power" is othing more than a ficticious mathematical quantity useful as an adjunct to making impedance matching arithmetic calculations simpler.

In the transient state there certainly are lots of echos but only of limited duration, the Bird is far to slow to react to them, since for most amateur radio applications the echos are finished in less than a few microseconds, and most Bird measurements are made "key down".

Even so, during the transient state there no "steady" reflected power. During line charging as the line becomes charged up to its' steady state, there is only an *instantaneous* reflected power, which is better characterized as a "packet" of energy which courses up and down the line [reflections if you will] until the line is fully charged.

Once the line is "fully" charged it has reached the "steady state" at which point a packet of energy is stored all along the line alternating in it's storage "location" between the distributed C and L all along the line, sort of sloshing from side to side, while a continuous flow of power flows along the line in one direction from source to load. [The finite time to reach full charge may be calculated in terms of the "time constants" involving the distributed capacitance C and inductance L of the line and the terminating resistances or alternatively in terms of line length and the propagation velocity of wavefronts which also involves L and C of the line.]

In fact if a Bird reflectometer could react fast enough the needle would "flicker" during the transient period to show the individual echo wave

fronts passing by as "flickering" of meter movements. Problem is this only takes microseconds. With a resistance bridge or Op Amp bridge reflectometer hooked to a storange oscilloscope you could actually "watch" and record the echos of the wavefronts during charging and see them evolve into the "echoless" steady state regime. This is like time domain reflectometry.

All that said... the "equations" that describe the electro-dynamics of the line will admit mathematical solutions which satisfy them, even though these ficticious solutions are cast with descriptive "names" like "reflected power" they are ficticious, but mathematically correct, during steady state. Just because the equations and the instruments or analog computers [a.k.a. reflectometers like the Bird] are reading out values based upon those equations [e.g. b = rho* a] does not mean that there is an actual physical [non-mathematical] reflected power. Instead the instruments are indicating something else [e.g. a "reflected voltage"call it B as the scattering matrix folks do, which is B = V - RI that obeys the same equations].

This indication of a voltage B calculated from V and I by a bridge circuit [the bridge circuit is just an analog computer] is the same physical phenomena as a broad band reflectometer which designed to respond all the way down to DC [f = 0 Hz] connected between a DC battery of internal resistance Ri and a load Ro which reflectometer merely reads out a value of battery source voltage, call it A as the scattering matrix folks do, [the incident or forward wave] times rho [i.e. the reflected wave] where rho = (Ro - Ri)/(Ro + Ri). B = rho*A. That's it there ain't no echos... just steady state DC power flow from the battery towards the [mismatched] load. Same for steady state AC.

And so, despite what labels the manufacturers put on their reflectometer instruments, there is really no need to waste your time cooking up visions or scenarios of reflected power and re-re-re-re reflections of it during steady state. Even though such concoctions may be mathematically correct, they do not physically exist in steady state. It may be fun, and it can provide a useful artifice for helping to solve impedance matching problems, but it is just a fanciful exercise in mathematical visualization of functions with no basis in reality other than as an aid to making calculations and adjustments just as a slide rule is, i.e. an "analog computer"..

There are certainly echos in this world, no one has ever denied that, including me, echos will be with us forever, but they only manifest themselves during transient states.

During steady state there are no "echos". Period, end of story.

But the equations of "reflection" and the "reflection coefficient" are true for both states, steady state and transient. i.e. both regimes satisfy the equations.

The transient state, in amateur radio transmission line applications last only microseconds or less, and hence are unobservable with those "HF Wattmeter" instruments. Even so those analogs do indicate the correct

mathematical values of the ficticious "reflected power" during the steady state. i.e. if V is the voltage at a point on the line and I is the current flowing [in one direction at a time!] at that point on the line then the reflectometer indicates a voltage value of A = V + RI for incident or forward "power" and a voltage value of B = V - RI for reflected "power". Where R is the "reference resistance/impedance", usually 50 Ohms for HF RF work. Use elementary AC or DC circuit theory and analysis to analyze the operation of any of the common reflectometer circuits such as the Bruene design [Bird uses this] with simple and you will see this for yourself.

Best :-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB87F75.3090500@ieee.org...
> Peter Brackett wrote:
> > Sounds like Michelson's experiment to prove there really was an "aether"
> > only in you case, you are trying to prove that there really are echos.
>
> I don't have to prove echos, Peter. Anyone who has talked long distance
> to Japan has heard the echos. The problem is that you say a long distance
> telephone call is not steady-state. Right?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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2690. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:34:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9a5t3gtv1@slb2.atl.mindspring.net>
Source record: 118842

Cecil:

[snip]
> Apparently neither one of you have seen waves flowing into the shore
> and away from the shore at the same time. Ever tossed two rocks into
> a pond at the same time? Forward waves and reverse waves have virtually
> no effect on each other.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[sip]

Electromagnetic waves are *not* waves on the surface of the ocean, they are another example of wave motion and have som similar characteristics, but are simply not the same kind of waves. Ocean waves are a useful "picture" to paint for the uninitiated but how can you surf in empty space? Where is the "surface" on which to observe EM waves like on the top of the ocean? Can you observe ocean waves at depth in the ocean? No of course not. But all EM waves are "at depth". There is no surface of the ocean so to speak for EM waves. The analogy to ocean waves as a model for EM waves is simply not correct!

This was argued long ago back in the nineteenth century when Maxwell's equations were first published. EM waves predicted by Maxwell, and shown by Heaviside and others, "vibrate" in space transversally but not longitudinally. Some of the early EM scientists, they were called natural philosophers then, even tried to argue that there might be EM waves which caused the aether to vibrate in another way just like ocean waves, but alas it was not to be.

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB8805D.2030903@ieee.org...
> Peter Brackett wrote:
> > Tom:
> >>either of the logical or experimental kind. In particular, you should
> >>re-examine
> >>... on how you thinkcharge
> >>can travel in two directions at the same time, in the same place,
>
> > Well said Tom!
>

> Apparently neither one of you have seen waves flowing into the shore
> and away from the shore at the same time. Ever tossed two rocks into
> a pond at the same time? Forward waves and reverse waves have virtually
> no effect on each other.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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2691. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:37:17 UTC
From: tdonaly@aol.com
Message-ID: <20030507013717.26508.00000579@mb-m19.aol.com>
Source record: 118844

Richard Clark wrote,
>
>>Cecil, have you tried offering an apple to the teacher? ;o)
>>
>or a bowl of Chateau Neuf-de-Pape for the guru? ;-)
>

No comment.
73,
Tom Donaly

2692. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:37:26 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9a62o$9va$1@slb0.atl.mindspring.net>
Source record: 118843

Cecil:

[snip]
> Yep, and every cycle RF voltage changes from zero to +V to
> zero to -V, except for your DC examples, of course.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Heh, heh... nice try Cecil, but... I'm not going *there* with you.

You need to study up on your AC circuit theory again man!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB880D7.4090207@ieee.org...
> Peter Brackett wrote:
> > Change is transient the last time I checked!
>
> Yep, and every cycle RF voltage changes from zero to +V to
> zero to -V, except for your DC examples, of course.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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2693. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:39:28 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9a66i$jh4$1@slb3.atl.mindspring.net>
Source record: 118845

Richard:

An alpenhornist cannot sustain a note long enough to reach steady state, he runs out of breath too soon, especially way up there in the mountains of Central Switzerland.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Richard Harrison" <richardharrison@webtv.net> wrote in message news:25927-3EB88186-163@storefull-2312.public.lawson.webtv.net...
> Peter, K1PO wrote:
> "Change is a transient the last time I checked."
>
> Not necessarily, if the change is a product of regular repetition. Peter
> is seeking evidence of echos from a steady-state source.
>
> An alpenhorn`s tones surely reverberate when the hills come alive with
> the sounds of music.
>
> To get an electrical reaction, use a reactance. Change the current in a
> reactance, and its self-inductance generates an opposing voltage
> proportional to L di / dt.
>
> Makes no difference if a transient imposes a single self-induced
> counter-emf pulse, or if repeated alternations of a steady-state a-c of
> a radio-frequency rate provide the impetus. The point is that both
> transient pulses and steady-state can excite echos. Gunshots and
> alpenhorns, all are capable of reflections.
>
> Best regards, Richard Harrison, KB5WZI
>

2694. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:43:10 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9a6dgkdt1@slb3.atl.mindspring.net>
Source record: 118846

Cecil:

[snip]
> You see, that's the other side of the coin used for your Catch-22 word
game.
> Reflections exist because a perfect steady-state is impossible to achieve
> in reality. It falls into the same category as lossless transmission
lines.
> Fun to play mental games with but they just don't exist in reality.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

My "Catch-22" word games? Heh, heh... the pot calling the kettle black.

Come on Cecil it's OK to admit the world is no longer flat nowadays despite
how it
looks to your eyes. Magellan has sailed right around it and it has been
photographed
from the Moon by Armstrong et al...

No... wait those were all hoaxes right?

NASA never sent men to the moon, and Magellan just hung out in the Azores
for a few years.

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2695. Re: Burn all toyotas..no BURN EVERYTHING!! YEAH!! Geeeezzzzz

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 05:48:19 UTC
From: JC <w9jcm@NOSPAMsbcglobal.net>
Message-ID: <D61ua.1044$l13.94526812@newssvr15.news.prodigy.com>
Source record: 118847
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

thats a bummer, I bought a 2000 tacoma new and installed my 706 in it had no problems with service dept at toyota.
"radioranch" <radioranch@qth.com> wrote in message news:3EB82634.6050604@qth.com...
>
>
> geekdude wrote:
> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your warranty,
> > then I guess you should not buy a new Toyota like I did...
> >
> > - 73
> > KC6SOZ
>

2696. Re: Looking for advice re: cell phone antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:00:07 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB8A0E7.2936EE3B@cwis.net>
Source record: 118848

Ben,
In your situation, I think I'd have a talk to your
mom. Since you mentioned her 'office', and since I
would suspect the second phone would be for commercial
use, I'd submit a 'bid' for cell phone services. What's
going to be next, an 'exchange' for others in this
'hidden valley'?
'Doc

2697. Re: Coax size.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:13:52 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EB8A420.6440830C@cwis.net>
Source record: 118849

funkbastler,
Sort of what I said, isn't it? And, no, I've
never used RG-174 for any feed line longer than
just a few inches.
'Doc

2698. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:16:42 UTC
From: tdonaly@aol.com
Message-ID: <20030507021642.26508.00000581@mb-m19.aol.com>
Source record: 118850

Cecil wrote in reply to Dr. Slick,
>
>> With all due respect, Richard is correct on this one, Cecil. The
>> current flowing through the coax is not a DC current, so it is not the
>> same everywhere on the line. In a loss-less system, there zero
>> current flowing at point "x" at any time. At point "x", the voltage
>> peaks at a maximum (+) and a minumum (-) alternately, BUT NO CURRENT
>> EVER FLOWS THROUGH THIS POINT!
>
>Forward and reflected current flow through that point undiminished.

>The fact that they add to zero doesn't mean they don't exist.
>
>> These points of peak voltages and peak currents alternate through
>> the entire line every 1/4 wavelength, beginning with current peak at
>> the short.
>
>Those are NET superposed values. The values of the forward and reflected
>voltages and currents remain relatively constant and flow uninhibited
>at the mouth of the stub.
>
>> Incorrect Cecil, no current should flow into the stub, see above.
>
>You are obviously talking about NET superposed current. I am talking
>about forward current and reflected currents. There is *absolutely
>nothing* to arrest the forward current flow into the stub. There
>is *absolutely nothing* to arrest the reflected current flow out
>of the stub. There is nothing to arrest either one of those currents.
>Like I say, if you don't believe me, use a directional wattmeter in
>the middle of the stub.
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>
>

Cecil just made my point about him not understanding superposition.
Consider a voltage source followed by a series resistor, followed by a
shorted quarter wave lossless stub. If you calculate the voltages at the
two ends of the resistor you will find that they are the same and in phase.
That means that there is no voltage across the resistor, no current through
it, and it is delivering no energy to the stub. If you calculate the current,
say,
a tenth of a wavelength back from the shorted end of the stub you'll find that
neither the current nor the voltage are zero, but that they are 90 degrees

out of phase with one another. Further, if you were to detach this lossless stub, from the rest of the circuit, you would find that the current and voltage still exist. What does this suggest? Dr. Slick is exactly right.
73,
Tom Donaly, KA6RUH
(P.S. to Cecil. How do you hope to get energy through a resistor without the resistor turning some of it into heat?)

2699. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:24:28 UTC
From: tdonaly@aol.com
Message-ID: <20030507022428.26508.00000582@mb-m19.aol.com>
Source record: 118851

Cecil wrote,
>
>Peter Brackett wrote:
>> Tom:
>>>either of the logical or experimental kind. In particular, you should
>>>re-examine
>>>... on how you thinkcharge
>>>can travel in two directions at the same time, in the same place,
>
>> Well said Tom!
>
>Apparently neither one of you have seen waves flowing into the shore
>and away from the shore at the same time. Ever tossed two rocks into
>a pond at the same time? Forward waves and reverse waves have virtually
>no effect on each other.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

You wouldn't say that if you ever had to paddle a canoe in confused seas.
73,
Tom Donaly, KA6RUH

2700. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:35:06 UTC
From: tdonaly@aol.com
Message-ID: <20030507023506.26508.00000583@mb-m19.aol.com>
Source record: 118852

Peter wrote,
>
>
>Cecil:
>
>Intel was a great company, probably still is. If for no other reason than
>it was/is run by "techies" and not MBA/crooks!
>
>--
>Peter K1PO
>Indialantic By-the-Sea, FL.
>

Intel may not be run by MBAs but they certainly run the country, now.
73,
Tom Donaly, KA6RUH

2701. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 06:42:54 UTC
From: froggers <not.froggers@nospam.ntlworld.com>
Message-ID: <D%1ua.37$0c4.15@newsfep1-gui.server.ntli.net>
Source record: 118853
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

>
> My owners manual for my 2002 Forester
> clearly says not to install any kind of a
> transmitter within the car as it will foul-up
> operation of the Emissions Computer and
> the Electronic Antilock Braking System
> and Keyless Entry system.
>
>
> So what happens when a taxi / police car / other amateur turns up next to you with his 100 watt TX
- does the ECU self destruct ? I think not - they have to pass some pretty stringent tests against
RFI affecting their safe and proper operation.

My BMW manual makes note against TX over 10 watts, but my 100 watts on all bands HF through 2M and
50 W on 70cms has no effect on my car and cars around me don't seem to slow down as I pass them....

Nick

2702. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 07:30:15 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305062330.3bce36a6@posting.google.com>
Source record: 118854

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB84B82.1090502@ieee.org>...
> Dr. Slick wrote:
> > I agree with Richard here, if you look at the Smith Chart, and
> > start at the short (zero impedance point), and move "towards the
> > generator" 1/4 wavelength, you will hit infinite impedance, which is
> > an open. This is all under idea conditions.
> >
> > So the current would be very nearly zero at the input to the 1/4
> > wave stub.
>
> If you think zero current flows inside a stub, simply measure the currents
> with a directional wattmeter and calculate the RMS value of the forward
> and reflected current. They are at their maximum values. Losses are
> as high as can be.

You cannot measure the real-time current flowing though ONE point
with a wattmeter. You can only measure the incident and reflected EM
wave in terms of power. You can find the RMS current with
I^2*R=Power, but this would only apply to the load in question.

Richard and i are saying that no current is flowing INTO the
stub, which is not to say that current doesn't flow WITHIN the shorted
stub itself, which does happen.

>
> > With all due respect, Richard is correct on this one, Cecil. The
> > current flowing through the coax is not a DC current, so it is not the
> > same everywhere on the line. In a loss-less system, there zero
> > current flowing at point "x" at any time. At point "x", the voltage
> > peaks at a maximum (+) and a minumum (-) alternately, BUT NO CURRENT
> > EVER FLOWS THROUGH THIS POINT!
>
> Forward and reflected current flow through that point undiminished.
> The fact that they add to zero doesn't mean they don't exist.
>

The forward and reflected voltages cause the standing waves, and
there is no current flow at the points of maximum voltage swing.

The analogy for standing waves mechanically is the rope that is
tied to the wall: as you send waves down the rope, eventually you
will reach a steady-state of standing waves, where there will be
points where the rope will not move very much. These points will be
separated by 1/2 wavelengths.

You cannot say that the rope moves very much at these nodes.

Similarly, you cannot say there is much current flow at the
points of max voltage swing.

> > These points of peak voltages and peak currents alternate through
> > the entire line every 1/4 wavelength, beginning with current peak at
> > the short.
>
> Those are NET superposed values. The values of the forward and reflected
> voltages and currents remain relatively constant and flow uninhibited
> at the mouth of the stub.
>
> You are obviously talking about NET superposed current. I am talking
> about forward current and reflected currents. There is *absolutely
> nothing* to arrest the forward current flow into the stub. There
> is *absolutely nothing* to arrest the reflected current flow out
> of the stub. There is nothing to arrest either one of those currents.

Something to remind you of: when you hear someone talking from
across the room, do the air molecules that hit your eardrum have to be
the same ones that have touched the persons mouth? Of course not, the
sound is a WAVE, so no transfer of matter has to occur for the
information to be transmitted.
Likewise, no electrons or holes have to be transfered, they are
only a medium through which the wave travels.

Slick

2703. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 07:36:24 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305062336.26ce0c1@posting.google.com>
Source record: 118855
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

google@geekdude.com (geekdude) wrote in message
news:<fdb9e710.0305061143.3bbb83af@posting.google.com>...
> So if I understand that article correctly...
>
> Cars are not shielded properly and possibly un-safe
> when exposed to RFI. As cars are mostly plastic these
> days, I don't see how they would make a good faraday cage.

I would think most are still fairly good, except for maybe Corvettes
and some Saturns...If the bulk of the car body is metal, it's going to
make a decent cage, except for what comes thru the windows.
>
> If a cell phone on an airplane is un-safe because it
> might interfere with the on-board electronics, then
> the same might be true about all modern cars. The car
> manufactures must know how un-safe their cars are if
> they are making statements like using any radio that
> requires a license in your car will void your warranty.

They all are aware of the problem. But I don't think it's something
high on their list when designing the car. I think this applies to
many U.S cars also.

>
> I would like to think that my car would be safe from
> cruse control malfunction if I drive by someone
> operating a 2 way radio.

I would think it most certainly would be. The computer and most wiring
is pretty well shielded by the body if metal.
>
> I am starting to doubt the safety of all modern cars.
> Perhaps the car manufacturers should put in some shielded
> wiring and lower their profit margins in order to ensure
> safety when consumers use their products in a world of
> wireless communication devices.

I don't think shielded wire would be a complete answer. Also ferrite
beads on every wire going in or out of the puter.
>
> Modern cars have a life threatening design flaw
> and they are trying to cover it up !

How are they covering it up if they are telling you outright that RF of any manly level is verboten operation in a new yota. They are telling you, watch your butt if you run rf. That is not a cover up. That is covering their butt. I really don't think the problem would be any more severe than any other similar car. They all can have problems. It's the nature of a partly solid state vehicle.
And the radio operation and the installation will have a huge effect on whether you have problems or not. A person running an antenna on the roof or trunk with a good ground underneath it would have much less problems than someone with a gutter mount, poor ground, and poor feedline decoupling. Or sitting in the passenger seat with a high power HT. Use common sense. The puter is 3 ft in front of your face, down by your feet. You "might" have a problem.
If you have RF problems in a car, the first thing to look at is the possibilty of common mode currents on the coax shield. The better the decoupling you have, the less likely you will be swamping the puter with rf. If I still had trouble, I'd make sure the puter was well grounded, and then I'd install ferrite beads on every lead going in and out of the box. Toyota will not do this. Heck, I had to show them how to check a wiring harness. All they wanted to do is quote me $1500 bucks for a new one without proving the old one was bad. It wasn't. I ohmed out every wire on the harness, and it didn't take me an hour I bet.
I'm sure the mechanics will vary per shop, but I doubt the ones I went to would be able to deal with it. They couldn't even fix the car. I ended having to do it myself. And in this case, I would fix the "rf" problem myself. I'm better able to do this than they are, being I fart with rf all the time. Or at least the ones I dealt with....MK

2704. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 07:37:47 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <ssdhbv8plajg81gb98h9ctrti65p1tsbmq@4ax.com>
Source record: 118856
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Tue, 6 May 2003 19:33:32 -0400, "Hambone the Magnifico"
<paintcanfullofpcb@amishonline.com> wrote:

>
>"geekdude" <google@geekdude.com> wrote in message
>news:fdb9e710.0305061010.3b6abf03@posting.google.com...
>> wb4mleAT@surfbestDOT.net wrote in message
>news:<cihfbv031e0u85n4vm3nmhnue4bvlidri8@4ax.com>...
>> > In this news thread geekdude commented:
>> >
>> > >I just got off of the phone with Toyota.
>> > >they told me that if a radio transmitter requires a license to operate,
>> > >then it's too powerful to use in a 2003 Toyota.
>> > >
>> > >If you want to install a ham radio in your car without voiding your
>warranty,
>> > >then I guess you should not buy a new Toyota like I did...
>> > >
>> > I got an email from Toyota in February 2003 (for my 2003 Corolla)
>> > advising what types (type accepted), power up to 100 watts, and how to
>> > properly locate, space and route your cabling. I cannot copy the email
>> > to this list as I respect email manners. Not sure but I think I
>> > submitted thru toyota.custhelp.com web site(you have to register as a
>> > Toyota owner).
>>
>> I received a similar letter in 1994 for my 1993 Toyota 4Runner.
>> Here is a link to that letter:
>> http://www.geekdude.com/toyota-rfi-1994/

I have a 99 4-runner and the dealership installed the 2-meter/440 rig
for me.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>>
>> I expected the same type of response this time.
>> The response I got yesterday was totally unacceptable.
>>
>> --
>> Chuck
>
>Same thing goes for Subaru.
>

>My owners manual for my 2002 Forester
>clearly says not to install any kind of a
>transmitter within the car as it will foul-up
>operation of the Emissions Computer and
>the Electronic Antilock Braking System
>and Keyless Entry system.
>
>

2705. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 11:24:14 UTC
From: richardharrison@webtv.net
Message-ID: <11326-3EB8ECDE-4@storefull-2311.public.lawson.webtv.net>
Source record: 118859

Peter, K1PO wrote:
"During steady state there are no "echos"."

Peter has used "echo" as a synonym for reflection. Fair enough.

Peter seems to accept "steady-state" as a situation in which conditions have settled down after initial fluctuations end. Fair enough.

Fluctuations in d-c may all be gone after an initial periof. Fluctuations continue throughout every a-c cycle. An a-c transient is extraordinary to the usual a-c cycle. A-C has start-up and shut-down transients, but it also has a continuously warying amplitude.

Steady-state conditions are what most a-c instruments and equipment are designed to use and respond to. R-F is high-frequency a-c.

R-F reflectors abound. They include planes, corners, parabolas, billboards, sheets, rods, and screens. Usually, the better the conductance, the better they work.

H-F transmission depends upon ionospheric reflection of the steady-state signal . Tones from WWV are an indisputable example.

R-F produces transients. Key-clicks are an example, but we have CW transmissions. CW (continuous-wave) is named for the steady-state.

Dits and dahs get reflected right along with the key-clicks. As usual, the transient is considered a nuisance.

Best regards, Richard Harrison, KB5WZI

2706. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 11:27:18 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <q46ua.779$5h4.110628@nnrp1.ptd.net>
Source record: 118857

> "Dee D. Flint" <deehays@qix.net> wrote in message
news:<KR7ta.3378$3f7.2781849@newssvr28.news.prodigy.com>...
> > You see there is no logical, non-emotive, non-"I don't want to do it"
> > argument that is viable for dropping the CW requirement.

It's not about an "emotive" "I don't want to do it" argument.

It's about the fact that the current test requirement makes Morse
as important as every other factor combined in determining who
can use HF and who can't.

There is no need, nor legitimate regulatory purpose for maintaining
the requirement. Most of the administrations in the world recognize
that and have lowered their Morse test requirement to 5 wpm as an
interim measure, pending the removal of the ITU requirement at
the WRC, and many have alaready stated their intention to drop
Morse testing requirements from their national rules as soon as the
ITU treaty obligation ceases to exist.

I would counter that there is no logical, non-emotive argument
for keeping the Morse test requirement in today's world.

73,
Carl - wk3c

2707. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 11:38:58 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <mf6ua.780$5h4.110703@nnrp1.ptd.net>
Source record: 118858

"Brian Kelly" <kelly@dvol.com> wrote in message
news:d22b54c3.0305050841.7a5c89db@posting.google.com...
> > > Carl is going to Geneva to make sure it *does* happen Dee. And there's
> > > a rumor floating around to the effect that his fellow NCI member and
> > > ardent supporter Lenny will be his political advisor in Geneva.
>
> Uh . . . did you say something 'Ole Buddy??

I accidentally hit the send key after the "reply to group" key,
but I had already decided that your comment about Len wasn't
worthy of a response.

However, since you seem to be intent on getting some sort
of a response:

I am going to Geneva as an industry advisor member of
the US Delegation.

My primary activity will be in non-ham areas on behalf of
my employer.

I do, however, intend to follow the activities on the revision
of S25 on an as-time-permits basis, having been involved in
the development of the US position on this item and having
been asked by the FCC to present that postion to a CITEL
conference in Mexico City last year, as a member of the
US Delegation to that regional conference.

Since the US Delegation has been formed and is now
holding "Delegation Only" meetings (all quite legal), I
am not at liberty to discuss matters relating to the US
position on any of the WRC agenda items.

Got to run ... I'm on my way out the door for a day trip
to Washington for a Delegation meeting this afternoon.

Carl - wk3c

2708. Scantenna ST2 Grounding Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 12:39:01 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b9aup2$v7f$1@slb3.atl.mindspring.net>
Source record: 118862

Hi,

For a Scantenna ST2: should the horizontal support element (that holds all the elements) be grounded ?

Thanks,
Bob

2709. Re: Comet SB-14/SB-15 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 13:00:29 UTC
From: Leaf <4leaf@prosensing.com>
Message-ID: <vbi0rkaacst069@corp.supernews.com>
Source record: 118863

The antenna is five feet long and has a SO-239 connector. This is the same as the SB-15. The SB-14 is a shortened version of the antenna. 6M is the issue with a mag mount. The antenna is a ground plane antenna at 6 meters, so like any ground plane antennas without a ground plane the swr will be high. It does work on 2M and 70CM with less of a ground plane. Most mag mounts do not offer the coupling to ground you need for a low swr. Also, a five foot antenna on your car has a lot of wind drag at highway speeds. The antenna is designed for FM work mainly i.e.. vertical polarization and tuned frequency. I tried the SB-14 because it was shorter and I could not tune it for 6M and 70CM. As a result. the antenna became a scanner antenna at my house.

Good Luck
de N1SIF

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030506225913.13239.00000647@mb-m10.aol.com...
> >The SB-15 works great. I have used its predecessor FJ-15S for the last 8
> >years with out any problems. However, the antenna will not tune on a mag
> >mount nor will it work if it is not surrounded by a large ground plane.
> >Diamond makes an exceptional through hole mount. If you cannot drill a
hole
> >in the roof of the car, I would look for a different antenna or you will
be
> >disappointed in its performance. Just remember that the antenna is very
> >long and garages, tree limbs, or low wires can jump out and grab the
> >antenna.
> >
>
> What's different about this antenna that makes it require such a solid
ground?
> Drilling a hole is out of the question. I almost wish there was a through
the
> glass tribander. I'm really only interested in talking locally from the
car
> anyway, not doing any SSB work.
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

2710. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 13:17:08 UTC
From: Harold Burton <hwburton@cableone.net>
Message-ID: <vbjc5l238asq70@corp.supernews.com>
Source record: 118719
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9c2ihejv1@sparta.btinternet.com...
> > Any Foo Fighters flying along beside you at the time ?
>
> ============================
>
>
> I am an Englishman. But what is Foo ?
> ---
> Reg.

A nonsense term frequently uttered by a comic strip character named Smokey
Stover. He was a fireman and drove a small fire fighting vehicle noted for
having two wheels and only one axle. No one I ever knew could define Foo and
I believe this mysterious quality is what led to that eras military pilots
naming the mysterious WWll
UFOs Foo Fighters.

2711. Re: Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 14:07:24 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <wp8ua.4690$ER4.500455@news20.bellglobal.com>
Source record: 118865

"Ken Coghill" <wb4zoh@arrl.net> wrote in message
news:3EB87949.4000202@arrl.net...
> Hello Group,
> I'm sure this question has been asked and answered many times, but I've
> failed to notice.
>
> I would like to help reduce the visibility a.k.a. camouflage a 2/440
> J-Pole; aluminum or copper - have not decided which.
>
> Any suggestions, recommendations?

I painted my copper J-Pole with dark green metallic paint and stuck it in
the middle of my hedge. You can't see it from 10' away.

2712. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 14:16:05 UTC
From: Doug Kanter <dkanter@frontiernet.net>
Message-ID: <Fy8ua.4713$Hu2.316@news01.roc.ny.frontiernet.net>
Source record: 118864
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"dj" <DaleJ@nospam.com> wrote in message
news:DaleJ-E99DDB.15471406052003@apollo-ge0.rdc-kc.rr.com...
>
>
> By the way, I would have to think the police vehicles are rfi proofed??
>

Except for the tires, the Crown Victorias bought by the police are virtually identical to what you or I can buy, assuming we get the handling package (which is pretty nice, actually). What happens to the cars after purchase depends on the individual department.

When I was car shopping last August, the CV was my other choice, besides the Tacoma, because my main concern was towing. (Actually, I would've preferred a Toyota sedan, but they're not much good for towing, with front wheel drive, and other factors). The CV came out the loser when I began reading about their exploding gas tank trick, and how Ford really didn't have a solution yet.

2713. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 14:36:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b9b57g$4gp$1@news.service.uci.edu>
Source record: 118866

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB87EF2.3020004@ieee.org...
> Jim Kelley wrote:
> > You're not as smart as you think if that's what you think I've been
> > talking about for all these weeks.
>
> You said there is no energy in the wave reflected from the load when
> it is canceled at a Z0-match.

What I've said clearly, over and over and over again, and you hard-headly refuse to hear is simply what physics dictates. If you don't want to accept it, and instead choose to play silly newsgroup games that's your choice. I don't find it to be constructive or illuminating. I doubt anyone else does either.

Obviously, when waves cancel, no energy is transferred. If waves don't cancel, the uncancelled portion conveys energy. It's really a simple concept. It's too bad you have so much invested in a faulty concept that you can't accept it.

> And today you admitted that you didn't understand Fig. 3 worth a hoot.

You're a funny guy, Cecil. :-)

2714. Re: Looking for advice re: cell phone antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 15:11:44 UTC
From: mackys@rhinokaosol.net
Message-ID: <1052320304.820786@turing.kaosol.net>
Source record: 118867

In article <3EB8A0E7.2936EE3B@cwis.net>, 'Doc <w5lz@cwis.net> wrote:
> In your situation, I think I'd have a talk to your
>mom. Since you mentioned her 'office', and since I
>would suspect the second phone would be for commercial
>use, I'd submit a 'bid' for cell phone services.

Nope. This is purely personal use. The "office" is just the room
upstairs that she keeps her computer in.

> What's going to be next, an 'exchange' for others in this
>'hidden valley'?

You say that like it's a bad thing. ;] Hell, ElectroComm Distrib
is in Denver, and easy drive away, and they sell 40' towers...

But anyway, it's a bit late for that, as almost all of the other neighbors
hav yagi setups already. The ones that don't have resorted to buying 1 and
2 watt bag-style cell phones.

-Ben
--
I am Ben Cantrick. I still think the AnimEigo BGC dubs suck.
To foil spammers, no e-mail adress will be given here. (Spammers also suck.)
If you want to e-mail me, remove any African animals in my e-mail address.
I can't remember if I'm the good twin or the evil one.

2715. Re: If it requires a license then you gotta avoid RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 15:11:56 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EB9223C.6745BE8C@crosslink.net>
Source record: 118860
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota

> > In this news thread geekdude commented:
> >
> > >I just got off of the phone with Toyota.
> > >they told me that if a radio transmitter requires a license to operate,
> > >then it's too powerful to use in a 2003 Toyota.....

Remember, these data are provided by lawyers to protect their employers
from the clueless. Obviously, you could safely operate "killerwat" rigs
in any of these vehicles so long as none of the RF got into the
computer(s). Start by either ensuring that your antenna has a good
ground plane or use one that doesn't require one (eg, J-pole) and a very
good match (low SWR). You might also put some ferrite beads on the coax
to avoid shield currents and on the power leads for your rig. If
problems persist, try shielding the computer(s) with aluminum foil and
putting ferrite beads on the I/O and power cables.

Alternatives: restore an antique auto or have a kit-car built for you.
IIRC 1955 Chevys and Shelby Cobras had no RF problems and prolly cost
less to drive than a new Toyota after depreciation is factored in.

73, K3DWW

2716. Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 15:17:09 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EB9253C.623AAD2B@uwe.ac.uk>
Source record: 118868

Dear All,

I've always understood 'resonant dipole' or 'half-wave dipole' to be special cases of the general class 'dipole', which I understand to mean any electrically symmetrical antenna. 'Doublet' is given as an equivalent, alternate term by most definitions I can find on-line. The U.S. patent department, for instance, uses 'doublet' throughout for all 'dipole' antennas.

So :-

A resonant dipole antenna is one cut to be 1/2,3/2,... lambda. One must of course specify the frequency of interest. E.g. 'The G5RV is a 20 m resonant dipole'

A half wave dipole antenna is a sub-class of resonant dipole. E.g. 'Each side of a 2 m half wave dipole is about 19 1/2" long.'

A dipole antenna is _any_ antenna having two symmetrical radiating elements. E.g. 'A wire dipole antenna of 35 metres overall length can be tuned with a suitable matching network to work efficiently on any amateur band from 160 m to 10 m'

In other words a dipole is still a dipole even if it is not resonant at the frequency of interest.

The word 'doublet' may be substituted for the word 'dipole' in any antenna context. It is more frequent in U.S. usage.

I find that dipole is used in many ham contexts to mean 'resonant dipole' and there is some usage of 'doublet' to mean a non resonant dipole, but the U.S. patent department does not follow this distinction.

What are the correct definitions and how would you describe a non resonant balanced antenna?

vy 73

Andy, M3ABC

2717. Re: Burn all toyotas..no BURN EVERYTHING!! YEAH!! Geeeezzzzz

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 15:19:01 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EB923E5.F67156A0@crosslink.net>
Source record: 118861
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

JC wrote:
>
> .. I bought a 2000 tacoma new and installed my 706 in it had no
> problems with service dept at toyota.

That's prolly typical. Unfortunately there are unethical dealers who will tell you that such-n-such isn't covered by warranty because of something you did or didn't do, then they collect from BOTH you and the manufacturer.

73, K3DWW

2718. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 15:45:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB92A13.8040808@ieee.org>
Source record: 118769

Andy Cowley wrote:
> What are the correct definitions and how would you describe a non
> resonant balanced antenna?

It is unclear whether "dipole" refers to the number of physical
poles or to the number of electrical poles. Much above 1.25WL,
these two quantities are different. I endeavor to use "dipole"
for any doublet less than 1.25WL and "doublet" for any doublet
longer than 1.25WL. "Doublet" doesn't imply any fixed number of
electrical poles. That's just my own personal convention.
--
73, Cecil http://www.qsl.net/w5dxp

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2719. Please look in your junkboxes: I need a feedthrough insulator. UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 16:00:32 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <b9baei$hopc7$1@ID-150848.news.dfncis.de>
Source record: 118770
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,uk.radio.amateur

Have you anything like 10-76 or 10-79 in the link?

http://www.daburn.com/10-58.html

I'm in UK.

Rich.

2720. Tarheel sells out to MFJ

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 16:17:24 UTC
From: oceanview2002@earthlink.net
Message-ID: <999cf256.0305070817.606c252a@posting.google.com>
Source record: 118772

I am not suprised to see that Tarheel has sold out
to MFJ. The quality of Tarheel and MFJ are about the
same. Not good.

2721. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 16:19:01 UTC
From: mike <spamme0@go.com>
Message-ID: <3EB931F5.4DBF5E70@go.com>
Source record: 118771
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

froggers wrote:
>
> >
> > My owners manual for my 2002 Forester
> > clearly says not to install any kind of a
> > transmitter within the car as it will foul-up
> > operation of the Emissions Computer and
> > the Electronic Antilock Braking System
> > and Keyless Entry system.
> >
> >
> > So what happens when a taxi / police car / other amateur turns up next to
> you with his 100 watt TX
> - does the ECU self destruct ? I think not - they have to pass some pretty
> stringent tests against
> RFI affecting their safe and proper operation.
>
> My BMW manual makes note against TX over 10 watts, but my 100 watts on all
> bands HF through 2M and
> 50 W on 70cms has no effect on my car and cars around me don't seem to slow
> down as I pass them....
>
> Nick

Realistically, nothing will happen 'till it hits the courts.
Loss of warranty is the least of your worries. Wrongful death suit
'cause YOUR radio, INSTALLED IN VIOLATION OF CAR MAKER GUIDELINES,
caused some other proximate car to malfunction. Or maybe your car
malfunctioned
due to your radio and killed someone else. Even better, your car
malfunctioned
because os some taxi radio and killed someone. Try proving that it
wasn't your
radio!!

Of course, they'll sue the car manufacturer too, but that won't keep
legal fees from bankrupting you whether you win or lose.

Interesting times...
mike
--
Bunch of stuff For Sale and Wanted at the link below.
Police Scanner, LCD overhead projector
Tek 2465, ham radio, 30pS pulser

Tektronix Concept Books, spot welding head...
http://www.geocities.com/SiliconValley/Monitor/4710/

2722. Re: Please look in your junkboxes: I need a feedthrough insulator. UK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 16:25:41 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EB9354B.3E5E5684@uwe.ac.uk>
Source record: 118773
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,uk.radio.amateur

Richard wrote:
>
> Have you anything like 10-76 or 10-79 in the link?
>
> http://www.daburn.com/10-58.html
>
> I'm in UK.
>
> Rich.

Dear Rich,

I seem to remember something like that in my shed somewhere. Probably a little different - AFAICR they have oval bases with two holes for mounting screws. Please contact me via this e-mail address with a real address I can e-mail to and I'll give you more details. I am a little loath to part with them.

vy 73

Andy, M3ABC, M1EBV - QTHR and qrz.com

2723. Re: Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:04:33 UTC
From: jder8745@aol.com
Message-ID: <20030507130433.06124.00001215@mb-m07.aol.com>
Source record: 118774

Howdy,

I've always found flat black to be pretty good for this purpose. Even when the sky is blue or gray because the antenna is usually viewed with foliage or structures behind it rather than the sky.

73 de Jack, K9CUN

2724. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:15:03 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB93F17.6090207@ieee.org>
Source record: 118775

Peter Brackett wrote:
> During steady state there are no "echos". Period, end of story.

Sorry Peter, in the real world, noise *always* exists. Noise causes
echoes. Period, end of story (except for wet dreams, of course. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2725. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:26:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB941DB.80265484@uci.edu>
Source record: 118777

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > I have some degree of patience with the students. I would begin to lose
> > patience when in trying to understand, they made insulting remarks,
> > ignored what I said to them, and argued with things that I hadn't said.
>
> Now you know how it feels.

Yes, thanks very much for providing me with so productive an experience.

> I treat people the way they treat me, Jim.

Sure thing, Cecil. ;-)

ac6xg

2726. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:29:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB94288.8020102@ieee.org>
Source record: 118778

Peter Brackett wrote:
> Where is the
> "surface" on which to observe EM waves like on the top of the ocean?

That's an optical illusion, Peter. Ocean waves do not travel on any surface. You may be observing only 1% of the wave. What do you think causes a one foot swell to become a twenty foot wave at the beach? The bottom of the wave is following the ocean bottom as it encounters the beach.

> Can you observe ocean waves at depth in the ocean? No of course not.

Of course you can, Peter. Why do you think a tsunami looks one foot tall in the middle of the ocean and hundreds of feet tall when it reaches land? Hint: It is not one foot tall, it just appears that way to you. That one foot that you observe is just the "tip of the iceberg".
--
73, Cecil http://www.qsl.net/w5dxp

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2727. Re: Question about reflection/transmission coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:30:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3egibv4qp6p0iavq8jt1fmjs6r0umbgv86@4ax.com>
Source record: 118776

On 07 May 2003 06:35:06 GMT, tdonaly@aol.com (Tdonaly) wrote:

>Peter wrote,
>>
>>
>>Cecil:
>>
>>Intel was a great company, probably still is. If for no other reason than
>>it was/is run by "techies" and not MBA/crooks!
>>
>>--
>>Peter K1PO
>>Indialantic By-the-Sea, FL.
>>
>
>Intel may not be run by MBAs but they certainly run the country, now.
>73,
>Tom Donaly, KA6RUH
>

Hi Tom,

Back when Wars were declared, they were called profiteers.

73's
Richard Clark, KB7QHC

2728. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:46:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB94669.5010302@ieee.org>
Source record: 118779

Tdonaly wrote:
> Further, if you were to detach this lossless stub, from the rest
> of the circuit, you would find that the current and voltage
> still exist.

Ahhhh, but you have just changed the boundary conditions. Where there was not a physical impedance discontinuity and no reflections before, there is now a physical open-circuit and 100% reflection.

> What does this suggest?

It suggests that you are talking about total net voltage and current, not about voltage and current wave components. I agree 100% with you about the net values. What you don't seem to realize is that EM waves traveling in opposite directions in a constant Z0 transmission line, don't affect each other. Your net value is the sum of those two waves and it is a useful shortcut but it does not dictate reality to Mother Nature. Your steady-state model of the world reminds me of my Mother's religious model of the world. Noise keeps your model from ever matching reality. :-)

The impedance presented by a stub is a virtual impedance, the *end result* of superposition of waves and NOT the *cause* of anything. If you think a shorted 1/4WL stub blocks current from flowing in the stub, I feel sorry for your grasp of reality. If there is no physical impedance discontinuity at the mouth of the stub, absolutely nothing happens there. Forward waves flow in and reflected waves flow out undisturbed. The fact that they may be equal in magnitude and opposite in phase has absolutely no effect if they are flowing in opposite directions in a constant Z0 environment.
--
73, Cecil http://www.qsl.net/w5dxp

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2729. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:49:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB94724.CD303474@uci.edu>
Source record: 118780

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > It's ridiculous to discuss _energy_ reflections from a load in which all
> > the _energy_ from the source is delivered to the load.

> And all the energy from the source has *NOT* been delivered to the load.

Really? Where did it go? To the moon?

I hope you appreciate receiving such rhetoric as much as you seem to
enjoy dishing it out.

> > That simply cannot and does not happen.
> > It's a conceptual error supported only by a math error.
>
> Would an iota of proof be too much to ask, Jim, or should I just
> simply bow to your divine assertions?

Proof? That generally accepted physical phenomenon occur? How can
cancelled waves carry energy, Cecil? How does an interference null
between two EM fields propagate through a transmission line?

What is missing is your proof that energy is transferred in the
direction of two cancelled waves, that 'power' per se can constructively
and destructively interfere, and that interference causes energy to
reverse direction. You need to be able to prove those things in order
for your paper to have validity. Those are the problems you must solve
in order for your argument to be cogent.

You've got it the wrong way around, Cecil. You must show how
(V3+V4)*(I3+I4) equals something other than zero watts, and how "before
reflection" and "after reflection" has any meaning in the steady state.

ac6xg

2730. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:53:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB94827.3000500@ieee.org>
Source record: 118781

Tdonaly wrote:
> You wouldn't say that if you ever had to paddle a canoe in confused seas.

Well, the situation can certainly get chaotic. Hopefully, that doesn't
happen in a transmission line.

If you are in your fishing boat in the middle of the ocean and a tsunami
wave flows by, you may not even notice it. Above the surface, it may
be one foot tall in five foot seas. Consider a similar boat parked at
the marina about to be hit by that tsunami. Same wave, same energy,
similar boat. Why are the effects so different?
--
73, Cecil http://www.qsl.net/w5dxp

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2731. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 17:58:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <43iibvgtoo9gochnm7c8ev3m5ecgg2dpng@4ax.com>
Source record: 118782

On Tue, 06 May 2003 23:02:55 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>> SWR in the stub can vary widely, but Terman has Fig 4-17 in his 1955
>> edition on page 109. This shows SWR is an inverse function of the length
>> of the shorted stub. SWR is about 1 for a 1/4-wavelength and rises to 20
>> at about .04-wavelength, when the stub is placed as shown on the graph.
>
>Where is the SWR measured? Obviously not halfway down the stub.

Hi Cecil,

Did you even look at Richard's reference?

73's
Richard Clark, KB7QHC

2732. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:06:19 UTC
From: ccox at you aitch see dot comm <spammers@bugger.off.invalid>
Message-ID: <b9bhurfkb1@gabriel.uhc.com>
Source record: 118783
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In rec.radio.amateur.equipment geekdude <google@geekdude.com> wrote:
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.

> If you want to install a ham radio in your car without voiding your
> warranty,
> then I guess you should not buy a new Toyota like I did...

I wonder what happens if you use a high powered radio NEXT to a 2003 Toyota?
--
Chris Cox, N0UK/G4JEC NIC Handle: CC345
UnitedHealthGroup, Inc., MN10-W116, UNIX Services & Consulting
6300 Olson Memorial Highway, Golden Valley, MN 55427
email: ccox@uhc.com (work) chrisc@chris.org (home)

2733. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:08:09 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB94B89.3070107@ieee.org>
Source record: 118784

Dr. Slick wrote:
> Richard and i are saying that no current is flowing INTO the
> stub, which is not to say that current doesn't flow WITHIN the shorted
> stub itself, which does happen.

You guys have been brain-washed into believing your model dictates reality.
Consider the following system driven by a signal generator equipped with
a circulator+load, designated by SGCL.

100w SGCL-+---1/4WL feedline--+--1/4WL feedline--+--1/4WL feedline--open

You are trying to tell me that no current flows at any of the '+' points.
Please explain why the circulator load resistor is dissipating almost 100w.

> The forward and reflected voltages cause the standing waves, and
> there is no current flow at the points of maximum voltage swing.

There is no *NET* current flow but the forward and reflected currents
have absolutely nothing to inhibit their flow. There is no physical
impedance discontinuity.

You guys are engaging in circular logic confusing cause and effect.
The addition of forward and reflected currents of equal magnitudes and
opposite phases flowing in opposite directions causes zero net current.
Therefore, the zero net current causes the forward and reflected currents
to go to zero. Can't you see how convoluted that logic is?

> Similarly, you cannot say there is much current flow at the
> points of max voltage swing.

There is minimum *NET* current flow. But the forward current and
reflected current have not been diminished one iota. The forward
and reflected currents cause the net current to be zero. They
cannot turn around and then cause themselves to be zero. That's
a simple confusion of cause and effect.

Consider that if a zero net current causes the forward and reflected
current components to become zero, there could NEVER be a current
maximum point.

> Likewise, no electrons or holes have to be transfered, they are
> only a medium through which the wave travels.

My point exactly. EM waves flowing in opposite directions in a
transmission line have no effect on each other.
--
73, Cecil http://www.qsl.net/w5dxp

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2734. Re: Painting the Antenna - Down with Home Owners Associations!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:08:56 UTC
From: "F. C. Wolfgram" <w4wwk@erols.com>
Message-ID: <3EB94BB8.E0762432@erols.com>
Source record: 118785

Ken,I've painted ALL my antennas flat black which I find actually makes them more invisible than camo or any other color.I have used a number of brands of paint,usually paying about $.98 a can and have had NO trouble with any even up at 449 Mhz.Once the paint dries,the antenna doesn't even know it's there.My VHF and UHF verticals are all suspended with dacron (black) ropes thrown over tree branches,even I have a tough time finding them>Hope this helps.Frank

Ken Coghill wrote:

> Hello Group,
> I'm sure this question has been asked and answered many times, but I've
> failed to notice.
>
> I would like to help reduce the visibility a.k.a. camouflage a 2/440
> J-Pole; aluminum or copper - have not decided which.
>
> Any suggestions, recommendations? I've been advised not to use any
> metallic based paints.
>
> Krylon has a "Camouflage Lt. Gray" but I've no information on the
> product even after emailing Krylon.
>
> Thanks - For those going to Dayton - Have a great time!!! Maybe next
> for me and the Wife (KG4QXO).
>
> Ken, WB4ZOH

2735. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:13:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB94CC9.3020700@ieee.org>
Source record: 118786

Richard Harrison wrote:
> R-F produces transients. Key-clicks are an example, but we have CW
> transmissions. CW (continuous-wave) is named for the steady-state.

And Mother Nature produces noise, a transient condition impossible
from which to escape. Peter's steady-state *NEVER* exists in reality.
I can't disprove my Mother's idea that God created the earth 5372
years ago just as it was then. The dinosaurs never actually lived.
All that ever existed was dinosaur bones, which God, in his infinite
wisdom, laid under the ground when he created the world. Sounds a
lot like Peter's steady-state ideas to me. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2736. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:52:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbilele0iq329a@corp.supernews.com>
Source record: 118788

Andy Cowley wrote:
> Dear All,
>
> I've always understood 'resonant dipole' or 'half-wave dipole' to be special
> cases of the general class 'dipole', which I understand to mean any electrically
> symmetrical antenna. 'Doublet' is given as an equivalent, alternate term by most
> definitions I can find on-line. The U.S. patent department, for instance, uses
> 'doublet' throughout for all 'dipole' antennas.
>
> So :-
>
> A resonant dipole antenna is one cut to be 1/2,3/2,... lambda. One must of
> course specify the frequency of interest. E.g. 'The G5RV is a 20 m resonant
> dipole'

Although tecnically correct, that last statement would very likely
result in misunderstanding, at least in the amateur community. Many
people would infer that a "20 m resonant dipole" is a 20 m *half
wavelength* resonant dipole. So to effectively communicate, you'd need
to add some additional information.

> A half wave dipole antenna is a sub-class of resonant dipole. E.g. 'Each side
> of a 2 m half wave dipole is about 19 1/2" long.'

And it's sometimes necessary to realize that a "half wave" dipole is a
bit shorter than a free-space half wavelength long.

> A dipole antenna is _any_ antenna having two symmetrical radiating elements.
> E.g. 'A wire dipole antenna of 35 metres overall length can be tuned with a
> suitable matching network to work efficiently on any amateur band from 160 m
> to 10 m'
>
> In other words a dipole is still a dipole even if it is not resonant at the
> frequency of interest. >
> The word 'doublet' may be substituted for the word 'dipole' in any antenna
> context. It is more frequent in U.S. usage.
>
> I find that dipole is used in many ham contexts to mean 'resonant dipole'
> and there is some usage of 'doublet' to mean a non resonant dipole, but
> the U.S. patent department does not follow this distinction.
>
> What are the correct definitions and how would you describe a non
> resonant balanced antenna?

In a case like this, a "correct definition" is largely one of
traditional usage. A good way to get an idea of the accepted usage in

the professional sphere is to consult some respected and fairly contemporary texts. Kraus, in _Antennas_, 2nd Ed. (1988) says that a very short center fed antenna is called a dipole. He seems to avoid using this term for longer antennas, instead calling them "linear center-fed" antennas. However, he does occasionally call a longer, resonant or non-resonant center fed antenna a "dipole". (Cf. p. 223.) Jordan and Balmain's _Electromagnetic Waves and Radiating Systems_ (2nd Ed.) is a bit older (1968). They call center fed antennas of any length "dipoles". Lee and Lo, in _Antenna Handbook_ (1993), also use this convention. So you'd be in good company if you call a linear center fed antenna of any length a "dipole".

Resonance is strictly a characteristic of the feedpoint impedance, and indicates that the impedance is purely resistive. For a given antenna, this happens at multiple frequencies, as you've mentioned. So strictly speaking, a dipole or most other antennas are resonant only on particular frequencies -- one that's resonant at the bottom of the band isn't resonant at the top. But common usage would include a nearly-resonant antenna in the group called "resonant".

In my experience, I haven't seen "doublet" used outside the amateur community in this country. And within this country, I haven't heard the term in a long time, except for Cecil's occasional reference. So I get the feeling that its use has pretty much faded from the common lexicon. I don't think it's ever been very well defined -- I recall a number of heated arguments in the past about what should be a "doublet" and what should be a "dipole", with no general agreement. The _ARRL Antenna Book_ is a pretty good indicator of current U.S. amateur usage. "Dipole" is defined in the glossary as "An antenna that is split at the exact center for connection to a feed line, usually a half wavelength long. Also called a 'doublet'." "Doublet" is defined as follows: "See dipole." They've obviously chosen the term "dipole" for general use, since a long list of entries appears under this term in the index. There are no index entries for "doublet".

Roy Lewallen, W7EL

2737. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:53:02 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9560E.7030001@ieee.org>
Source record: 118789

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
> I hope you appreciate receiving such rhetoric as much as you seem to
> enjoy dishing it out.

You started it, Jim. Nobody else in my entire life has ever
threatened me with loss of friendship if I didn't adopt his
ideas as my own.

> Proof? That generally accepted physical phenomenon occur? How can
> cancelled waves carry energy, Cecil?

How can waves not carry energy, Jim? Please prove that the wave
reflected from a mismatched load carries no energy. Since all
the energy isn't delivered to the load and you say none is carried
by the reflected wave, where did the excess energy go?

> What is missing is your proof that energy is transferred in the
> direction of two cancelled waves, ...

The wave reflection model proves that, Jim. For any wave in a transmission
line where the voltage and current are in phase (or 180 degrees out of
phase) the intrinsic joules/sec in that wave is forced to V*I. The
ratio of V/I is forced to Z0.

> You've got it the wrong way around, Cecil. You must show how
> (V3+V4)*(I3+I4) equals something other than zero watts, ...

Already accomplished but I will repeat it for you here. The joules/sec
reflected from a mismatched load are Pfwd2(rho^2) resulting in a voltage
of Vref2 and a current of Iref2 traveling rearward toward the source.
Vref2*Iref2=Pref2=Pfwd2(rho^2). Vref2/Iref2=Z02. Assume that the reflection
coefficient at the load and the reflection coefficient at the Z0-match
point have equal magnitudes.

When Wave(Vref2,Iref2) containing an intrinsic energy of Pref2 joules/sec
encounters the Z0-match point, Pref2(rho^2) will be re-reflected and
Pref2(1-rho^2) will flow straight into the Z0-match point. Up to this
point, there is absolutely nothing to reverse the flow of Pref2(1-rho^2)
which is P4 in my article. We know that Pref2(1-rho^2) doesn't make it
through the Z0-match point. So how does Pref2(1-rho^2) get its direction
reversed? Walter Maxwell says a virtual short causes it to change direction.
You and Dr. Best say it doesn't change direction but offer no explanation
of where it goes if it doesn't head back toward the load. And we can prove
through forward/reflected measurements that it does head back toward the load.

We know from b1=s11*a1+s12*a2 that if b1=0 then s11*a1 = -s12*a2

s11*a1 is associated with Pfwd1(rho^2). s12*a2 is associated with Pref2(1-rho^2).

We know that Pref2(1-rho^2) is traveling rearward toward the source but changes directions at the Z0-match and flows back toward the load.

By the process of elimination of all other possibilities, I have concluded that wave cancellation changed the direction of travel of Pref1(1-rho^2). Since wave cancellation can only happen between two waves of equal magnitudes and opposite phases traveling in the same direction, it means that Pfwd1(rho^2) is also starting to travel toward the source but is immediately canceled.

This ain't rocket science, Jim. Given that reflected energy exists in the system and no reflected energy reaches the source, the reflected energy is re-reflected back toward the load. The only question is how? By the process of elimination, I have concluded that wave cancellation is the cause. You have offered no better valid explanation, just a lot of smoke and mirrors.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2738. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 18:56:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB956D4.5000306@ieee.org>
Source record: 118790

Richard Clark wrote:
> Did you even look at Richard's reference?

No, I don't have Richard's reference. That's why I asked
questions about it.

Richard, we are still waiting for you to demonstrate a
virtual image of an object without using the real reflections
off of that object. When are you going to produce what you
promised?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2739. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:02:25 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB95864.3030109@adelphia.net>
Source record: 118791

Brian Kelly wrote:

> Carl is going to Geneva to make sure it *does* happen Dee. And there's
> a rumor floating around to the effect that his fellow NCI member and
> ardent supporter Lenny will be his political advisor in Geneva.

Hmmm... with Lenny there arguing against CW, they will not only retain
the requirement, they will raise it to 20wpm!

How did this topic get on rraa?

- Mike KB3EIA -

2740. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:04:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbim5g1ien4ja8@corp.supernews.com>
Source record: 118792

It's obvious that you understand what you're saying, and the point you're making is certainly a valid one. The suggestion I posted does answer the question you ask at the end of your first paragraph -- what you're calling "antenna gain" or "element gain" has a common and accepted nomenclature -- "directive gain". I'm just suggesting using that term when it applies.

The directive gain of an infinitesimally short dipole or monopole is less than a half dB smaller than the directive gain of a half wavelength dipole or quarter wavelength monopole. The often very substantial difference in gain seen in practice between the two lengths is almost all due to a difference in efficiency due to practical limitations, not in the fundamental property of directive gain. Carelessness in distinguishing the cause of the difference has generated a good deal of misunderstanding about fundamental antenna operation. So I'm really glad to see that you're explicitly separating the two properties (efficiency and directivity) that contribute to gain, and looking separately at what affects each.

Roy Lewallen, W7EL

Mark Keith wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vbdi2b1jguo47@corp.supernews.com>...
>
>>Mark Keith wrote:
>>
>>>True, but there is no directive gain with a short vertical. We are
>>>straying from the antenna being discussed to include directive gains.
>>>
>>
>>Using the conventional definition of comparison with a non-directive
>>(spherical) pattern, a short dipole has a directive gain of 1.74 dB. A
>>short vertical has the same directive gain, providing that you're using
>>a hemispherical pattern as the reference for the vertical. But it's also
>>fine to talk about directive gain with respect to some other reference.
>>If a quarter wave vertical is your reference, for example, then a very
>>short vertical has a directive gain of about -0.45 dB. (Remember that
>>directive gain is a three-, not two-dimensional measure.)
>
>
> True. That's why I said the gain from an "extended" vertical such as a
> 1/2 or 5/8 wave would qualify as "antenna gain" to me. I guess what
> I'm trying to distinguish are gains from extended antenna element
> lengths vs efficiency when describing verticals. Being the shorter

> than 1/4 wave vertical will not have any gain from extended element
> length compared to a monopole, any improvements in "gain" or FS, are
> due to increased efficiency compared to the monopole. I'm not sure how
> to label each type of gain. Antenna "element" gain ?? will always
> reduce FS in some certain direction, while increasing in another.
> Correct?
>
> Just improving efficiency only to provide "gain", does not reduce FS
> in any direction. It increases FS in all directions in equal ratios
> equal to the original pattern. IE: if efficency is raised to provide a
> 1 db gain in a certain direction, you will see that same 1 db
> improvement in all directions. I guess that one way to describe it...
> You would not see that improvement in all directions if the gain is
> provided by changing element lengths, etc alone. IE: 1/2 wave or 5/8
> as an example. Some direction will always lose a bit.
> I guess this is what I'm trying to say overall. These two different
> methods of providing "gain", provide different results in the end.
>
>>.
>>
>>A whole lot of misunderstanding about antennas (and a mulitiude of other
>>topics!) is caused by different people putting different meanings on
>>different words. My posting was intended for people who want to
>>communicate by using words that have commonly understood meanings. I'm
>>confident that the rest of the readers felt free to ignore it.
>
>
> I guess it boils down to a personal disdain for calling improved
> efficiency only, as "gain". Although technically correct, I prefer to
> just call it improving efficiency. "Compared to a monopole in this
> case". I like to reserve "gain" for true antenna element "gains"
> which are due to extended elements, adding reflectors, directors, etc,
> and always leave at least one direction in poorer shape than it began.
> ...But this is a personal problem I guess...:/
>
> I don't want to mangle the meaning of words, which I'm sure I do. But
> hopefully you all see where I'm coming from when describing "gains" as
> it applies to short mobile antennas. My terminology is probably
> suspect though...:/ MK

2741. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:06:17 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <03mibvc0djfr81te53saidg87ggado8tgv@4ax.com>
Source record: 118793

On Wed, 07 May 2003 13:56:20 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
> we are still waiting
got a mouse in your pocket?

2742. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:12:17 UTC
From: Nitespark <"nitespark\\@nosp@m-cox.net>">
Message-ID: <lUcua.35304$g41.3090418@news1.east.cox.net>
Source record: 118794
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Doug Kanter wrote:
> "dj" <DaleJ@nospam.com> wrote in message
> news:DaleJ-E99DDB.15471406052003@apollo-ge0.rdc-kc.rr.com...
>
>>
>>By the way, I would have to think the police vehicles are rfi proofed??
>>
>
>
> Except for the tires, the Crown Victorias bought by the police are virtually
> identical to what you or I can buy, assuming we get the handling package
> (which is pretty nice, actually). What happens to the cars after purchase
> depends on the individual department.

Not true. The suspension on the Police package Crown Vic is tighter
(more firm). The electrical system is different also to accomodate the
additional load. There may be some other differences such as
transmissions, etc but I am not sure about that.

2743. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:13:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbimnedspv0jb6@corp.supernews.com>
Source record: 118795

So far I've studiously avoided hitting this tar baby, but my curiosity has been piqued to the point that I can't avoid taking one little poke at it.

Your response to Peter's conjecture about there being no reflections in steady state was that there's always noise that causes reflections. A question I didn't see asked is whether you agree, as you seem to, that if there were no noise, there would be no reflections in steady state?

Of course there's always noise. But like loss and a handful of other phenomena, it's often useful in promoting understanding of a system to purposefully put these aside so that other issues can be investigated and understood without unnecessary obfuscations.

If there weren't any noise, would there be reflections in steady state? If so, why do you consider noise so important? If not, then you fundamentally disagree with what Peter has said, and I don't believe you've explained why.

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Richard Harrison wrote:
>
>> R-F produces transients. Key-clicks are an example, but we have CW
>> transmissions. CW (continuous-wave) is named for the steady-state.
>
>
> And Mother Nature produces noise, a transient condition impossible
> from which to escape. Peter's steady-state *NEVER* exists in reality.
> I can't disprove my Mother's idea that God created the earth 5372
> years ago just as it was then. The dinosaurs never actually lived.
> All that ever existed was dinosaur bones, which God, in his infinite
> wisdom, laid under the ground when he created the world. Sounds a
> lot like Peter's steady-state ideas to me. :-)

2744. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:15:17 UTC
From: Doug Kanter <dkanter@frontiernet.net>
Message-ID: <9Xcua.5340$Nv1.3034@news02.roc.ny.frontiernet.net>
Source record: 118796
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

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"Nitespark" <""nitespark\"@nosp@m-cox.net> wrote in message
news:lUcua.35304$g41.3090418@news1.east.cox.net...
>
>
> Doug Kanter wrote:
> > "dj" <DaleJ@nospam.com> wrote in message
> > news:DaleJ-E99DDB.15471406052003@apollo-ge0.rdc-kc.rr.com...
> >
> >>
> >>By the way, I would have to think the police vehicles are rfi proofed??
> >>
> >
> >
> > Except for the tires, the Crown Victorias bought by the police are
virtually
> > identical to what you or I can buy, assuming we get the handling package
> > (which is pretty nice, actually). What happens to the cars after
purchase
> > depends on the individual department.
>
> Not true. The suspension on the Police package Crown Vic is tighter
> (more firm). The electrical system is different also to accomodate the
> additional load. There may be some other differences such as
> transmissions, etc but I am not sure about that.
>

There's a transmission oil cooler which, according to the dealer, can be had
on a "civilian" car for towing purposes.
```

2745. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:21:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB95CC3.2B06AE95@uci.edu>
Source record: 118797

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Proof? That generally accepted physical phenomenon occur? How can
> > cancelled waves carry energy, Cecil?
>
> How can waves not carry energy, Jim?

Better question: How can cancelled waves both exist, and not exist
simultaneously in the steady state?

> Please prove that the wave
> reflected from a mismatched load carries no energy.

You don't read very well when you're angry.

> Since all
> the energy isn't delivered to the load and you say none is carried
> by the reflected wave, where did the excess energy go?

There is no "excess energy".

> > What is missing is your proof that energy is transferred in the
> > direction of two cancelled waves, ...

> The wave reflection model proves that, Jim.

No it doesn't.

> > You've got it the wrong way around, Cecil. You must show how
> > (V3+V4)*(I3+I4) equals something other than zero watts, ...

> The joules/sec
> reflected from a mismatched load are Pfwd2(rho^2) resulting in a voltage
> of Vref2 and a current of Iref2 traveling rearward toward the source.

Why do you keep saying mismatched load? Does the match transform the
input impedance to the load impedance, or not? Is all the available
power from the source absorbed by the load, or not?

> You and Dr. Best say it doesn't change direction but offer no explanation
> of where it goes if it doesn't head back toward the load.

I'll just cut and paste what I have already said each time you 'forget'
from now on. I'm really tired of typing it over and over again.

It's ridiculous to discuss _energy_ reflections from a load in which all
the _energy_ from the source is delivered to the load. When the fields
in the reflected waves cancel, as is the case in the steady state in an

impedance matched system, _energy_ is not reflected, or re-reflected. _Energy_, real useable energy, simply isn't transferred back and forth in the way you envision.

(V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But their field cancellation represents zero energy transfer. Your mistake is in trying to make power (a virtual commodity in transmission lines), V3*I3 interfere with V4*I4. That simply cannot and does not happen. It's a conceptual error supported only by a math error.

Energy is only reflected in a mismatched system, and even then it is only that portion of the total energy represented by the uncancelled portions of the reflected waves; that for which the net fields are non-zero in the direction of interest. That is the benchmark in any situation in which travelling waves combine non-ortohogonally.

And also -

The point is simply that energy doesn't have to re-reflect (your idea) in order to do so. The energy in question is NOT REFLECTED TO BEGIN WITH. The waves cancel in that direction. No net field, no net energy. There's no need for your inexplicable re-reflection to occur - nor your machinations to try to illustrate such. All that is required is a tiny reorientation in your thinking about the subject. Conservation of energy holds. Wave reflection holds. You just have to account for the fact that energy is not actually transferred in the direction of field cancellation, but is instead transferred in the direction of constructive interference. It's not a problem to show how the wave components move around in the system. The only problem is when to extend the idea too far, and start claiming that energy ALWAYS moves with them. It's true that energy almost always moves with waves. Except.....

In the special case we're looking at, the wave components cancel in the direction rearward of the load. That means that energy cannot move in that direction. Since it does not, we don't have to worry about energy finding a way to get back to the load. That is the problem with your paper. There's no physical mechanism to explain such a turnabout of energy. This doesn't bother you because you know the energy does actually end up at the load in the end anyway. The reason wave reflection doesn't actually present a problem is because in the matched case, energy doesn't reflect off the match. Since the energy doesn't reflect off the match, all of the energy from the source impinges upon the load boundary. A wave is reflected from the load but that wave, being equal in amplitude by opposite in phase (note the two reflection coeffieicients must be the same), is the one which cancels the reflection from the match, and no net energy moves in the rearward direction from either the match or the load.

This of course assumes steady state is actually reached, and that there are no losses, and that the amplitudes are perfectly matched, and the phases are exactly 180 degrees - granted, none of which ever actually

occur in nature. In which case, some energy is obviously reflected back to the source.

Your wave reflection model works fine, Cecil - to a point. That 'point' is Fig. 3. in part II, and your claim about energy reversing direction. Otherwise, as I have said before, it's an excellent piece of work.

Here again -

Physics says that energy and
intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2 cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta = 0, I = zero. Energy is zero at interference nulls. Period. Note what the intensity is at the nodes. You might try re-working the problem taking that into consideration. Just some kindly advice, Cecil.

There was this also:

"If two coherent reflected waves are traveling toward the source and engagte in 100% destructive interference, the energy in those two waves is re-reflected back toward the load."

What I have been trying to tell you is that this in fact does not occur in reality. That is because when these waves engage in 100% destructive interference, this energy does not actually travel back toward the source, and is therefore NOT "re-reflected". That amount of energy was not reflected from the load to begin with. This should be a relief to you, because as I've said before at least a dozen times, there is no physical mechanism for the "re-reflection" of energy that you describe. All you've been able to do is say "it has to because of conservation of energy." What I'm telling you is that is DOESN'T have to because, under these circumstances, the waves involved in destructive interference don't transfer energy back to the second reflection point due to the fact that they are equal in amplitude and out of phase. There is no net energy transfer from the load to the discontinuity, thus no need for it to re-reflect back to the load. Nothing blows up, Cecil.

So Cecil, whenever you'd care to discuss what I've actually written please feel free to quote it and ask questions about it.

73, Jim AC6XG

2746. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:35:30 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305071135.3ca33df8@posting.google.com>
Source record: 118798

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB8856F.8010900@ieee.org>...
> >
> > I noted that was so in the case of the final 1/4-wave of a shorted
> > transmission line, but I meant to imply that was not the usual 1/4-wave
> > shorted stub. Energy delivery to the system depends on the match at the
> > generator end of the line.
>
> Things don't change when you redraw the circuit, Richard. The following
> stub sucks energy into the stub away from the load. Virtually the only
> reflections in the entire system are at the open end of the stub.
>
> Source--------------------------------------+---------------Load
> |
> +---1/4WL open stub--
>

Ok, here we have an open on the Smith Chart, moving "towards the
generator" 1/4 wavelength, which ends up being a virtual short.
So even if both the source and loads are 50 Ohms each, the stub
will indeed destroy the match, and will cause reflections.

> The SWR inside the stub is approximately the same as the SWR between
> the source and the stub.
>

This is an example of how unclear you can be Cecil.

"SWR inside the stub"? You should really say: "SWR looking INTO
the stub"
The SWR between the source and the stub can vary, DEPENDING ON
WHICH DIRECTION YOU MEASURE INTO FROM YOUR PORT ON YOUR NETWORK
ANALYZER.

In other words, if we cut the circuit somewhere between the
source (assume 50 ohms) and the open stub, and measure INTO the
source, we will measure 50 ohms, or a 1:1 SWR.

But, if we measure into the direction of the open 1/4 Lamba
stub, we will measure a short, or 0 ohms, or an Infinite:1 SWR (even
with the 50 ohm load in parallel). This is assuming a loss-less
system, of course.

First and foremost, you have to make yourself clearly understood
before you even have a chance at being understood here, Cecil.

Slick

2747. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 19:36:28 UTC
From: ccox at you aitch see dot comm <spammers@bugger.off.invalid>
Message-ID: <b9bn7snpp1@gabriel.uhc.com>
Source record: 118799
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In rec.radio.amateur.equipment Vito <vito@crosslink.net> wrote:
>> .... NIC Handle: CC345

> Is that one of them thar freebander handles? (c:
No.

--
Chris Cox, N0UK/G4JEC NIC Handle: CC345
UnitedHealthGroup, Inc., MN10-W116, UNIX Services & Consulting
6300 Olson Memorial Highway, Golden Valley, MN 55427
email: ccox@uhc.com (work) chrisc@chris.org (home)

2748. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 20:12:08 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3eb965f3.444780765@news.galilei.com>
Source record: 118800
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

My wife had a Toyota Corolla

If she parked in any of 4 different parking spots at her place of employment, all kinds of weird things would happen.

The windshield wipers would cycle, the radio change channels, the service lights come on, the doors lock and unlock by themselves, etc. The list goes on and on.

It was traced to a paging tower by using a mobile scanner and fox hunt techniques until we found that each time a particular company sent out a voice page her car would do something weird.

It was not only her Toyota, but several other cars that parked in any of those 4 parking spaces also had some weird things happen, many resulting in a dead battery by the end of the work day.

The FCC was notified of the problem, but it wan't until the FAA became involved that something was done and the paging company replaced some components. I have no idea how the FAA became involved, but apparently they were messing up something on the airplanes also.

I do a lot of driving and have unexplained things happen also when near large or high power transmitting or cellular towers. But have not had any problems from any of my ham gear and the car.

There is a section along interstate 24 about 2 miles off of interstate 57 where my vehicle dies momentarily. The first time this happened I though it was the car. The second time I thought it a rare coincidence. After the third time I started making a note of the milage from highway 57 when it occurred and it occurs at exactly the same point on the highway each and every time I pass through if I'm in the outside lane. The car seems unaffected if I'm in the inside lane.

I'm sure it was some type of radio interferrence that I had not yet found on my scanners when the problem finally quit happening. But now I have a new problem. The hatch pops open in roughly the same area, give or take about 2/10 of a mile. At least the engine doesn't die!

TTUL
Gary

2749. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:04:41 UTC
From: Philip&#65533; <chipstate@earthlink.net>
Message-ID: <Jxeua.60097$ey1.5412646@newsread1.prod.itd.earthlink.net>
Source record: 118801
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Gary V. Deutschmann, Sr." <raiar@bbs.galilei.com.nospam> wrote in
message news:3eb965f3.444780765@news.galilei.com...
> My wife had a Toyota Corolla
>
> If she parked in any of 4 different parking spots at her place of
> employment, all kinds of weird things would happen.
>
> The windshield wipers would cycle, the radio change channels, the
> service lights come on, the doors lock and unlock by themselves, etc.
> The list goes on and on.
>
> It was traced to a paging tower by using a mobile scanner and fox
hunt
> techniques until we found that each time a particular company sent
out
> a voice page her car would do something weird.
>
> It was not only her Toyota, but several other cars that parked in any
> of those 4 parking spaces also had some weird things happen, many
> resulting in a dead battery by the end of the work day.
>
> The FCC was notified of the problem, but it wan't until the FAA
became
> involved that something was done and the paging company replaced some
> components. I have no idea how the FAA became involved, but
> apparently they were messing up something on the airplanes also.
>
> I do a lot of driving and have unexplained things happen also when
> near large or high power transmitting or cellular towers. But have
> not had any problems from any of my ham gear and the car.
>
> There is a section along interstate 24 about 2 miles off of
interstate
> 57 where my vehicle dies momentarily. The first time this happened I
> though it was the car. The second time I thought it a rare
> coincidence. After the third time I started making a note of the
> milage from highway 57 when it occurred and it occurs at exactly the
> same point on the highway each and every time I pass through if I'm
in
> the outside lane. The car seems unaffected if I'm in the inside
lane.
>

> I'm sure it was some type of radio interferrence that I had not yet
> found on my scanners when the problem finally quit happening. But
now
> I have a new problem. The hatch pops open in roughly the same area,
> give or take about 2/10 of a mile. At least the engine doesn't die!
>
> TTUL
> Gary
>
>

You make a splendid case supporting my contention that cars need less electronic body controls. Lots of cars (an increasing number since the early 1990's) have a "body ECU" that controls just the non engine & transmission gadgets.
--

-Philip-

freedom of speech
does not mean
freedom from consequences

2750. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:12:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB976BD.4060207@ieee.org>
Source record: 118802

Roy Lewallen wrote:
> If there weren't any noise, would there be reflections in steady state?

I don't know if you realize it or not, but Peter has presented a Catch-22 situation. If every cycle is identical to the last one, how can you ever distinguish between them? You can't. It is similar to trying to prove which twin committed the crime based solely on DNA. So random noise, as modulation unwelcome by Peter to the waves, is introduced by Mother Nature, it can prove there is no such thing as steady-state. Thus, I avoid Peter's Catch-22. There is almost always a Catch-22 flip-side to the Catch-22 situation.

Of course, there are always reflections from an unmatched load. But they are hard to prove when you cannot tell the forward energy from the reflected energy. Add a glitch of random noise and all will be revealed. The signature random noise will appear as reflections back at the match point.

So Peter must now propose that random noise undergoes reflection but the transmitted wave doesn't. That model works, but gets mighty complicated.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2751. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:13:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB976E7.479DAF4@uci.edu>
Source record: 118804

OC_CAM's Razor wrote:
> How can waves not carry energy, Jim?

Waves do have energy associated with them. But let's be specific. In the case we're looking at Cecil, there are a couple of interesting waves. One of them is being reflected from the load, and the other is reflected from the match. In the ideal scenario described in your paper, these two waves are equal in amplitude and opposite in phase. They cancel perfectly resulting in no net field toward the source, and no net energy being transferred from the load or from the discontinuity back toward the source. Why? Because there exists an impedance match between the source and load. The two boundaries involved have equal reflectivities. With the same energy impinging on both boundaries in the steady state, the reflected waves are equal in amplitude and opposite in phase and thus prevent a transfer of energy in the direction of the reflection.

> Please prove that the wave
> reflected from a mismatched load carries no energy.

A wave, that carries no energy? I never said anything about that. I said waves that cancel carry no energy. Why do you refuse to acknowlege the difference in these two ideas?

> Since all
> the energy isn't delivered to the load and you say none is carried
> by the reflected wave, where did the excess energy go?

If all the energy isn't delivered to the load, then you are evidently not talking about a matched system. I was.

> Given that reflected energy exists in the system
> and no reflected energy reaches the source, the reflected energy is re-reflected
> back toward the load.

Reflected _energy_ in an impedance matched system is NOT a given. It is non-existant. You keep repeating the same stupid error.

ac6xg

2752. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:15:39 UTC
From: tdonaly@aol.com
Message-ID: <20030507171539.26363.00000898@mb-m19.aol.com>
Source record: 118803

Cecil wrote,
>
>Tdonaly wrote:
>> Further, if you were to detach this lossless stub, from the rest
> > of the circuit, you would find that the current and voltage
>> still exist.
>
>Ahhhh, but you have just changed the boundary conditions. Where there
>was not a physical impedance discontinuity and no reflections before,
>there is now a physical open-circuit and 100% reflection.
>

Yes, and absolutely nothing has changed inside the quarter wave stub.
73,
Tom Donaly

2753. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:23:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9794F.7070400@ieee.org>
Source record: 118805

Tdonaly wrote:
> Cecil wrote,
>>Ahhhh, but you have just changed the boundary conditions. Where there
>>was not a physical impedance discontinuity and no reflections before,
>>there is now a physical open-circuit and 100% reflection.
>>
> Yes, and absolutely nothing has changed inside the quarter wave stub.

So what? Last time I checked, the IQ of a stub was pretty low. Has
something changed? Have stubs recently qualified for MENSA membership?
Should I change, "Dumb as a stub" to "Dumb as a stump"?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2754. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:36:02 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EB97C42.C28CB28A@crosslink.net>
Source record: 118787
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

ccox at you aitch see dot comm wrote: ...
>
> I wonder what happens if you use a high powered radio NEXT to a 2003 Toyota?
> --

According to a TV spot Cops are playing with a toy-like vehicle they
send under a car then xmit an EMP that shuts down the car's electronics.

> .... NIC Handle: CC345

Is that one of them thar freebander handles? (c:

73, K3DWW

2755. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:41:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB97D7E.9010508@ieee.org>
Source record: 118806

Jim Kelley wrote:
> OC_CAM's Razor wrote:
> In the ideal scenario described in your
> paper, these two waves are equal in amplitude and opposite in phase.
> They cancel perfectly ... Why?

Because they are equal in magnitude and opposite in phase, of course.
They each possess intrinsic energy equal to V*I as specified by the
wave reflection model. That intrinsic energy must go somewhere according
to the conservation of energy principle. Waves can be canceled. Energy
CANNOT be destroyed. Any two bona fide waves that are canceled in a
transmission line, *MUST* result in reflected energy. The conservation
of energy principle will not allow anything else.

> A wave, that carries no energy? I never said anything about that.
> I said waves that cancel carry no energy. Why do you refuse to
> acknowlege the difference in these two ideas?

Because there is NO difference. If a wave exists, it carries energy.
All your diversions and mealy-mouthing will not change that law of
physics. Either a wave exists or it doesn't. If it exists, it carries
intrinsic energy.

> If all the energy isn't delivered to the load, then you are evidently
> not talking about a matched system. I was.

Nobody has been talking about the trivial case of a flat system. This
is just another one of your diversions. If the ZL is different from the Z0,
the load is mismatched, by definition. Why are you so afraid to discuss a
mismatched load?

> Reflected _energy_ in an impedance matched system is NOT a given. It is
> non-existant. You keep repeating the same stupid error.

You keep repeating the same stupid statements. Either a load is mismatched
or it is not. We are not discussing flat systems. If you desire to discuss
a flat system, please feel free to do so in another thread. We are here
discussing systems where ZL is different from Z0, mismatched by definition.

Enjoy your discussion of flat systems. I won't be participating because they
bore me to death.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2756. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 21:52:04 UTC
From: mers-el-kebir <karl_galster@yahoo.com>
Message-ID: <8efua.3507$4O6.466149@ursa-nb00s0.nbnet.nb.ca>
Source record: 118807
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Gary V. Deutschmann, Sr." <raiar@bbs.galilei.com.nospam> wrote in message
news:3eb965f3.444780765@news.galilei.com...
> My wife had a Toyota Corolla
>
> If she parked in any of 4 different parking spots at her place of
> employment, all kinds of weird things would happen.
>
> The windshield wipers would cycle, the radio change channels, the
> service lights come on, the doors lock and unlock by themselves, etc.
> The list goes on and on.
>
> It was traced to a paging tower by using a mobile scanner and fox hunt
> techniques until we found that each time a particular company sent out
> a voice page her car would do something weird.
>
> It was not only her Toyota, but several other cars that parked in any
> of those 4 parking spaces also had some weird things happen, many
> resulting in a dead battery by the end of the work day.
>
> The FCC was notified of the problem, but it wan't until the FAA became
> involved that something was done and the paging company replaced some
> components. I have no idea how the FAA became involved, but
> apparently they were messing up something on the airplanes also.
>
> I do a lot of driving and have unexplained things happen also when
> near large or high power transmitting or cellular towers. But have
> not had any problems from any of my ham gear and the car.
>
> There is a section along interstate 24 about 2 miles off of interstate
> 57 where my vehicle dies momentarily. The first time this happened I
> though it was the car. The second time I thought it a rare
> coincidence. After the third time I started making a note of the
> milage from highway 57 when it occurred and it occurs at exactly the
> same point on the highway each and every time I pass through if I'm in
> the outside lane. The car seems unaffected if I'm in the inside lane.
>

Any Foo Fighters flying along beside you at the time ?

Could be the explanation

2757. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 22:13:40 UTC
From: richardharrison@webtv.net
Message-ID: <5464-3EB98514-81@storefull-2313.public.lawson.webtv.net>
Source record: 118808

CAM, W5DXP wrote:
"If you think a shorted 1/4WL stub blocks current from flowing in the stub, I feel sorry for your grasp of reality."

Ease off! Tdonaly may have been told that on good authority. I just came across "Navy Training Courses, NAVPERS 10190" which on page 330 discusses metallic insulators. It says:

"The quarter-wave section of line has a minimum impedance at the bottom end due to the short circuit at that point. The other end, points A and B, assume a very high impedance by virtue of their quarter-wave distance from the point of short circuit."

The illustration says:
"Quarter-wave section welded to metal plate. Copper or steel rods forming quarter-wave resonant line."

The quarter-wave short circuit stub has the characteristics of a parallel resonant circuit. That circuit only takes enough current to supply its oscillatory losses. Current in the resonant circuit only needs to be enough to drop a counter-emf equal to IXL or IXC across the reactances. If the reactances are high, the initial current is small. If the losses are small, the steady-state current into the resonant circuit is small. The counter-emf matches the imposed emf to avoid current into the tuned circuit.

Earlier, I explained how the 360-degree phase rotation produces a similar counter-emf from the quarter-wave stub.

If current in the stub were high, do you think steel would be used for a 1/4-wave short-circuit stub by a service with a fat budget? They would gold plate the circuit if that proved advantageous.

Best regards, Richard Harrison, KB5WZI

2758. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 22:49:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9c2ihejv1@sparta.btinternet.com>
Source record: 118809
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

> Any Foo Fighters flying along beside you at the time ?

==========

For the last 67 years I have been wondering about the meaning of "Foo".

The last time I recall seeing the word in print was in an American 1930's
comic paper.

In those ancient days pull-out comic papers were known as 'the funnies'.

The artist was Bill Holman.

One of his characters said in the balloon "All is not Foo that titters".

Replace Foo with Gold.

Replace titters with glitters.

A funny statement.

I am an Englishman. But what is Foo ?

Reg.

2759. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 22:52:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EB98E18.56B5AC51@uci.edu>
Source record: 118811

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> > In the ideal scenario described in your
> > paper, these two waves are equal in amplitude and opposite in phase.
> > They cancel perfectly ... Why?
>
> Because they are equal in magnitude and opposite in phase, of course.
> They each possess intrinsic energy equal to V*I as specified by the
> wave reflection model. That intrinsic energy must go somewhere according
> to the conservation of energy principle.

Not quite. The fields which represent that "intrinsic energy" are
cancelled. No energy is transferred when the net field is zero. But
you think that's not true, and that's where you're wrong.

>Waves can be canceled. Energy
> *CANNOT* be destroyed.

It's not. It just isn't transferred.

> Any two bona fide waves that are canceled in a
> transmission line, *MUST* result in reflected energy.

This is the error you keep repeating. Energy does not move in the
direction of wave cancellation. This is the solution to the dilema
posed by your mysterious re-refletion problem. The problem you
steadfastly refuse to acknowlege, yet nevertheless exists - as I have
said from the beginning.

> The conservation
> of energy principle will not allow anything else.

But energy is more clever that you are.

> > A wave, that carries no energy? I never said anything about that.
> > I said waves that cancel carry no energy. Why do you refuse to
> > acknowlege the difference in these two ideas?

> Because there is NO difference.

No. In terms of energy, the difference is equal to the energy
tranferred by the uncancelled wave.

> If a wave exists, it carries energy.

Right. But no wave exists when two waves of equal amplitude and
opposite phase cancel each other.

> All your diversions and mealy-mouthing will not change that law of
> physics.

As far as you know, apparently.

> > If all the energy isn't delivered to the load, then you are evidently
> > not talking about a matched system. I was.

> If the ZL is different from the Z0,
> the load is mismatched, by definition.

That's true if there's no intervening matching network. Fig 3 shows an
impedance match. It's a matched _system_ if the impedance
discontinuity's (and by analogy the 1/4 lambda film's) sole function is
to match Z0 to ZL. Are you actually trying to analyze a system by
ignoring an integral part of that system?

> Why are you so afraid to discuss a
> mismatched load?

I'm not. I was discussing your paper. I was discussing the
antireflective coating in Melles-Griot. There certainly isn't any
reflected energy there.
But if we're not discussing an impedance matched system anymore (one in
which all of the available power from the source is dissipated by the
load), then energy is indeed being reflected from the load and we can
finally agree.

2760. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 22:55:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9c2tn$f8u$1@sparta.btinternet.com>
Source record: 118810

Cecil asked -
> Should I change, "Dumb as a stub" to "Dumb as a stump"?

Cecil, the Engish translation is "As thick as two planks".

Keep up the pressure. Wear them down. My money's on you.

Reg.

2761. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:11:34 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB992C9.7000108@adelphia.net>
Source record: 118812
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Vito wrote:
> geekdude wrote:
>
>>I just got off of the phone with Toyota.
>>they told me that if a radio transmitter requires a license to operate,
>>then it's too powerful to use in a 2003 Toyota.
>>
>
> It's not just Toyota. The owners guide for the 1998 BMW motorcycle I
> *used* to own said operating a transmitter on/near it might cause the
> brakes to malfunction. A ham who worked for BMw said it might QRM the
> anti-lock brake computer but that he'd used a 5W handi with no ill
> effect.

You mean that they are admitting that if say a police car (I don't think anyone is going to complain about them having a radio) or a truck with a CB keys up while driving by the BMW bike, and the brakes malfunction and the biker goes down, that they are at fault? How about radar?

This sounds like intelligent design on par with Audi's famous throttle control transistor debacle.

- Mike KB3EIA -

> OTOH my Dodge PU has 7 !! computers running everything from "engine
> management" to dash displays and I have a 50W dual band feeding a mag
> mount. No problems - but YMMV so ...
>
> 73, K3DWW

2762. Re: Looking for advice re: cell phone antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:20:40 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EB994EA.8050203@adelphia.net>
Source record: 118813

mackys@rhinokaosol.net wrote:
> In article <3EB8A0E7.2936EE3B@cwis.net>, 'Doc <w5lz@cwis.net> wrote:
>
>> In your situation, I think I'd have a talk to your
>>mom. Since you mentioned her 'office', and since I
>>would suspect the second phone would be for commercial
>>use, I'd submit a 'bid' for cell phone services.
>
>
> Nope. This is purely personal use. The "office" is just the room
> upstairs that she keeps her computer in.
>
>
>>What's going to be next, an 'exchange' for others in this
>>'hidden valley'?
>
>
> You say that like it's a bad thing. ;] Hell, ElectroComm Distrib
> is in Denver, and easy drive away, and they sell 40' towers...
>
> But anyway, it's a bit late for that, as almost all of the other neighbors
> hav yagi setups already. The ones that don't have resorted to buying 1 and
> 2 watt bag-style cell phones.

Doesn't this place have regular phones?

2763. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:27:50 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9c4po$6kn$1@slb0.atl.mindspring.net>
Source record: 118814

Cecil:

Hmmmm random noise, eh?

Random noise like data modem signals are simply chock full of transients and so echos are expected.

The case you refer to where there is an infinitesimal random noise added to a *big* steady sinusoidal wave
form however is a "joke", how could that even begin to actuate a ham reflectometer [Bird]?

What?

Now if you excite the system with broadband random noise I agree there will be plenty of actual echos.

But in the steady state, i.e. a regime dominated by a strong, steady sinusoidal signal which has been present for more than 5 - 10 time constants, which is where you and most other hams do your SWR and ficticious reflected power measurements, for all practical purposes there are no echos.

I can only assume from your responses, that apart from a few picayune exceptions which might cause infinitesimal echos on top of the large steady state signals simply due to very small noises or remote phase roll, etc... that you agree with this well understood precept.

If so then you must be relieved that you no longer have to envision complicated re-re-re-re reflections with no satisfying physical supporting proof to satisfy your "hunger" for understanding of steady state wave phenomena.

Welcome to the club... b = rho*a, b = V - RI, a = V + RI. That's all there is! Unless you prefer vectors... then
do "scattering" with B = SA, etc... the rank of S depending upon the number of ports on the system/device under examination.

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB976BD.4060207@ieee.org...
> Roy Lewallen wrote:
> > If there weren't any noise, would there be reflections in steady state?
>

> I don't know if you realize it or not, but Peter has presented a Catch-22
> situation. If every cycle is identical to the last one, how can you ever
> distinguish between them? You can't. It is similar to trying to prove
which
> twin committed the crime based solely on DNA. So random noise, as
modulation
> unwelcome by Peter to the waves, is introduced by Mother Nature, it can
prove
> there is no such thing as steady-state. Thus, I avoid Peter's Catch-22.
There
> is almost always a Catch-22 flip-side to the Catch-22 situation.
>
> Of course, there are always reflections from an unmatched load. But they
> are hard to prove when you cannot tell the forward energy from the
reflected
> energy. Add a glitch of random noise and all will be revealed. The
signature
> random noise will appear as reflections back at the match point.
>
> So Peter must now propose that random noise undergoes reflection but the
> transmitted wave doesn't. That model works, but gets mighty complicated.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2764. Re: Suggestion for Cecil,.....et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:30:17 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbj5oo1icc0k1f@corp.supernews.com>
Source record: 118815

It's a tank circuit.
Get a life.

H.,
WN5IGW in Junior High.
1963

MA Physics UTexas 83
NQ5H

Chief Engineer KOKE AM-FM 1974-1975.
Willie owes it all to me.
He broke my 44BX.
And he can keep it.

Reference: J. D Jackson, Classical Electrodynamics.

H.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9c2tn$f8u$1@sparta.btinternet.com...
> Cecil asked -
> > Should I change, "Dumb as a stub" to "Dumb as a stump"?
>
> --
>
> Cecil, the Engish translation is "As thick as two planks".
>
> Keep up the pressure. Wear them down. My money's on you.
> ---
> Reg.
>
>

2765. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:35:55 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9c58ssbv1@slb2.atl.mindspring.net>
Source record: 118816

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB93F17.6090207@ieee.org...
> Peter Brackett wrote:
> > During steady state there are no "echos". Period, end of story.
>
> Sorry Peter, in the real world, noise *always* exists. Noise causes
> echoes. Period, end of story (except for wet dreams, of course. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Now you are really scrambling!

May I ask, just how big are these "noises". Are they 30dB down from the steady state peak values, or perhaps 60dB down or maybe 120dB down... What?

Picky, picky, picky. Those picayune noise echos are so small running along on top of the strong AC sinusoids in the steady state are simply too small to notice. Since a Bird is only rated at 5% accuracy, and 20*log(0.05) = -26dB then the Bird won't even notice them!

Any more challenges? Got physical proof of steady state reflections?

Reflected voltage waves in the AC steady state are a fiction, all that is reall important is the voltage V and the current I at a point on the line where you are measuring, all else can be calculated from those two important fundamental quantities. Even so it is helpful to make use of the "analog" of reflected voltage, and so long live b = V - RI. But hey don't ascribe *real* "power" to b, cuz it is really is only ficticious.

;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2766. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:40:48 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9c5i2$1q$1@slb2.atl.mindspring.net>
Source record: 118817

Cecil:

I'm sorry but that ocean wave analogy is just incomplete and not very similar.

To begin with EM waves have two components the E and H fields which are perpendicular to each other and are perpendicular to the direction of travel [in TEM mode]. If the EM wave is vertically polarized, the E field oscillates/vibrates in the horizontal direction and the H wave oscillates/vibrates in the vertical direction, there is simply no oscillation/vibration in the direction of travel.

Where are the analogs to E and H and their perpendicular wave motions in the ocean?

Where is the bottom of the ocean and the top of the ocean for transmission waves?

Cecil you can only take that ocean wave analogy so far and then it fails to model or simulate EM waves.

Nice try though! ;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EB94288.8020102@ieee.org...
> Peter Brackett wrote:
> > Where is the
> > "surface" on which to observe EM waves like on the top of the ocean?
>
> That's an optical illusion, Peter. Ocean waves do not travel on any
> surface. You may be observing only 1% of the wave. What do you think
> causes a one foot swell to become a twenty foot wave at the beach?
> The bottom of the wave is following the ocean bottom as it encounters
> the beach.
>
> > Can you observe ocean waves at depth in the ocean? No of course not.
>
> Of course you can, Peter. Why do you think a tsunami looks one foot tall in
> the middle of the ocean and hundreds of feet tall when it reaches land?
> Hint: It is not one foot tall, it just appears that way to you. That one
> foot that you observe is just the "tip of the iceberg".
> --

> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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2767. Re: Suggestion for Cecil,.....et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-07 23:47:12 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9c5tvjvh1@sparta.btinternet.com>
Source record: 118818

"H. Adam Stevens wrote -
>
> H.,
> WN5IGW in Junior High.
> 1963
>
> MA Physics UTexas 83
> NQ5H
>
============================

Just a quotation -

" Abandon all Rank ye who enter here ! "

Reg, g4fgq.

2768. Re: Burn all toyotas..no BURN EVERYTHING!! YEAH!! Geeeezzzzz

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 01:50:00 UTC
From: JC <w9jcm@NOSPAMsbcglobal.net>
Message-ID: <cJiua.154$oh1.12211222@newssvr21.news.prodigy.com>
Source record: 118720
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Yes you are correct for sure!
"Vito" <vito@crosslink.net> wrote in message
news:3EB923E5.F67156A0@crosslink.net...
> JC wrote:
> >
> > .. I bought a 2000 tacoma new and installed my 706 in it had no
> > problems with service dept at toyota.
>
> That's prolly typical. Unfortunately there are unethical dealers who
> will tell you that such-n-such isn't covered by warranty because of
> something you did or didn't do, then they collect from BOTH you and the
> manufacturer.
>
> 73, K3DWW

2769. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 01:52:18 UTC
From: Erik Klavon <erik@nospam.eriq.org>
Message-ID: <3EB9B852.1080003@nospam.eriq.org>
Source record: 118721
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Harold Burton wrote:
> A nonsense term frequently uttered by a comic strip character named Smokey
> Stover. He was a fireman and drove a small fire fighting vehicle noted for
> having two wheels and only one axle. No one I ever knew could define Foo and
> I believe this mysterious quality is what led to that eras military pilots
> naming the mysterious WWll
> UFOs Foo Fighters.

From the jargon file: http://catb.org/esr/jargon/html/entry/foo.html

[...]

For, it seems, the word `foo' itself had an immediate prewar history in
comic strips and cartoons. The earliest documented uses were in the
"Smokey Stover" comic strip published from about 1930 to about 1952.
Bill Holman, the author of the strip, filled it with odd jokes and
personal contrivances, including other nonsense phrases such as "Notary
Sojac" and "1506 nix nix". The word "foo" frequently appeared on license
plates of cars, in nonsense sayings in the background of some frames
(such as "He who foos last foos best" or "Many smoke but foo men chew"),
and Holman had Smokey say "Where there's foo, there's fire".

According to the Warner Brothers Cartoon Companion Holman claimed to
have found the word "foo" on the bottom of a Chinese figurine. This is
plausible; Chinese statuettes often have apotropaic inscriptions, and
this one was almost certainly the Mandarin Chinese word `fu' (sometimes
transliterated `foo'), which can mean "happiness" or "prosperity" when
spoken with the rising tone (the lion-dog guardians flanking the steps
of many Chinese restaurants are properly called "fu dogs"). English
speakers' reception of Holman's `foo' nonsense word was undoubtedly
influenced by Yiddish `feh' and English `fooey' and `fool'.

Holman's strip featured a firetruck called the Foomobile that rode on
two wheels. The comic strip was tremendously popular in the late 1930s,
and legend has it that a manufacturer in Indiana even produced an
operable version of Holman's Foomobile. According to the Encyclopedia of
American Comics, `Foo' fever swept the U.S., finding its way into
popular songs and generating over 500 `Foo Clubs.' The fad left `foo'
references embedded in popular culture (including a couple of
appearances in Warner Brothers cartoons of 1938-39; notably in Robert
Clampett's "Daffy Doc" of 1938, in which a very early version of Daffy
Duck holds up a sign saying "SILENCE IS FOO!") When the fad faded, the
origin of "foo" was forgotten.

One place "foo" is known to have remained live is in the U.S. military during the WWII years. In 1944-45, the term `foo fighters' was in use by radar operators for the kind of mysterious or spurious trace that would later be called a UFO (the older term resurfaced in popular American usage in 1995 via the name of one of the better grunge-rock bands). Because informants connected the term directly to the Smokey Stover strip, the folk etymology that connects it to French "feu" (fire) can be gently dismissed.

The U.S. and British militaries frequently swapped slang terms during the war (see kluge and kludge for another important example) Period sources reported that `FOO' became a semi-legendary subject of WWII British-army graffiti more or less equivalent to the American Kilroy. Where British troops went, the graffito "FOO was here" or something similar showed up. Several slang dictionaries aver that FOO probably came from Forward Observation Officer, but this (like the contemporaneous "FUBAR") was probably a backronym . Forty years later, Paul Dickson's excellent book "Words" (Dell, 1982, ISBN 0-440-52260-7) traced "Foo" to an unspecified British naval magazine in 1946, quoting as follows: "Mr. Foo is a mysterious Second World War product, gifted with bitter omniscience and sarcasm."

Earlier versions of this entry suggested the possibility that hacker usage actually sprang from "FOO, Lampoons and Parody", the title of a comic book first issued in September 1958, a joint project of Charles and Robert Crumb. Though Robert Crumb (then in his mid-teens) later became one of the most important and influential artists in underground comics, this venture was hardly a success; indeed, the brothers later burned most of the existing copies in disgust. The title FOO was featured in large letters on the front cover. However, very few copies of this comic actually circulated, and students of Crumb's `oeuvre' have established that this title was a reference to the earlier Smokey Stover comics. The Crumbs may also have been influenced by a short-lived Canadian parody magazine named `Foo' published in 1951-52.

[...]

Erik
KE6IPA

2770. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 01:58:56 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <b9cdl0$8v1$0@208.207.71.174>
Source record: 118722

Wes Stewart wrote:

> On 7 May 2003 02:31:08 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
>
> |
> |
> |'Doc wrote:
> |
> |> Wes Stewart wrote:
> |>
> |> > Actually, I do have a Bird with a crossed needle meter and a dual
> |> > inline sampler, but it's on the two meter rig. I use a 2500W slug
> |> > forward and a 250W slug reverse, but I don't use no stinkin' tuner.
> |>
> |> Good for you (about the 'stinking' tuner)! I don't
> |> use one on two meters either. But then, I didn't waste
> |> money on a Bird... either.
>
> As I recall, the dual line sampler and meter cost all of $10 at a swap
> meet and I had the slugs. When I rebuild the EME antenna, I'll put the
> sampler at the antenna and monitor the power from there.
>
> |
> |I bought a nice shiny Bird 43 once... piece of junk. Sold it and kept my
> |Drake W4.
>
> And how does that Drake work at 500 mHz?

It doesn't. And neither do I! :-)

But I couldn't believe the '43. It was intermittent, the meter movement would stick very often -it was sealed and one couldn't work on it as I have on numerous other mete movements. I also used a Bird 43 for years at work and it wasn't much better. I had to overhaul it several times.

2771. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 02:12:59 UTC
From: TOM <tom7601@cox.net>
Message-ID: <3EB9BD2B.2000403@cox.net>
Source record: 118723
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Gary V. Deutschmann, Sr. wrote:
> My wife had a Toyota Corolla
>
> If she parked in any of 4 different parking spots at her place of
> employment, all kinds of weird things would happen.
>
> The windshield wipers would cycle, the radio change channels, the
> service lights come on, the doors lock and unlock by themselves, etc.
> The list goes on and on.
>
> It was traced to a paging tower by using a mobile scanner and fox hunt
> techniques until we found that each time a particular company sent out
> a voice page her car would do something weird.
>
> It was not only her Toyota, but several other cars that parked in any
> of those 4 parking spaces also had some weird things happen, many
> resulting in a dead battery by the end of the work day.
>
> The FCC was notified of the problem, but it wan't until the FAA became
> involved that something was done and the paging company replaced some
> components. I have no idea how the FAA became involved, but
> apparently they were messing up something on the airplanes also.
>
> I do a lot of driving and have unexplained things happen also when
> near large or high power transmitting or cellular towers. But have
> not had any problems from any of my ham gear and the car.
>
> There is a section along interstate 24 about 2 miles off of interstate
> 57 where my vehicle dies momentarily. The first time this happened I
> though it was the car. The second time I thought it a rare
> coincidence. After the third time I started making a note of the
> milage from highway 57 when it occurred and it occurs at exactly the
> same point on the highway each and every time I pass through if I'm in
> the outside lane. The car seems unaffected if I'm in the inside lane.
>
> I'm sure it was some type of radio interferrence that I had not yet
> found on my scanners when the problem finally quit happening. But now
> I have a new problem. The hatch pops open in roughly the same area,
> give or take about 2/10 of a mile. At least the engine doesn't die!
>
> TTUL
> Gary

Is there a Native American burial site in the area???

Tom - Vista, CA

2772. WANTED: VHF/UHF Dummy Load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 02:24:05 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vbjfvuarp3pue3@corp.supernews.com>
Source record: 118724

I'm looking to buy a dummy load for VHF & UHF... In particular, I hear there are surplus cellular-frequency dummy loads (some manufactured by Decibel see www.decibelproducts.com) can go for around $20...

Please email me at kb5urq@hotmail.com
(Please put DUMMY LOAD in caps so that I can pick out your note from all the spam I get!!)

Thanks,

Jason

2773. Beverage Antenna Size (Expert Question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 02:51:42 UTC
From: lsasmazel@comcast.net
Message-ID: <882020e3.0305071851.437bac1c@posting.google.com>
Source record: 118725

Folks,

I am trying to understand one thing about beverage antennas. I did read a lot of articles including ON4UN's Low-Band DX ing. All information says 1 wave 80-meter beverage size is 295 Feet. I did try to get how this number is calculated but I did not get anywhere.

Formulla I did used is this

Feet = 984(N-0.025)/Frequency <= this calculation considers end effects..

Result is the following lengths ;

Freq N Length Velocity Real Length Feet Length Meter Real Length Meter
3.5 1 274.11 0.98 268.63 83.57 81.90
3.5 1.25 344.40 0.98 337.51 105.00 102.90
3.5 1.5 414.69 0.98 406.39 126.43 123.90
3.5 1.75 484.97 0.98 475.27 147.86 144.90
3.5 2 555.26 0.98 544.15 169.29 165.90
3.6 1 266.50 0.98 261.17 81.25 79.63
3.6 1.25 334.83 0.98 328.14 102.08 100.04
3.6 1.5 403.17 0.98 395.10 122.92 120.46
3.6 1.75 471.50 0.98 462.07 143.75 140.88
3.6 2 539.83 0.98 529.04 164.58 161.29
3.7 1 259.30 0.98 254.11 79.05 77.47
3.7 1.25 325.78 0.98 319.27 99.32 97.34
3.7 1.5 392.27 0.98 384.42 119.59 117.20
3.7 1.75 458.76 0.98 449.58 139.86 137.07
3.7 2 525.24 0.98 514.74 160.14 156.93
3.8 1 252.47 0.98 247.42 76.97 75.43
3.8 1.25 317.21 0.98 310.87 96.71 94.78
3.8 1.5 381.95 0.98 374.31 116.45 114.12
3.8 1.75 446.68 0.98 437.75 136.18 133.46
3.8 2 511.42 0.98 501.19 155.92 152.80
4 1 239.85 0.98 235.05 73.13 71.66
4 1.25 301.35 0.98 295.32 91.88 90.04
4 1.5 362.85 0.98 355.59 110.63 108.41
4 1.75 424.35 0.98 415.86 129.38 126.79
4 2 485.85 0.98 476.13 148.13 145.16

On meter scale ON4UN starts with 89 meters much longer then the calculated value even without velocity factor table shows that 3.5 MHz needs 83 meters of wire 6 meters (~18 feet) is a huge difference.

Is any one has any inside about this?

Thanks and 73s
Levent ï¿½ WW2L

2774. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:17:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9CC32.90409@ieee.org>
Source record: 118726

Richard Harrison wrote:
> If current in the stub were high, do you think steel would be used for a
> 1/4-wave short-circuit stub by a service with a fat budget? They would
> gold plate the circuit if that proved advantageous.

Hang a Bird in the middle of the stub
and calculate the current from the forward power reading. The reflected
power and therefore the reflected current should be about the same value.
I think you will be surprised at the results. In the following experiment,
the forward current in the stub is about one amp and the reflected current
in the stub is about one amp. The source is a 50w signal generator equipped
with a circulator+load designated as SGCL.

50W SGCL-----1/4WL 50 ohm stub-----shorted

Forward power in the stub is nearly 50W and reflected power in the stub
is nearly 50W. That reflected power is dissipated in the circulator load.
--
73, Cecil http://www.qsl.net/w5dxp

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2775. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:38:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9D142.9030001@ieee.org>
Source record: 118727

Jim Kelley wrote:
> No energy is transferred when the net field is zero.

No energy is transferred toward the source because the net
reflected field in the direction of the source is zero.
A simple wattmeter reading tells us where that energy went -
back toward the load. It was re-reflected.

> This is the error you keep repeating. Energy does not move in the
> direction of wave cancellation.

It has to before the wave cancellation can occur. Otherwise, there
would be no waves to cancel. Your confusion of cause and effect is
so blatant, it has to be a joke. If there's no energy, there can
be no waves that cancel. If waves exist and cancel, they contained
energy just before the cancellation.

> This is the solution to the dilema
> posed by your mysterious re-refletion problem.

I'm sorry, Jim, I'm just not open to supernatural solutions.

>>If a wave exists, it carries energy.
>
> Right. But no wave exists when two waves of equal amplitude and
> opposite phase cancel each other.

There's your contradiction again. No waves exist but two waves exist
and cancel. You cannot have it both ways.

> That's true if there's no intervening matching network. Fig 3 shows an
> impedance match.

Not to the load!!! The load is mismatched! If the load were matched, the
system would be flat and there would be no reflected energy but there is.

> I was discussing the
> antireflective coating in Melles-Griot. There certainly isn't any
> reflected energy there.

There is reflected energy from the back side of the thin-film. What is
it about those two ***REFLECTED WAVEFRONTS*** from the Melles-Griot web
page that you don't understand? That web page says the "lost" energy
in those reflected wavefronts joins the forward wave. If there's no
energy in those waves, why do they talk about the energy from those
waves joining the forward wave because of the conservation of energy?
--
73, Cecil http://www.qsl.net/w5dxp

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2776. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:44:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9D29A.5040208@ieee.org>
Source record: 118728

Peter Brackett wrote:
> But in the steady state, i.e. a regime dominated by a strong, steady
> sinusoidal signal which has been present for more than 5 - 10 time
> constants, which is where you and most other hams do your SWR and ficticious
> reflected power measurements, for all practical purposes there are no echos.

Not true, Peter. Ham radio transmitters have considerable phase jitter.
Measure it sometime on each side of a Z0-match point.

> I can only assume from your responses, that apart from a few picayune
> exceptions which might cause infinitesimal echos on top of the large steady
> state signals simply due to very small noises or remote phase roll, etc...
> that you agree with this well understood precept.

I don't buy that something magic happens during that last dt before steady-
state. You just have a Catch-22 situation that cannot possibly exist in
reality. So it's just a wet dream, like a lossless transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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2777. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:46:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9D328.5070604@ieee.org>
Source record: 118729

Peter Brackett wrote:
> May I ask, just how big are these "noises". Are they 30dB down from the
> steady state peak values, or perhaps 60dB down or maybe 120dB down... What?

However far down they are, give me the proper equipment and I will show you
reflections during your "steady-state" condition.
--
73, Cecil http://www.qsl.net/w5dxp

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2778. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:48:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9D39D.1050906@ieee.org>
Source record: 118730

Peter Brackett wrote:
> Cecil you can only take that ocean wave analogy so far and then it fails to
> model or simulate EM waves.

I know that Peter. I was just correcting your misconceptions about ocean
waves. I didn't say a thing about EM waves in the previous posting.
--
73, Cecil http://www.qsl.net/w5dxp

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2779. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 03:54:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9D4F3.5080505@ieee.org>
Source record: 118731

Gene Fuller wrote:
> The conservation of energy principle says that the total energy must
> balance, not the energy assigned to individual wave components.

The conservation of energy principle says energy cannot be created
or destroyed (by ordinary chemical means). Jim and Dr. Best have
energy being destroyed in one direction and created in the other
direction. That is a violation of the conservation of energy
principle.

> It is meaningless to try to apply CoE to anything other than total
> energy analysis at the discontinuity.

Did God die and leave you in charge of the meaningless stuff? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2780. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 04:00:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbjlif68j78e07@corp.supernews.com>
Source record: 118732
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Thanks for the complete and delightful history of this interesting word.

I observed what might be a second entry point into the lexicon. After returning from military service at the time digital technology was first really expanding, I chuckled to find the digicats using "foo-bar" (foo with a line above it, meaning NOT foo) as a dummy variable. The evolution to foo as the popular name of an arbitrary subroutine seemed to have come from this. I've always assumed that "foo-bar" was from the popular GI expression FUBAR, meaning "f**ked up beyond all recognition", which dates from WWII. The digital folks I talked to had no idea where "foo-bar" had come from, and hadn't heard the GI expression.

Roy Lewallen, W7EL

Erik Klavon wrote:
> Harold Burton wrote:
>
>
> From the jargon file: http://catb.org/esr/jargon/html/entry/foo.html
>
> [...]
> . . .

2781. Re: Beverage Antenna Size (Expert Question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 04:02:19 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eb9d795_2@news1.prserv.net>
Source record: 118733

The Beverage antenna is a wave, i. e. non-resonant antenna. The only effect length has is the longer the better. I am not familiar with the reference you cite, but likely the length was called 1 wavelength simply because that was the closest even number to use for a descriptor. A 1 wavelength Beverage, by the way, isn't much of a Beverage. 295 feet would make a good Beverage for 15 or 10 meters.
--
Crazy George
Remove NO and SPAM from return address
"Levent" <lsasmazel@comcast.net> wrote in message
news:882020e3.0305071851.437bac1c@posting.google.com...
> Folks,
>
> I am trying to understand one thing about beverage antennas. I did
> read a lot of articles including ON4UN's Low-Band DX ing. All
> information says 1 wave 80-meter beverage size is 295 Feet. I did try
> to get how this number is calculated but I did not get anywhere.
>
> Formulla I did used is this
>
>
> Feet = 984(N-0.025)/Frequency <= this calculation considers end
> effects..
>
> Result is the following lengths ;
>
> Freq N Length Velocity Real Length Feet Length Meter Real Length Meter
> 3.5 1 274.11 0.98 268.63 83.57 81.90
> 3.5 1.25 344.40 0.98 337.51 105.00 102.90
> 3.5 1.5 414.69 0.98 406.39 126.43 123.90
> 3.5 1.75 484.97 0.98 475.27 147.86 144.90
> 3.5 2 555.26 0.98 544.15 169.29 165.90
> 3.6 1 266.50 0.98 261.17 81.25 79.63
> 3.6 1.25 334.83 0.98 328.14 102.08 100.04
> 3.6 1.5 403.17 0.98 395.10 122.92 120.46
> 3.6 1.75 471.50 0.98 462.07 143.75 140.88
> 3.6 2 539.83 0.98 529.04 164.58 161.29
> 3.7 1 259.30 0.98 254.11 79.05 77.47
> 3.7 1.25 325.78 0.98 319.27 99.32 97.34
> 3.7 1.5 392.27 0.98 384.42 119.59 117.20
> 3.7 1.75 458.76 0.98 449.58 139.86 137.07
> 3.7 2 525.24 0.98 514.74 160.14 156.93
> 3.8 1 252.47 0.98 247.42 76.97 75.43

> 3.8 1.25 317.21 0.98 310.87 96.71 94.78
> 3.8 1.5 381.95 0.98 374.31 116.45 114.12
> 3.8 1.75 446.68 0.98 437.75 136.18 133.46
> 3.8 2 511.42 0.98 501.19 155.92 152.80
> 4 1 239.85 0.98 235.05 73.13 71.66
> 4 1.25 301.35 0.98 295.32 91.88 90.04
> 4 1.5 362.85 0.98 355.59 110.63 108.41
> 4 1.75 424.35 0.98 415.86 129.38 126.79
> 4 2 485.85 0.98 476.13 148.13 145.16
>
>
> On meter scale ON4UN starts with 89 meters much longer then the
> calculated value even without velocity factor table shows that 3.5 MHz
> needs 83 meters of wire 6 meters (~18 feet) is a huge difference.
>
> Is any one has any inside about this?
>
> Thanks and 73s
> Levent WW2L

2782. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 04:18:17 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305072018.31a118e0@posting.google.com>
Source record: 118734

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB94B89.3070107@ieee.org>...
> Dr. Slick wrote:
> > Richard and i are saying that no current is flowing INTO the
> > stub, which is not to say that current doesn't flow WITHIN the shorted
> > stub itself, which does happen.
>
> You guys have been brain-washed into believing your model dictates reality.
> Consider the following system driven by a signal generator equipped with
> a circulator+load, designated by SGCL.
>
> 100w SGCL-+---1/4WL feedline--+--1/4WL feedline--+--1/4WL feedline--open
>
> You are trying to tell me that no current flows at any of the '+' points.
> Please explain why the circulator load resistor is dissipating almost 100w.
>

Cecil, a concept you seem to be missing is that power can and does
flow through a DC-blocking capacitor, which is something you see on
the output of every amplifier.

Tell me, does any DC current flow through these caps? Absolutely
not. And yet you can certainly send power through them with AC
voltage, or coulomb charges on the plates. But NO current flows
through the cap at all!

Slick

2783. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 04:26:46 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305072026.4a038107@posting.google.com>
Source record: 118735
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b9c2ihejv1@sparta.btinternet.com>...
> > Any Foo Fighters flying along beside you at the time ?
>
> ============================
>
> For the last 67 years I have been wondering about the meaning of "Foo".
>
> The last time I recall seeing the word in print was in an American 1930's
> comic paper.
>
> In those ancient days pull-out comic papers were known as 'the funnies'.
>
> The artist was Bill Holman.
>
> One of his characters said in the balloon "All is not Foo that titters".
>
> Replace Foo with Gold.
>
> Replace titters with glitters.
>
> A funny statement.
>
> I am an Englishman. But what is Foo ?
> ---
> Reg.

Dunno about England, but here it probably varies according to the
neighborhood you are in. I hear some people use it to mean about the
same as your examples.
IE: "Saiz woman, youzz a damn foo."
I hear that usage quite often.

A "foo fighter" is WW2 and later fighter pilot slang for a UFO.

MK

2784. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 04:37:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EB9DF14.8050407@ieee.org>
Source record: 118736

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB94B89.3070107@ieee.org>...
>
>>Dr. Slick wrote:
>>
>>> Richard and i are saying that no current is flowing INTO the
>>>stub, which is not to say that current doesn't flow WITHIN the shorted
>>>stub itself, which does happen.
>>
>>You guys have been brain-washed into believing your model dictates reality.
>>Consider the following system driven by a signal generator equipped with
>>a circulator+load, designated by SGCL.
>>
>>100w SGCL-+---1/4WL feedline--+--1/4WL feedline--+--1/4WL feedline--open
>>
>>You are trying to tell me that no current flows at any of the '+' points.
>>Please explain why the circulator load resistor is dissipating almost 100w.
>>
> But NO current flows through the cap at all!

There's no caps in the above diagram so I don't see how caps are relevant.

The point is you can only say the NET current is zero at the middle '+'
in the diagram above. If the feedline is 50 ohms, the forward current is
a *constant* 1.414 amps all up and down the feedline. So is the reflected
current. 100w is being dissipated in the circulator load resistor.

In the last 1/4WL "stub", the forward current is 1.414 amps and the reflected
current is 1.414 amps.

You cannot have the current maximums and minimums if the current in the stub
is zero. The 1.414 amps of forward current follows a path to the open circuit.
The 1.414 amps of reflected current follows a path back to the circulator
load resistor.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2785. Hy Gain beam parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 05:03:52 UTC
From: fvracr@aol.com
Message-ID: <20030508010352.18135.00000935@mb-m29.aol.com>
Source record: 118737

Is it possible to to get parts for an older 3 element, 3 band beam made by Hy Gain? Specifically the traps.

Thanks,
Kirk Mohror
K7EKM

2786. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 05:18:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbjq5tt3g14c6a@corp.supernews.com>
Source record: 118738

To add to what Slick said, a capacitor holds energy (CV^2/2) when there's no current, hence no power, at all. All power (the time derivative of energy) means is that energy is moving or changing, not that it's not there. In a resonant circuit, the energy is alternately stored in the capacitor and the inductor, and moves back and forth between them. At the moments it's all stored in one or the other, we don't see any power, or energy flow. A while back, I did some analysis of a charged open circuited transmission line. I ran out of spare time before I completed it to the point where I'd be comfortable publishing it, but it was showing that the energy alternately moves back and forth, getting stored in the fields (equivalent line inductance and capacitance) in between the movements, just about as Peter has said. It looked to me like no energy ever went past the center of a half wavelength line in either direction. But I really need to complete the analysis to completely convince myself.

It's really important not to confuse or equate power and energy. Energy can be stored without there being any power involved.

Roy Lewallen, W7EL

Dr. Slick wrote:
>
> Cecil, a concept you seem to be missing is that power can and does
> flow through a DC-blocking capacitor, which is something you see on
> the output of every amplifier.
>
> Tell me, does any DC current flow through these caps? Absolutely
> not. And yet you can certainly send power through them with AC
> voltage, or coulomb charges on the plates. But NO current flows
> through the cap at all!
>
>
> Slick

2787. TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 06:13:05 UTC
From: Thierry Plouchart <TPlouchart@msn.com>
Message-ID: <QAmua.73$%k6.4225@eagle.america.net>
Source record: 118739

I'd like to know if this is a good place (newgroup) to start to figure out how a regular TV antenna works. I want to get myself prepared to receive (free) HD signals over the air with a good TV antenna. I found an old antenna and got it to work and get most of my local channels on my (analog) TV but still can't get all of the stations very clear. I know that a HD decoder will clean them up but would like to get the best possible picture and sound (5.1) once it is broadcast and am wondering if a Yagi type antenna would be best at the time I am ready to make that big HDTV purchase. Well, even something on the Internet about TV antennas (how they work, draw in the signal) would help if anyone knows of any good sites to go to. Or even other newsgroups. Thanks Thierry

2788. Re: Looking for advice re: cell phone antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 06:17:08 UTC
From: mackys@rhinokaosol.net
Message-ID: <1052374628.636488@turing.kaosol.net>
Source record: 118740

Mike Coslo <mcoslo@adelphia.net> wrote:
>> But anyway, it's a bit late for that, as almost all of the other neighbors
>> hav yagi setups already. The ones that don't have resorted to buying 1 and
>> 2 watt bag-style cell phones.
>
> Doesn't this place have regular phones?

Oh PUH-leaze. When have you EVER heard of a telco monopoly fufilling their universal access mandate without being actively sued? She lives in the sticks. People all up and down the valley have tried for years to get "Qwaste" (or as it was called in the old days, "US Worst") to put in phone lines. They don't care. They don't have to. They're the phone company.

Go look up the Colorado Public Utilities Comission files on Qwest. It's unreal how stupid those bozos are. I have to laugh my ass off every time I see one of their "spirit of service" commercials on the idiot box.

If we litigate (no problem really, mom's a lawyer) it'll probably take 18 months and who knows how many thousand dollars before we even get something close to a phone line. If we don't litigate we'll probably never get landline phone service.

If you think I'm being hyperbolic, I say again: go look at the Co PUC's files on Qwest. If I had any talent for politics whatsoever, I'd spend my life tirelessly attempting to get their monopoly revoked. Now there's a cause I could dedicate my life to happily.

-Ben

--
I am Ben Cantrick. I still think the AnimEigo BGC dubs suck.
To foil spammers, no e-mail adress will be given here. (Spammers also suck.)
If you want to e-mail me, remove any African animals in my e-mail address.
"You, sir, are an ignorant asshole!" -Robert Woodhead, to me

2789. Scientific Atlanta TP-326 PMR Tranceivers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 08:57:01 UTC
From: Jack Bennett <j.bennett@lboro.ac.uk>
Message-ID: <b9d64t$ac4$1@sun-cc204.lut.ac.uk>
Source record: 118741

Does anyone have a circuit diagram for theses interesting devices?

Many thanks,

Jack
G3PVG

2790. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 10:48:55 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9dcmprrd1@slb1.atl.mindspring.net>
Source record: 118742

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB9D328.5070604@ieee.org...
> Peter Brackett wrote:
> > May I ask, just how big are these "noises". Are they 30dB down from the
> > steady state peak values, or perhaps 60dB down or maybe 120dB down...
What?
>
> However far down they are, give me the proper equipment and I will show
you
> reflections during your "steady-state" condition.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

You don't have to show, me... I already know that and I know how to calculate and display them. The "right" equipment involves a "good" broadband reflectometer, not those crummy Birds, of which I have a few. And so I agree that tiny non-sinusoidal noises will produce tiny non-sinusoidal echos, that's a transient state thing.

My point is the the Bird meter and others for all practical purposes are dominated by and are only indicating what is happening in the steady state, and there are simply no echos or reflections present when the Bird is giving its' indication of "reflected power".

As I have outlined the "reflected power" indicated by Bird, and other such simple instruments", is merely a mathematical fiction calculated by its internal circuitry from measurements of V and I, providing a perhaps useful mathematical shortcut for some impedance mismatch adjustment purposes, but which are certainly not "reflective" of actual reflections. Simply because there are no reflections occuring at the "key down" time while the Bird produces its' reading.

Give it up man... Heh, heh... piddly little noises during the steady state, heh, heh... give it up man, or show me the "money", er... I mean show me the "steady state echos".

:-)

Best,

--
Peter K1PO
Indialantic By-the-Sea, FL.

2791. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 10:51:05 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9dcqq$d0m$1@slb0.atl.mindspring.net>
Source record: 118743

Cecil:

[snip]
"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB9D39D.1050906@ieee.org...
> Peter Brackett wrote:
> > Cecil you can only take that ocean wave analogy so far and then it fails
to
> > model or simulate EM waves.
>
> I know that Peter. I was just correcting your misconceptions about ocean
> waves. I didn't say a thing about EM waves in the previous posting.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Oh, OK then. I know you know the difference, I just thought you were trying
to "Catch-22" me. But I see you are not.

Please accept my appologies.

--
Peter K1PO
Indialantic By-the-Sea, FL.

2792. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 12:23:23 UTC
From: richardharrison@webtv.net
Message-ID: <11327-3EBA4C3B-89@storefull-2311.public.lawson.webtv.net>
Source record: 118744

Peter, K1PO wrote:
"Simply because there are no reflections occuring at the "key down" time while the Bird produces its` reading."

The Bird indicates zero reflection from a matched load. It indicates reflection from a mismatched load. Please explain the cause of this difference.

Surge impedance is a name given the voltage to current ratio imposed by a transmission line on either a signal or a glitch traveling on the transmission line.

The transmission line is an "equal-opportunity" responder over a wide spectrum.

Pulse or steady-state are treated much the same.

You likely have seen the reflections produced by an impedance bump on the screen of a time domain reflectometer. As the surge impedance of a transmission line is identical to its characteristic impedance, response to reflection from an impedance bump is the same for either either pulse or steady-state.

The time domain reflectometer is proof enough of reflections from steady-state signals. So is the reflected reading of the Bird wattmeter.

Best regards, Richard Harrison, KB5WZI

2793. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 12:34:41 UTC
From: richardharrison@webtv.net
Message-ID: <11327-3EBA4EE1-90@storefull-2311.public.lawson.webtv.net>
Source record: 118745

Dr. Slick wrote:
"Cecil, a concept you seem to be missing is that power can and does flow
through a DC blocking capacitor."

Seems to me he has lost sight of:

I = E / Z

Best regards, Richard Harrison, KB5WZI

2794. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 12:56:17 UTC
From: I@dont.know
Message-ID: <3eba533b.859179828@newshost.corp.mot.com>
Source record: 118746
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary V. Deutschmann, Sr.) wrote:

Funny you should mention this. The other day a crown vic went through the front glass of a post office injuring a bunch of people....the driver was an elderly guy and most would pass it off as a mistake he made, now I'm not so sure since there is a cell tower on that particular site. My father-in-law had instances where the motor in his crown vic would suddenly race. However, I don't know the details of when this occured.

Regards,

Bruce
Hitting reply is futile, use the following:
.(wb4yuc@juno.com).

2795. FS TEK 492 Mixer Set

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 14:23:35 UTC
From: tonys2@aol.com
Message-ID: <20030508102335.15130.00000008@mb-m25.aol.com>
Source record: 118747

Mint condition to 220GHZ
6 mixers+ adaptor etc
$900
Tony
Alex Va

2796. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 14:44:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBA6D5A.5070509@ieee.org>
Source record: 118748

Peter Brackett wrote:
> And
> so I agree that tiny non-sinusoidal noises will produce tiny non-sinusoidal
> echos, that's a transient state thing.

My point is that noise echoes appear in exactly the places and at
exactly the times predicted by the wave reflection model. There
doesn't exist a circuit that is noise free. So now you are going
to have to convince us that the sinusoids are obeying a completely
different set of physical laws than the noise while they both exist
in exactly the same circuit at exactly the same time during "steady-
state".

Noise is the unavoidable modulation that your Catch-22 scenario
won't allow me to add to prove the wave reflection model. I don't
have to add it. Mother Nature does it for me.
--
73, Cecil http://www.qsl.net/w5dxp

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2797. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 15:06:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBA7283.6060801@ieee.org>
Source record: 118749

Richard Harrison wrote:
> Dr. Slick wrote:
> "Cecil, a concept you seem to be missing is that power can and does flow
> through a DC blocking capacitor."
>
> Seems to me he has lost sight of:
>
> I = E / Z

Seems to me that you have lost sight of: V/I=Z0 for any wave
moving in either direction in a transmission line. The transmission
line forces the ratio of the E-field to the H-field in each wave to
be equal to Z0. Everything else is the end result of interference between
forward and reflected waves. I have not lost sight of *net* current which
is the result of interference between two current waves traveling in
opposite directions.

50W SGCL--+--1/4WL--+--1/4WL--+--1/4WL--+--short
50 ohm transmission line

Consider a 3/4WL shorted stub driven by a 50W SGCL (signal generator
with a circulator+load. The forward current at the mouth of the stub
is 1 amp. The reflected current at the mouth of the stub is 1 amp.
They are out of phase. Interference between those two waves causes
the *net* current at the mouth of the stub to be zero amps. But
1/4WL down into the stub, the *net* current is 2 amps. If there is no
forward current flowing into the stub and no reflected current flowing
out of the stub, there couldn't possibly be 2 amps at the 1/4WL point
inside the stub - but there is. Therefore, the forward current into
the stub is 1 amp and the reflected current out of the stub is 1 amp.
Their *net* sum is zero at the mouth of the stub because of interference.
1/4WL into the stub, their *net* sum is 2 amps because of interference.
--
73, Cecil http://www.qsl.net/w5dxp

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2798. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 15:36:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jmtkbv4sn6gahirgtd9t946f8aogulhip6@4ax.com>
Source record: 118750

On Wed, 7 May 2003 23:13:05 -0700, "Thierry Plouchart"
<TPlouchart@msn.com> wrote:

>I'd like to know if this is a good place (newgroup) to start to figure out
>how a regular TV antenna works. I want to get myself prepared to receive
>(free) HD signals over the air with a good TV antenna. I found an old
>antenna and got it to work and get most of my local channels on my (analog)
>TV but still can't get all of the stations very clear. I know that a HD
>decoder will clean them up but would like to get the best possible picture
>and sound (5.1) once it is broadcast and am wondering if a Yagi type antenna
>would be best at the time I am ready to make that big HDTV purchase. Well,
>even something on the Internet about TV antennas (how they work, draw in the
>signal) would help if anyone knows of any good sites to go to. Or even other
>newsgroups. Thanks Thierry
>

Hi Thierry,

HDTV channels are significantly larger than conventional TV channels
and the conventional antennas act like sharp filters. Sharp maybe an
over reaction, but for the purist it would be too much. I've casually
observed that for them to widen the bandwidth of an antenna, designers
have added more metal in the form of thicker or fatter components.

Such designs seem to be single channel designs, because the Log
Periodic Dipole Array antenna was designed just for this kind of
transmission. This style can be recognized by its trademark zig-zag
of wires along the boom, interconnecting the elements. If in doubt,
ask or search out the literature for the term Log Periodic.

73's
Richard Clark, KB7QHC

2799. Re: Beverage Antenna Size (Expert Question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 15:51:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mbukbvs8r2iq8o3rbek17346g56onqe7p0@4ax.com>
Source record: 118751

On 7 May 2003 19:51:42 -0700, lsasmazel@comcast.net (Levent) wrote:

>Folks,
>
>I am trying to understand one thing about beverage antennas.
>
>On meter scale ON4UN starts with 89 meters much longer then the
>calculated value even without velocity factor table shows that 3.5 MHz
>needs 83 meters of wire 6 meters (~18 feet) is a huge difference.
>
>Is any one has any inside about this?
>
Hi Levent,

Large, Traveling Wave antennas such as this are rarely cut to a precise length, as such even 10M variation at 80M "should" be a trivial issue. The reason for the emphasis in "should" is that these antennas are generally twice the length you describe (again to no particular precision - just in general) and at that size, the design absorbs variation without reflecting that variation in the performance (one of the principle characteristics).

Another reason why the variation in size at 1 wavelength or greater is not readily felt, is that it is buffered by the proximity of ground. The Beverage is simply a leaky transmission line (ground the other half of this wide-spread twin lead) of less than 1000 Ohms, typically 600 Ohms. The loss of ground swamps the minor variations when the total length is substantial (greater than one wavelength). The gain accumulated through length is modest. The combination of these two characteristics suggest you stand to lose more than you gain, and yet it is in the improvement of signal to noise ratio that you find this design's utility.

73's
Richard Clark, KB7QHC

2800. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 16:29:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <k5qdnbGOD6ynNiejXTWcqA@comcast.com>
Source record: 118619

Thierry,

I believe that currently all HDTV transmission in the US is on UHF channels. So, for starters you need a UHF TV antenna. The HDTV signal is still limited to fit unto a 6MHz channel, and bandwidth should not be a problem.

Tam/WB2TT
"Thierry Plouchart" <TPlouchart@msn.com> wrote in message news:QAmua.73$%k6.4225@eagle.america.net...
> I'd like to know if this is a good place (newgroup) to start to figure out
> how a regular TV antenna works. I want to get myself prepared to receive
> (free) HD signals over the air with a good TV antenna. I found an old
> antenna and got it to work and get most of my local channels on my (analog)
> TV but still can't get all of the stations very clear. I know that a HD
> decoder will clean them up but would like to get the best possible picture
> and sound (5.1) once it is broadcast and am wondering if a Yagi type antenna
> would be best at the time I am ready to make that big HDTV purchase. Well,
> even something on the Internet about TV antennas (how they work, draw in the
> signal) would help if anyone knows of any good sites to go to. Or even other
> newsgroups. Thanks Thierry
>
>

2801. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 16:46:46 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <WRvua.40539$g41.3501079@news1.east.cox.net>
Source record: 118752
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Let me know when you find a way to put the key down and blow the woofers and amp off the obnoxious bass pounding moron in the car next to you.
--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64
"geekdude" <google@geekdude.com> wrote in message news:fdb9e710.0305051520.72c2b135@posting.google.com...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73
> KC6SOZ

2802. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 16:51:06 UTC
From: Philip&#65533; <chipstate@earthlink.net>
Message-ID: <_Vvua.61765$ey1.5520392@newsread1.prod.itd.earthlink.net>
Source record: 118753
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks
Body handling: HTML body converted to readable text

"Bruce Burke" wrote in message
news:3eba533b.859179828@newshost.corp.mot.com...
> On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary V.
> Deutschmann, Sr.) wrote:
>
> Funny you should mention this. The other day a crown vic went through
> the front glass of a post office injuring a bunch of people....the
> driver was an elderly guy and most would pass it off as a mistake he
> made, now I'm not so sure since there is a cell tower on that
> particular site. My father-in-law had instances where the motor in
> his crown vic would suddenly race. However, I don't know the details
> of when this occured.
>
>
> Regards,
>
> Bruce
> Hitting reply is futile, use the following:
> .(wb4yuc@juno.com).
>

I think 99% of all these stories are just future material for Coast to
Coast with Art Bell. Hehehhehe
--

-Philip-

freedom of speech
does not mean
freedom from consequences

2803. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:05:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBA8E40.E36A6F14@uci.edu>
Source record: 118754

OC_CAM's Razor wrote:
>
> Gene Fuller wrote:
> > The conservation of energy principle says that the total energy must
> > balance, not the energy assigned to individual wave components.
>
> The conservation of energy principle says energy cannot be created
> or destroyed (by ordinary chemical means). Jim and Dr. Best have
> energy being destroyed in one direction and created in the other
> direction. That is a violation of the conservation of energy
> principle.

It's not true Cecil. (Evidently you think that lying about this wins
you newsgroup message points - apparently all you care about here.)

In a matched system, the only time _energy_ is reflected from either the
load, or the match point is during the transient period. Once the
steady state is reached, that energy remains stored in the transmission
line, but the transfer of reflected energy stops. That is because after
the transient period, the various amplitudes have become established and
stabilized and wave cancellation occurs. No energy is transferred when
there is no net field.

Energy from the source travels to the load, obviously without violating
conservation of energy. It is only your insistence that energy is
reflected, that then requires an inexplicable and insupportable
re-reflection in order that energy be conserved. Interference between
VxI products is a ficticious construct. Re-refelction due to
interference (ficticious or otherwise) is a ficticious construct.

The fact is you are in error about the steady state reflections of
energy in a matched system.

> Did God die and leave you in charge of the meaningless stuff? :-)

Apparently not. He is still channeling it through your keyboard. :-)

ac6xg

2804. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:24:46 UTC
From: whester@nyx10.nyx.net
Message-ID: <1052414686.397342@irys.nyx.net>
Source record: 118755
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I recently installed a 2 meter mobile rig in a 2003 Toyota
Avalon. So far, I haven't had any problems.
The rig is hidden in the compartment under the center armrest.
Power wiring is run directly to the battery main lugs with
a fuse in each wire (positive and negative) as provided by the
rig manufacturer (Yaesu).
The antenna (1/4 wave spike) is mounted on the rear trunk lid
lip, with the coax run down from the armrest compartment under
the carpet, along the drivers side of the car, up into the
trunk.
I tested the installation by parking the car with the engine
running and transmitting, starting with the lowest power
setting and working up to the highest power at different frequencies.
I stayed out of the car until I was sure that the air bags
would not activate. Then I got into the car and tested with
the doors closed.
After passing these tests, I drove the care on a street with no
traffic and retested. After gaining some confidence that the
impact air bags would not deploy and the brakes were working OK,
I took the car out into traffic. Several months have passed
and, so far, no problems encountered.
I also know that Toyota vehicles are used around the word by
police with various types of two-way radios installed. I
would advise that the use of power directly from the battery
is critical to the installation.
Good Luck with your installation,
Bill N0LAJ

--
Bill Hester, Amateur Radio N0LAJ, Denver CO., USA
Please route replies to: whester@nyx.net

2805. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:29:25 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-7ACD26.12292508052003@hermes-ge0.rdc-kc.rr.com>
Source record: 118756
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks
Body handling: HTML body converted to readable text

In article <_Vvua.61765$ey1.5520392@newsread1.prod.itd.earthlink.net>,
"Philip" wrote:

> "Bruce Burke" wrote in message
> news:3eba533b.859179828@newshost.corp.mot.com...
> > On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary V.
> > Deutschmann, Sr.) wrote:
> >
> > Funny you should mention this. The other day a crown vic went through
> > the front glass of a post office injuring a bunch of people....the
> > driver was an elderly guy and most would pass it off as a mistake he
> > made, now I'm not so sure since there is a cell tower on that
> > particular site. My father-in-law had instances where the motor in
> > his crown vic would suddenly race. However, I don't know the details
> > of when this occured.
> >
> >
> > Regards,
> >
> > Bruce
> > Hitting reply is futile, use the following:
> > .(wb4yuc@juno.com).
> >
>
> I think 99% of all these stories are just future material for Coast to
> Coast with Art Bell. Hehehhehe
> --
>
> -Philip-
>
> freedom of speech
> does not mean
> freedom from consequences
>
>

Art, W6OBB retired. It's now Coast to Coast with George Noory.

--
email: dalej2@mac.com

2806. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:41:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBA96BF.90508@ieee.org>
Source record: 118757

Jim Kelley wrote:
> It's not true Cecil. (Evidently you think that lying about this wins
> you newsgroup message points - apparently all you care about here.)

I'm quoting my physics book, Jim. Please go tell them that they are
lying.

> In a matched system, the only time _energy_ is reflected from either the
> load, or the match point is during the transient period.

If there is no energy reflected from the load the SWR is 1:1. We know
for an absolute fact that the SWR is NOT 1:1 on the transmission line
going to a mismatched load.

> Once the
> steady state is reached, that energy remains stored in the transmission
> line, but the transfer of reflected energy stops.

If it did, the SWR would be 1:1 and we know it's not 1:1. Please stop
insulting our intelligence. A load has no way of telling if there exists
a Z0-match in another part of the system or not. Happenings at a load
where ZL is not equal to Z0 are fixed. It doesn't matter if the system
is matched or not. I have to go to work now but I will post an example
from there.

> The fact is you are in error about the steady state reflections of
> energy in a matched system.

The fact is that you are saying the SWR at a mismatched load is 1:1.
That's just bull cagada, Jim. Nothing could be farther from the truth.

The fact is, at the load, you cannot tell if there is a match
in the system or not. The SWR is whatever it is. If it is not 1:1
the load is mismatched to the transmission line.

It is an old wives' tale that an antenna tuner can change the SWR
between the tuner and the load. I'm surprised you don't know that.
--
73, Cecil http://www.qsl.net/w5dxp

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2807. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:45:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBA97D5.102AF768@uci.edu>
Source record: 118758

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > No energy is transferred when the net field is zero.
>
> No energy is transferred toward the source because the net
> reflected field in the direction of the source is zero.
> A simple wattmeter reading tells us where that energy went -
> back toward the load. It was re-reflected.
>
> > This is the error you keep repeating. Energy does not move in the
> > direction of wave cancellation.
>
> It has to before the wave cancellation can occur.

This is the part you can't seem to get through your head. Waves don't have to move someplace in order for them to cancel. Cancellation precludes their movement in the first place. Steady state means things are the same from one moment to the next. There no such thing as 'first a wave has to go here and then x and such can happen'. In a matched system after the transient period and from the perspective of energy, the boundary conditions determine the end result, and energy moves directly from source to load. Occam's Razor dictates that the simplest possible path is the one taken.

> I'm sorry, Jim, I'm just not open to supernatural solutions.

You're proposing one Cecil. Ancient people thought certain natural things were supernatural because they didn't understand them. That's the way you're acting, obviously because you don't understand. If you spent less effort lecturing and more effort listening perhaps you could come to understand.

> >>If a wave exists, it carries energy.
> >
> > Right. But no wave exists when two waves of equal amplitude and
> > opposite phase cancel each other.

> There's your contradiction again. No waves exist but two waves exist
> and cancel.

The potential for them to exist is established by the boundary conditions and incident energy. They do in fact exist in the transient period. It's no coincidence that reflected energy also exists in that interval. However energy ceases to be transferred once steady state is established. Functions for the reflected waves can be written, but when

combined the wave functions solve to zero in the reflected direction.

> There is reflected energy from the back side of the thin-film.

Not when the fields cancel. I've worked it through with the physicists at work, Cecil. There's just no other way. The only energy between the two boundarys is that which was allowed to move there in the (brief) transient period. After that the system only transits energy in the direction of the load.

73, ac6xg

2808. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:52:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eba9941$1_2@corp-goliath.newsgroups.com>
Source record: 118761

Jim Kelley <jwkelley@uci.edu> wrote:
>How steady is the state of a system rife with non-coherent signals?

It's not and that is the whole point. All systems existing in the
real world are rife with noise. That noise produces echoes/reflections.
If echoes/reflections cannot exist during steady-state, there is
no such thing as steady-state in reality. Like a lossless transmission
line, it is only a wet dream.
--
73, Cecil, W5DXP

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2809. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:55:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eba99fa$1_2@corp-goliath.newsgroups.com>
Source record: 118762

Roy Lewallen <w7el@eznec.com> wrote:
>In steady state, reflections can be made to cancel at all times by
>arranging to have various reflections arrive at the same spot out of
>phase with each other -- that's how impedance matching is effected.

That's absolutely correct. And please note that a reflected wave
can only cancel with another reflected wave, i.e. they have to
be traveling in the same rearward direction in the transmission
line. If they are not traveling in the same direction, the result
is standing waves rather than wave cancellation.
--
73, Cecil, W5DXP

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2810. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 17:55:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBA9A26.C6535DC2@uci.edu>
Source record: 118759

OC_CAM's Razor wrote:
>
> Peter Brackett wrote:
> > May I ask, just how big are these "noises". Are they 30dB down from the
> > steady state peak values, or perhaps 60dB down or maybe 120dB down... What?
>
> However far down they are, give me the proper equipment and I will show you
> reflections during your "steady-state" condition.

How steady is the state of a system rife with non-coherent signals?

ac6xg

2811. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:03:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbl702c2kkb4fd@corp.supernews.com>
Source record: 118760

Richard Harrison wrote:
> . . .

> The transmission line is an "equal-opportunity" responder over a wide
> spectrum.
>
> Pulse or steady-state are treated much the same.
>
> You likely have seen the reflections produced by an impedance bump on
> the screen of a time domain reflectometer. As the surge impedance of a
> transmission line is identical to its characteristic impedance, response
> to reflection from an impedance bump is the same for either either pulse
> or steady-state.
>
> The time domain reflectometer is proof enough of reflections from
> steady-state signals. So is the reflected reading of the Bird wattmeter.
>
> Best regards, Richard Harrison, KB5WZI
>

There are major differences between TDR and steady state responses.
Although it's possible by means of an Fourier transform to infer a
steady state response from the TDR response, it requires sweeping over a
very large frequency range (and use of an inverse Fourier transform) to
derive a TDR (step or impulse) response from sine wave excitation. The
steady state response is different at each frequency, while there's only
one TDR response.

A TDR response to an impedance bump is the same as the response to a
narrowband sine wave only if the bump is purely resistive up to and well
beyond the equivalent bandwidth of the SWR step or impulse. Reactive
loads respond very differently to the two types of excitation.

In steady state, reflections can be made to cancel at all times by
arranging to have various reflections arrive at the same spot out of
phase with each other -- that's how impedance matching is effected. But
this situation never occurs with a TDR step or pulse -- except for
phenomena that can occur at a particular repetition rate.

Roy Lewallen, W7EL

2812. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:04:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eba9c34$1_2@corp-goliath.newsgroups.com>
Source record: 118763

Jim Kelley <jwkelley@uci.edu> wrote:
>This is the part you can't seem to get through your head. Waves don't
>have to move someplace in order for them to cancel.

RF EM waves can stand still? Through what supernatural power? Jim,
you simply cannot have waves that don't exist having an effect on
waves that do exist. You are trying to warp space-time at your whim.
It is only possible to do that in your wet dreams.

>I've worked it through with the physicists >at work, Cecil. There's
>just no other way.

Heh, heh, you and they have been seduced by the steady-state shortcuts.
--
73, Cecil, W5DXP

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2813. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:14:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3eba9e8e$1_2@corp-goliath.newsgroups.com>
Source record: 118765

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>Happenings at a load
>where ZL is not equal to Z0 are fixed. It doesn't matter if the system
>is matched or not. I have to go to work now but I will post an example
>from there.

Ok Jim, here's the example. You are in a room which has a 300 ohm
transmission line coming through a hole from the left. You are told
that is the direction of the source. The 300 ohm line exists the
room through a hole on the right. You are told that is the direction
of the load. There is a directional wattmeter in the middle of the
300 ohm line in the middle of the room. It is calibrated for 300
ohms and reads 200W forward and 100W reflected. You are not allowed
to make any other measurements.

Is the load matched to the 300 ohm transmission line? __________

Does a Z0-match point exist anywhere in the system? ___________

Are any reflections incident upon the source? __________

Everyone feel free to engage in this thought experiment. In particular,
please pay attention to Jim's assertion that reflections don't exist
in a Z0-matched system.
--
73, Cecil, W5DXP

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2814. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:16:47 UTC
From: richardharrison@webtv.net
Message-ID: <5464-3EBA9F0F-184@storefull-2313.public.lawson.webtv.net>
Source record: 118766

Jim Kelley wrote:
"Once the steady state is reached, that (reflected) energy remains stored in the transmission line, but the transfer of reflected energy stops."

R-F energy moving on a transmission line never stops. Energy stored in a line is constantly being exhasusted from the line or being recirculated. It never sits still.

As long as the forward wave continues, the reflected wave continues too, until reflections are adjusted away by creating a match at the load.

Suppose a load reflects 10% of the incident energy. On the second go at the load, 10% of all the incident energy, virgin and recycled alike, gets reflected by the load.

Best regards, Richard Harrison, KB5WZI

2815. Software to aid in 60 kHz Ferrite WWVB receiver antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:23:09 UTC
From: Brooke Clarke <brooke@pacific.net>
Message-ID: <3EBAA08D.7030801@pacific.net>
Source record: 118764

Hi:

I'm trying to optimize the windings on an Amidon R33-050-750 7.5" long x 0.5" diameter Ferrite rod for the best signal to noise ratio for WWVB reception. I remember someone had some design software that may be of help. Could someone let me know the URL?

73,

Brooke Clarke, N6GCE
http://www.prc68.com

2816. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:51:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3ebaa738_2@corp-goliath.newsgroups.com>
Source record: 118620

"Peter Brackett" <ab4bc@ix.netcom.com> wrote:
>Cecil:
>
>[snip]
>"> It's not and that is the whole point. All systems existing in the
>> real world are rife with noise.
>
>Heh, heh... Not the ones I design! ;-)

Heh, heh... Look again! :-)
--
73, Cecil, W5DXP

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2817. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 18:59:57 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9e9r1qin1@slb0.atl.mindspring.net>
Source record: 118767

Cecil:

[snip]
> doesn't exist a circuit that is noise free. So now you are going
> to have to convince us that the sinusoids are obeying a completely
> different set of physical laws than the noise while they both exist
> in exactly the same circuit at exactly the same time during "steady-
> state".
:
:
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

No I'm not!

Since I have stated repeatedly that they all obey the same laws. Steady
state
transient state, what ever, as long as the system is linear and time
invariant, all regimes follow
the same equations. b = rho* a says it all. TDR uses that equation and
steady state
uses that equation.

And I never said that the two regimes cannot exist simulataneously either.
For instance
if your generator puts out a steady state sine wave with an additive pulse
stream, then
both regimes would set in on the line. And you would use the same basic
mathematics
and equations for each regime to do all of your engineering calculations,
designs, etc...

Cecil you are not paying close enough attention. Do some more homework.

--
Peter K1PO
Indialantic By-the-Sea, FL.

2818. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 19:01:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <b9e9r2qin2@slb0.atl.mindspring.net>
Source record: 118768

Cecil:

[snip]
"> It's not and that is the whole point. All systems existing in the
> real world are rife with noise.
:
:
> 73, Cecil, W5DXP
[snip]

Heh, heh... Not the ones I design! ;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

2819. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 19:11:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAABD3.39B398E1@uci.edu>
Source record: 118621

OC_CAM's Razor wrote:
> RF EM waves can stand still? Through what supernatural power? Jim,
> you simply cannot have waves that don't exist having an effect on
> waves that do exist. You are trying to warp space-time at your whim.
> It is only possible to do that in your wet dreams.
>
> >I've worked it through with the physicists >at work, Cecil. There's
> >just no other way.
>
> Heh, heh, you and they have been seduced by the steady-state shortcuts.

Alright Cecil.

I await your mathematical treatment of the problem. You still haven't solved it. I tried to. You haven't. I came up with the correct solution. You don't understand it. So be it.

You lose the scientific argument, but win the pot of newsgroup message points. Good luck getting the paper published. If anybody asks me about it, I'll tell them where the errors are. Because with your urging here on the newsgroup, I was able to find them and describe them in detail.
What you're asking me to do now is rewrite the whole damn paper for you. It ain't gonna happen - not this way. Had you even attemted to approach the problem from the angle I suggested I would be more inclined to continue.

My apologies to the guys I corresponded with here a couple months ago about this. Walter, Steve, Gene, Dave, and any others. It was a fun idea that didn't pan out.

Cecil, your nom de plume is a misnomer.

73, Jim AC6XG

2820. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 19:15:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAACC1.BCD3ADE9@uci.edu>
Source record: 118622

Richard Harrison wrote:
>
> Jim Kelley wrote:
> "Once the steady state is reached, that (reflected) energy remains
> stored in the transmission line, but the transfer of reflected energy
> stops."
>
> R-F energy moving on a transmission line never stops. Energy stored in a
> line is constantly being exhasusted from the line or being recirculated.
> It never sits still.

There is no net transfer of energy. If you think there is, then you'll
have to come up with a reflection mechanism for Cecil's paper.

Good luck with that, Richard. :-)

Best Regards,

Jim Kelley, AC6XG

2821. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 19:25:16 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAAF1C.773F8C97@uci.edu>
Source record: 118623

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > It's not true Cecil. (Evidently you think that lying about this wins
> > you newsgroup message points - apparently all you care about here.)
>
> I'm quoting my physics book, Jim. Please go tell them that they are
> lying.

In what physics book does it say "Jim and Dr. Best have
energy being destroyed in one direction and created in the other
direction."

2822. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 19:58:51 UTC
From: richardharrison@webtv.net
Message-ID: <3761-3EBAB6FB-195@storefull-2314.public.lawson.webtv.net>
Source record: 118625

Jim, AC6XG wrote:
"There is no net transfer of energy."

I agree. Once the line is energized, ingress and egress are the same so long as the power is constant. Line discontinuities continue reflecting their constant constant fractions of the power incident upon them.

Best regards, Richard Harrison, KB5WZI

2823. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:05:59 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebab9ac_1@news1.prserv.net>
Source record: 118624

Oh, the shame, the shame of it all! Here Cecil uses a IEEE return address,
and Roy is a long standing member of the US, nay, the International
Electrical Engineering community, and neither cited the final arbitrator of
this, the IEEE Standard Dictionary of Electrical and Electronics Terms.

From same, the easy one first:
Doublet Antenna: *See* Dipole Antenna

(The words I set off with asterisks are italic in the original.)

Then:
Dipole Antenna: Any one of a class of antennas producing a radiation
pattern approximating that of an elementary dipole. *Note* Common usage
considers the dipole antenna to be a metal radiating structure which
supports a line current distribution similar to that of a thin straight wire
so energized that the current has a node only at each end.

As for resonant dipole, the closest is:
Resonant Frequency, (antenna), A frequency at which the input impedance of
an antenna is nonreactive.

Don't flame me, send rebuttals to www.ieee.org , I'm just the messenger.
--
Crazy George
Remove NO and SPAM from return address
"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3EB9253C.623AAD2B@uwe.ac.uk...
> Dear All,
>
> I've always understood 'resonant dipole' or 'half-wave dipole' to be
special
> cases of the general class 'dipole', which I understand to mean any
electrically
> symmetrical antenna. 'Doublet' is given as an equivalent, alternate term
by most
> definitions I can find on-line. The U.S. patent department, for instance,
uses
> 'doublet' throughout for all 'dipole' antennas.
>
> So :-
>
> A resonant dipole antenna is one cut to be 1/2,3/2,... lambda. One must of
> course specify the frequency of interest. E.g. 'The G5RV is a 20 m
resonant
> dipole'
>

> A half wave dipole antenna is a sub-class of resonant dipole. E.g. 'Each
side
> of a 2 m half wave dipole is about 19 1/2" long.'
>
> A dipole antenna is _any_ antenna having two symmetrical radiating
elements.
> E.g. 'A wire dipole antenna of 35 metres overall length can be tuned with
a
> suitable matching network to work efficiently on any amateur band from 160
m
> to 10 m'
>
> In other words a dipole is still a dipole even if it is not resonant at
the
> frequency of interest.
>
> The word 'doublet' may be substituted for the word 'dipole' in any antenna
> context. It is more frequent in U.S. usage.
>
> I find that dipole is used in many ham contexts to mean 'resonant dipole'
> and there is some usage of 'doublet' to mean a non resonant dipole, but
> the U.S. patent department does not follow this distinction.
>
> What are the correct definitions and how would you describe a non
> resonant balanced antenna?
>
>
> vy 73
>
> Andy, M3ABC

2824. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:26:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBABD89.4070501@ieee.org>
Source record: 118626

Jim Kelley <jwkelley@uci.edu> wrote:
>You don't understand it.

Your right! Your solution requires reflections from a mismatched load
to supernaturally disappear from the universe and I certainly don't
understand that. When the load is mismatched to the transmission line,
reflected energy barrels back toward the source. Whether it reaches the
source or not depends upon it being dissipated before it reaches the source
(e.g. in a circulator load) or having its direction reversed (e.g. Z0-match)
so it can flow toward the load. You haven't explained how it reverses direction.
You have asserted that the reason it doesn't change direction is that it doesn't
exist which just makes me laugh and question your sanity. Why don't you just go
whole hog using that same approach and declare that I don't exist and thus win
because the opposing argument doesn't exist?

>What you're asking me to do now is rewrite the whole damn paper for
>you.

I certainly am not asking you to do that, Jim. I don't want to
be declared senile. Maybe I haven't proven my point but you certainly
haven't disproven my point or proved yours.

You depend upon reflected energy disappearing from the universe
and I simply do not agree with you that my physics book is lying.
--
73, Cecil, W5DXP

2825. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:32:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBABEDC.7020308@ieee.org>
Source record: 118627

Jim Kelley wrote:
>
> Richard Harrison wrote:
>>R-F energy moving on a transmission line never stops. Energy stored in a
>>line is constantly being exhasusted from the line or being recirculated.
>>It never sits still.
>
> There is no net transfer of energy.

We are not talking about net energy, Jim. We are talking about the energy associated with the wave components that are forced to obey the rules of the wave reflection model. You know, V*I=P and V/I=Z0? All waves in transmission lines have their cosine term equal to 1.0. Therefore, all waves in transmission lines contain intrinsic energy.

Will you get off this "net" kick? It is irrelevant to what we are discussing. The net energy in the universe is constant so nothing every happens. See, I can do it also.
--
73, Cecil, W5DXP

2826. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:35:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBABF75.8030006@ieee.org>
Source record: 118628

Jim Kelley wrote:
> In what physics book does it say "Jim and Dr. Best have
> energy being destroyed in one direction and created in the other
> direction."

The physics book didn't say that, Jim, you and Dr. Best did.

In particular, you said there is no reflected energy from a
mismatched load if there exists a Z0-match in the rest of
the system.
--
73, Cecil, W5DXP

2827. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:40:59 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAC0DB.54B9D2F7@uci.edu>
Source record: 118629

OC_CAM's Razor wrote:
>
> Jim Kelley <jwkelley@uci.edu> wrote:
> >You don't understand it.
>
> Your right! Your solution requires reflections from a mismatched load
> to supernaturally disappear from the universe and I certainly don't
> understand that. When the load is mismatched to the transmission line,
> reflected energy barrels back toward the source. Whether it reaches the
> source or not depends upon it being dissipated before it reaches the source
> (e.g. in a circulator load) or having its direction reversed (e.g. Z0-match)
> so it can flow toward the load. You haven't explained how it reverses direction.
> You have asserted that the reason it doesn't change direction is that it doesn't
> exist which just makes me laugh and question your sanity. Why don't you just go
> whole hog using that same approach and declare that I don't exist and thus win
> because the opposing argument doesn't exist?
>
> >What you're asking me to do now is rewrite the whole damn paper for
> >you.
>
> I certainly am not asking you to do that, Jim. I don't want to
> be declared senile. Maybe I haven't proven my point but you certainly
> haven't disproven my point or proved yours.
>
> You depend upon reflected energy disappearing from the universe
> and I simply do not agree with you that my physics book is lying.
> --
> 73, Cecil, W5DXP
It's ridiculous to discuss _energy_ reflections from a load in which all
the _energy_ from the source is delivered to the load. When the fields
in the reflected waves cancel, as is the case in the steady state in an
impedance matched system, _energy_ is not reflected, or re-reflected.
Energy, real useable energy, simply isn't transferred back and forth
in the way you envision.

(V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But
their field cancellation represents zero energy transfer. Your mistake
is in trying to make power (a virtual commodity in transmission lines),
V3*I3 interfere with V4*I4. That simply cannot and does not happen.
It's a conceptual error supported only by a math error.

Energy is only reflected in a mismatched system, and even then it is
only that portion of the total energy represented by the uncancelled
portions of the reflected waves; that for which the net fields are
non-zero in the direction of interest. That is the benchmark in any

situation in which travelling waves combine non-ortohogonally.

And also -

The point is simply that energy doesn't have to
re-reflect (your idea) in order to do so. The energy in question is NOT
REFLECTED TO BEGIN WITH. The waves cancel in that direction. No net
field, no net energy. There's no need for your inexplicable
re-reflection to occur - nor your machinations to try to illustrate
such. All that is required is a tiny reorientation in your thinking
about the subject. Conservation of energy holds. Wave reflection
holds. You just have to account for the fact that energy is not
actually transferred in the direction of field cancellation, but is
instead transferred in the direction of constructive interference. It's
not a problem to show how the wave components move around in the
system. The only problem is when to extend the idea too far, and start
claiming that energy ALWAYS moves with them. It's true that energy
almost always moves with waves. Except.....

In the special case we're looking at, the wave components cancel in the
direction rearward of the load. That means that energy cannot move in
that direction. Since it does not, we don't have to worry about energy
finding a way to get back to the load. That is the problem with your
paper. There's no physical mechanism to explain such a turnabout of
energy. This doesn't bother you because you know the energy does
actually end up at the load in the end anyway. The reason wave
reflection doesn't actually present a problem is because in the matched
case, energy doesn't reflect off the match. Since the energy doesn't
reflect off the match, all of the energy from the source impinges upon
the load boundary. A wave is reflected from the load but that wave,
being equal in amplitude by opposite in phase (note the two reflection
coeffieicients must be the same), is the one which cancels the
reflection from the match, and no net energy moves in the rearward
direction from either the match or the load.

This of course assumes steady state is actually reached, and that there
are no losses, and that the amplitudes are perfectly matched, and the
phases are exactly 180 degrees - granted, none of which ever actually
occur in nature. In which case, some energy is obviously reflected back
to the source.

Your wave reflection model works fine, Cecil - to a point. That 'point'
is Fig. 3. in part II, and your claim about energy reversing direction.
Otherwise, as I have said before, it's an excellent piece of work.

Here again -

Physics says that energy and
intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2
cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta =
0, I = zero. Energy is zero at interference nulls. Period. Note what
the intensity is at the nodes. You might try re-working the problem

taking that into consideration. Just some kindly advice, Cecil.

There was this also:

"If two coherent reflected waves are traveling toward the source and engagte in 100% destructive interference, the energy in those two waves is re-reflected back toward the load."

What I have been trying to tell you is that this in fact does not occur in reality. That is because when these waves engage in 100% destructive interference, this energy does not actually travel back toward the source, and is therefore NOT "re-reflected". That amount of energy was not reflected from the load to begin with. This should be a relief to you, because as I've said before at least a dozen times, there is no physical mechanism for the "re-reflection" of energy that you describe. All you've been able to do is say "it has to because of conservation of energy." What I'm telling you is that is DOESN'T have to because, under these circumstances, the waves involved in destructive interference don't transfer energy back to the second reflection point due to the fact that they are equal in amplitude and out of phase. There is no net energy transfer from the load to the discontinuity, thus no need for it to re-reflect back to the load. Nothing blows up, Cecil.

So Cecil, whenever you'd care to discuss what I've actually written please feel free to quote it and ask questions about it.

73, Jim AC6XG

2828. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:42:44 UTC
From: richardharrison@webtv.net
Message-ID: <11327-3EBAC144-102@storefull-2311.public.lawson.webtv.net>
Source record: 118635

CAM, W5DXP wrote:
"But 1/4WL down into the stub, the "net" current is 2 amps."

This is twice the incident current for the simple reason that the hard short has forced the volts to zero. Energy in the E-field equals energy in the H-field in the incident wave. Force the E-field to zero and its energy, being indestructable, must be assumed by the H-field for an instant.

At the open end of a 1/4-wave lossless shorted stub, the current is zero. That is a very high impedance indeed.

Remember the line from the "Treasure of Sierra Madre"? It was: "We don`t need no stinkin` badges!"

Well, we don`t need no stinkin` wave interferences to confound our explanations of transmission line occurrences.

Best regards, Richard Harrison, KB5WZI

2829. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:49:45 UTC
From: Travis Jordan <no.one@no.net>
Message-ID: <Jpzua.104868$My6.1658642@twister.tampabay.rr.com>
Source record: 118630
Cross-posted to: alt.autos.toyota.camry,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"geekdude" <google@geekdude.com> wrote in message
news:fdb9e710.0305051532.7d9b523d@posting.google.com...
> Don't buy a Toyota if you want to install a radio transceiver
>
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...

So Toyota is saying 'no commercial 2-way radios' (i.e. business radios), and no cell phones either? Remember that cell phones do require a license and are on the carrier's FCC license grant as the mobiles licensed with the carrier's fixed cellular sites.

2830. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:50:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vblgoms1e9mcea@corp.supernews.com>
Source record: 118631

I intentionally avoided using the IEEE Dictionary as a reference to answer the question, since I've frequently found it not to be a good indicator of common or contemporary usage. So although it's often useful, I certainly don't consider it a "final arbitrator" by any means. My 1984 edition of the Dictionary is admittedly getting long in the tooth; perhaps more recent editions follow contemporary usage more closely.

As a side note, I looked up "dipole" and "doublet" in the indexes of the ten non-amateur antenna texts (plus two older editions of a same text) and handbooks in my library. All had multiple listings for "dipole". There was only a single entry for "doublet" -- in Jordan & Balmain. The referenced text was:

"Example 1: Field of an Infinitesimal Electric Dipole. The concept of the electric dipole is extremely useful in electromagnetic field theory. Two equal and opposite charges of magnitude q separated by an infinitesimal distance l are said to constitute an electric dipole or electric doublet. . ."

So even that single reference isn't describing an antenna, but a theoretical construct made of two separated charges.

But after doing the brief survey, I looked in Terman's _Radio Engineering_, Third Edition (1947), and found "doublet" universally used, with no reference to "dipole" at all in the index or apparently in the text. This reinforces my thinking that "doublet" is older terminology, no longer in general use, at least in this country.

Roy Lewallen, W7EL

Crazy George wrote:
> Oh, the shame, the shame of it all! Here Cecil uses a IEEE return address,
> and Roy is a long standing member of the US, nay, the International
> Electrical Engineering community, and neither cited the final arbitrator of
> this, the IEEE Standard Dictionary of Electrical and Electronics Terms.
> . . .

2831. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 20:58:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAC511.7090306@ieee.org>
Source record: 118632

Jim Kelley wrote:
> It's ridiculous to discuss _energy_ reflections from a load in which all
> the _energy_ from the source is delivered to the load.

That is one of the most ridiculous statements I have ever heard. All the energy delivered from the source has ***NOT*** been delivered to the load. 2/3 of the energy in the transmission line is or has previously been reflected energy. That's why a feedline with a high SWR has higher losses.

> (V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But
> their field cancellation represents zero energy transfer. Your mistake
> is in trying to make power (a virtual commodity in transmission lines),
> V3*I3 interfere with V4*I4.

That's a lie. V3*I3 contains intrinsic energy. V4*I4 contains intrinsic energy. V3 interferes with V4. I3 interferes with I4. V3+V3 goes to zero. I3+I4 goes to zero. (V3*I3) and (V4*I4) do not interfere. Neither does that energy disappear from the universe as you contend. The Melles-Griot web page says both of those *reflected* energy components join the forward wave. I don't see how they could say it any plainer.

> _Energy_ is only reflected in a mismatched system, ...

Just bafflegab, Jim. Anytime ZL is different from Z0, there is reflected energy. It doesn't matter if the system is matched or mismatched. The load has no way of knowing if the system is matched or not. The SWR on the feedline to the load is the same whether the system is matched or not. Why haven't you responded to my example? You would see how silly your stand is.
--
73, Cecil, W5DXP

2832. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:02:25 UTC
From: richardharrison@webtv.net
Message-ID: <11329-3EBAC5E1-8@storefull-2311.public.lawson.webtv.net>
Source record: 118636

Jim Kelley wrote:
"How steady is the state of a system rife with non-coherent signals?"

Depends. One connection between noise and stability is the ability of noise to trigger an inherently unstable amplifier into oscillation.

Other uses of wideband noise are simulation of high channel loading in analog multiplex systems and as a "signal" source for a noise bridge. It`s also an activator in a noise-squelch circuit (for silencing within a desired passband).

Best regards, Richard Harrison, KB5WZI

2833. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:06:35 UTC
From: Ian Jackson <ianjackson@g3ohx.demon.co.uk>
Message-ID: <B0c$GBAbbsu+EwTf@g3ohx.demon.co.uk>
Source record: 118634

In the UK, all domestic UHF TV antennas are essentially wideband. They
are available to cover various standard groups of channels (spanning at
least ~100MHz). There is a wideband group which covers the whole UHF
band (470 to 860MHz), at the expense of a couple of dB of gain (say 14dB
instead of the 16dB of a narrower bandwidth group). This is the 'general
purpose' model which is available in the DIY stores.
Cheers,
Ian.

In article <k5qdnbGOD6ynNiejXTWcqA@comcast.com>, Tarmo Tammaru <t-
tammaru@home.com> writes
>Thierry,
>
>I believe that currently all HDTV transmission in the US is on UHF channels.
>So, for starters you need a UHF TV antenna. The HDTV signal is still limited
>to fit unto a 6MHz channel, and bandwidth should not be a problem.
>
>Tam/WB2TT
>"Thierry Plouchart" <TPlouchart@msn.com> wrote in message
>news:QAmua.73$%k6.4225@eagle.america.net...
>> I'd like to know if this is a good place (newgroup) to start to figure out
>> how a regular TV antenna works. I want to get myself prepared to receive
>> (free) HD signals over the air with a good TV antenna. I found an old
>> antenna and got it to work and get most of my local channels on my
>(analog)
>> TV but still can't get all of the stations very clear. I know that a HD
>> decoder will clean them up but would like to get the best possible picture
>> and sound (5.1) once it is broadcast and am wondering if a Yagi type
>antenna
>> would be best at the time I am ready to make that big HDTV purchase. Well,
>> even something on the Internet about TV antennas (how they work, draw in
>the
>> signal) would help if anyone knows of any good sites to go to. Or even
>other
>> newsgroups. Thanks Thierry
>>
>>
>
>

2834. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:09:24 UTC
From: Travis Jordan <no.one@no.net>
Message-ID: <8Izua.104876$My6.1661094@twister.tampabay.rr.com>
Source record: 118633

"Thierry Plouchart" <TPlouchart@msn.com> wrote in message
news:QAmua.73$%k6.4225@eagle.america.net...
> I'd like to know if this is a good place (newgroup) to start to figure out
> how a regular TV antenna works. I want to get myself prepared to receive
> (free) HD signals over the air with a good TV antenna.

Here's a good primer on antenna basics:
http://www.hdtvprimer.com/ISSUES/erecting_antenna.html

Note: Marketing claims to the contrary, there is nothing "special" about HDTV
antennas.

2835. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:13:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAC864.48197799@uci.edu>
Source record: 118638

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > Richard Harrison wrote:
> >>R-F energy moving on a transmission line never stops. Energy stored in a
> >>line is constantly being exhasusted from the line or being recirculated.
> >>It never sits still.
> >
> > There is no net transfer of energy.
>
> We are not talking about net energy, Jim.

Yeah, I knew you'd say that. There's no other kind of transfer of
energy than a net transfer of energy. No transfer of energy, no power.

2836. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:14:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAC8B6.B5551A5F@uci.edu>
Source record: 118637

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > In what physics book does it say "Jim and Dr. Best have
> > energy being destroyed in one direction and created in the other
> > direction."
>
> The physics book didn't say that, Jim, you and Dr. Best did.

And that's the lie.

> In particular, you said there is no reflected energy from a
> mismatched load if there exists a Z0-match in the rest of
> the system.

I don't see it anywhere. Looks like you said it. Here's what I said:

It's ridiculous to discuss _energy_ reflections from a load in which all the _energy_ from the source is delivered to the load. When the fields in the reflected waves cancel, as is the case in the steady state in an impedance matched system, _energy_ is not reflected, or re-reflected. _Energy_, real useable energy, simply isn't transferred back and forth in the way you envision.

(V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But their field cancellation represents zero energy transfer. Your mistake is in trying to make power (a virtual commodity in transmission lines), V3*I3 interfere with V4*I4. That simply cannot and does not happen. It's a conceptual error supported only by a math error.

Energy is only reflected in a mismatched system, and even then it is only that portion of the total energy represented by the uncancelled portions of the reflected waves; that for which the net fields are non-zero in the direction of interest. That is the benchmark in any situation in which travelling waves combine non-ortohogonally.

And also -

The point is simply that energy doesn't have to re-reflect (your idea) in order to do so. The energy in question is NOT REFLECTED TO BEGIN WITH. The waves cancel in that direction. No net field, no net energy. There's no need for your inexplicable re-reflection to occur - nor your machinations to try to illustrate such. All that is required is a tiny reorientation in your thinking about the subject. Conservation of energy holds. Wave reflection holds. You just have to account for the fact that energy is not actually transferred in the direction of field cancellation, but is

instead transferred in the direction of constructive interference. It's not a problem to show how the wave components move around in the system. The only problem is when to extend the idea too far, and start claiming that energy ALWAYS moves with them. It's true that energy almost always moves with waves. Except.....

In the special case we're looking at, the wave components cancel in the direction rearward of the load. That means that energy cannot move in that direction. Since it does not, we don't have to worry about energy finding a way to get back to the load. That is the problem with your paper. There's no physical mechanism to explain such a turnabout of energy. This doesn't bother you because you know the energy does actually end up at the load in the end anyway. The reason wave reflection doesn't actually present a problem is because in the matched case, energy doesn't reflect off the match. Since the energy doesn't reflect off the match, all of the energy from the source impinges upon the load boundary. A wave is reflected from the load but that wave, being equal in amplitude by opposite in phase (note the two reflection coeffieicients must be the same), is the one which cancels the reflection from the match, and no net energy moves in the rearward direction from either the match or the load.

This of course assumes steady state is actually reached, and that there are no losses, and that the amplitudes are perfectly matched, and the phases are exactly 180 degrees - granted, none of which ever actually occur in nature. In which case, some energy is obviously reflected back to the source.

Your wave reflection model works fine, Cecil - to a point. That 'point' is Fig. 3. in part II, and your claim about energy reversing direction. Otherwise, as I have said before, it's an excellent piece of work.

Here again -

Physics says that energy and
intensity are proportional. Hecht says that I = I1 + I2 + 2(I1 I2)^-2 cos theta. When cos theta is 1, and I1 = I2, I = 4I1. When cos theta = 0, I = zero. Energy is zero at interference nulls. Period. Note what the intensity is at the nodes. You might try re-working the problem taking that into consideration. Just some kindly advice, Cecil.

There was this also:

"If two coherent reflected waves are traveling toward the source and engagte in 100% destructive interference, the energy in those two waves is re-reflected back toward the load."

What I have been trying to tell you is that this in fact does not occur in reality. That is because when these waves engage in 100% destructive interference, this energy does not actually travel back toward the source, and is therefore NOT "re-reflected". That amount of energy was not reflected from the load to begin with. This should be a relief to you, because as I've said before at least a dozen times, there is no

physical mechanism for the "re-reflection" of energy that you describe. All you've been able to do is say "it has to because of conservation of energy." What I'm telling you is that is DOESN'T have to because, under these circumstances, the waves involved in destructive interference don't transfer energy back to the second reflection point due to the fact that they are equal in amplitude and out of phase. There is no net energy transfer from the load to the discontinuity, thus no need for it to re-reflect back to the load. Nothing blows up, Cecil.

So Cecil, whenever you'd care to discuss what I've actually written please feel free to quote it and ask questions about it.

73, Jim AC6XG

2837. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:15:38 UTC
From: richardharrison@webtv.net
Message-ID: <11328-3EBAC8FA-39@storefull-2311.public.lawson.webtv.net>
Source record: 118643

CAM, W5DXP wrote:
"And please note that a reflected wave can only cancel with another reflected wave, i.e. they have to be traveling in the same direction---."

Please note that a short-circuit 1/4-wave stub, Teed into a transmission line, has the opportunity to react with waves either coming or going.

Best regards, Richard Harrison, KB5WZI

2838. Re: Beverage Antenna Size (Expert Question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:24:11 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <jy6dnbdvNtGdViejXTWcog@crocker.com>
Source record: 118639

lets see, 3.5MHz is about 85m, 85m is about 272', close enough in my book. the exact length of beverages isn't important, i use the same beverages for 160m, 80m, and 40m. they are about 600' each, measured by pacing after installation from a fixed starting post near the house to a point where it got to be too much work to continue. a general rule of thumb is that 1 wavelength is ok, 2 is better, 3 or more doesn't really help much and just gets harder to build.

"Levent" <lsasmazel@comcast.net> wrote in message
news:882020e3.0305071851.437bac1c@posting.google.com...
> Folks,
>
> I am trying to understand one thing about beverage antennas. I did
> read a lot of articles including ON4UN's Low-Band DX ing. All
> information says 1 wave 80-meter beverage size is 295 Feet. I did try
> to get how this number is calculated but I did not get anywhere.
>
> Formulla I did used is this
>
>
> Feet = 984(N-0.025)/Frequency <= this calculation considers end
> effects..
>
> Result is the following lengths ;
>
> Freq N Length Velocity Real Length Feet Length Meter Real Length Meter
> 3.5 1 274.11 0.98 268.63 83.57 81.90
> 3.5 1.25 344.40 0.98 337.51 105.00 102.90
> 3.5 1.5 414.69 0.98 406.39 126.43 123.90
> 3.5 1.75 484.97 0.98 475.27 147.86 144.90
> 3.5 2 555.26 0.98 544.15 169.29 165.90
> 3.6 1 266.50 0.98 261.17 81.25 79.63
> 3.6 1.25 334.83 0.98 328.14 102.08 100.04
> 3.6 1.5 403.17 0.98 395.10 122.92 120.46
> 3.6 1.75 471.50 0.98 462.07 143.75 140.88
> 3.6 2 539.83 0.98 529.04 164.58 161.29
> 3.7 1 259.30 0.98 254.11 79.05 77.47
> 3.7 1.25 325.78 0.98 319.27 99.32 97.34
> 3.7 1.5 392.27 0.98 384.42 119.59 117.20
> 3.7 1.75 458.76 0.98 449.58 139.86 137.07
> 3.7 2 525.24 0.98 514.74 160.14 156.93
> 3.8 1 252.47 0.98 247.42 76.97 75.43
> 3.8 1.25 317.21 0.98 310.87 96.71 94.78
> 3.8 1.5 381.95 0.98 374.31 116.45 114.12

> 3.8 1.75 446.68 0.98 437.75 136.18 133.46
> 3.8 2 511.42 0.98 501.19 155.92 152.80
> 4 1 239.85 0.98 235.05 73.13 71.66
> 4 1.25 301.35 0.98 295.32 91.88 90.04
> 4 1.5 362.85 0.98 355.59 110.63 108.41
> 4 1.75 424.35 0.98 415.86 129.38 126.79
> 4 2 485.85 0.98 476.13 148.13 145.16
>
>
> On meter scale ON4UN starts with 89 meters much longer then the
> calculated value even without velocity factor table shows that 3.5 MHz
> needs 83 meters of wire 6 meters (~18 feet) is a huge difference.
>
> Is any one has any inside about this?
>
> Thanks and 73s
> Levent - WW2L

2839. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:26:12 UTC
From: richardharrison@webtv.net
Message-ID: <11326-3EBACB74-260@storefull-2311.public.lawson.webtv.net>
Source record: 118644

CAM, W5DXP wrote:
"The net energy in the universe is constant so nothing ever happens."

Wrong. The entropy of the universe is always increasing.

Best regards, Richard Harrison, KB5WZI

2840. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:26:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBACB8F.3CDEC904@uci.edu>
Source record: 118640

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > It's ridiculous to discuss _energy_ reflections from a load in which all
> > the _energy_ from the source is delivered to the load.

> 2/3 of the energy in the transmission line is or has previously
> been reflected energy.

During which part of the steady state? It's a concept you invented and which doesn't work out. If you ever tried to actually prove it mathematically you'd find out.

> > (V3+V4) * (I3+I4) = 0. V3 is real, V4 is real, as are I3 and I4. But
> > their field cancellation represents zero energy transfer. Your mistake
> > is in trying to make power (a virtual commodity in transmission lines),
> > V3*I3 interfere with V4*I4.
>
> That's a lie.

Now look what I've started. ;-)

> V3*I3 contains intrinsic energy.

It transfers no energy do to wave cancellation. If that wave didn't cancel with the other, it would transfer energy. The wave itself is in fact cancelled. If it had actually transferred energy, then you'd have a conservation of energy problem because obviously, energy cannot be cancelled.

> The load has no way of knowing if the system
> is matched or not.

I really don't even know what the hell that's supposed to mean.

2841. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:38:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBACE58.9080905@ieee.org>
Source record: 118642

Richard Harrison wrote:
> At the open end of a 1/4-wave lossless shorted stub, the current is
> zero. That is a very high impedance indeed.

That's the net current, Richard, the sum of two waves traveling in opposite directions. The forward current flowing into the stub is still one amp. The reflected current flowing out of the stub is still one amp. No reflections happen at the mouth of the stub. All of the reflections happen at the open end of the stub.

> Well, we don`t need no stinkin` wave interferences to confound our
> explanations of transmission line occurrences.

It's not confounding, it is understanding. The forward current is one amp all up and down the stub. The reflected current is one amp all up and down the stub. If you don't believe that, all you have to do is measure it.
--
73, Cecil, W5DXP

2842. Re: Hy Gain beam parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:39:21 UTC
From: thompson@mindspring.com
Message-ID: <b9eignefl1@slb5.atl.mindspring.net>
Source record: 118641

Sure,

Write or call Hy-Gain in State College/Starkville. I got some caps for a
TH3 MK III last Summer.
Dave K4JRB

FVRACR <fvracr@aol.com> wrote in message
news:20030508010352.18135.00000935@mb-m29.aol.com...
> Is it possible to to get parts for an older 3 element, 3 band beam made by
Hy
> Gain? Specifically the traps.
>
> Thanks,
> Kirk Mohror
> K7EKM

2843. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:49:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAD0F1.3040606@ieee.org>
Source record: 118645

Jim Kelley wrote:
> There's no other kind of transfer of
> energy than a net transfer of energy. No transfer of energy, no power.

:-) :-) :-) You should go on stage as a commodian.
The reason that you haven't answered my example questions is obvious.
If you admit that reflected energy occurs from a mismatched load,
you have no explanation for were it goes, so you must deny any energy
is reflected from a mismatched load if a Z0-match exists anywhere in
the rest of the system - in defiance of reality and the accepted laws
of physics. Good luck on trying to convince someone that the SWR is
1:1 on that line they are measuring when the wattmeter indicates a
6:1 SWR. Good Lord, and to think I took you seriously for awhile.
It was a great joke, Jim. Who put you up to it?
--
73, Cecil, W5DXP

2844. Re: Hy Gain beam parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 21:54:48 UTC
From: David Cook <nospam.davepc2@oz.net>
Message-ID: <ImAua.63825$pa5.51758@rwcrnsc52.ops.asp.att.net>
Source record: 118646

I agree with Dave's reply to your post - call Hy-Gain up directly (They're a subsidiary of MFJ now). I recently inherited a vintage beam and called them to ask about parts. The fellow I talked with was very nice and knew exactly what I needed, a "plastics kit" and all new stainless steel hardware to replace the old rusty stuff. I haven't rebuilt it yet so I don't know if the traps need work. But I can definitely recommend you call Hy-Gain - great products and great support.

73,
-- Dave, WA0TTN

"FVRACR" <fvracr@aol.com> wrote in message
news:20030508010352.18135.00000935@mb-m29.aol.com...
> Is it possible to to get parts for an older 3 element, 3 band beam made by
Hy
> Gain? Specifically the traps.
>
> Thanks,
> Kirk Mohror
> K7EKM

2845. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:00:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAD378.600@ieee.org>
Source record: 118647

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>In particular, you said there is no reflected energy from a
>>mismatched load if there exists a Z0-match in the rest of
>>the system.
>
> I don't see it anywhere. Looks like you said it. Here's what I said:
>
> It's ridiculous to discuss _energy_ reflections from a load in which all
> the _energy_ from the source is delivered to the load.

Yep, that's exactly what you said. It's strange to quote yourself
and prove that I was right. You said the same thing again here:

> _Energy_ is only reflected in a mismatched system, ...

Jokes over, Jim. Nobody could be that friggin' stupid. Energy is
always reflected from a mismatched load. It doesn't make one iota
of difference if the system is matched or not. You cannot possibly
believe that an antenna tuner at the transmitter causes the SWR
on the transmission line to equal 1:1, so you have to be pulling my
leg.
--
73, Cecil, W5DXP

2846. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:16:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAD74B.6080607@ieee.org>
Source record: 118648

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>>It's ridiculous to discuss _energy_ reflections from a load in which all
>>>the _energy_ from the source is delivered to the load
>
>>2/3 of the energy in the transmission line is or has previously
>>been reflected energy.
>
> During which part of the steady state?

During all parts of steady-state. You can measure it.

> It's a concept you invented and
> which doesn't work out. If you ever tried to actually prove it
> mathematically you'd find out.

You are such a kidder. I don't have to prove it mathematically. I can simply measure it. None of your mental masturbation math will make reflected power disappear from the directional wattmeter measurements. If the ZL of the load is not matched to the Z0 of the transmission line, there will be reflected waves containing reflected energy flowing rearward toward the source. Until you come back to reality and come to grips with that fact of physics, it won't do any good to continue the discussion.

You are avoiding my closed room example for good reason. You have NO answers. You cannot tell if the system is matched or not from inside that room so you don't know if the reflected waves must contain energy or not. That's what happens when you try to get your math model to dictate reality. It's not nice to fool Mother Nature. Kaboom!!!

Here's another example for you, Jim. You are at one end of a wire cable connected to 220 VAC through a switch at the other end. Someone else who believes as you do is connected to 220 VAC through a switch at your end. You both throw the switches at the same time. The net transfer of energy in the cable is zero. Do you think either one of you will experience that net energy of zero?
--
73, Cecil, W5DXP

2847. Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:21:33 UTC
From: David Cook <nospam.davepc2@oz.net>
Message-ID: <NLAua.816548$S_4.826711@rwcrnsc53>
Source record: 118649

Hi folks, I've inherited a Rohn 25G tower and am looking for advice on how to deal with the city and neighbors. I bought the ARRL book "Antenna Zoning" and it describes the process as fairly daunting, if you go by "the book". I'm concerned about opening Pandora's box by going to the city planner and asking about it. A couple of people suggested that I hire a contractor to dig the hole and pour the concrete base, and maybe the contractor could help take care of the municipal issues. The tower's only 29 feet, so if it's going to be a huge hassle, I won't bother. So, any advice on this?

Thanks and 73 to all,
-- Dave, WA0TTN

2848. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:22:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAD8B5.5010102@ieee.org>
Source record: 118650

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "And please note that a reflected wave can only cancel with another
> reflected wave, i.e. they have to be traveling in the same
> direction---."
>
> Please note that a short-circuit 1/4-wave stub, Teed into a transmission
> line, has the opportunity to react with waves either coming or going.

The purpose of a short-circuit 1/4WL stub is to prevent waves from
coming and going from/to the load. It essentially sucks all the
available energy coming from the source into the stub and then reflects
it back toward the source.
--
73, Cecil, W5DXP

2849. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:25:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAD96B.90704@ieee.org>
Source record: 118651

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "The net energy in the universe is constant so nothing ever happens."
>
> Wrong. The entropy of the universe is always increasing.

Increasing entropy doesn't change the net energy. Energy can
assume lower states but it cannot escape from the universe.
Assuming the universe is a closed system, the net energy in
the universe is a constant.
--
73, Cecil, W5DXP

2850. Antenna Rotator HELP needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 22:51:17 UTC
From: James Hilins <jhilins@wi.rr.com.REMOVE>
Message-ID: <FbBua.10521$JE3.590882@twister.rdc-kc.rr.com>
Source record: 118652

The rotor is an: Alliance Model 225

It uses 5 wires. One puts the control box pointer where he wants the beam, and the rotor goes there. There is no meter showing antenna position, just a red lite showing the rotor is "in transit" to a new location of the antenna. (the rotor and the antenna are un-aligned). When they again get back aligned, the red lite extinguishes.

Wiring diagram needed !

Please respond to jhilins@wi.rr.com

2851. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:04:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAE263.30BBC8F1@uci.edu>
Source record: 118654

OC_CAM's Razor wrote:
>
> Richard Harrison wrote:
> > CAM, W5DXP wrote:
> > "And please note that a reflected wave can only cancel with another
> > reflected wave, i.e. they have to be traveling in the same
> > direction---."
> >
> > Please note that a short-circuit 1/4-wave stub, Teed into a transmission
> > line, has the opportunity to react with waves either coming or going.
>
> The purpose of a short-circuit 1/4WL stub is to prevent waves from
> coming and going from/to the load. It essentially sucks all the
> available energy coming from the source into the stub and then reflects
> it back toward the source.

Yes, that's the 'scientific' way of explaning it. But there's also the
"stupid" way of looking at it - that the fields cancel in the direction
of the load preventing a transfer of energy to it.

2852. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:05:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAE2A2.425B3647@uci.edu>
Source record: 118653

OC_CAM's Razor wrote:
> > _Energy_ is only reflected in a mismatched system, ...
>
> Nobody could be that friggin' stupid.

Good point, Cecil. Somethin's not addin' up.

> Energy is
> always reflected from a mismatched load.

I'm still waiting for you to provide a scientifically viable way for it turn back around and reach the load, Cecil. You haven't provided one. I've discovered that you don't need one as it turns out, and I've even tried to show you why you don't need one. To no avail. In my opinion, your time would be more productively spent persuing a different route to the answer than arguing about it. That's what a reasonable person might do.

Recall that I started out in agreement with your analysis. But I have apparently become "stupid" since then. And according to you, the more I educate myself about the problem and elucidate upon it, the more stupid I become. Ironically, all of my endeavors in analyzing other such problems have produced exactly the opposite result. Fascinating.

If I were you, I'd probably have another look at Steve Best's analysis, and compare it with what I've been saying to you about the transfer of energy in destructively interfering waves. Consider that 'watts' don't actually travel though transmission lines - fields do. Consider that energy isn't transferred from one point to another when no net field exists in the direction of destructive interference. Also consider that the simplest explanation is usually the correct one. You're paper reinvents epicycles.

2853. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:13:52 UTC
From: Philip&#65533; <chipstate@earthlink.net>
Message-ID: <QwBua.63160$4P1.5698951@newsread2.prod.itd.earthlink.net>
Source record: 118655
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks
Body handling: HTML body converted to readable text

"dj" wrote in message
news:DaleJ-7ACD26.12292508052003@hermes-ge0.rdc-kc.rr.com...
> In article
<_Vvua.61765$ey1.5520392@newsread1.prod.itd.earthlink.net>,
> "Philip&#65533;" wrote:
>
> > "Bruce Burke" wrote in message
> > news:3eba533b.859179828@newshost.corp.mot.com...
> > > On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary
V.
> > > Deutschmann, Sr.) wrote:
> > >
> > > Funny you should mention this. The other day a crown vic went
through
> > > the front glass of a post office injuring a bunch of
people....the
> > > driver was an elderly guy and most would pass it off as a mistake
he
> > > made, now I'm not so sure since there is a cell tower on that
> > > particular site. My father-in-law had instances where the motor
in
> > > his crown vic would suddenly race. However, I don't know the
details
> > > of when this occured.
> > >
> > >
> > > Regards,
> > >
> > > Bruce
> > > Hitting reply is futile, use the following:
> > > .(wb4yuc@juno.com).
> > >
> >
> > I think 99% of all these stories are just future material for Coast
to
> > Coast with Art Bell. Hehehhehe
> > --
> >
> > -Philip-
> >

> > freedom of speech
> > does not mean
> > freedom from consequences
> >
> >
>
> Art, W6OBB retired. It's now Coast to Coast with George Noory.
>
> --
> email: dalej2@mac.com
>

Ah... so you are a follower? It's going to be a while before the name
George Noory gains the instant notoriety of hosting fringe speculation
that the name Art Bell possesses. Wouldn't you agree? ;^)
--

-Philip-

freedom of speech
does not mean
freedom from consequences

2854. Data from four bazookas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:24:20 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vblpq0se5gvfa9@corp.supernews.com>
Source record: 118656

The following data are from four double bazooka antennas; three on 40 meters
and one on 160 meters.
Data were generated with an MFJ analyzer.
In the case of the 40 meter antennas the feedline was RG8X approximately 1/2
wavelength long with a seven turn choke at the feedpoint. The 160 meter
antenna was fed directly with about 30 feet of RG8X.
The 40 meter antennas were all hung between the same two trees at about 1/4
wavelength in height.
Stretched across part of my front pasture between two small hills, the 160
meter antenna is about 60 feet high at the ends and 35 feet high in the
center. Not high enough, it turns out..
Data were acquired with and without the 1/4 wave stubs connected.
R and X are in ohms of course.

The following data are from a 40 meter double bazooka constructed of RG8X.
The lower case d denotes the dipole, or uncompensated, antenna.

RG8X
MHz VSWR VSWRd R Rd X Xd
7.00 1.2 2.3 36 30 16 26
7.03 1.1 2.1 38 30 13 21
7.06 1.0 1.9 40 30 10 17
7.09 1.0 1.7 43 32 7 13
7.12 1.0 1.5 47 33 4 10
7.15 1.0 1.4 51 36 0 6
7.18 1.0 1.3 55 39 0 5
7.21 1.0 1.2 59 43 4 6
7.24 1.0 1.1 65 48 7 8
7.27 1.1 1.2 70 53 13 11
7.30 1.2 1.3 72 60 18 12

Next I built a 40 meter double bazooka with Times Microwave Ultraflex
The x's are where I didn't take data.
The lower case d denotes the dipole, or uncompensated, antenna.

Times Microwave
MHz VSWR VSWRd R Rd X Xd
7.00 1.8 x 57 x 32 x
7.02 1.7 x 60 x 28 x
7.04 1.6 x 62 x 23 x
7.06 1.5 x 62 x 17 x
7.08 1.3 x 61 x 12 x
7.10 1.2 1.4 61 68 7 9
7.12 1.1 1.3 58 65 3 2
7.13 1.0 1.2 55 63 0 0

7.14 1.0 1.2 52 61 0 0
7.15 1.0 1.1 51 58 0 0
7.16 1.0 1.1 49 56 0 1
7.17 1.0 1.1 49 54 0 2
7.18 1.0 1.0 47 51 1 4
7.20 1.2 1.1 42 47 2 6
7.22 1.3 1.2 39 43 4 7
7.24 1.3 1.3 36 39 5 7
7.26 1.4 1.4 34 36 5 6
7.28 1.5 x 32 x 6 x
7.30 1.6 x 30 x 6 x

Then I built one out of RG213 and sat the field strength meter near it. The field strength readings are arbitrary units on a scale of 1 to 100; The only difference between the two sets is cutting the center conductor. The lower case d denotes the dipole.

RG213
MHz VSWR VSWRd R Rd X Xd RF RFd RF/d(%)
7.00 1.5 1.6 31 32 7 6 51 62 82
7.01 1.5 1.6 32 33 6 6 52 63 83
7.02 1.5 1.5 32 33 6 5 54 64 84
7.03 1.4 1.5 33 34 5 5 55 64 86
7.04 1.4 1.4 34 35 5 5 55 65 85
7.05 1.4 1.4 35 36 5 5 55 65 85
7.06 1.3 1.3 36 37 4 4 55 65 85
7.07 1.3 1.3 37 38 4 4 56 66 85
7.08 1.3 1.2 38 40 4 4 56 66 85
7.09 1.2 1.2 40 41 3 4 56 66 85
7.10 1.1 1.1 42 42 3 3 56 66 85
7.11 1.1 1.1 44 43 2 3 56 66 85
7.12 1.1 1.1 45 45 1 2 55 66 83
7.13 1.0 1.0 45 46 0 2 55 65 85
7.14 1.0 1.0 46 47 0 2 54 64 84
7.15 1.0 1.0 47 48 0 3 53 64 83
7.16 1.0 1.1 48 49 0 5 53 63 84
7.17 1.0 1.1 49 50 0 6 52 62 84
7.18 1.1 1.1 49 50 4 8 51 61 84
7.19 1.1 1.2 50 50 6 10 50 60 83
7.20 1.1 1.2 50 50 8 11 50 58 86
7.21 1.2 1.3 50 50 10 12 49 57 86
7.22 1.2 1.3 50 50 11 14 48 56 86
7.23 1.3 1.4 50 50 13 15 47 55 85
7.24 1.3 1.4 49 49 15 17 46 55 84
7.25 1.3 1.5 48 48 16 18 45 54 83
7.26 1.4 1.5 47 47 17 19 45 52 87
7.27 1.4 1.5 46 45 18 20 44 51 86
7.28 1.5 1.5 45 44 19 21 43 50 86
7.29 1.5 1.6 44 43 20 22 41 49 84
7.30 1.6 1.6 42 42 21 22 40 48 83

It appears that the bazooka produces ~85% of the near-field strength of the dipole.
In all three cases there is a resonance effect with vanishing reactance and a range of 1:1 SWR.

Then I built the 160 meter antenna. I tuned each stub with the antenna suspended to account for stretching.
I tuned the dipole, then I connected the RG8X stubs.

MHz	VSWR	VSWRd	R	Rd	X	Xd
1.80	4.7	4.9	13	13	23	22
1.81	4.5	4.7	14	14	25	24
1.82	4.2	4.4	15	15	28	27
1.83	3.9	4.1	17	17	31	30
1.84	3.6	3.8	20	20	34	32
1.85	3.3	3.5	24	23	37	36
1.86	3.0	3.1	29	29	42	39
1.87	2.7	2.7	37	36	45	42
1.88	2.3	2.4	50	46	46	44
1.89	2.1	2.1	66	61	41	41
1.90	1.9	1.8	80	76	29	28
1.91	1.8	1.7	84	81	17	16
1.92	1.8	1.7	73	72	27	25
1.93	1.9	1.8	57	56	34	33
1.94	2.1	2.1	42	42	35	34
1.95	2.3	2.5	31	30	32	31
1.96	2.7	2.9	24	23	28	27
1.97	3.1	3.4	19	18	23	23
1.98	3.6	4.0	16	14	19	19
1.99	4.1	4.5	13	12	15	16
2.00	4.5	5.1	12	10	12	13

Why doesn't it behave like the 40 meter devices?
Where's the vanishing reactance? The 1:1 VSWR?
TOO MUCH LOSS !!
Antenna's too close to the ground !
The tank circuit won't oscillate.
The dipole would work better if I had a couple of 100 foot supports; I don't.
The RG8X makes a long, lossy tank circuit.
Next step, use lump components. Put a tank circuit at the feed point.

73
H.
NQ5H

--
"The dinosaurs did not have a space program.
That's why they died."

2855. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:26:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAE793.1030908@ieee.org>
Source record: 118657

OC_CAM's Razor wrote:
> Assuming the universe is a closed system, the net energy in
> the universe is a constant.

Forgot to say that mass in included in the net energy.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2856. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:30:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAE8B0.2010306@ieee.org>
Source record: 118658

Jim Kelley wrote:
> Yes, that's the 'scientific' way of explaning it. But there's also the
> "stupid" way of looking at it - that the fields cancel in the direction
> of the load preventing a transfer of energy to it.

Ideally, there are no fields in the direction of the load so there is
nothing to cancel. The transmission line to the load is ideally devoid
of everything including fields that cancel. The stub simply sucks
better than the load. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2857. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:36:47 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <meqlbvk5dkoakrp691sitrjfirv4b6oqb0@4ax.com>
Source record: 118659

On Thu, 08 May 2003 13:50:29 -0700, Roy Lewallen <w7el@eznec.com>
wrote:
[snip]

| This reinforces my thinking that "doublet" is older
|terminology, no longer in general use, at least in this country.

Or this century either.

2858. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:37:24 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-7D78F2.18372408052003@hermes-ge0.rdc-kc.rr.com>
Source record: 118660
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks
Body handling: HTML body converted to readable text

In article ,
"Philip" wrote:

> "dj" wrote in message
> news:DaleJ-7ACD26.12292508052003@hermes-ge0.rdc-kc.rr.com...
> > In article
> <_Vvua.61765$ey1.5520392@newsread1.prod.itd.earthlink.net>,
> > "Philip" wrote:
> >
> > > "Bruce Burke" wrote in message
> > > news:3eba533b.859179828@newshost.corp.mot.com...
> > > > On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary
> V.
> > > > Deutschmann, Sr.) wrote:
> > > >
> > > > Funny you should mention this. The other day a crown vic went
> through
> > > > the front glass of a post office injuring a bunch of
> people....the
> > > > driver was an elderly guy and most would pass it off as a mistake
> he
> > > > made, now I'm not so sure since there is a cell tower on that
> > > > particular site. My father-in-law had instances where the motor
> in
> > > > his crown vic would suddenly race. However, I don't know the
> details
> > > > of when this occured.
> > > >
> > > >
> > > > Regards,
> > > >
> > > > Bruce
> > > > Hitting reply is futile, use the following:
> > > > .(wb4yuc@juno.com).
> > > >
> > >
> > > I think 99% of all these stories are just future material for Coast
> to
> > > Coast with Art Bell. Hehehhehe
> > > --
> > >

> > > -Philip-
> > >
> > > freedom of speech
> > > does not mean
> > > freedom from consequences
> > >
> > >
> >
> > Art, W6OBB retired. It's now Coast to Coast with George Noory.
> >
> > --
> > email: dalej2@mac.com
> >
>
> Ah... so you are a follower? It's going to be a while before the name
> George Noory gains the instant notoriety of hosting fringe speculation
> that the name Art Bell possesses. Wouldn't you agree? ;^)
> --
>
> -Philip-
>
> freedom of speech
> does not mean
> freedom from consequences
>
>

Yes, I agree. I really do miss Art. I started listning to the program a year ago when I had paracarditis which kept me up most of the night and I would find comfort listning to Art on my R8A. I don't miss the paracarditis but do miss Art Bell, he had some good guests. One I remember from Areceibo which was very interesting and kept my mind off the pain for the whole program.

Thanks for the memories Art Bell.

73
Dale J.

--
email: dalej2@mac.com

2859. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:43:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAEB9E.2AFEC951@uci.edu>
Source record: 118663

OC_CAM's Razor wrote:
> It was a great joke, Jim. Who put you up to it?

It was Cecil Moore, W5DXP and his article entitled "A Steady State Energy Analysis at a Transmission Line Impedance Discontinuity", that I expect may never be published in any sort of reputable journal due primarily to mathematical errors arising from some erroneous assumptions.

2860. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:46:31 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vblr39hf8dgl8b@corp.supernews.com>
Source record: 118661

A doublet produces a dipole field when operated at it's lowest resonant
frequency.
Roy's probably right about the chronology of the terms,
but it seems to me all dipoles are doublets but not all doublets are
dipoles.
73
H.
NQ5H

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:meqlbvk5dkoakrp691sitrjfirv4b6oqb0@4ax.com...
> On Thu, 08 May 2003 13:50:29 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
> [snip]
>
>
> | This reinforces my thinking that "doublet" is older
> |terminology, no longer in general use, at least in this country.
>
> Or this century either.

2861. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:46:59 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebaed50_2@news1.prserv.net>
Source record: 118662

Well, Dave,

This is the 21st century. You don't want to put yourself in an untenable legal position, either for actual damage, or worse, perceived possible damage. While you can do it yourself, what will your answer be to the question: "Is it safe? Prove it."

--
Crazy George
Remove NO and SPAM from return address
"David Cook" <nospam.davepc2@oz.net> wrote in message
news:NLAua.816548$S_4.826711@rwcrnsc53...
> Hi folks, I've inherited a Rohn 25G tower and am looking for advice on how
> to deal with the city and neighbors. I bought the ARRL book "Antenna
Zoning"
> and it describes the process as fairly daunting, if you go by "the book".
> I'm concerned about opening Pandora's box by going to the city planner and
> asking about it. A couple of people suggested that I hire a contractor to
> dig the hole and pour the concrete base, and maybe the contractor could
help
> take care of the municipal issues. The tower's only 29 feet, so if it's
> going to be a huge hassle, I won't bother. So, any advice on this?
>
> Thanks and 73 to all,
> -- Dave, WA0TTN
>
>
>

2862. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:47:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAEC95.3B05FB10@uci.edu>
Source record: 118664

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Yes, that's the 'scientific' way of explaning it. But there's also the
> > "stupid" way of looking at it - that the fields cancel in the direction
> > of the load preventing a transfer of energy to it.
>
> Ideally, there are no fields in the direction of the load so there is
> nothing to cancel. The transmission line to the load is ideally devoid
> of everything including fields that cancel. The stub simply sucks
> better than the load. :-)

Listen to the sound of one hand waving. :-)

2863. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:59:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAEF49.34985038@uci.edu>
Source record: 118665

OC_CAM's Razor wrote:
> Here's another example for you, Jim. You are at one end of a wire cable
> connected to 220 VAC through a switch at the other end. Someone else
> who believes as you do is connected to 220 VAC through a switch at
> your end. You both throw the switches at the same time. The net transfer
> of energy in the cable is zero. Do you think either one of you will
> experience that net energy of zero?

Ahhh, so now we're back to having Walter's virtual short at the
discontinuity. Very interesting, Cecil. ;-)

2864. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-08 23:59:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAEF7C.7040302@ieee.org>
Source record: 118666

Jim Kelley wrote:
> I'm still waiting for you to provide a scientifically viable way for
> it turn back around and reach the load, Cecil. You haven't provided
> one.

That's your opinion and you're sticking to it. If dynamic energy is
blocked from one direction and there is only one other direction
available, it only takes an IQ of 50 to pick the new direction.
You only have so many fingers to stick in that dike, Jim, then
you had better hold your breath.

> Recall that I started out in agreement with your analysis. But I have
> apparently become "stupid" since then.

Your first act of stupidity was threatening me with loss of our
friendship if I didn't adopt your ideas. I don't need friends like that.
I don't have any friends like that.

> And according to you, the more I
> educate myself about the problem and elucidate upon it, the more stupid
> I become.

Yep, my nephew has the same problem. The better educated he becomes,
the farther away from reality he drifts. Of course, he's a preacher
but so are you, just a different religion than my nephew's.

> Consider that 'watts' don't
> actually travel though transmission lines - fields do.

Consider that fields cannot exist without joules driving them.
Joules flow past a point. The number of joules/sec flowing past
that point is power. No joules = no power. Flowing Joules = power,
by definition. What the heck do you think is the value of ExH if
not power? The only way not to have power associated with a
field is to have the fields equal to zero. Let that one sink in
for a couple of days until you understand it better.

> Consider that
> energy isn't transferred from one point to another when no net field
> exists in the direction of destructive interference.

That's obvious to the most casual observer. If no reflected energy
reaches the source then no reflected energy reaches the source. Energy
was traveling toward the source and now it isn't. There are only two
directions available. You can't seem to figure out where that
energy went when it didn't go toward the source. DUUHHHHH!

> Also consider that
> the simplest explanation is usually the correct one. You're paper
> reinvents epicycles.

My paper presents the most simple explanation possible. There's no other choice with a simple mind like mine. :-) Your ideas re-invent physics to do your bidding. Mismatched loads either reflect energy or they don't reflect energy depending upon your whim. And your whims even cause ex-post-facto actions. If you didn't send the proper reflected energy down the line on time, you simply roll back time and correct the problem.

It's a very simple thing for wave cancellation to cause a reflection. It is pathological in the extreme to try to set up a mismatched load that sometimes reflects and sometimes doesn't reflect any of the incident energy depending upon whether you say it exists or not 100 feet away. But be my guest. (Somebody get the net!)
--
73, Cecil http://www.qsl.net/w5dxp

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2865. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:02:18 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3ebaee11.545149687@news.galilei.com>
Source record: 118667
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Hi Philip

Dig this.

I had my alternator go out the day before yesterday. Had a new one put in last night. The mechanic disconnected the battery of my car without using a backup battery in the cigarette lighter.
This reset the computer and all sorts of things back to factory default.
More importantly, the EGR valve was reset somehow and the 'service engine soon' light, that has been on for over a year, after several trips to the service center finally went out and has stayed out.

I had to get an emissions test today for new tags for the car. The inspection station rather than hooking up the tailpipe sniffer, plugged a cord somewhere under the dash. The car passed with flying colors.
Prior to the alternator going out, I was told I needed to replace the EGR valve and have some spyder thing in the carburetor replaced.
Running the same diagnostics on the engine this afternoon showed everything to be A-OK.

Wonder if it's built in, pre-programmed error codes to make one have parts replaced that don't need it?
I know RCA TVs used to have a Thermistor in them, connected in such a way they could not easily be bypassed. The only purpose was the Thermistor is like a candle, it only lasts so long and goes out.
I figure it was either a ploy to keep RCA repairmen in business or to sell more TVs, other manufacturers did not have them.

If one only knew how to replace a few pincushion caps (that dry out) in monitors and TVs, they would run for years without any other problems.

TTUL
Gary

2866. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:02:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAF01A.8090508@ieee.org>
Source record: 118668

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>It was a great joke, Jim. Who put you up to it?
>
> It was Cecil Moore, W5DXP and his article entitled "A Steady State
> Energy Analysis at a Transmission Line Impedance Discontinuity", that I
> expect may never be published in any sort of reputable journal due
> primarily to mathematical errors arising from some erroneous
> assumptions.

Wow, that's almost exactly what the Catholic Church said to Galileo.
--
73, Cecil http://www.qsl.net/w5dxp

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2867. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:05:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAF0D9.10205@ieee.org>
Source record: 118669

H. Adam Stevens wrote:
> A doublet produces a dipole field when operated at it's lowest resonant
> frequency.
> Roy's probably right about the chronology of the terms,
> but it seems to me all dipoles are doublets but not all doublets are
> dipoles.

That pretty much agrees with my thoughts on the matter. I guess all
the problems would go away if, instead of dipole or doublet, we
simply said "center-fed conductor". I wonder if that concept would
cover a gamma-match? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2868. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:07:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBAF15A.8060702@ieee.org>
Source record: 118670

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>Here's another example for you, Jim. You are at one end of a wire cable
>>connected to 220 VAC through a switch at the other end. Someone else
>>who believes as you do is connected to 220 VAC through a switch at
>>your end. You both throw the switches at the same time. The net transfer
>>of energy in the cable is zero. Do you think either one of you will
>>experience that net energy of zero?
>
> Ahhh, so now we're back to having Walter's virtual short at the
> discontinuity. Very interesting, Cecil. ;-)

How in the world did you come up with that response? Your mind
works in mysterious ways, Jim. Really, really, really, really,
mysterious ways.
--
73, Cecil http://www.qsl.net/w5dxp

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2869. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:13:58 UTC
From: Scott <scott_unit_69@yahoo.bomb>
Message-ID: <3EBAF2C6.37CFF327@yahoo.bomb>
Source record: 118671
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

> I had my alternator go out the day before yesterday. Had a new one
> put in last night. The mechanic disconnected the battery of my car
> without using a backup battery in the cigarette lighter.
> This reset the computer and all sorts of things back to factory
> default.
> More importantly, the EGR valve was reset somehow and the 'service
> engine soon' light, that has been on for over a year, after several
> trips to the service center finally went out and has stayed out.

I have disconnected the battery in my Jeep several times to
clear out trouble codes and other goofyisms. Seems heavy
doses of HF at idle change the programmed settings and
it takes too long to reset by itself. I have also disconnected
sensors to see what they are by what code comes up. That
requires a reset! YMMV.

2870. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:14:10 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <qgslbv0dot17pc74nblc51do1cok6ckgsn@4ax.com>
Source record: 118675

On Wed, 7 May 2003 23:13:05 -0700, "Thierry Plouchart"
<TPlouchart@msn.com> wrote:

>I'd like to know if this is a good place (newgroup) to start to figure out
>how a regular TV antenna works. I want to get myself prepared to receive
>(free) HD signals over the air with a good TV antenna. I found an old
>antenna and got it to work and get most of my local channels on my (analog)
>TV but still can't get all of the stations very clear. I know that a HD
>decoder will clean them up but would like to get the best possible picture
>and sound (5.1) once it is broadcast and am wondering if a Yagi type antenna
>would be best at the time I am ready to make that big HDTV purchase. Well,
>even something on the Internet about TV antennas (how they work, draw in the
>signal) would help if anyone knows of any good sites to go to. Or even other
>newsgroups. Thanks Thierry
>

You might go to Google and do a search in the newsgroups for "high
definition tv" and other similar phrases. There are probably news
groups devoted entirely to this subject. They'll turn up in a search.

Bob
k5qwg

2871. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:14:41 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3ebaf08f.545786796@news.galilei.com>
Source record: 118672
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Hi Bruce

I had a car that the gas pedal would stick to the floor.
The manufacturer said it was totally impossible.
After several other people had the same problem and it appeared in the newspapers, they began looking into it.
Two causes were determined - the first was simple, the factory installed and affixed rubber pad under the gas pedal on the carpeted floor would somehow move forward and catch under the edge of the pedal, least common and only in the hot summer months.
Most common was the cable from the carburettor to the gas pedal would fray on vehicles with certain options and snag.

But like the fellow with the Crown Vic, rather than an electrical problem, many Crown Vic's had a problem with a broken motor mount.
If you hit the accelerator to hard, the motor would lift, pulling on the throttle linkage, causing them to accelerate more quickly.
But if you were parked, like up against a small curb and the car could not move forward, the engine would lift right away and pull the throttle to wide open while doing so.

Ironically, we had a Crown Vic run through the front of the Creve Coeur, Missouri 63141 post office only a few months ago. Problem, broken motor mount caused the vehicle to accelerate over the curb, over the sidewalk over the planter box and into the post office.
The driver said all they did was put the car in gear and it took off like a skyrocket, even with their foot planted firmly on the brake pedal.
At first it too was deemed as driver error. Everyone thought she had her foot on the accelerator, thinking it was the brake. But the police could clearly see the skid marks from the braked wheels, vs the burned rubber marks from the driving wheel.

TTUL
Gary

2872. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:15:11 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <pqCua.54941$cB3.416688@nnrp1.uunet.ca>
Source record: 118673

Hi David;
Well, the best thing to do is decide where you are actually going to put the tower. If it's a self support tower, the neighbors will probably accept it a little more than something that has "all kinds of guy wires on it". Once you've got that all figured out and are sure that if it falls it's not going to hit the neighbors house, any power wires and all that, then approach the folks on either side of you and behind you if applicable and explain one on one what your plan is. It's a good idea to give the neighbors a warm fuzzy feeling first.
Once you've got their blessings, then you want to find out about any restrictive covenances, talk to the zoning people, and it if sticks up much above the roof, or the trees around you yard, you might want to check with area flight safety (if applicable, i.e. close to airport/heliport flight path). Remember the tower is 29 feet and you'll probably have an antenna above that, so if you estimate 50 feet total/maximum, you'll probably be pretty safe (good size fudge factor). Also "only 29 feet" to a ham, is a great big ugly thing to some other people. It's sometimes handy to have a photo of someone else's tower that is similar to what yours will end up like to show and explain to the neighbors. If someone doesn't like your tower, tell them it's your pet, or it's a silver tree that never needs watering (worked for me).
As far as digging and pouring yourself is concerned, it all depends on your own warm fuzzy feeling, your own experience, and of course the money you have to fork out.
Get a fellow local ham to give you a hand and share some ideas in your local area. Most important, do it safely!
Hope this is helpful and answers your concerns. As far as the more technical side, you didn't ask so I didn't say.

73 Terry VE1TRB

"David Cook" <nospam.davepc2@oz.net> wrote in message
news:NLAua.816548$S_4.826711@rwcrnsc53...
> Hi folks, I've inherited a Rohn 25G tower and am looking for advice on how
> to deal with the city and neighbors. I bought the ARRL book "Antenna
Zoning"
> and it describes the process as fairly daunting, if you go by "the book".
> I'm concerned about opening Pandora's box by going to the city planner and
> asking about it. A couple of people suggested that I hire a contractor to
> dig the hole and pour the concrete base, and maybe the contractor could
help
> take care of the municipal issues. The tower's only 29 feet, so if it's
> going to be a huge hassle, I won't bother. So, any advice on this?
>
> Thanks and 73 to all,

> -- Dave, WA0TTN
>
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/2003

2873. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:20:12 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vblt2f8noh7t06@corp.supernews.com>
Source record: 118674

Well it's just that in mathematics a dipole field is a precisely defined
concept.
Some sort of bi-lateral symmetry seems implicit in "doublet".
73
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBAF0D9.10205@ieee.org...
> H. Adam Stevens wrote:
> > A doublet produces a dipole field when operated at it's lowest resonant
> > frequency.
> > Roy's probably right about the chronology of the terms,
> > but it seems to me all dipoles are doublets but not all doublets are
> > dipoles.
>
> That pretty much agrees with my thoughts on the matter. I guess all
> the problems would go away if, instead of dipole or doublet, we
> simply said "center-fed conductor". I wonder if that concept would
> cover a gamma-match? :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

2874. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:32:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAF70D.AD70FA2D@uci.edu>
Source record: 118676

OC_CAM's Razor wrote:
> If dynamic energy is
> blocked from one direction and there is only one other direction
> available, it only takes an IQ of 50 to pick the new direction.

Still parsing "dynamic energy". Wow, the IQ's down to below 50 now.
The more you talk, the lower my IQ. :-)

> You only have so many fingers to stick in that dike, Jim, then
> you had better hold your breath.

I'll write that down.

> > Recall that I started out in agreement with your analysis. But I have
> > apparently become "stupid" since then.

> Your first act of stupidity was threatening me with loss of our
> friendship if I didn't adopt your ideas. I don't need friends like that.
> I don't have any friends like that.

Threatening a loss of friendship. Like I said, the mention of
friendship came when I asked you to treat me like one. As I recall, you
were the one who decided to discontinue our email correspondence.
:-)

> > And according to you, the more I
> > educate myself about the problem and elucidate upon it, the more stupid
> > I become.

> Yep, my nephew has the same problem. The better educated he becomes,
> the farther away from reality he drifts. Of course, he's a preacher
> but so are you, just a different religion than my nephew's.

> > Consider that 'watts' don't
> > actually travel though transmission lines - fields do.

> Consider that fields cannot exist without joules driving them.

That's correct.

> Joules flow past a point.

Unless the net field is zero, of course. Electromagnetic energy can't
be transferred through a waveguide unless it's manifested as
electromagnetic field.

> The number of joules/sec flowing past
> that point is power. No joules = no power. Flowing Joules = power,
> by definition. What the heck do you think is the value of ExH if

> not power?

Energy. Of course when E cancels E, and H cancels H energy isn't
transferred. No Joules/sec = no power, as you said.

> The only way not to have power associated with a
> field is to have the fields equal to zero. Let that one sink in
> for a couple of days until you understand it better.

I believe I've said exactly the same thing to you about a hundred times
in this thread. You're reciting it properly, so all you have to do now
is understand what it means.

> > Consider that
> > energy isn't transferred from one point to another when no net field
> > exists in the direction of destructive interference.
>
> That's obvious to the most casual observer. If no reflected energy
> reaches the source then no reflected energy reaches the source. Energy
> was traveling toward the source and now it isn't.

Energy wasn't travelling toward the source. You've also got the 'then
and now' thing going again - during the steady state. That's not
helping you.

> > Also consider that
> > the simplest explanation is usually the correct one. You're paper
> > reinvents epicycles.

> My paper presents the most simple explanation possible.

Epicyles were the simplest explanation possible for another flawed idea.

ac6xg

2875. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:36:31 UTC
From: dplatt@radagast.org
Message-ID: <vblu0fienpjh00@corp.supernews.com>
Source record: 118677

In article <NLAua.816548$S_4.826711@rwcrnsc53>,
David Cook <nospam.davepc2@oz.net> wrote:

>Hi folks, I've inherited a Rohn 25G tower and am looking for advice on how
>to deal with the city and neighbors. I bought the ARRL book "Antenna Zoning"
>and it describes the process as fairly daunting, if you go by "the book".
>I'm concerned about opening Pandora's box by going to the city planner and
>asking about it. A couple of people suggested that I hire a contractor to
>dig the hole and pour the concrete base, and maybe the contractor could help
>take care of the municipal issues. The tower's only 29 feet, so if it's
>going to be a huge hassle, I won't bother. So, any advice on this?

First thing I'd suggest is that you check around with other hams in
your city. It's quite possible that one or more of them has gone
through this gauntlet within the past few years, and can tell you how
it went, who to deal with and who to avoid, how to avoid making
mistakes, etc. If there's been a successful tower install similar to
yours in your area, you might be able to use this fact as having
established a useful precedent.

Now, as I understand it (and I'm not a lawyer nor a code inspector),
you the property owner are the one who is going to be ultimately
reponsible for the tower. Having a contractor do the dig-and-pour can
certainly help matters, as the contractor ought to know how to do
things properly, and may have some experience in shepherding the
paperwork through the city. However, the contractor can't absolve you
of responsibility.

I'd suggest looking very carefully at the downside risks of taking
shortcuts. If you don't get proper permits, then the things which
migh happen could possibly include:

- Surprise inspections and "stop work" orders by the city during the
putting-it-up process.

- A Notice Of Violation order which could require you to tear down
whatever you've already put up.

- If the inspector feels that the tower actually poses some sort of
danger to nearby structures, the structures (e.g. your house!)
might be red-tagged as unsafe for human occupation - which means
that the occupants leave the building immediately and do not return
(under penalty of law) until the problem is corrected.

- If an accident occurs involving the tower (now, or in ten years)
and you didn't have a permit, your insurance company could quite
possibly declare your policy to be null and void, and you'd find

yourself being personally responsible for the damages.

- If you don't have a permit, it'd be easier for your neighbors to make a fuss about any RFI which occurs - they can challenge you for code violation rather than for RFI, which makes it a local-jurisdication issue.

A ham in my area did a presentation at a local club a few months back, describing the process he had to go through to get his (fairly big) tower approved. His advice included several points:

- Do your homework first - study up on what you're going to need to do, to get the tower installation approved according to code.

- Get all of the permits before you start construction - ideally, before you start buying.

- Get the installation completed, and get *all* of the inspections done and the paperwork completely signed and registered, before you start transmitting.

It'd be useful to know just where, in your city, the boundary lies between "things you can do with fairly routine permits" and "things which require a formal zoning variance, public notice and review, and opportunity for dispute by the neighbors." The former are likely to be a lot easier to manage than the latter.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2876. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 00:39:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBAF8B3.39A4B004@uci.edu>
Source record: 118678

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >
> >>Here's another example for you, Jim. You are at one end of a wire cable
> >>connected to 220 VAC through a switch at the other end. Someone else
> >>who believes as you do is connected to 220 VAC through a switch at
> >>your end. You both throw the switches at the same time. The net transfer
> >>of energy in the cable is zero. Do you think either one of you will
> >>experience that net energy of zero?
> >
> > Ahhh, so now we're back to having Walter's virtual short at the
> > discontinuity. Very interesting, Cecil. ;-)
>
> How in the world did you come up with that response? Your mind
> works in mysterious ways, Jim.

It's the same exact example Walt gave! Don't you remember? :-)

Maybe you should first try and see if you can get the wave from your
wall outlet to reflect off something. Might I suggest one of _your_
body parts? ;-)

ac6xg

2877. Re: WANTED: VHF/UHF Dummy Load

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:28:37 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <vmDua.45992$xf.21045@fe01.atl2.webusenet.com>
Source record: 118679

At WHAT power level?? One of the best (at UHF frequencies , believe it or not (for 1:1 SWR, and good to at least 100-150 watts is (Yes you are hearing this correct!) RG-58-U !!!
and , a roll of 100 foot is NOT GOING TO BREAK you up in business!
Terminate in your favorite conductor, and figure 5 dB at 150 MHz (10 dB unterminated go-return), 12/ 13 dB loss (24-26 dB return loss) at 432MHz, even better at 1296-- and ANY termination , even 25 -120 ohm, will give minimum swr from THIS load (The one I use is Microwave Attenuator Coax , the size of RG-8 , but , with a Rubber Dielectric, was used as - works well even at 20 meters!, But this was WW-II surplus! But, 58-U cheap at 100 foot, and even better, seen 100 feet of 59 u (75 ohm) at Big LOTS (discount store) for $5.00 (penny /Ft)! Also work well! Corse, at KW level, well going to cost you BUX !!! Jim

"Jason Dugas" <kb5urq@hotmail.com> wrote in message news:vbjfvuarp3pue3@corp.supernews.com...
> I'm looking to buy a dummy load for VHF & UHF... In particular, I hear there
> are surplus cellular-frequency dummy loads (some manufactured by Decibel see
> www.decibelproducts.com) can go for around $20...
>
> Please email me at kb5urq@hotmail.com
> (Please put DUMMY LOAD in caps so that I can pick out your note from all the
> spam I get!!)
>
> Thanks,
>
> Jason
>
>

2878. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:32:47 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <pqDua.46030$xf.9378@fe01.atl2.webusenet.com>
Source record: 118680

Can vouch for that!! lotsa times the Bird won't read, or goes intermittant-
contact fingers stick that contact element-- Jim

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:b9cdl0$8v1$0@208.207.71.174...
>
>
> Wes Stewart wrote:
>
> > On 7 May 2003 02:31:08 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
> >
> > |
> > |
> > |'Doc wrote:
> > |
> > |> Wes Stewart wrote:
> > |>
> > |> > Actually, I do have a Bird with a crossed needle meter and a dual
> > |> > inline sampler, but it's on the two meter rig. I use a 2500W slug
> > |> > forward and a 250W slug reverse, but I don't use no stinkin' tuner.
> > |>
> > |> Good for you (about the 'stinking' tuner)! I don't
> > |> use one on two meters either. But then, I didn't waste
> > |> money on a Bird... either.
> >
> > As I recall, the dual line sampler and meter cost all of $10 at a swap
> > meet and I had the slugs. When I rebuild the EME antenna, I'll put the
> > sampler at the antenna and monitor the power from there.
> >
> > |
> > |I bought a nice shiny Bird 43 once... piece of junk. Sold it and kept
my
> > |Drake W4.
> >
> > And how does that Drake work at 500 mHz?
>
> It doesn't. And neither do I! :-)
>
> But I couldn't believe the '43. It was intermittent, the meter movement
> would stick very often -it was sealed and one couldn't work on it as I
have
> on numerous other mete movements. I also used a Bird 43 for years at work
> and it wasn't much better. I had to overhaul it several times.
>

2879. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:53:01 UTC
From: TOM <tom7601@cox.net>
Message-ID: <3EBB09FD.8070102@cox.net>
Source record: 118681
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Gary V. Deutschmann, Sr. wrote:
> Hi Philip
>
> Dig this.
>
> I had my alternator go out the day before yesterday. Had a new one
> put in last night. The mechanic disconnected the battery of my car
> without using a backup battery in the cigarette lighter.
> This reset the computer and all sorts of things back to factory
> default.
> More importantly, the EGR valve was reset somehow and the 'service
> engine soon' light, that has been on for over a year, after several
> trips to the service center finally went out and has stayed out.
>
> I had to get an emissions test today for new tags for the car. The
> inspection station rather than hooking up the tailpipe sniffer,
> plugged a cord somewhere under the dash. The car passed with flying
> colors.
> Prior to the alternator going out, I was told I needed to replace the
> EGR valve and have some spyder thing in the carburetor replaced.
> Running the same diagnostics on the engine this afternoon showed
> everything to be A-OK.
>
> Wonder if it's built in, pre-programmed error codes to make one have
> parts replaced that don't need it?
> I know RCA TVs used to have a Thermistor in them, connected in such a
> way they could not easily be bypassed. The only purpose was the
> Thermistor is like a candle, it only lasts so long and goes out.
> I figure it was either a ploy to keep RCA repairmen in business or to
> sell more TVs, other manufacturers did not have them.
>
> If one only knew how to replace a few pincushion caps (that dry out)
> in monitors and TVs, they would run for years without any other
> problems.
>
> TTUL
> Gary

That stupid thermistor was in the degaussing circuit. It's claim to fame
was that it would allow the magnetic field decay slowly. When the thing
died, it usually burned off the plastic covering, unbonded the two
leads, and arced harmlessly. Lots of noise, some smoke, and a guaranteed
service call. With the thermistor missing, the degaussing coil would

remain active longer and cause wavy. colored lines on the screen. My cure in the field was to pick out all the pieces and twist the two leads together. Even though this removed the degausing feature, it made the TV work. And degausing every time you turn on the TV is usually a waste of time.

CTC-30, CTC-31, etc., had them, but I think by the time they came out with the CTC-100 they had eliminated the thermistor...

Tom - Vista, CA

2880. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:54:50 UTC
From: TOM <tom7601@cox.net>
Message-ID: <3EBB0A6A.5040501@cox.net>
Source record: 118682
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Roy Lewallen wrote:
> Thanks for the complete and delightful history of this interesting word.
>
> I observed what might be a second entry point into the lexicon. After
> returning from military service at the time digital technology was first
> really expanding, I chuckled to find the digicats using "foo-bar" (foo
> with a line above it, meaning NOT foo) as a dummy variable. The
> evolution to foo as the popular name of an arbitrary subroutine seemed
> to have come from this. I've always assumed that "foo-bar" was from the
> popular GI expression FUBAR, meaning "f**ked up beyond all recognition",
> which dates from WWII. The digital folks I talked to had no idea where
> "foo-bar" had come from, and hadn't heard the GI expression.
>
> Roy Lewallen, W7EL
>
> Erik Klavon wrote:

Did you ever throw SNAFU at them??? :>))

Tom - WA7TCD
Vista, CA

2881. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:57:19 UTC
From: TOM <tom7601@cox.net>
Message-ID: <3EBB0AFF.9010808@cox.net>
Source record: 118683
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Roy Lewallen wrote:
> Thanks for the complete and delightful history of this interesting word.
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> I observed what might be a second entry point into the lexicon. After
> returning from military service at the time digital technology was first
> really expanding, I chuckled to find the digicats using "foo-bar" (foo
> with a line above it, meaning NOT foo) as a dummy variable. The
> evolution to foo as the popular name of an arbitrary subroutine seemed
> to have come from this. I've always assumed that "foo-bar" was from the
> popular GI expression FUBAR, meaning "f**ked up beyond all recognition",
> which dates from WWII. The digital folks I talked to had no idea where
> "foo-bar" had come from, and hadn't heard the GI expression.
>
> Roy Lewallen, W7EL
>
> Erik Klavon wrote:

http://www.ulink.net/jimc/bigbooks/smokey.htm

http://www.science-frontiers.com/sf083/sf083g10.htm

Tom - WA7TCD
Vista, CA

2882. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:57:43 UTC
From: Philip&#65533; <chipstate@earthlink.net>
Message-ID: <rWDua.62423$ey1.5578514@newsread1.prod.itd.earthlink.net>
Source record: 118684
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry

"dj" <DaleJ@nospam.com> wrote in message
news:DaleJ-7D78F2.18372408052003@hermes-ge0.rdc-kc.rr.com...
> In article
<QwBua.63160$4P1.5698951@newsread2.prod.itd.earthlink.net>,
> "Philip&#65533;" <chipstate@earthlink.net> wrote:
> > Ah... so you are a follower? It's going to be a while before the
name
> > George Noory gains the instant notoriety of hosting fringe
speculation
> > that the name Art Bell possesses. Wouldn't you agree? ;^)
> > --
> >
> > -Philip-
> >
> > freedom of speech
> > does not mean
> > freedom from consequences
> >
> >
>
> Yes, I agree. I really do miss Art. I started listning to the
program
> a year ago when I had paracarditis which kept me up most of the night
> and I would find comfort listning to Art on my R8A. I don't miss the
> paracarditis but do miss Art Bell, he had some good guests. One I
> remember from Areceibo which was very interesting and kept my mind
off
> the pain for the whole program.
>
> Thanks for the memories Art Bell.
>
> 73
> Dale J.
>

Paracarditis is one of my afflictions.... a secondary symptom of
polymyositis. Lasix and digoxin do a good job of keeping excess water
from accumulating within the paracardium and minimize the arrhythmias,
respectively. Art filled in for George a couple of weeks ago. He'll
still host once in a while. Stay tuned! LOL
--

-Philip-

freedom of speech
does not mean
freedom from consequences

2883. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 01:57:50 UTC
From: Philip&#65533; <chipstate@earthlink.net>
Message-ID: <yWDua.62424$ey1.5578514@newsread1.prod.itd.earthlink.net>
Source record: 118685
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Scott" <scott_unit_69@yahoo.bomb> wrote in message
news:3EBAF2C6.37CFF327@yahoo.bomb...
>
> I have disconnected the battery in my Jeep several times to
> clear out trouble codes and other goofyisms. Seems heavy
> doses of HF at idle change the programmed settings and
> it takes too long to reset by itself. I have also disconnected
> sensors to see what they are by what code comes up. That
> requires a reset! YMMV.

Some years back, I bought a new Ford Ranger (1984). One (of many
many) bulletin that came out concerned erratic spark knocking during
night time driving and/or when the wipers were running. Seems the
EEC-IV fuel system (an electronic controlled 2 bbl carburetor at the
time) was getting erroneous signals from the TFI module in the
distributor and errant EGR signals. Well, as Ford built it orginally,
the wiring harnasses for the distributor and EGR sensor were bundled
together and looped part way around the ... alternator. You guessed
it. Induced magnetic field especially when the alternator was
producing a lot of amps. Took Ford a year or two to figure that one
out. Solution was to reroute the harnass some 6-10" away and secure
with zip ties.
--

-Philip-

freedom of speech
does not mean
freedom from consequences

2884. If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 02:41:23 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <JzEua.421$cX3.123115573@twister1.starband.net>
Source record: 118686

If you lived in the country with a lot of land and trees and a very limited budget. What antenna would you put up to cover 80-10 meters to the legal limit? I was thinking about a Carolina Windom, but don't like the idea of the feed line radiating. Anyway, I'm sort of fishing here..

Joel

2885. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 02:45:09 UTC
From: Thierry Plouchart <TPlouchart@msn.com>
Message-ID: <YDEua.43$u37.3286@eagle.america.net>
Source record: 118687

Well, thank you all for your recomendations. Thierry

"Thierry Plouchart" <TPlouchart@msn.com> wrote in message
news:QAmua.73$%k6.4225@eagle.america.net...
> I'd like to know if this is a good place (newgroup) to start to figure out
> how a regular TV antenna works. I want to get myself prepared to receive
> (free) HD signals over the air with a good TV antenna. I found an old
> antenna and got it to work and get most of my local channels on my
(analog)
> TV but still can't get all of the stations very clear. I know that a HD
> decoder will clean them up but would like to get the best possible picture
> and sound (5.1) once it is broadcast and am wondering if a Yagi type
antenna
> would be best at the time I am ready to make that big HDTV purchase. Well,
> even something on the Internet about TV antennas (how they work, draw in
the
> signal) would help if anyone knows of any good sites to go to. Or even
other
> newsgroups. Thanks Thierry
>
>

2886. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 02:45:36 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <fc5mbvg5akd5hbc79gu1v1metufha309fn@4ax.com>
Source record: 118690

On Thu, 8 May 2003 18:32:47 -0700, <Jimnn7k@reno.rmci.net> wrote:

>Can vouch for that!! lotsa times the Bird won't read, or goes intermittant-
>contact fingers stick that contact element-- Jim

I guess I've been lucky. I've had two different Bird 43s, and neither
one has ever stuck or malfunctioned, that I was aware of.

I can even vouch for the much-cussed cross-needle meter on my mfj989c.
Works fine, far as I can see.

Bob
k5qwg

2887. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 02:52:47 UTC
From: David Cook <nospam.davepc2@oz.net>
Message-ID: <2KEua.261991$Si4.205897@rwcrnsc51.ops.asp.att.net>
Source record: 118688

Wow, thanks for the great replys! It sounds like the best approach is to talk with the city planner and work with him to get the thing done right. I guess that, worst case, I'll give up if the project turns into to much trouble. And as far as the insurance goes, I'm going to talk with my homeowners insurance agent and see about adding this to my policy. Again, the tower is of modest size, and I'd like to attach it to the house in the spot I have in mind, so it should be very safe. In addition, I'll put on an anti-climb rig of wire mesh or plates so the liability risk of the neighborhood kids playing on it is reduced.

I'll let you know how things progress, thanks again very much for your guidance, and best 73's to all.

-- Dave, WA0TTN

2888. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 02:54:59 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9f5a6$j5p6h$1@ID-134747.news.dfncis.de>
Source record: 118689

A dipole, up to 135' long fed with 460 ohm ladder
line. You will be able to work 160 on it if you
wish. You will need a tuner, but that serves as a
good harmonic attenuator, and that is a good
thing.

--
73 es cul

wb3fup
a Salty Bear

"Joel" <joel@cyberbest.com> wrote in message
news:JzEua.421$cX3.123115573@twister1.starband.net...
> If you lived in the country with a lot of land
and trees and a very limited
> budget. What antenna would you put up to cover
80-10 meters to the legal
> limit? I was thinking about a Carolina Windom,
but don't like the idea of
> the feed line radiating. Anyway, I'm sort of
fishing here..
>
> Joel
>
>

2889. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 03:08:54 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9f649$ifddd$1@ID-134747.news.dfncis.de>
Source record: 118691

Just a little story. A friend of mine, who had more money than he knew what to do with, put up a 100 foot tower here in New Castle County, Delaware. He studied the requirements and went to get his building permit. Which, BTW, is a VERY GOOD IDEA. County code requires that you have written permission from all property owners onto whose land your tower and antennas may land. No problema, would all land on his.

County code prohibits a "new" radio broadcasting tower higher than 25 feet. Stumped for only a moment Mike went to his car and returned with a copy of the FCC regulations. The regs clearly state that hams are prohibited from broadcasting/ He explained to the officials that he would be listening a lot, and transmitting a little, but would never be broadcasting. He got the permit!

--
73 es cul

wb3fup
a Salty Bear

"David Cook" <nospam.davepc2@oz.net> wrote in message news:NLAua.816548$S_4.826711@rwcrnsc53...
> Hi folks, I've inherited a Rohn 25G tower and am looking for advice on how
> to deal with the city and neighbors. I bought the ARRL book "Antenna Zoning"
> and it describes the process as fairly daunting, if you go by "the book".
> I'm concerned about opening Pandora's box by going to the city planner and
> asking about it. A couple of people suggested that I hire a contractor to
> dig the hole and pour the concrete base, and maybe the contractor could help
> take care of the municipal issues. The tower's only 29 feet, so if it's
> going to be a huge hassle, I won't bother. So, any advice on this?
>
> Thanks and 73 to all,

> -- Dave, WA0TTN
>
>
>

2890. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 03:33:09 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305081933.37233b4@posting.google.com>
Source record: 118692

Roy Lewallen <w7el@eznec.com> wrote in message

> what you're calling "antenna gain" or "element gain" has a common and
> accepted nomenclature -- "directive gain". I'm just suggesting using
> that term when it applies.

Ok, I guess I'll drop the first two.
>
> The directive gain of an infinitesimally short dipole or monopole is
> less than a half dB smaller than the directive gain of a half wavelength
> dipole or quarter wavelength monopole.

Also the same for comparing say a 10 ft mobile antenna to say a 13 ft
one, or even taller. Just modeling the two whips, with no loading
used, I actually see less gain with the taller antenna for some
reason. But it's less than a half db.
Just for kicks I ran my mobile antenna through Reg's "vertload"
program which is fairly handy for judging efficiency. I used 4 ohms
ground loss for all. My real ground loss could be better or
worse...But no matter for this test..All will be in proportion no
matter what number I assign. My mobile antenna is normally 10 ft tall,
and center loaded, but I can also add a 3 ft solid extender mast to
the base which gives me 8 ft under the coil, and the same 5 ft over it
for 13 ft total. On 7 mhz, I get 46.95 % efficiency with the 10 ft,
and 64.59 % with the 13 ft. An appx 1.4 db difference.
On 3.87 mhz, I get 19.21 % for the 10 ft, and 31.61 % for the 13 ft.
An appx 2.2 db difference. So I do seem to be wrong on one part. The
efficiency difference seems to improve the lower in freq, rather than
decrease. I was guessing the other way around...But it does vary per
band like I assumed it would. Just the other way around. MK

2891. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 03:45:18 UTC
From: tdonaly@aol.com
Message-ID: <20030508234518.13108.00000026@mb-m26.aol.com>
Source record: 118693

Jim wrote,
>
>It's the same exact example Walt gave! Don't you remember? :-)
>
>Maybe you should first try and see if you can get the wave from your
>wall outlet to reflect off something. Might I suggest one of _your_
>body parts? ;-)
>
>ac6xg
>

Hi Jim,
Is anyone other than you and Cecil still reading this thread?
73,
Tom Donaly, KA6RUH

2892. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 03:53:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBB2632.EDD3F66D@cwis.net>
Source record: 118694

David,
Before your imagination carries you away, why no
call your local 'codes' department and find out just
exactly what the requirements and procedures are?
'Doc

2893. Re: TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 04:12:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <846cnc_A4qUVtyajXTWcpQ@comcast.com>
Source record: 118695

<mcduffie@xactcom.net> wrote in message
news:4lplbvov4rru26kh9cvmhqorrsiaqs5ja8@4ax.com...
> On Thu, 8 May 2003 12:29:52 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
> > I believe that currently all HDTV transmission in the US is on UHF
channels.
>
> Not true. DTV is on VHF as well.
>
> gm
> --
> There is no x in my ISPs domain name.

You are right. I just looked at the listing. Looks like they cut some
corners to squeeze a few VHF stations in. Appears to be 90 -95 % UHF though.
For a complete listing see http://www.hdpictures.com/stations.htm

Tam/WB2TT

2894. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 05:23:53 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305082123.61476ebc@posting.google.com>
Source record: 118696

Mike Coslo <mcoslo@adelphia.net> wrote in message news:<3EB95864.3030109@adelphia.net>...
> Brian Kelly wrote:
>
> > Carl is going to Geneva to make sure it *does* happen Dee. And there's
> > a rumor floating around to the effect that his fellow NCI member and
> > ardent supporter Lenny will be his political advisor in Geneva.
>
> Hmmm... with Lenny there arguing against CW, they will not only retain
> the requirement, they will raise it to 20wpm!

That would work.

>
> How did this topic get on rraa?

Somebody left the gate open and the animals got out.

> - Mike KB3EIA -

w3rv

2895. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 06:04:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d6hmbvc89jnknkb4u24j479hmqbfffa78b@4ax.com>
Source record: 118697

On Thu, 08 May 2003 17:32:13 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>> > the simplest explanation is usually the correct one. You're paper
>> > reinvents epicycles.
>
>> My paper presents the most simple explanation possible.
>
>Epicyles were the simplest explanation possible for another flawed idea.

Hi Jim,

Odd, our Galileo-in-training has completely drawn a blank on
epicycles.

73's
Richard Clark, KB7QHC

2896. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 06:18:52 UTC
From: David Cook <nospam.davepc2@oz.net>
Message-ID: <gLHua.820995$S_4.831121@rwcrnsc53>
Source record: 118698

"Joel" <joel@cyberbest.com> wrote in message
news:JzEua.421$cX3.123115573@twister1.starband.net...
> If you lived in the country with a lot of land and trees and a very
limited
> budget. What antenna would you put up to cover 80-10 meters to the legal
> limit? I was thinking about a Carolina Windom, but don't like the idea of
> the feed line radiating. Anyway, I'm sort of fishing here..
>
> Joel
>
>

2897. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 06:20:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d3imbv46mdkjih6t2ok0po59rmm66if4pr@4ax.com>
Source record: 118699

On 09 May 2003 03:45:18 GMT, tdonaly@aol.com (Tdonaly) wrote:
>Hi Jim,
>Is anyone other than you and Cecil still reading this thread?

Hi Tom,

I seem to find a howler each time I pick one of Cecil's
pontifications. Keeps me goin' ;-)

73's
Richard Clark, KB7QHC

2898. Suitable material for cubical quad spreaders?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 08:48:28 UTC
From: William Massart <william.massart@planetinternet.be>
Message-ID: <b9fq20$9vo$1@reader08.wxs.nl>
Source record: 118700

Dear OM,

I would highly appreciate your help with the following.
I would like to build a cubical quad antenna for HF.
I still have a boom of an old yagi that I would like to use for it.
Then there's spreader arms. I read several articles about quads, and they all mention fibreglass as ideal material.
To keep costs low however and as they are readily available, I am considering
using the thicker sections of a particular fishing pole.
I found a cheap and suitable type of fishing pole, but it doesn't mention the material it is made of .
Similar fishing poles in the shop mention that they're made of "composite", other mention "carbon".
My question is : does anybody know whether these materials are suitable for my application?
I remember reading somewhere that they are not, but just don't seem to find this back...
I'd hate to spend the money and effort, finding out that it is not suitable.
Thanks a lot for your help!

73's
ON4AMW
William Massart

2899. Re: Suitable material for cubical quad spreaders?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 11:01:27 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBB8A87.E9E22A3D@cwis.net>
Source record: 118701

William,
I haven't made any measurements but I think I would
be a little suspicious of using a 'carbon' compound for
an insulated spreader. Can you get bamboo fishing poles?
They wouldn't last as long, but I know they will work.
'Doc

2900. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 11:43:25 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EBB961F.449BB82D@uwe.ac.uk>
Source record: 118704

Joel wrote:
>
> If you lived in the country with a lot of land and trees and a very limited
> budget. What antenna would you put up to cover 80-10 meters to the legal
> limit? I was thinking about a Carolina Windom, but don't like the idea of
> the feed line radiating. Anyway, I'm sort of fishing here..
>
> Joel

Centre fed wire. 135' would be good. double that if top band is of interest.
Tuner. Beverages for low band receive, as long as possible. Get the dipole
as high as possible. Make your own ladder line for the feed. It's the best
and it's cheap. North-South orientation is generally good.

A, or several, wire verticals might be an alternative/addition if your trees
are tall enough. Better for the DX but you need a ground plane - lots of
radials - so a bit more expensive in wire.

Just my tuppence worth. You won't be troubled by fish unless the
dipole is too low.

vy 73

Andy, M3ABC

2901. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 11:50:32 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <cCMua.79$N5.64165@nnrp1.ptd.net>
Source record: 118702

Dave (and others),

You might investigate the insurance plan available through the ARRL.
It will, I believe, cover your tower, antennas, rigs, test equipment,
computers, software, and other ham-related things. The cost per
k$ of value insured seems to be very reasonable and there are few,
if any, exclusions. (Even covers lightning damage, if I recall correctly.

73,
Carl - wk3c

"David Cook" <nospam.davepc2@oz.net> wrote in message
news:2KEua.261991$Si4.205897@rwcrnsc51.ops.asp.att.net...
> Wow, thanks for the great replys! It sounds like the best approach is to
> talk with the city planner and work with him to get the thing done right.
I
> guess that, worst case, I'll give up if the project turns into to much
> trouble. And as far as the insurance goes, I'm going to talk with my
> homeowners insurance agent and see about adding this to my policy. Again,
> the tower is of modest size, and I'd like to attach it to the house in the
> spot I have in mind, so it should be very safe. In addition, I'll put on
an
> anti-climb rig of wire mesh or plates so the liability risk of the
> neighborhood kids playing on it is reduced.
>
> I'll let you know how things progress, thanks again very much for your
> guidance, and best 73's to all.
>
> -- Dave, WA0TTN
>
>
>

2902. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 11:52:28 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <0EMua.80$N5.64198@nnrp1.ptd.net>
Source record: 118703

There is also the "PRB-1" federal preemption (search
the ARRL site for info) and a 25 foot limit would
clearly run afoul of that.

73,
Carl - wk3c

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:b9f649$ifddd$1@ID-134747.news.dfncis.de...
> Just a little story. A friend of mine, who had
> more money than he knew what to do with, put up a
> 100 foot tower here in New Castle County,
> Delaware. He studied the requirements and went to
> get his building permit. Which, BTW, is a VERY
> GOOD IDEA. County code requires that you have
> written permission from all property owners onto
> whose land your tower and antennas may land. No
> problema, would all land on his.
>
> County code prohibits a "new" radio broadcasting
> tower higher than 25 feet. Stumped for only a
> moment Mike went to his car and returned with a
> copy of the FCC regulations. The regs clearly
> state that hams are prohibited from broadcasting/
> He explained to the officials that he would be
> listening a lot, and transmitting a little, but
> would never be broadcasting. He got the permit!
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "David Cook" <nospam.davepc2@oz.net> wrote in
> message news:NLAua.816548$S_4.826711@rwcrnsc53...
> > Hi folks, I've inherited a Rohn 25G tower and am
> looking for advice on how
> > to deal with the city and neighbors. I bought
> the ARRL book "Antenna Zoning"
> > and it describes the process as fairly daunting,
> if you go by "the book".
> > I'm concerned about opening Pandora's box by
> going to the city planner and
> > asking about it. A couple of people suggested

> that I hire a contractor to
> > dig the hole and pour the concrete base, and
> maybe the contractor could help
> > take care of the municipal issues. The tower's
> only 29 feet, so if it's
> > going to be a huge hassle, I won't bother. So,
> any advice on this?
> >
> > Thanks and 73 to all,
> > -- Dave, WA0TTN
> >
> >
> >
>
>

2903. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 12:05:35 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <_OMua.8239$ER4.774529@news20.bellglobal.com>
Source record: 118705
Cross-posted to: alt.autos.toyota.camry,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

> > I just got off of the phone with Toyota.
> > they told me that if a radio transmitter requires a license to operate,
> > then it's too powerful to use in a 2003 Toyota.
> >
> > If you want to install a ham radio in your car without voiding your
warranty,
> > then I guess you should not buy a new Toyota like I did...
>
> So Toyota is saying 'no commercial 2-way radios' (i.e. business radios),
and no cell
> phones either? Remember that cell phones do require a license and are on
the
> carrier's FCC license grant as the mobiles licensed with the carrier's
fixed
> cellular sites.

Plenty of Toyota taxi cabs in my city. Who exactly were you talking to at Toyota? Doesn't sound to me like they have a clue what they are talking about.

2904. 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 12:41:23 UTC
From: Kevin Smeltz <ksmeltz@rogers.com>
Message-ID: <TINua.120980$M81.47717@news02.bloor.is.net.cable.rogers.com>
Source record: 118706

I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid / harmful to run 80m with this combination?

2905. Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 12:43:00 UTC
From: Kevin Smeltz <ksmeltz@rogers.com>
Message-ID: <onNua.120983$M81.48046@news02.bloor.is.net.cable.rogers.com>
Source record: 118707

I just bought a Cushcraft LAC4 gas tube lightning arrester with replaceable gas cartridge. How do I know if I have to change the cartridge?

2906. Re: Suitable material for cubical quad spreaders?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:30:40 UTC
From: Jack Bennett <j.bennett@lboro.ac.uk>
Message-ID: <b9gai1$694$1@sun-cc204.lut.ac.uk>
Source record: 118708

"William Massart" <william.massart@planetinternet.be> wrote in message
news:b9fq20$9vo$1@reader08.wxs.nl...
> Dear OM,
>
> I would highly appreciate your help with the following.
> I would like to build a cubical quad antenna for HF.
> I still have a boom of an old yagi that I would like to use for it.
> Then there's spreader arms. I read several articles about quads, and they
> all mention fibreglass as ideal material.
> To keep costs low however and as they are readily available, I am
> considering
> using the thicker sections of a particular fishing pole.
> I found a cheap and suitable type of fishing pole, but it doesn't mention
> the material it is made of .
> Similar fishing poles in the shop mention that they're made of
"composite",
> other mention "carbon".
> My question is : does anybody know whether these materials are suitable
for
> my application?
> I remember reading somewhere that they are not, but just don't seem to
find
> this back...
> I'd hate to spend the money and effort, finding out that it is not
suitable.
> Thanks a lot for your help!
>
> 73's
> ON4AMW
> William Massart
>
>

2907. Re: Suitable material for cubical quad spreaders?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:37:24 UTC
From: Jack Bennett <j.bennett@lboro.ac.uk>
Message-ID: <b9gauk$6d0$1@sun-cc204.lut.ac.uk>
Source record: 118709

Hi William,

The cheaper type fishing poles are usually made of fibreglass, and as such are very suitable. Just make sure that you secure the sections so they don't collapse under load. I usually tape mine at the joints when extended. A more permanent solution may require a better mechanical joint. The more expensive ones, like costing nearly a 100 times as much, are made from a composite Carbon fibre material and as such are conductive.

I hope this information is of some use to you,

73,
Jack,
G3PVG

"William Massart" <william.massart@planetinternet.be> wrote in message news:b9fq20$9vo$1@reader08.wxs.nl...
> Dear OM,
>
> I would highly appreciate your help with the following.
> I would like to build a cubical quad antenna for HF.
> I still have a boom of an old yagi that I would like to use for it.
> Then there's spreader arms. I read several articles about quads, and they
> all mention fibreglass as ideal material.
> To keep costs low however and as they are readily available, I am
> considering
> using the thicker sections of a particular fishing pole.
> I found a cheap and suitable type of fishing pole, but it doesn't mention
> the material it is made of .
> Similar fishing poles in the shop mention that they're made of
"composite",
> other mention "carbon".
> My question is : does anybody know whether these materials are suitable
for
> my application?
> I remember reading somewhere that they are not, but just don't seem to
find
> this back...
> I'd hate to spend the money and effort, finding out that it is not
suitable.
> Thanks a lot for your help!
>
> 73's
> ON4AMW
> William Massart

>
>

2908. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:40:55 UTC
From: KAZeringue <kazeringue@aol.com>
Message-ID: <3EBBAFFD.7090104@aol.com>
Source record: 118710

This might not answer your question, but I got to typing anyway....here's some keywords for the search engines.....Budget antennas! cheap antennas!

One antenna would be a great start, but if you have lots of land, wire is relatively inexpensive, and homebrewing 600 ohm open wire feeders is not too difficult. If you like antennas, have fun, and experiment some.

"Limited budget" is relative, but as a teen, I basically had "no budget" at all, and used a borrowed heathkit. Antennas were all made of scrounged "junk". The tuner was a real Rube Goldberg masterpiece, I wish I still had it(as a collectors item, not for actual use!).

If you have a local shop that rewinds motors, you may be able to get suitable wire for scrap copper prices.

The biggest out of pocket expense is then a good tuner. That can also be homebrewed on a budget, but I think its worth saving for.

If you choose to use coax feedlines, here's something I learned the hard way. The low loss coax is heavy. Depending on how long your feedline will be, you might want to have two sections....1)from the antenna feed point to the ground(lighter weight RG-58 or RG-8x), and 2) from the ground drop back to the rig, (with low loss coax). Branches break. They break more often when the load is doubled.

My point is that you need not limit youself to only one antenna, because wire can be found on a low budget. I was quite the scrounger as a teenager. All of it was available as scrap.

Another scrounging suggestion: Don't rule out aluminum wire. It stretches, and won't last as long as hard drawn copper or copper-clad steel, but it radiates just as well. Ag supply stores sell it as electic fence wire for next to nothing. I found the aluminum wire lasted longer than the tree limbs.

Oh, for a couple of 20 meter rhombics, and the land to put them on! What fun! Milliwatting Europe!

73
W4KAZ

2909. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:56:01 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b9gc1i$j8cvv$1@ID-52642.news.dfncis.de>
Source record: 118712

Yes on both counts. It won't work worth a darn and you stand an excellent
chance of ruining the traps in the antenna.

....hasan, N0AN

"Kevin Smeltz" <ksmeltz@rogers.com> wrote in message
news:TlNua.120980$M81.47717@news02.bloor.is.net.cable.rogers.com...
> I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid
/
> harmful to run 80m with this combination?
>
>

2910. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:56:55 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b9gc39$ispcb$1@ID-52642.news.dfncis.de>
Source record: 118713

On some of the gas units, the SWR goes way up when they are "bad", but I'm not sure if that's the only manner in which they fail.

...hasan, N0AN

"Kevin Smeltz" <ksmeltz@rogers.com> wrote in message news:onNua.120983$M81.48046@news02.bloor.is.net.cable.rogers.com...
> I just bought a Cushcraft LAC4 gas tube lightning arrester with replaceable
> gas cartridge. How do I know if I have to change the cartridge?
>
>

2911. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 13:57:15 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ebbb364$0$48887$edfadb0f@dtext02.news.tele.dk>
Source record: 118711

Hello Kevin

> I just bought a Cushcraft LAC4 gas tube lightning arrester with
replaceable
> gas cartridge. How do I know if I have to change the cartridge?

Replace it if it is gone.

Regards Max

2912. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:07:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBB604.706@ieee.org>
Source record: 118714

Richard Clark wrote:
> Odd, our Galileo-in-training has completely drawn a blank on
> epicycles.

Jim's EM waves containing no energy are the new epicycles.
--
73, Cecil, W5DXP

2913. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:12:35 UTC
From: Roger Leone <arleone.takethisout.@inreach.com>
Message-ID: <EIOua.823$mN3.445@news.inreach.com>
Source record: 118716

Kevin:

Traps are parallel resonant circuits. At resonance, they are high impedance and serve to separate sections of the antenna. Below their resonant frequency, they are inductive reactances. They are not harmed by passing currents below their resonant frequency...at the lowest frequency of operation, where the whole length of the antenna is in operation, all the higher frequency traps are passing lower frequency current.

It isn't stupid to do run your antenna the way you described. The antenna won't be as effective as a larger one, but if the tuner will provide a match, give it a try.

Roger K6XQ

2914. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:12:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBB760.4070004@ieee.org>
Source record: 118715

Richard Clark wrote:
> I seem to find a howler each time I pick one of Cecil's
> pontifications. Keeps me goin' ;-)

Richard, I notice you haven't responded to my earlier example so I will make it even easier for you. You are in a room with a hole in the wall. Through the hole comes a 300 ohm feedline tied to a 51.5 ohm load in the center of the room. A directional wattmeter calibrated for 300 ohms indicates that there is 200 joules/sec forward power and 100 joules/sec reflected power. You cannot see through the hole and therefore cannot see the source. I am sitting on the other side of that wall with my choice of many types of sources and matching methods.

Question: Is there any energy in the reflected waves?
--
73, Cecil, W5DXP

2915. 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:23:05 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbneeqnvudcc5d@corp.supernews.com>
Source record: 118717

These MFJ data are from a 160 meter 1/4 wave RG8X stub.
Alas the MFJ knows not + from -.
MHz R X
1.80 195 474
1.81 228 507
1.82 267 542
1.83 323 579
1.84 380 625
1.85 464 662
1.86 564 693
1.87 670 723
1.88 789 730
1.89 880 721
1.90 929 701
1.91 918 704
1.92 835 717
1.93 715 718
1.94 604 707
1.95 515 675
1.96 403 640
1.97 333 602
1.98 304 547
1.99 253 513
2.00 235 483

These numbers are calculated values of X for a lossless tank circuit
resonant at 1.9 MHz for several values of L.

MHz L=3E-7 L=6E-7 L=1E-6 L=3E-6 L=6E-6 L=1E-5
1.800E+06 33 66 110 331 662
1103
1.807E+06 36 71 119 356 713
1188
1.814E+06 39 77 129 386 771
1285
1.821E+06 42 84 140 420 840
1399
1.828E+06 46 92 154 461 921
1536
1.834E+06 51 102 170 510 1020
1701
1.841E+06 57 114 190 571 1143
1904
1.848E+06 65 130 216 649 1297
2162

1.855E+06 75 150 250 750 1500
2500
1.862E+06 89 178 296 888 1776
2960
1.869E+06 109 217 362 1087 2175
3624
1.876E+06 140 280 467 1401 2801
4668
1.883E+06 196 393 655 1964 3929
6548
1.890E+06 328 656 1093 3280 6560
10933
1.897E+06 986 1972 3286 9858 19716
32859
1.903E+06 -988 -1975 -3292 -9876 -19751 -329
19
1.910E+06 -330 -660 -1099 -3298 -6596 -1
0993
1.917E+06 -198 -396 -661 -1982 -3965
-6608
1.924E+06 -142 -284 -473 -1418 -2837
-4728
1.931E+06 -111 -221 -368 -1105 -2210
-3684
1.938E+06 -91 -181 -302 -906 -1812
-3019
1.945E+06 -77 -154 -256 -768 -1536
-2559
1.952E+06 -67 -133 -222 -667 -1333
-2222
1.959E+06 -59 -118 -196 -589 -1178
-1964
1.966E+06 -53 -106 -176 -528 -1056
-1760
1.972E+06 -48 -96 -160 -479 -957
-1595
1.979E+06 -44 -88 -146 -438 -876
-1459
1.986E+06 -40 -81 -134 -403 -807
-1345
1.993E+06 -37 -75 -125 -374 -748
-1247
2.000E+06 -35 -70 -116 -349 -698
-1163

Now it seems to me this is a way to compare a physical stub with an ideal
tank circuit.
The stub sucks, as Cecil said.

I am in the market for a silver-plated roller inductor, a silver-plated
variable capacitor

and a tall non-conductive step ladder. <g>.

73
H.
NQ5H

--
"There are only 10 kinds of people in the world --
Those who understand binary, and those who don't."

2916. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:39:47 UTC
From: richardharrison@webtv.net
Message-ID: <29735-3EBBBDB3-6@storefull-2312.public.lawson.webtv.net>
Source record: 118570

Kevin wrote:
"How do I know if I have to change the cartridge?"

Gas tubes fire when the volts across them exceed their ignition potentials. This is more than their sustaining voltage drop and it isn`t instantaneous. There is a delay in firing. This limits the utility of gas tubes, but their sellers don`t advertise the faults.

A 10,000-ohm resistor limits 100 volts to 10 ma.
A high-voltage power supply in series with a suitable current-limiting resistor can be used to fire a good gas tube. A high-impedance voltmeter can indicate the voltage drop across the gas tube.

I have a TII Industries Model T-101 gas tube tester which has the power supply and 0 to 1000 volt meter built into a self-contaiined hand-held package. I won`t sell it.

Best regards, Richard Harrison, KB5WZI

2917. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:47:53 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBBBF99.20F8021A@cwis.net>
Source record: 118718

Kevin,
No, it isn't, and shouldn't. It won't be the
'best' 80 meter antenna by a long shot, but it
ought'a work.
'Doc

PS - ("Isn't" stupid, "shouldn't" be harmful.)

2918. electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 14:52:10 UTC
From: denton <denton@oregontrail.net>
Message-ID: <b9gf00drt1@news.oregontrail.net>
Source record: 118569

Hi all....
I am homebrewing lightning arrestors and static dissapation devices for 450 ohm transmitting twin lead.
I have procured a couple of electric fence lightning arrestors...Twin Towers brand...and am wondering if they are suitable for the project. A web site states that these are gas filled.
I also plan to shunt a T200 toroid wound with as many turns of no 14 enamelled wire as I can get on the core across the twin lead to ground for static dissapation.
Comments anyone? Thanks de Denton WB7TDG

2919. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:00:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBC27B.7020105@ieee.org>
Source record: 118571

denton wrote:
> I have procured a couple of electric fence lightning arrestors...Twin Towers
> brand...and am wondering if they are suitable for the project. A web site
> states that these are gas filled.

They are designed for 60 Hz operation and will probably fire
at a relatively low RF voltage. All it takes to ionize a
fluorescent light is an RF field.
--
73, Cecil, W5DXP

2920. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:01:04 UTC
From: tdonaly@aol.com
Message-ID: <20030509110104.06750.00000082@mb-m11.aol.com>
Source record: 118572

Richard Clark wrote,
>
>On 09 May 2003 03:45:18 GMT, tdonaly@aol.com (Tdonaly) wrote:
>>Hi Jim,
>>Is anyone other than you and Cecil still reading this thread?
>
>Hi Tom,
>
>I seem to find a howler each time I pick one of Cecil's
>pontifications. Keeps me goin' ;-)
>
>73's
>Richard Clark, KB7QHC
>

Hi Richard,
that's the most valid reason I can think of for continuing
to read this stuff. It's worn me out, though. After truckloads of declarative

sentences and "You cain't prove it ain't" proofs I'm in a permanent state
of tuckeration.
73,
Tom Donaly
(P.S. You got any of that Franzia left, Cecil?)

2921. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:10:47 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <b9ggdn$26of$1@news1.tribune.com>
Source record: 118573

For Static control, I use a high value resistors from each side of the twin lead to ground. As a practical matter I use a 1 meg resistor. They are not switched out by my grounding relay.

I did not use any "lightining protection". I have a relay that grounds the feed line (to the green wire in photo) whenever station power is off. This relay should be outside the station.

http://user.mc.net/~jdewey/Ham_radio/grounding_relay.jpg

The Static resistors are just visible hooked from each side of the twin lead to the purple wire.

KA9CAR
JD

"denton" <denton@oregontrail.net> wrote in message
news:b9gf00drt1@news.oregontrail.net...
> Hi all....
> I am homebrewing lightning arrestors and static dissapation devices for
450
> ohm transmitting twin lead.
> I have procured a couple of electric fence lightning arrestors...Twin
Towers
> brand...and am wondering if they are suitable for the project. A web site
> states that these are gas filled.
> I also plan to shunt a T200 toroid wound with as many turns of no 14
> enamelled wire as I can get on the core across the twin lead to ground for
> static dissapation.
> Comments anyone? Thanks de Denton WB7TDG
>
>

2922. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:20:37 UTC
From: denton <denton@oregontrail.net>
Message-ID: <b9gglb$e4i$1@news.oregontrail.net>
Source record: 118574

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBBC27B.7020105@ieee.org...
> denton wrote:
> > I have procured a couple of electric fence lightning arrestors...Twin
Towers
> > brand...and am wondering if they are suitable for the project. A web
site
> > states that these are gas filled.
>
> They are designed for 60 Hz operation and will probably fire
> at a relatively low RF voltage. All it takes to ionize a
> fluorescent light is an RF field.
> --
> 73, Cecil, W5DXP
>

Aw too bad..they are nice and stout looking and cheap.
I will take them back and go back to plan "A"...a pair of non resistor cheap
spark plugs....wonder what would be a decent gap for 100 watt operation?

2923. QHF antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:23:27 UTC
From: Glenn Ashmore <rutu@bellsouth.net>
Message-ID: <3EBBC7EF.5060809@bellsouth.net>
Source record: 118575

I have built a couple of 137.55 Mhz QHF antennas for receiving NOAA polar satellite APT pictures. They work pretty well but they are all from proven designs and built from copper tube. I need one that will stand up to ocean weather better so am thinking about using 4mm stainless tube. Will the difference in conductivity between stainless and copper present a problem?

--
Glenn Ashmore

I'm building a 45' cutter in strip/composite. Watch my progress (or lack there of) at: http://www.rutuonline.com
Shameless Commercial Division: http://www.spade-anchor-us.com

2924. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:29:03 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBC93F.30103@ieee.org>
Source record: 118576

denton wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote:
>>They are designed for 60 Hz operation and will probably fire
>>at a relatively low RF voltage. All it takes to ionize a
>>fluorescent light is an RF field.
>
> Aw too bad..they are nice and stout looking and cheap.
> I will take them back ...

Whoa, I don't know anything about those particular arrestors.
I was just giving you a heads up. I only suspect that they
won't work for RF. I'm not certain, having never tested them.
--
73, Cecil, W5DXP

2925. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 15:31:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBC9C5.2040801@ieee.org>
Source record: 118577

Tdonaly wrote:
> (P.S. You got any of that Franzia left, Cecil?)

As a matter of fact, I have about 7 liters left.
Come on over.

Tom, do you think a mismatched load causes reflections?
--
73, Cecil, W5DXP

2926. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:01:25 UTC
From: richardharrison@webtv.net
Message-ID: <10348-3EBBD0D5-35@storefull-2313.public.lawson.webtv.net>
Source record: 118579

Adam, NQ5H wrote:
"Alas, the MFJ knows not + from -."

A shorted 1/4-wavelength stub has zero reactance and very high resistance. It is equivalent to a parallel resonant circuit.

The reactance of a shorted stub of less than 1/4-wavelength is inductive. If this stub is more than 1/4-wavelength but less than 1/2-wavelength, it is capacitive.

So, at a frequency below resonance, the stub is inductive. At a frequencyabove resonance, it is
capacitive, if the frequency is below twice the resonant frequency.

Adam also wrote:
"The stub sucks as Cecil said."

Line tuned circuits are worthwhile above 144 MHz (page 3.1, RSGB VHF-UHF Manual, 3rd edition) and above 400 MHz, cavities prevail.

Adam was checking coax with an MFJ. This is a long way from a Wayne Kerr on open wires. I guarantee hundreds of kilowatts can be efficiently tuned at HF using transmission line stubs.

Best regards, Richard Harrison, KB5WZI

2927. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:15:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b9gjo2crq1@news.service.uci.edu>
Source record: 118578

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBBB604.706@ieee.org...
> Richard Clark wrote:
> > Odd, our Galileo-in-training has completely drawn a blank on
> > epicycles.
>
> Jim's EM waves containing no energy are the new epicycles.

It may seem that way to you, but consider the waves emanating from two slits, both illuminated by the same coherent, monochromatic light source. We can measure energy at any point along the wavefront of each wave, and yet when they converge there are areas in which no energy can be measured.

By the way, it might be useful to actually measure the forward and reflected power between the boundaries in the problem we've been looking at.

73, ac6xg

2928. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:20:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b9gk1bcvc1@news.service.uci.edu>
Source record: 118580

On 09 May 2003 03:45:18 GMT, tdonaly@aol.com (Tdonaly) wrote:
>Hi Jim,
>Is anyone other than you and Cecil still reading this thread?

Jeez Tom, I sure hope not. Unfortunately, Cecil doesn't accrue message points using email. Must be like Green Stamps or something.

73, jk

2929. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:28:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBD745.1030604@ieee.org>
Source record: 118581

Jim Kelley wrote:
> ... consider the waves emanating from two
> slits, both illuminated by the same coherent, monochromatic light source.
> We can measure energy at any point along the wavefront of each wave, and yet
> when they converge there are areas in which no energy can be measured.

Offset by areas where twice as much energy can be measured. Once
again, I challenge you to cause areas of no energy in the complete
absence of areas with exactly that amount of "lost" extra energy.

> By the way, it might be useful to actually measure the forward and
> reflected power between the boundaries in the problem we've been looking at.

Those values have already been measured and are given. Everything is
consistent with the laws of physics.
--
73, Cecil, W5DXP

2930. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:33:33 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EBBD78C.1DF66F85@shaw.ca>
Source record: 118582

Kevin Smeltz wrote:
>
> I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid /
> harmful to run 80m with this combination?

My R7 has a presents a good load at the bottom of the 80M band
(according to my MFJ-259B. I use it on local nets with no
problems whatsoever.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2931. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:33:38 UTC
From: richardharrison@webtv.net
Message-ID: <10349-3EBBD862-12@storefull-2313.public.lawson.webtv.net>
Source record: 118584

Denton wrote:
"I have procured a couple of electric fence lightning arresters."

What is the voltage on the fence used to shock the animals? Are the arresters connected between the fence and the earth?

Best regards, Richard Harrison, KB5WZI

2932. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:39:23 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305090839.21123f49@posting.google.com>
Source record: 118583

kelly@dvol.com (Brian Kelly) wrote in message
news:<d22b54c3.0304301527.2c89db39@posting.google.com>...
> A ham buddy of mine who is a well-known dx contester/EE and I got to
> shooting the breeze about quick-up alternatives to the usual Field Day
> dipoles . . . . <big snip> . . . We're getting together to model the design later this
week for 20 & 15
> but in the meantime I'd appreciate any info on the history of the
> design - if there is a history.
>

The modeling finally happened. A simple 20M dipole at 36 feet was
compared with the Inverted "U" antenna. The "U" has gain vs. the
dipole but not enough to get really excited about.

Inverted "U" Dimensions:
Flattop height above ground = 36 feet
Vertical element & flattop lengths = 34 feet each
(lower ends of vertical elements 2 feet above ground)
Flattop fed at the center
SWRs vs. 50 ohms are almost flat across the band and are around 4.5:1
A 4:1 balum fixes that very nicely

The U has these characteristics vs. a dipole at the same elevation:
Pattern is within a few dB of being omnidirectional.
There is no cloud-warmer radiation, none, zero which is the big
difference.

I also modeled a comparable 20M Half-square. The Half-Square has been
widely publicized as being an outstanding low-angle dx-shooter right?
Which is exactly what one does NOT want for Field Day. As it turns out
the "U" antenna pattern strongly indicates that a "U" should kick a
Half-Square's butt when it comes to concentrating the radiation in
directions most favorable for dxing. Which in turn seems to make a
"U" an even worse idea for FD than a Half Square.

. . . maybe I'll just toss up another damned g5rv, twitch the paddles
and get it over with . . !

E-Mail me for screen grabs of the patterns & such.

Brian w3rv

2933. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:49:50 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBBDC2E.31D578BF@cwis.net>
Source record: 118585

Richard,
All very interesting, but you didn't answer
the question.
'Doc

2934. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 16:50:10 UTC
From: tdonaly@aol.com
Message-ID: <20030509125010.06750.00000085@mb-m11.aol.com>
Source record: 118586

Cecil wrote,
>
>Tdonaly wrote:
>> (P.S. You got any of that Franzia left, Cecil?)
>
>As a matter of fact, I have about 7 liters left.
>Come on over.
>
>Tom, do you think a mismatched load causes reflections?
>--
>73, Cecil, W5DXP
>
>

I'm too tired to answer that question Cecil. The books I
have, however, say that in the presence of a mismatched load
there are, indeed, reflections which you can add together, if you
want, to find out what the final resultant wave will be during steady-state
conditions.
73,
Tom Donaly, KA6RUH

2935. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:04:07 UTC
From: jder8745@aol.com
Message-ID: <20030509130407.11574.00000069@mb-m01.aol.com>
Source record: 118587

Howdy,

I just checked the OM for my 2003 Chev Impala.

There is no restriction that I can find.

Does that meanI can use my 2-vbander TM-V7??

I guess so.

73 de jack, K9CUN

2936. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:08:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBE09E.6090006@ieee.org>
Source record: 118588

Jim Kelley wrote:
> Unfortunately, Cecil doesn't accrue message
> points using email.

Nope, life's just to short to tolerate email abuse.
--
73, Cecil, W5DXP

2937. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:12:04 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305090912.af6e0e3@posting.google.com>
Source record: 118589
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I received a more reasonable response from Toyota on this issue.
Looks like the same letter I received in 1994.
I am happy again ...

--
KC6SOZ

Response (Sara)05/09/2003 09:06 AM Thank you for contacting Toyota Motor Sales, U.S.A., Inc.

We appreciate the opportunity to address your inquiry.

The installation of a mobile two-way radio system in your vehicle could affect electronic systems such as multiport fuel injection system/sequential multiport fuel injection system, cruise control system, anti-lock brake system, SRS (supplemental restraint system) air bag system and seat belt pretensioner system.

Vehicle electronic components could be damaged, and/or the proper and safe operation of the vehicle might be compromised if, for example, any of the following situations (and potentially others) existed:

* The transceiver is not "type-accepted."

* The power and/or antenna cables radiate RF current

* Routing of the power and/or antenna cables results in inductive or capacitive coupling

* Transmitter, feedline and/or antenna inefficiencies result in an unacceptable level of RF radiation exposure to the ECM's

* The standing wave ratio is unacceptably high

* The antenna ground plane is inadequate

Installation of a 2-way radio in Toyota vehicles should not present issues under the following conditions:

* The transceiver must be type-accepted by the FCC, and not modified in any way

* Maximum output power complies with FCC regulations (100 watts)

* All installation and operating instructions provided by Toyota and the equipment manufacturer must be followed closely

* The antenna must be installed as far away as possible from all vehicle electronic control modules (ECM) or other onboard computer/sensors

* The antenna cabling must be routed no closer than 20 cm (7-7/8 inches) to any ECM or other onboard computers/sensors

* Antenna and power cabling must not be routed along side or in conjunction with the vehicle's wire harness
o It is always preferable to cross vehicle harness at right angles when possible
o Antenna and antenna cabling should be properly adjusted to obtain the lowest possible SWR (standing wave radio)

Disclaimer: The basic installation guidelines provided may be of assistance to you. Although they may not fully answer all your specific requests, Toyota must take reasonable precautions to limit our potential legal liability, because the full range of possible variables noted earlier could never be fully anticipated. Also, more detailed information that would provide the operational details of Toyota's electronic system is considered proprietary.

We do not recommend modifying our vehicles from their original factory specifications. Modifications could affect the vehicle's performance, safety or durability, and may violate government regulations. In addition, damage or performance problems resulting from the modification may not be covered under warranty.

It must be emphasized that, under the terms of Toyota's new vehicle warranty, damage caused by RF energy from a higher power mobile radio is specifically excluded from coverage because it is not the result of faulty materials or workmanship. Accordingly, the owner assumes all such responsibility.

We recommend that you contact your local Toyota dealership for any additional clarification regarding the installation process that you may need.

Your email is documented at our National Headquarters under file #200305090234. If we can be of further assistance, please feel free to contact us.

National Customer Relations

google@geekdude.com (geekdude) wrote in message news:<fdb9e710.0305051520.72c2b135@posting.google.com>...
> I just got off of the phone with Toyota.
> they told me that if a radio transmitter requires a license to operate,
> then it's too powerful to use in a 2003 Toyota.
>
> If you want to install a ham radio in your car without voiding your warranty,
> then I guess you should not buy a new Toyota like I did...
>
> - 73

> KC6SOZ

2938. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:13:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBE1AC.6050701@ieee.org>
Source record: 118590

Tdonaly wrote:
> The books I
> have, however, say that in the presence of a mismatched load
> there are, indeed, reflections which you can add together, if you
> want, to find out what the final resultant wave will be during steady-state
> conditions.

There seems to be a conspiracy to discredit the wave reflection model.
IMO, that's like taking a five-course lobster dinner and running
it all through a blender before eating. :-)
--
73, Cecil, W5DXP

2939. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:16:58 UTC
From: google@geekdude.com
Message-ID: <fdb9e710.0305090916.53a7a23e@posting.google.com>
Source record: 118591
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Don't take no ofr an answer.
Toyota has clarified this issue for me:

Response (Sara)05/09/2003 09:06 AM Thank you for contacting Toyota Motor Sales, U.S.A., Inc.

We appreciate the opportunity to address your inquiry.

The installation of a mobile two-way radio system in your vehicle could affect electronic systems such as multiport fuel injection system/sequential multiport fuel injection system, cruise control system, anti-lock brake system, SRS (supplemental restraint system) air bag system and seat belt pretensioner system.

Vehicle electronic components could be damaged, and/or the proper and safe operation of the vehicle might be compromised if, for example, any of the following situations (and potentially others) existed:

* The transceiver is not "type-accepted."

* The power and/or antenna cables radiate RF current

* Routing of the power and/or antenna cables results in inductive or capacitive coupling

* Transmitter, feedline and/or antenna inefficiencies result in an unacceptable level of RF radiation exposure to the ECM's

* The standing wave ratio is unacceptably high

* The antenna ground plane is inadequate

Installation of a 2-way radio in Toyota vehicles should not present issues under the following conditions:

* The transceiver must be type-accepted by the FCC, and not modified in any way

* Maximum output power complies with FCC regulations (100 watts)

* All installation and operating instructions provided by Toyota and the equipment manufacturer must be followed closely

* The antenna must be installed as far away as possible from all vehicle electronic control modules (ECM) or other onboard computer/sensors

* The antenna cabling must be routed no closer than 20 cm (7-7/8
inches) to any ECM or other onboard computers/sensors

* Antenna and power cabling must not be routed along side or in
conjunction with the vehicle's wire harness
o It is always preferable to cross vehicle harness at right
angles when possible
o Antenna and antenna cabling should be properly adjusted to
obtain the lowest possible SWR (standing wave radio)

Disclaimer: The basic installation guidelines provided may be of
assistance to you. Although they may not fully answer all your
specific requests, Toyota must take reasonable precautions to limit
our potential legal liability, because the full range of possible
variables noted earlier could never be fully anticipated. Also, more
detailed information that would provide the operational details of
Toyota's electronic system is considered proprietary.

We do not recommend modifying our vehicles from their original factory
specifications. Modifications could affect the vehicle's performance,
safety or durability, and may violate government regulations. In
addition, damage or performance problems resulting from the
modification may not be covered under warranty.

It must be emphasized that, under the terms of Toyota's new vehicle
warranty, damage caused by RF energy from a higher power mobile radio
is specifically excluded from coverage because it is not the result of
faulty materials or workmanship. Accordingly, the owner assumes all
such responsibility.

We recommend that you contact your local Toyota dealership for any
additional clarification regarding the installation process that you
may need.

Your email is documented at our National Headquarters under file
#200305090234. If we can be of further assistance, please feel free to
contact us.

National Customer Relations

"Hambone the Magnifico" <paintcanfullofpcb@amishonline.com> wrote in message
news:<3eb8463f$1@snipnews.snip.net>...
> "geekdude" <google@geekdude.com> wrote in message
> news:fdb9e710.0305061010.3b6abf03@posting.google.com...
> > wb4mleAT@surfbestDOT.net wrote in message
> news:<cihfbv031e0u85n4vm3nmhnue4bvlidri8@4ax.com>...
> > > In this news thread geekdude commented:
> > >
> > > >I just got off of the phone with Toyota.
> > > >they told me that if a radio transmitter requires a license to operate,
> > > >then it's too powerful to use in a 2003 Toyota.
> > > >
> > > >If you want to install a ham radio in your car without voiding your
> warranty,

> > > >then I guess you should not buy a new Toyota like I did...
> > > >
> > > I got an email from Toyota in February 2003 (for my 2003 Corolla)
> > > advising what types (type accepted), power up to 100 watts, and how to
> > > properly locate, space and route your cabling. I cannot copy the email
> > > to this list as I respect email manners. Not sure but I think I
> > > submitted thru toyota.custhelp.com web site(you have to register as a
> > > Toyota owner).
> >
> > I received a similar letter in 1994 for my 1993 Toyota 4Runner.
> > Here is a link to that letter:
> > http://www.geekdude.com/toyota-rfi-1994/
> >
> > I expected the same type of response this time.
> > The response I got yesterday was totally unacceptable.
> >
> > --
> > Chuck
>
> Same thing goes for Subaru.
>
> My owners manual for my 2002 Forester
> clearly says not to install any kind of a
> transmitter within the car as it will foul-up
> operation of the Emissions Computer and
> the Electronic Antilock Braking System
> and Keyless Entry system.

2940. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:19:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbnooakqqdtp81@corp.supernews.com>
Source record: 118592

Tdonaly wrote:
>
>
> I'm too tired to answer that question Cecil. The books I
> have, however, say that in the presence of a mismatched load
> there are, indeed, reflections which you can add together, if you
> want, to find out what the final resultant wave will be during steady-state
> conditions.
> 73,
> Tom Donaly, KA6RUH
>

It's probably more accurate to say that the reverse is true -- that there's a final resultant wave during steady state that you can separate, if you want, into forward and reflected components. Just like you can, if you want, separate the two currents on a transmission line into common mode and differential currents -- or any other combination of currents, for that matter.

While, because of the principle of superposition, you can separate the total wave into forward and reverse voltage and current waves, superposition doesn't hold for power. So trying to separate the total resultant wave into multiple bundles of power or energy (for which superposition doesn't apply) is a very hazardous thing to do. I think that's at or near the center of this ongoing argument.

Roy Lewallen, W7EL

2941. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:34:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ckpnbv853icc53ohnl0immgd4fvksa29ts@4ax.com>
Source record: 118593

On Fri, 09 May 2003 07:12:48 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> I seem to find a howler each time I pick one of Cecil's
>> pontifications. Keeps me goin' ;-)
>
>Richard, I notice you haven't responded to my earlier example

That one didn't qualify as a howler, more like a snoozer. But don't
let that stop you - it's just that I'm not into slumber parties.

73's
Richard Clark, KB7QHC

2942. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:44:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbnq82gi0jpm1d@corp.supernews.com>
Source record: 118595

Ah, a stub tuner. It was burned contact fingers on a tunable shorted stub in the output of a Collins FM transmitter that ended my brief career as a broadcast engineer. . .

Having just turned 18, I had dropped out of college and taken a job as an announcer (to build my skills in that area) at an AM/FM station in Albuquerque. The engineer got fired shortly after, and, since I had a license and some experience at it, I became the chief engineer (but with my condition that I retain some of my on-the-air shows). Every morning I would find the Collins FM transmitter output to be a bit low and would have to tweak on the output tuning -- a stub with a movable short. During maintenance down time I found that the area of the stub where the contacts normally sat was pretty badly burned. I explained to the station manager -- a man with a truly amazing grasp on a dollar -- that the stub needed to be replaced. He kept delaying and delaying until one morning I wasn't able to tweak the output power back up to the minimum required by the FCC.

The rules said that I could run at reduced power for up to one week, provided that I notified the FCC. I wrote the required letter, mailed it, and *then* told the boss. As expected, he tried to delay and to encourage me to delay notifying the FCC. When I told him I had already mailed the letter, he finally, reluctantly, ordered the part -- air express, collect.

It arrived a couple of days later. The cost was $80. This was 1964, so it represented considerably more than it does today, but still not really much of an expense for a station that size. Each day I asked for a check to pick it up, and he kept delaying. The day before the week was up, I explained that I would turn the transmitter off at the end of the week if the power wasn't up to standard -- I wasn't going to risk my license, which at the time was my main way of making a living. He finally issued the check at the last minute, I picked up the part, and installed it the night before the deadline. Power was back up to normal.

My next paycheck bounced.

And that was the final straw. My life changed direction at that point, and it was, I'm convinced, to a better direction than it had been going.

Roy Lewallen, W7EL

Richard Harrison wrote:
> . . .
> Adam was checking coax with an MFJ. This is a long way from a Wayne Kerr
> on open wires. I guarantee hundreds of kilowatts can be efficiently

> tuned at HF using transmission line stubs.
>
> Best regards, Richard Harrison, KB5WZI
>

2943. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:47:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vupnbvodfo75ukiprf2k50cor9dbqact8k@4ax.com>
Source record: 118596

On 9 May 2003 09:39:23 -0700, kelly@dvol.com (Brian Kelly) wrote:

>
>The modeling finally happened. A simple 20M dipole at 36 feet was
>compared with the Inverted "U" antenna. The "U" has gain vs. the
>dipole but not enough to get really excited about.
>
>Inverted "U" Dimensions:
>Flattop height above ground = 36 feet
>Vertical element & flattop lengths = 34 feet each
>(lower ends of vertical elements 2 feet above ground)
>Flattop fed at the center
>SWRs vs. 50 ohms are almost flat across the band and are around 4.5:1
>A 4:1 balum fixes that very nicely
>

Hi Brian,

I toyed with this back when you mentioned it, but with some
differences that are now exposed by your specification. One I am
speaking of is you don't allow the tips to return to ground.
>(lower ends of vertical elements 2 feet above ground)
This was not what I read you describing the first time through.

The other matter (and one reason for me to speculate on its
Bob-tailishness that Roy responded to) is that you neglect discussion
of the transmission line which I was prepared to leverage into the mix
to, again, boost the Bob-tailishness. The line falls right in there
at the magical quarterwave relationship.

How do you handle the feed?

73's
Richard Clark, KB7QHC

2944. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:51:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBEAA0.3050009@ieee.org>
Source record: 118598

Roy Lewallen wrote:
> ... superposition doesn't hold for power.

Of course, superposition doesn't hold for power. But if
voltage superposition results in "missing" joules/sec,
they've got to come from somewhere. Doesn't it seem more
than a strange random coincidence that the magnitude of
constructive interference at a Z0-match point *always*
exactly equals the magnitude of the destructive interference?
--
73, Cecil, W5DXP

2945. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:51:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4jqnbvccq24vlcfv65uf6lfpud9no5kff7@4ax.com>
Source record: 118597

On Fri, 09 May 2003 07:07:00 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Odd, our Galileo-in-training has completely drawn a blank on
>> epicycles.
>
>Jim's EM waves containing no energy are the new epicycles.

Hi Cecil,

Epicycles of what?

73's
Richard Clark, KB7QHC

2946. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:55:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBEB74.2060304@ieee.org>
Source record: 118599

Richard Clark wrote:
> That one didn't qualify as a howler, more like a snoozer. But don't
> let that stop you - it's just that I'm not into slumber parties.

Avoid answering and maybe nobody will notice you refusing to
discuss that glaring contradiction in the argument.
--
73, Cecil, W5DXP

2947. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 17:58:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <40rnbvktdcnm8pc8v74v46k2dtoqsuu2ml@4ax.com>
Source record: 118600

Hi Doc,
Looks like he answered it direct and to the point. He responded to
how to tell: test it. With what: he offered a model. How: he
described its works.
73's
Richard Clark, KB7QHC

2948. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:01:57 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <64rnbv81osnis1p3hc528njlel913us65t@4ax.com>
Source record: 118603

On Fri, 09 May 2003 12:41:23 GMT, "Kevin Smeltz" <ksmeltz@rogers.com>
wrote:

>I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid /
>harmful to run 80m with this combination?
>

Just to protect the antenna and the tuner, I'd first try it at about
the 5 watt level, to see if you can get anywhere close to 1:1 swr.

Bob
k5qwg

2949. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:02:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBED3A.1050004@ieee.org>
Source record: 118601

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Jim's EM waves containing no energy are the new epicycles.
>
> Epicycles of what?

Epicycles of the new human-centered transmission line as opposed
to the actual forward/reflected cycles dictated by reality. The
problem is/was the same in both cases - trying to force reality
to obey human models rather than vice versa.
--
73, Cecil, W5DXP

2950. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:10:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4lrnbvkobfvprtna68bgebe1vaijroadop@4ax.com>
Source record: 118602

On Fri, 09 May 2003 10:55:00 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> That one didn't qualify as a howler, more like a snoozer. But don't
>> let that stop you - it's just that I'm not into slumber parties.
>
>Avoid answering and maybe nobody will notice you refusing to
>discuss that glaring contradiction in the argument.
:-)
I doubt anyone has the slightest idea of what you just said.
It's like reading the printing proof rejects of the proverbial 1000
monkeys writing shakespeare.

But then that's why I hang in there. :-)
(and I pity the poor editors)

73's
Richard Clark, KB7QHC

2951. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:15:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3vrnbv0cs00e5cdegbhafdljb8tdgbf4ml@4ax.com>
Source record: 118604

On Fri, 09 May 2003 11:02:34 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Jim's EM waves containing no energy are the new epicycles.
>>
>> Epicycles of what?
>
>Epicycles of the new human-centered transmission line as opposed
>to the actual forward/reflected cycles dictated by reality. The
>problem is/was the same in both cases - trying to force reality
>to obey human models rather than vice versa.

:-)

You sound like the publicist for the Trilateral Commission. Maybe you
should consider hack writing for a fringe political party. George
Will has been making a living at it for years.

73's
Richard Clark, KB7QHC

2952. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:22:23 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBBF1DF.884DC9C3@uci.edu>
Source record: 118605

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > ... consider the waves emanating from two
> > slits, both illuminated by the same coherent, monochromatic light source.
> > We can measure energy at any point along the wavefront of each wave, and yet
> > when they converge there are areas in which no energy can be measured.
>
> Offset by areas where twice as much energy can be measured. Once
> again, I challenge you to cause areas of no energy in the complete
> absence of areas with exactly that amount of "lost" extra energy.

Lost energy is a misnomer, actually. There is no such thing Cecil, and
I never claimed there was.

Did you miss the point here? It directly responds to your query. The
waves exist, but when they interfere destructively, no energy is
transferred.

> > By the way, it might be useful to actually measure the forward and
> > reflected power between the boundaries in the problem we've been looking at.

> Those values have already been measured and are given.

I've seen the numbers, obviously. Did Steve make the measurements?

> Everything is
> consistent with the laws of physics.

I'm confident that the end result is consistent with the laws of
physics. There's some disagreement about exactly how that result is
achieved. ;-)

73, ac6xg

2953. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:34:44 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3EBBF4C4.16C7356F@rickfrazier.com>
Source record: 118607

Bob:

Shouldn't the proper procedure be tuning at a low power level to try to get a swr null in the first place? (rhetorical question, I guess)

I've never moved to a band and transmitted without first touching up tuning at minimum output level of the transceiver, even with a chart of settings for each band and antenna. I can't imagine anyone tuning at high power, (though judging by some of the carriers thrown around the bands, I suspect quite a few people do tune with high power on occasion...).

--Rick AH7H

Bob Miller wrote:

> On Fri, 09 May 2003 12:41:23 GMT, "Kevin Smeltz" <ksmeltz@rogers.com>
> wrote:
>
> >I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid /
> >harmful to run 80m with this combination?
> >
>
> Just to protect the antenna and the tuner, I'd first try it at about
> the 5 watt level, to see if you can get anywhere close to 1:1 swr.
>
> Bob
> k5qwg

2954. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:35:20 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305091035.218ff65d@posting.google.com>
Source record: 118606

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vbneeqnvudcc5d@corp.supernews.com>...
> These MFJ data are from a 160 meter 1/4 wave RG8X stub.
> Alas the MFJ knows not + from -.
> MHz R X
> 1.80 195 474
> 1.81 228 507
> ... etc
> 2.00 235 483
>
> These numbers are calculated values of X for a lossless tank circuit
> resonant at 1.9 MHz for several values of L.

(Though of course, a tank won't be lossless...)

>
> MHz L=3E-7 L=6E-7 L=1E-6 L=3E-6 L=6E-6 L=1E-5
> 1.800E+06 33 66 110 331 662
> 1103
>... etc
> 2.000E+06 -35 -70 -116 -349 -698
> -1163
>
>
> Now it seems to me this is a way to compare a physical stub with an ideal
> tank circuit.
> The stub sucks, as Cecil said.

I find it useful to have things in a broader perspective if I can.
The numbers in just one band don't tell me the full story, so what
follows confirms your conclusion at 1.9MHz, but shows how to easily
see that without having to take measurements, and also shows
performance at other frequencies, where things may favor the stub
more. If you don't read any further, just think, "stubs are most
useful where the diameter (or spacing) of the line can be a
significant fraction of the length."

I should probably go looking for where Cecil said that the stub sucks.
Perhaps he already explained all this. For me, sometimes "stubs
suck" because they are not necessarily easy to tune for some of the
things I might want to do (specifically having a notch frequency and a
pass frequency), but if I just want to see what sort of unloaded Q I
can get in a coaxial stub (resonator), then there are some simple
formulas that can give me a close approximation. Here are two. The
first is quite accurate.

Qu = 2.775*f(MHz)/(v.f.*atten(dB/100ft))

For air-insulated 77-ohm copper line (useful at UHF where you can make your own stubs from plumbing supplies and heavy wire), this can be reduced to:

Qu = 107*D*sqrt(f)

where
f = freq in MHz
D = inside diameter of outer conductor, in inches

If RG-8X has a velocity factor of .78 and about 0.4dB/100ft at 1.8MHz, then a stub made from it should have a Q about 16. At that freq, it's really unimpressive, just as you noted. But at 500MHz and about 9dB/100ft, Qu is about 200. Not super, but useful. And at 500MHz, a .75" pipe can make a resonator with a Qu near 1800.

For comparison, you should be able to get Qu well over 400 in a 3-inch diameter coil a few inches long, at 1.9MHz. Another formula: Qu = 100*d*sqrt(f), for a well-made (copper wire, sparse use of good dielectric supports) air-core solenoid coil d inches in diameter and d inches long, where f is the freq in MHz. Q slightly higher for longer coils, lower for shorter. (Caveats: must be small enough to not radiate significantly. Can't be surrounded very closely by a shield.) That coil is a lot smaller than 100 feet of RG-8x coiled up!

For me, these formulas put into better perspective when a stub may be most useful. Both the stub formulas show that Qu goes up as the sqrt of freq (since atten goes up as sqrt(f)). Qu also goes up as sqrt(f) for the coil, but you get to a point where a large coil will radiate too much. Coaxial stubs don't radiate.

BTW, I found the reactance part of your MFJ readings to be, um, interesting. I'd expect zero reactance at resonance, and low reactance nearby. If I use WinSmith to simulate a shorted 1/4 wave stub with 0.466dB loss (adjusted to get the same max R as you measured, and resonant at 1.9038MHz to try to come closer to your R numbers...), it tells me to expect this:

freq,MHz R,ohms X,ohms
1.85 554 +457
1.86 641 +431
1.87 734 +380
1.88 822 +300
1.89 892 +188
1.90 929 + 54
1.91 924 - 88
1.92 878 -218
1.93 802 -322
1.94 712 -395
1.95 620 -438

These numbers should be quite accurate, and show significant
difference from the MFJ numbers. (I'll bet they match quite closely
what I'd get on one of our network analyzers. ;-) I suspect the MFJ
does not have its R and X detectors in quadrature, or some such. It
might be good to check that.

Cheers,
Tom

2955. Re: Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:38:31 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <HASua.11557$%_3.6068733@newssrv26.news.prodigy.com>
Source record: 118594

It's the SB-15.

I had to loosen the allen bolts a teeeeeny bit to allow the antenna to be lengthened to get the SWR to go down low enough to allow 50.1 MHz, otherwise, it was pretty much 1:1 at 52.

(This didn't affect 144 or 440, I checked the SWR there too) :)

Great antenna. 2db gain at 50. 4.7 at 144 and 7.5 and 440 if I remember correctly.

73

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030506225951.13239.00000648@mb-m10.aol.com...
> >I put the Comet 6m/2m/440 antenna on a hatchback mount for my Explorer, but
> >it's not NMO, it's PL-239.
> >
>
> Do you know the model number?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

2956. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:45:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBBF752.368E4FEC@uci.edu>
Source record: 118608

OC_CAM's Razor wrote:
>
> Roy Lewallen wrote:
> > ... superposition doesn't hold for power.
>
> Of course, superposition doesn't hold for power. But if
> voltage superposition results in "missing" joules/sec,
> they've got to come from somewhere. Doesn't it seem more
> than a strange random coincidence that the magnitude of
> constructive interference at a Z0-match point *always*
> exactly equals the magnitude of the destructive interference?

The magnitude of destructive interference is zero, and the magnitude of constructive interference when I1 = I2 is equal to 4*I1. Have you tried working the problem that way, Cecil? It should come out right without having to invent a re-reflection mechanism - as long as you're using the correct values for 'I'. ;-)

Remember that the reflection at the first boundary is cancelled, so all that energy procedes through to the load boundary. P3 and P4 equal zero, so P1=Pfwd1.

ac6xg

2957. Re: Is a dipole a resonant antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:55:27 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305091055.3e35171d@posting.google.com>
Source record: 118609

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB92A13.8040808@ieee.org>...
> Andy Cowley wrote:
> > What are the correct definitions and how would you describe a non
> > resonant balanced antenna?
>
> It is unclear whether "dipole" refers to the number of physical
> poles or to the number of electrical poles. Much above 1.25WL,
> these two quantities are different. I endeavor to use "dipole"
> for any doublet less than 1.25WL and "doublet" for any doublet
> longer than 1.25WL. "Doublet" doesn't imply any fixed number of
> electrical poles. That's just my own personal convention.

I personally tend to use "doublet" for any center-fed linear antenna,
and "dipole" when it's self-resonant, generally with a qualifier about
what the mode is. I also tend to allow "dipole" for an off-center-fed
resonant antenna. But I'm aware of the lack of convention, so I'm
always wary if the writer hasn't been explicit about the configuration
of the conductors and the feedpoint (and perhaps the dielectrics as
well). I might ask, "Do you mean xxx or do you mean yyy?" and might
indeed get the reply, "Gee, I didn't mean either of those, I meant
zzz." And then it becomes clear. When there's a clear description of
the configuration, there's less need to find the right single word.

Cheers,
Tom

2958. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:56:36 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <obunbv4ds95d7bnudgf5t9q5dfvjpofhbe@4ax.com>
Source record: 118610

On 9 May 2003 11:35:20 -0700, k7itm@aol.com (Tom Bruhns) wrote:

>
>These numbers should be quite accurate, and show significant
>difference from the MFJ numbers. (I'll bet they match quite closely
>what I'd get on one of our network analyzers. ;-) I suspect the MFJ
>does not have its R and X detectors in quadrature, or some such. It
>might be good to check that.
>
>Cheers,
>Tom

Hi Tom,

This was demonstrated in his early comparison readings when he was
still using a field strength meter that conflicted with MFJ results.

73's
Richard Clark, KB7QHC

2959. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 18:57:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBFA18.7050805@ieee.org>
Source record: 118611

Jim Kelley wrote:
> Lost energy is a misnomer, actually. There is no such thing Cecil, and
> I never claimed there was.

Then maybe you should take it up with Melles-Griot. Their web page
is where that "lost" reflected energy comes from. They are talking
about the energy in the two canceled reflected waves.

> Did you miss the point here? It directly responds to your query. The
> waves exist, but when they interfere destructively, no energy is
> transferred.

If no energy is transferred from the waves undergoing wave cancellation
then the waves never existed in the first place. I suspect your problem
is trying to equate two EM waves interfering in space to two reflected
waves canceling in a transmission line. Those two events are NOT anywhere
near the same. The two waves interfering in space continue their separate
identities, including their separate energy components, and are unaffected
by each other. With wave cancellation in a transmission line, the identities
of the two canceled waves are destroyed but their energy components cannot
be destroyed. Those two situations are nothing alike.

> I've seen the numbers, obviously. Did Steve make the measurements?

Why would Steve make the measurements for my magazine article?

> I'm confident that the end result is consistent with the laws of
> physics. There's some disagreement about exactly how that result is
> achieved. ;-)

I'm willing to bet $1000 that is is not achieved by supernatural
phantom waves carrying zero energy.
--
73, Cecil, W5DXP

2960. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:00:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBFAC9.5030005@ieee.org>
Source record: 118612

rick@rickfrazier.com wrote:
> I've never moved to a band and transmitted without first touching up tuning at
> minimum output level of the transceiver, even with a chart of settings for each
> band and antenna. I can't imagine anyone tuning at high power, (though judging
> by some of the carriers thrown around the bands, I suspect quite a few people do
> tune with high power on occasion...).

How else can you tune an SB-101 amplifier into a mismatched antenna system?
--
73, Cecil, W5DXP

2961. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:03:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBBFB9D.7000106@ieee.org>
Source record: 118613

Tom Bruhns wrote:
> I should probably go looking for where Cecil said that the stub sucks.

It was a play on words, Tom. I said an open-circuited 1/4WL
stub "sucks" all the power into it instead of allowing it to
reach the load. :-)
--
73, Cecil, W5DXP

2962. Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:09:49 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305091109.2c478d23@posting.google.com>
Source record: 118614

Hello all,

It's been a while since I've seen any postings about CFAs. The active postings seemed to peak in 1999, and have dropped to near zero now. Has this configuration died? Apparently it is still in use in Egypt, but is there any other installation still in use? I saw that one was about to be installed in Italy, and suddenly postings from the person involved with that seemed to stop. I heard that one was installed in Australia, and fairly promptly decommissioned. And apparently the Isle of Man installation never got off the ground, so to speak.

It seems that if the configuration works as (was) claimed, it would be very useful in services other than just MF and LF broadcasting. Anyone know of any other installations? Any hams still trying to use them?

Has anyone ever seen any antenna range data for them, particularly from a disinterested test facility? (Seems like, given the small size, they would be very easy to test at scaled frequencies.)

I suppose I understand better than many the technical discussions about the CFA, but here I'd be especially interested in things that address the "if it's so good, why don't I see them everywhere" sort of question. That is, if you were trying to convince a non-technical person to invest or not invest in them, what would you say that could be independently verified?

Cheers,
Tom

2963. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:24:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC0074.5080001@ieee.org>
Source record: 118615

Jim Kelley wrote:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

No, no, no, absolutely wrong. The equations are:

Imin = I1 + I2 - 2SQRT(I1*I2), Imax = I1 + I2 + 2SQRT(I1*I2)

****
-2SQRT(I1*I2) is the magnitude of the destructive "interference
term".

+2SQRT(I1*I1) is the magnitude of the constructive "interference
term".

These two terms are *always* equal in magnitude and opposite in sign.

Destructive interference is a negative excursion from the average
irradiance. Constructive interference is a positive excursion from
the average irradiance. In the absence of any change in average
irradiance, they will always be equal.
****

Please note: It is the *irradiance* minimum that is equal to zero,
not the interference. Is the *irradiance* maximum that is equal to
4*I1, not the interference. I1+I2 is ***always*** the average
irradiance modified by plus or minus the interference.

> Have you tried working the problem that way, Cecil?

Please correct your error and then let's discuss it.
--
73, Cecil, W5DXP

2964. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:25:38 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBC007E.6050902@attbi.com>
Source record: 118616

OC_CAM's Razor wrote:
> rick@rickfrazier.com wrote:
>
>> I've never moved to a band and transmitted without first touching up
>> tuning at
>> minimum output level of the transceiver, even with a chart of
>> settings for each
>> band and antenna. I can't imagine anyone tuning at high power,
>> (though judging
>> by some of the carriers thrown around the bands, I suspect quite a few
>> people do
>> tune with high power on occasion...).
>
>
> How else can you tune an SB-101 amplifier into a mismatched antenna system?
> --
> 73, Cecil, W5DXP
>
Easy!!
Step #1 Tune antenna system with vy low power <QRP levels for VSWR = 1:1.

Step #2 Switch to dummy load

Step #3 Tune your rig AND SB-101 into the dummy load!

Step #4 Flip the antenna switch back to the tuned antenna

Step #5 VOILA!! U R Tuned!!!

2965. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:28:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC0170.990582D@uci.edu>
Source record: 118617

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > Lost energy is a misnomer, actually. There is no such thing Cecil, and
> > I never claimed there was.
>
> Then maybe you should take it up with Melles-Griot. Their web page
> is where that "lost" reflected energy comes from. They are talking
> about the energy in the two canceled reflected waves.

Problem is Cecil, you have to understand the fundamentals in order to
know what they are talking about. Melles-Griot puts "lost" in quotes
for a reason.

> If no energy is transferred from the waves undergoing wave cancellation
> then the waves never existed in the first place.

Laughable. I just produced an example that shows they exist and don't
transfer energy. So in what year did you decide to stop listening,
learning, and thinking new thoughts? You're certainly unwilling to at
this point.

> > I've seen the numbers, obviously. Did Steve make the measurements?
>
> Why would Steve make the measurements for my magazine article?

Your article bears a strange resemblance to a problem Steve was
analyzing.
Is there some secret about exactly who made the measurements? You seem
resentful that I should even ask. If you made the measurements, then I
appologize. Also, I'd be interested to know how you made them.

> > I'm confident that the end result is consistent with the laws of
> > physics. There's some disagreement about exactly how that result is
> > achieved. ;-)

> I'm willing to bet $1000 that is is not achieved by supernatural
> phantom waves carrying zero energy.

What about the energy in the waves that produce the interference pattern
from the two slit experiment? I'm willing to bet anything you want that
nothing supernatural is going on.

2966. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:41:30 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC046A.9000808@ieee.org>
Source record: 118519

Dave Shrader wrote:
> Easy!!
> Step #1 Tune antenna system with vy low power <QRP levels for VSWR =
> 1:1.

My antenna system is non-resonant. The Pi-net in the amplifier
is used to match that non-resonant impedance value.

> Step #2 Switch to dummy load

A dummy load is nowhere near the non-resonant impedance of my
antenna system.

> Step #3 Tune your rig AND SB-101 into the dummy load!

Then it will be untuned when I switch to my non-resonant antenna.

> Step #4 Flip the antenna switch back to the tuned antenna

The antenna is not tuned.

> Step #5 VOILA!! U R Tuned!!!

Ploink! The amp blew up. Please try again. :-)
--
73, Cecil, W5DXP

2967. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:41:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbo1419c9hd6fd@corp.supernews.com>
Source record: 118618

A couple of sets of apparently decent measurements have been made. On is on a scale model, done and reported by Trainotti in September 2001 IEEE Trans. on Broadcasting. Another one I came across was done by a student and posted at http://www.ee.surrey.ac.uk/Personal/D.Jefferies/ref.html. An article containing some measurements were said to have been posted on antennax not long ago, but I'm not a subscriber and haven't seen them.

My position has always been that if this antenna performed as claimed, it would be very much to the financial advantage of the people selling them to have some credible measurements professionally made and widely published. The fact that they've never done this in over a decade is ample evidence that it doesn't perform as claimed -- I for one don't require any additional evidence to convince me of that.

Roy Lewallen, W7EL

Tom Bruhns wrote:
> Hello all,
>
> It's been a while since I've seen any postings about CFAs. The active
> postings seemed to peak in 1999, and have dropped to near zero now.
> Has this configuration died? Apparently it is still in use in Egypt,
> but is there any other installation still in use? I saw that one was
> about to be installed in Italy, and suddenly postings from the person
> involved with that seemed to stop. I heard that one was installed in
> Australia, and fairly promptly decommissioned. And apparently the
> Isle of Man installation never got off the ground, so to speak.
>
> It seems that if the configuration works as (was) claimed, it would be
> very useful in services other than just MF and LF broadcasting.
> Anyone know of any other installations? Any hams still trying to use
> them?
>
> Has anyone ever seen any antenna range data for them, particularly
> from a disinterested test facility? (Seems like, given the small
> size, they would be very easy to test at scaled frequencies.)
>
> I suppose I understand better than many the technical discussions
> about the CFA, but here I'd be especially interested in things that
> address the "if it's so good, why don't I see them everywhere" sort of
> question. That is, if you were trying to convince a non-technical
> person to invest or not invest in them, what would you say that could
> be independently verified?
>
> Cheers,

> Tom

2968. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:51:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC06AC.8030505@ieee.org>
Source record: 118520

Jim Kelley wrote:
> Problem is Cecil, you have to understand the fundamentals in order to
> know what they are talking about. Melles-Griot puts "lost" in quotes
> for a reason.

Yep, so did I for exactly the same reason. The energy exists and it
is not really "lost".

> I just produced an example that shows they exist and don't
> transfer energy.

Unfortunately, it was an invalid example. Please correct your error.

> If you made the measurements, then I
> appologize. Also, I'd be interested to know how you made them.

I have a store-bought 50 ohm directional wattmeter and a home-brew
300/450 ohm directional wattmeter. I have made many measurements.
They are all consistent within the accuracy of the instruments.

> What about the energy in the waves that produce the interference pattern
> from the two slit experiment? I'm willing to bet anything you want that
> nothing supernatural is going on.

The only thing wrong there seems to be what's going on in your brain.
Please see the other posting.
--
73, Cecil, W5DXP

2969. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:56:43 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbo20ctiismifd@corp.supernews.com>
Source record: 118522

The broad band multi transmitter FM broabcast antennas I have used (KLOL,
Bob Silliman's work)
do just that, tune hundreds of KW. This stub was RG8X.
They're all tank circuits, anyway.
H.
NQ5H
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:10348-3EBBD0D5-35@storefull-2313.public.lawson.webtv.net...
> Adam, NQ5H wrote:
> "Alas, the MFJ knows not + from -."
>
> A shorted 1/4-wavelength stub has zero reactance and very high
> resistance. It is equivalent to a parallel resonant circuit.
>
> The reactance of a shorted stub of less than 1/4-wavelength is
> inductive. If this stub is more than 1/4-wavelength but less than
> 1/2-wavelength, it is capacitive.
>
> So, at a frequency below resonance, the stub is inductive. At a
> frequencyabove resonance, it is
> capacitive, if the frequency is below twice the resonant frequency.
>
> Adam also wrote:
> "The stub sucks as Cecil said."
>
> Line tuned circuits are worthwhile above 144 MHz (page 3.1, RSGB VHF-UHF
> Manual, 3rd edition) and above 400 MHz, cavities prevail.
>
> Adam was checking coax with an MFJ. This is a long way from a Wayne Kerr
> on open wires. I guarantee hundreds of kilowatts can be efficiently
> tuned at HF using transmission line stubs.
>
> Best regards, Richard Harrison, KB5WZI
>

2970. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 19:59:20 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbo2581agg1441@corp.supernews.com>
Source record: 118523

Roy
Reminds me of why I left KOKE in 1974 and went back to study Physics.
(What? And leave broadcasting?)
73
H.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vbnq82gi0jpm1d@corp.supernews.com...
> Ah, a stub tuner. It was burned contact fingers on a tunable shorted
> stub in the output of a Collins FM transmitter that ended my brief
> career as a broadcast engineer. . .
>
> Having just turned 18, I had dropped out of college and taken a job as
> an announcer (to build my skills in that area) at an AM/FM station in
> Albuquerque. The engineer got fired shortly after, and, since I had a
> license and some experience at it, I became the chief engineer (but with
> my condition that I retain some of my on-the-air shows). Every morning I
> would find the Collins FM transmitter output to be a bit low and would
> have to tweak on the output tuning -- a stub with a movable short.
> During maintenance down time I found that the area of the stub where the
> contacts normally sat was pretty badly burned. I explained to the
> station manager -- a man with a truly amazing grasp on a dollar -- that
> the stub needed to be replaced. He kept delaying and delaying until one
> morning I wasn't able to tweak the output power back up to the minimum
> required by the FCC.
>
> The rules said that I could run at reduced power for up to one week,
> provided that I notified the FCC. I wrote the required letter, mailed
> it, and *then* told the boss. As expected, he tried to delay and to
> encourage me to delay notifying the FCC. When I told him I had already
> mailed the letter, he finally, reluctantly, ordered the part -- air
> express, collect.
>
> It arrived a couple of days later. The cost was $80. This was 1964, so
> it represented considerably more than it does today, but still not
> really much of an expense for a station that size. Each day I asked for
> a check to pick it up, and he kept delaying. The day before the week was
> up, I explained that I would turn the transmitter off at the end of the
> week if the power wasn't up to standard -- I wasn't going to risk my
> license, which at the time was my main way of making a living. He
> finally issued the check at the last minute, I picked up the part, and
> installed it the night before the deadline. Power was back up to normal.
>
> My next paycheck bounced.

>
> And that was the final straw. My life changed direction at that point,
> and it was, I'm convinced, to a better direction than it had been going.
>
> Roy Lewallen, W7EL
>
> Richard Harrison wrote:
> > . . .
> > Adam was checking coax with an MFJ. This is a long way from a Wayne Kerr
> > on open wires. I guarantee hundreds of kilowatts can be efficiently
> > tuned at HF using transmission line stubs.
> >
> > Best regards, Richard Harrison, KB5WZI
> >
>

2971. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:03:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC099F.F6E0C5C8@uci.edu>
Source record: 118526

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.
>
> No, no, no, absolutely wrong. The equations are:
>
> Imin = I1 + I2 - 2SQRT(I1*I2), Imax = I1 + I2 + 2SQRT(I1*I2)
>
> **********
> -2SQRT(I1*I2) is the magnitude of the destructive "interference
> term".

The negative number should give you a clue that something is wrong.
These are intensities. Use must use the absolute value in this
equation. The minimum value for Imin is zero. The maximum is 4*I.
(This is right out of Hecht.) There's no such thing as negative
intensity, and direction is not a result, implied or otherwise, of the
calculation of values for Imin and Imax.

2972. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:03:57 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9h1jg$im68g$1@ID-134747.news.dfncis.de>
Source record: 118524

Build a log periodic like I did. 4 elements on
75. Works well 80 -10.

--
73 es cul

wb3fup
a Salty Bear

"Brian Kelly" <kelly@dvol.com> wrote in message
news:d22b54c3.0305090839.21123f49@posting.google.com...
> kelly@dvol.com (Brian Kelly) wrote in message
news:<d22b54c3.0304301527.2c89db39@posting.google.com>...
> > A ham buddy of mine who is a well-known dx
contester/EE and I got to
> > shooting the breeze about quick-up
alternatives to the usual Field Day
> > dipoles . . . . <big snip> . . . We're getting
together to model the design later this week for
20 & 15
> > but in the meantime I'd appreciate any info on
the history of the
> > design - if there is a history.
> >
>
> The modeling finally happened. A simple 20M
dipole at 36 feet was
> compared with the Inverted "U" antenna. The "U"
has gain vs. the
> dipole but not enough to get really excited
about.
>
> Inverted "U" Dimensions:
> Flattop height above ground = 36 feet
> Vertical element & flattop lengths = 34 feet
each
> (lower ends of vertical elements 2 feet above
ground)
> Flattop fed at the center
> SWRs vs. 50 ohms are almost flat across the band
and are around 4.5:1
> A 4:1 balum fixes that very nicely
>
> The U has these characteristics vs. a dipole at
the same elevation:

> Pattern is within a few dB of being
omnidirectional.
> There is no cloud-warmer radiation, none, zero
which is the big
> difference.
>
> I also modeled a comparable 20M Half-square. The
Half-Square has been
> widely publicized as being an outstanding
low-angle dx-shooter right?
> Which is exactly what one does NOT want for
Field Day. As it turns out
> the "U" antenna pattern strongly indicates that
a "U" should kick a
> Half-Square's butt when it comes to
concentrating the radiation in
> directions most favorable for dxing. Which in
turn seems to make a
> "U" an even worse idea for FD than a Half
Square.
>
> . . . maybe I'll just toss up another damned
g5rv, twitch the paddles
> and get it over with . . !
>
> E-Mail me for screen grabs of the patterns &
such.
>
> Brian w3rv

2973. Homebrew "Bug Catcher" Advise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:04:48 UTC
From: FlyCaster <+++NOSPAM+++kenwells@kiva.net>
Message-ID: <ARTua.23210$VP.3077119@twister.neo.rr.com>
Source record: 118521

Hello all,
I was given a Hustler mobile antenna and several coils. They work OK, but I am thinking of winding my own mini-bugcatcher using 1 1/2 inch PVC Schedule 40 and pipe caps.

I have a 31" whip for the top section. I am planning on using about 4" of coil (If that is enough) to use on 20-10 meters. I have a 40 meter Hustler coil.

The Question: I have seen various arrangements on the coil and have heard discussion about "autotransformer " effects of shorted turns on a tapped coil.
Some homebrew antenna coils connect the jumper to the bottom of the coil (which is also connected to the mast) ..Others leave the bottom of the coil floating and use the jumper to pick the tap on the coil (the unused section of the coil is not connected to anything). Still others connect the bottom of the coil to the mast, and leave the whip floating and tap from the top whip to the coil, leaving the top unused section of the coil unconnected.

Which way is preferable, and which is most efficient? Does it make any difference if the bottom of the coil is connected to the mast or not? Do floating, unused turns have the same effect as shorted turns on the coil?

What do you think?

Thanks....

Ken Wells - NM9P

kenwells@kiva.net

2974. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:06:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC0A57.9458271F@uci.edu>
Source record: 118525

OC_CAM's Razor wrote:
> The only thing wrong there seems to be what's going on in your brain.

What is it they say when a discussion leads to an ad hominim attack?

> Please see the other posting.

Please see reply to math error in other posting.

2975. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:28:06 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbo3r6skmr6923@corp.supernews.com>
Source record: 118527

> "Alas, the MFJ knows not + from -."
It was tongue-in-cheek.
My intent was for the reader to insert the minus signs.
Resonance is apparent from the peak in R.
By comparing the stub with the solution X=(XL*XC)/(XL-XC), the ideal
reactance of a tank circuit, I wish to illustrate the relationship of Q with
L and loss in the stub.
H.
NQ5H

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:10348-3EBBD0D5-35@storefull-2313.public.lawson.webtv.net...
> Adam, NQ5H wrote:
> "Alas, the MFJ knows not + from -."
>
> A shorted 1/4-wavelength stub has zero reactance and very high
> resistance. It is equivalent to a parallel resonant circuit.
>
> The reactance of a shorted stub of less than 1/4-wavelength is
> inductive. If this stub is more than 1/4-wavelength but less than
> 1/2-wavelength, it is capacitive.
>
> So, at a frequency below resonance, the stub is inductive. At a
> frequencyabove resonance, it is
> capacitive, if the frequency is below twice the resonant frequency.
>
> Adam also wrote:
> "The stub sucks as Cecil said."
>
> Line tuned circuits are worthwhile above 144 MHz (page 3.1, RSGB VHF-UHF
> Manual, 3rd edition) and above 400 MHz, cavities prevail.
>
> Adam was checking coax with an MFJ. This is a long way from a Wayne Kerr
> on open wires. I guarantee hundreds of kilowatts can be efficiently
> tuned at HF using transmission line stubs.
>
> Best regards, Richard Harrison, KB5WZI
>

2976. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:32:23 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebc1117_4@news1.prserv.net>
Source record: 118528

I agree with Roy's assessment with one exception. He says this has been going on for a decade, and I have known about it for at least two. My first exposure was in a Wireless World article back in the 80s. And, it is mechanically a pretty simple contraption, so if it worked, we would all be using them. But, unless you can get the feedline to radiate efficiently, or run 100X the power claimed, they aren't much to write home about.

--
Crazy George
Remove NO and SPAM from return address

2977. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:47:10 UTC
From: Bruce Burke <wb4yucXX@junoXX.com>
Message-ID: <itUua.44360$944.13516@fe08.atl2.webusenet.com>
Source record: 118529
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

raiar@bbs.galilei.com.nospam (Gary V. Deutschmann, Sr.) wrote in
news:3ebaf08f.545786796@news.galilei.com:

> Hi Bruce
>
> I had a car that the gas pedal would stick to the floor.
> The manufacturer said it was totally impossible.
> After several other people had the same problem and it appeared in the
> newspapers, they began looking into it.
> Two causes were determined - the first was simple, the factory
> installed and affixed rubber pad under the gas pedal on the carpeted
> floor would somehow move forward and catch under the edge of the
> pedal, least common and only in the hot summer months.
> Most common was the cable from the carburettor to the gas pedal would
> fray on vehicles with certain options and snag.
>
> But like the fellow with the Crown Vic, rather than an electrical
> problem, many Crown Vic's had a problem with a broken motor mount.
> If you hit the accelerator to hard, the motor would lift, pulling on
> the throttle linkage, causing them to accelerate more quickly.
> But if you were parked, like up against a small curb and the car could
> not move forward, the engine would lift right away and pull the
> throttle to wide open while doing so.
>
> Ironically, we had a Crown Vic run through the front of the Creve
> Coeur, Missouri 63141 post office only a few months ago. Problem,
> broken motor mount caused the vehicle to accelerate over the curb,
> over the sidewalk over the planter box and into the post office.
> The driver said all they did was put the car in gear and it took off
> like a skyrocket, even with their foot planted firmly on the brake
> pedal.
> At first it too was deemed as driver error. Everyone thought she had
> her foot on the accelerator, thinking it was the brake. But the
> police could clearly see the skid marks from the braked wheels, vs the
> burned rubber marks from the driving wheel.
>
> TTUL
> Gary
>

Hi Gary,

Thanks, I've seen other engines do this too with that same problem, front wheel drive in particular. So far, there has been no otrher info on the accident here. It will be interesting to see what they have to say, if anything.

2978. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:48:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC142A.5060809@ieee.org>
Source record: 118530

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>>The magnitude of destructive interference is zero, and the magnitude of
>>>constructive interference when I1 = I2 is equal to 4*I1.
>>
>>No, no, no, absolutely wrong. The equations are:
>>
>>Imin = I1 + I2 - 2SQRT(I1*I2), Imax = I1 + I2 + 2SQRT(I1*I2)
>>
>>**
>>-2SQRT(I1*I2) is the magnitude of the destructive "interference
>>term".
>
> The negative number should give you a clue that something is wrong.

You apparently continue to confuse irradiance with interference.
Until you correct that error, we are not going to get anywhere.

The negative number is the convention used for the destructive interference
term because it subtracts from the average irradiance. The negative term
appears in equation 9.16 in Hecht.

****
* Imin = I1 + I2 - 2SQRT(I1*I2) Hecht's equation 9.16 *
****

If you don't like that negative sign, go argue with Hecht. He also
calls that negative term the "interference term". I don't know how
to be any plainer than that. RTFM

> These are intensities. Use must use the absolute value in this
> equation. The minimum value for Imin is zero. The maximum is 4*I.
> (This is right out of Hecht.) There's no such thing as negative
> intensity, ...

Of course there's no such thing as negative irradiance. That's why the
average irradiance minus the maximum amount of destructive interference
cannot be less than zero.

You made a simple error when you confused irradiance with interference.
Please correct that error so we can continue.

It is the irradiance that is zero at an Imin point. The destructive
interference is at its maximum magnitude at the Imin point.

It is the iirradiance that is maximum at an Imax point. The constructive interference is at its maximum magnitude at the Imax point.

In the absence of any additional average energy, destructive interference will always equal constructive interference.

If the two waves are orthogonal to each other, the interference term goes to zero and the total irradiance is simply I1+I2.
--
73, Cecil http://www.qsl.net/w5dxp

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2979. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 20:56:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC15E1.1050203@ieee.org>
Source record: 118531

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>The only thing wrong there seems to be what's going on in your brain.
>
> What is it they say when a discussion leads to an ad hominim attack?

It's not an ad hominem attack when it's true, Jim. Your second posting continues to confuse irradiance and interference. Simply correct your mental error and we can continue. I1+I2 is the average irradiance. Anything added or subtracted from the average irradiance is the called the "interference term", as defined by Hecht. If it subtracts, it is destructive interference. If it adds, it is constructive interference. Everything is perfectly logical and consistent.
--
73, Cecil http://www.qsl.net/w5dxp

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2980. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 21:04:11 UTC
From: ray gaschk <rgaschk@ca.astound.net>
Message-ID: <b9h57a$1sp$1@news.astound.net>
Source record: 118532

Kevin,
If it's still intact with no evidence of arcing, it is good. The only one that I have ever seen after exposure, looked like the contacts had been manhandled by a large welding machine.

ray,w6fya
"Kevin Smeltz" <ksmeltz@rogers.com> wrote in message news:onNua.120983$M81.48046@news02.bloor.is.net.cable.rogers.com...
> I just bought a Cushcraft LAC4 gas tube lightning arrester with replaceable
> gas cartridge. How do I know if I have to change the cartridge?
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/03

2981. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 21:12:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC19BA.9526CA89@uci.edu>
Source record: 118533

OC_CAM's Razor wrote:
> > The negative number should give you a clue that something is wrong.
>
> You apparently continue to confuse irradiance with interference.
> Until you correct that error, we are not going to get anywhere.
>
> The negative number is the convention used for the destructive interference
> term because it subtracts from the average irradiance. The negative term
> appears in equation 9.16 in Hecht.

> **
> * Imin = I1 + I2 - 2SQRT(I1*I2) Hecht's equation 9.16 *
> **
>
> If you don't like that negative sign, go argue with Hecht.

I agree with Hecht. I guess you didn't get the point. You can't plug
negative numbers INTO the equation. The minus sign between terms is
fine. It arises from the cos term in the actual equation. The general
form is
(I1 + I2) + 2*SQRT(I1+I2)*cos theta. All the intensities positive
numbers. when theta is 180, then obviously 2*SQRT(I1+I2)*cos theta is
negative - WHICH MAKE THE TOTAL EQUAL TO ZERO!!!! Jeez.

2982. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 21:16:48 UTC
From: tdonaly@aol.com
Message-ID: <20030509171648.08602.00000091@mb-m22.aol.com>
Source record: 118534

Roy Lewallen said,
>
>
>It's probably more accurate to say that the reverse is true -- that
>there's a final resultant wave during steady state that you can
>separate, if you want, into forward and reflected components. Just like
>you can, if you want, separate the two currents on a transmission line
>into common mode and differential currents -- or any other combination
>of currents, for that matter.
>
>While, because of the principle of superposition, you can separate the
>total wave into forward and reverse voltage and current waves,
>superposition doesn't hold for power. So trying to separate the total
>resultant wave into multiple bundles of power or energy (for which
>superposition doesn't apply) is a very hazardous thing to do. I think
>that's at or near the center of this ongoing argument.
>
>Roy Lewallen, W7EL
>

I think that's a pretty good summation of the whole argument.
73,
Tom Donaly, KA6RUH

2983. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 21:18:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jj6obv8g26r9m4eaqo22mqoj90a6e21v1s@4ax.com>
Source record: 118535

On Fri, 09 May 2003 14:12:26 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>> ***
>> * Imin = I1 + I2 - 2SQRT(I1*I2) Hecht's equation 9.16 *
>> ***
>>
>> If you don't like that negative sign, go argue with Hecht.
>
>I agree with Hecht. I guess you didn't get the point. You can't plug
>negative numbers INTO the equation. The minus sign between terms is
>fine. It arises from the cos term in the actual equation. The general
>form is
>(I1 + I2) + 2*SQRT(I1+I2)*cos theta. All the intensities positive
>numbers. when theta is 180, then obviously 2*SQRT(I1+I2)*cos theta is
>negative - WHICH MAKE THE TOTAL EQUAL TO ZERO!!!! Jeez.

AND

When summed over a one wavelength interval it is simply I1 + I2
(did someone order a conservation-of-energy to go?).

Jeez Louise.

73's
Richard Clark, KB7QHC

2984. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 21:41:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC2087.A6595FAB@uci.edu>
Source record: 118536

OC_CAM's Razor wrote:
> You apparently continue to confuse irradiance with interference.
> Until you correct that error, we are not going to get anywhere.

Please take my word for it that that is not the case, and work the problem correctly. I know you don't want to, but you really should. If you refuse, then there really is absolutely no reason to continue the discussion. You're getting answers that don't make sense. I've explained to you what you're doing wrong, and all you want to do is make up a bunch of stuff.

2985. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:27:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC2B38.4070005@ieee.org>
Source record: 118537

Jim Kelley wrote:
> I agree with Hecht. I guess you didn't get the point. You can't plug
> negative numbers INTO the equation.

Nobody has ever said you could plug negative numbers into the equation
so what the heck was your point? Smells like a diversion to me.

Here's what you said, Jim.

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

That is an extremely false statement. The magnitude of the destructive
interference when I1=I2 is -2SQRT(I1*I2) and is at maximum absolute
magnitude. The constructive interference when I1=I2 is +2SQRT(I1*I2)
and it is also at maximum absolute magnitude. You were wrong, wrong,
wrong!!! You confused irradiance and interference. What you should have
said is:

The magnitude of the irradiance in the darkest portion is zero and the
magnitude of the irradiance in the brightest portion is equal to 4*I1.

You made a mistake, Jim. Fess up. Your statement above could not be
any more false. In fact, here is the true statement, the exact opposite
of what you said.

The magnitude of destructive interference is NOT zero, and the magnitude
of constructive interference, when I1+I2 is NOT equal to 4*I1. JEEZZZ!!!
--
73, Cecil http://www.qsl.net/w5dxp

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2986. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:29:51 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305091429.7ac156a6@posting.google.com>
Source record: 118538

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<vupnbvodfo75ukiprf2k50cor9dbqact8k@4ax.com>...
> On 9 May 2003 09:39:23 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
> >
> >The modeling finally happened. A simple 20M dipole at 36 feet was
> >compared with the Inverted "U" antenna. The "U" has gain vs. the
> >dipole but not enough to get really excited about.
> >
> >Inverted "U" Dimensions:
> >Flattop height above ground = 36 feet
> >Vertical element & flattop lengths = 34 feet each
> >(lower ends of vertical elements 2 feet above ground)
> >Flattop fed at the center
> >SWRs vs. 50 ohms are almost flat across the band and are around 4.5:1
> >A 4:1 balum fixes that very nicely
> >
>
> Hi Brian,
>
> I toyed with this back when you mentioned it, but with some
> differences that are now exposed by your specification. One I am
> speaking of is you don't allow the tips to return to ground.
> >(lower ends of vertical elements 2 feet above ground)
> This was not what I read you describing the first time through.

I look at it simply as a g5rv with the ends bent vertically downward.
The total wire length of the U is the same +/- as the length of the
80M g5rv, both are fed at the centers of the 100-102 feet of wire. The
pattern tends to deteriorate as the ends of antenna are raised above
ground.

> The other matter (and one reason for me to speculate on its
> Bob-tailishness that Roy responded to) is that you neglect discussion
> of the transmission line which I was prepared to leverage into the mix
> to, again, boost the Bob-tailishness. The line falls right in there
> at the magical quarterwave relationship.

The Half-Square is the shortend derivative of the Bobtail and is fed
at a corner which is at a quarter-wave current max. This "U" thing is
an entirely different beast.

> How do you handle the feed?

The SWRs hover around 4.5:1 across the 20M band pretty much like they
do at the feedpoint of a g6rv. With a 4:1 balun the coax should see a

1.1/1.2:1 match.

Maybe I'm full of soup but this is a learning experience for me so
fire away, NEC sez it works here.

>
> 73's
> Richard Clark, KB7QHC

Brian w3rv

2987. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:31:29 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC2C41.3010204@ieee.org>
Source record: 118539

Tdonaly wrote:
> Roy Lewallen said,
>>While, because of the principle of superposition, you can separate the
>>total wave into forward and reverse voltage and current waves,
>>superposition doesn't hold for power. So trying to separate the total
>>resultant wave into multiple bundles of power or energy (for which
>>superposition doesn't apply) is a very hazardous thing to do. I think
>>that's at or near the center of this ongoing argument.

> I think that's a pretty good summation of the whole argument.

It's a good thing that transformer engineers don't have that same problem, eh?

For a transformer engineer, the sum of the V*I*cos(thetas)-in must equal the
sum of the V*I*cos(thetas)-out. Every wonder why a transmission line gets
to violate that law of physics and a transformer doesn't get to? Me too! :-)
--
73, Cecil http://www.qsl.net/w5dxp

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2988. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:34:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC2CDF.30904@ieee.org>
Source record: 118541

Richard Clark wrote:
> When summed over a one wavelength interval it is simply I1 + I2
> (did someone order a conservation-of-energy to go?).
> Jeez Louise.

Jeez Louise, indeed. Jim is simply offering up a diversionary straw
may to try to cover up this statement of his. Please tell us whether
you agree with Jim's statement or not, Richard.

Jim said, "The magnitude of destructive interference is zero, and the
magnitude of constructive interference when I1 = I2 is equal to 4*I1."
--
73, Cecil http://www.qsl.net/w5dxp

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2989. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:35:13 UTC
From: Ole King Cat <bovordde333@yahoo.com>
Message-ID: <3ebc2d11@snipnews.snip.net>
Source record: 118540
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Max" <ts850_guy@cogeco.ca> wrote in message
news:_OMua.8239$ER4.774529@news20.bellglobal.com...

> Plenty of Toyota taxi cabs in my city. Who exactly were you talking to at
> Toyota? Doesn't sound to me like they have a clue what they are talking
> about.

It's right in Toyota and Subaru Owner's Manuals in "black-and-white".

Says all extended warranties will be VOID if a "RF Emitter"
of greater than *10 watts output* is installed in their vehicles.
Better save that old low RF power vintage Yaesu FT-723R
Memorizer! (it's rated at 10 Watts)

2990. Re: Homebrew "Bug Catcher" Advise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:37:52 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030509183752.09520.00000089@mb-m21.aol.com>
Source record: 118542

To get most efficiency from Hustlers, is to unwind the coil wires and replace them with 1/8 or /14" copper tubing coil, wound on larger diameter form (air coil) and attached to the metal caps with small hose clamps. Replace whips with longer CB whips from Radioshack. Tune to frequency. If you want to have triband configuration, you can make small bracket and screw 3 above modified resonators on angle and you have most efficient autoswitching mobile antenna. MFJ antenna gizmo helps to tune. From 20m up there is no need for matching at the base. I used 80m resonator to make 20m one (about 12 turns of 1/4"?).

GL Yuri, K3BU/m BUm

2991. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:41:49 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305091441.4e0a8ac2@posting.google.com>
Source record: 118543

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBACE58.9080905@ieee.org>...
> Richard Harrison wrote:
> > At the open end of a 1/4-wave lossless shorted stub, the current is
> > zero. That is a very high impedance indeed.
>
> That's the net current, Richard, the sum of two waves traveling in
> opposite directions. The forward current flowing into the stub is
> still one amp. The reflected current flowing out of the stub is still
> one amp. No reflections happen at the mouth of the stub. All of the
> reflections happen at the open end of the stub.
>

Absolutely wrong Cecil. There is an initial current flow into the
1/4 shorted stub, but once it has been charged and the current is
oscillating in
it, and it is in steady-state, there is very little current that flows
into the stub.

> > Well, we don`t need no stinkin` wave interferences to confound
our
> > explanations of transmission line occurrences.
>
> It's not confounding, it is understanding. The forward current is one
> amp all up and down the stub. The reflected current is one amp all up
> and down the stub. If you don't believe that, all you have to do is
> measure it.

This is absolutely incorrect, the current at any one point is
different depending on where you measure it (in a system with standing
waves).

The only time the RMS current and voltages would always be the
same no matter where on the transmission line you looked, would be in
a perfectly matched system with NO REFLECTIONS.

It's obvious that you feel you can "win" net arguments by brute
force, always getting the last argument in. Well, i don't respect
people who do this (admittedly, sometimes it's me!), and after a
while, i learn whose typing is worth my time to read, and whose is
not.
You, Cecil, are frustating because it doesn't seem like you read
what other people have to say, or you never really consider their
point. You are a bad communicator, and wish only to output ideas but
never input them.

I have more respect for people who make sense and reason in their messages, and don't have to post that often to make their point.

Slick

2992. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:45:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC2F88.DDB382BE@uci.edu>
Source record: 118544

OC_CAM's Razor wrote:
> That is an extremely false statement.

> The magnitude of the destructive
> interference when I1=I2 is -2SQRT(I1*I2) and is at maximum absolute
> magnitude. The constructive interference when I1=I2 is +2SQRT(I1*I2)
> and it is also at maximum absolute magnitude.

The equation is (I1 + I2) + 2*SQRT(I1+I2)*cos theta, so for theta = 180,
it's (I1 + I2) - 2*SQRT(I1 + I2). Get the equation right, man, and lay
off the insults. You're the one with the math disability here.

And will ya quit with the interference/irrandiance bit already?. You're
not even making sense, Cecil. Crise.

2993. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:52:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9hbfm$de6$1@hercules.btinternet.com>
Source record: 118546

It's a practical question but just for entertainment -

Given R,L,C & G per unit length and operating frequency of a transmission line calculate -

Q of a short-circuited 1/4-wavelength ?

Q of a short-circuited 3/4-wavelength ?

What's the relationship between the two Q's ?

But first have a guess !

Reg.

2994. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:52:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <i6cobvomuq1s9m00kmk75phh68cvrpl1eu@4ax.com>
Source record: 118545

On Fri, 09 May 2003 17:34:07 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> When summed over a one wavelength interval it is simply I1 + I2
>> (did someone order a conservation-of-energy to go?).
>> Jeez Louise.
>
>Jeez Louise, indeed. Jim is simply offering up a diversionary straw
>may to try to cover up this statement of his. Please tell us whether
>you agree with Jim's statement or not, Richard.
>

You had to erase my answer to ask for my answer? What a maroon.
>
>>> **
>>> * Imin = I1 + I2 - 2SQRT(I1*I2) Hecht's equation 9.16 *
>>> **
>>>
>>> If you don't like that negative sign, go argue with Hecht.
>>
>>I agree with Hecht. I guess you didn't get the point. You can't plug
>>negative numbers INTO the equation. The minus sign between terms is
>>fine. It arises from the cos term in the actual equation. The general
>>form is
>>(I1 + I2) + 2*SQRT(I1+I2)*cos theta. All the intensities positive
>>numbers. when theta is 180, then obviously 2*SQRT(I1+I2)*cos theta is
>>negative - WHICH MAKE THE TOTAL EQUAL TO ZERO!!!! Jeez.
>
>AND
>
>When summed over a one wavelength interval it is simply I1 + I2
> (did someone order a conservation-of-energy to go?).
>
>Jeez Louise.
>
>73's
>Richard Clark, KB7QHC

73's
Richard Clark, KB7QHC

2995. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:53:46 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBC3145.70709@attbi.com>
Source record: 118547

OC_CAM's Razor wrote:
> Dave Shrader wrote:
>
>> Easy!!
>> Step #1 Tune antenna system with vy low power <QRP levels for VSWR
>> = 1:1.
>
>
> My antenna system is non-resonant. The Pi-net in the amplifier
> is used to match that non-resonant impedance value.
>
>> Step #2 Switch to dummy load
>
>
> A dummy load is nowhere near the non-resonant impedance of my
> antenna system.
>
>> Step #3 Tune your rig AND SB-101 into the dummy load!
>
>
> Then it will be untuned when I switch to my non-resonant antenna.
>
>> Step #4 Flip the antenna switch back to the tuned antenna
>
>
> The antenna is not tuned.
>
>> Step #5 VOILA!! U R Tuned!!!
>
>
> Ploink! The amp blew up. Please try again. :-)
> --
> 73, Cecil, W5DXP
>
Ah Cecil! You need to upgrade your station <grin>!

My antenna is also non resonant! [REALLY]. It's maximum VSWR for all frequencies between 13.5 and 33 MHz is less than 1.7:1 with NO loading coils, traps or B&W Resistors. But a tuner is used to set the input Z to the transmission line in the station to 50 ohms.

I use the PI-L network in my amplifier to load the amplifier into 50 ohms [dummy load] Also, the tuning network in the amplifier is optimized for linearity and minimal 3rd Order products when working into 50 ohms. Then just switch loads <grin>.

So, in MY redesign of your NEW STATION I'll add a good Dummy Load [Bird], a good Antenna Tuner, a good Coax Switch, plus the incidentals of a transceiver and an 'OLD' SB-101.

Moral [being a preacher I must deliver the moral of the story]: build a 50 ohm antenna "SYSTEM" and load your amplifier into 50 ohms off the air. It works ;-)

Deacon Dave, W1MCE

2996. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 22:54:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC31B4.7040809@ieee.org>
Source record: 118548

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>You apparently continue to confuse irradiance with interference.
>>Until you correct that error, we are not going to get anywhere.
>
> Please take my word for it that that is not the case, and work the
> problem correctly.

I cannot do that, Jim, until you retract this false statement:

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

The true statement is: The magnitude of destructive interference is *NOT*
zero, (it is -2SQRT(I1*I2)), and the magnitude of constructive interference
when I1=I2 is *NOT* equal to 4*I1, (it is equal to +2SQRT(I1*I2), which
is straight from Hecht's "Optics" (to which you offer lip service.) Time
to deny reality again, Jim, or fess up that you made a simple mistake.

God cannot afford to admit even the most simple mistake. How about you, Jim?

Like I said, you are confusing irradiance with interference and that
error is obvious to anyone reading this thread who understands optics.
That includes your bosom buddy on this newsgroup who, at this very moment,
is sending you an email advising you to deny everything. If the destructive
interference is zero, that means the two waves are orthogonal to each
other, and the constructive interference is also zero. In the absence
of any other energy source, the destructive energy magnitude is *always*
equal to the constructive energy magnitude. Dr. Best fell on his sword over
that one. Are you willing to do the same?

Think about it, Jim. Your above statement implies that you can have all
bright rings without any dark rings. I have challenged you to demonstrate
that feat but, so far, you have ignored the challenge. If you are truly
capable of that supernatural feat, now would be a good time.

You are arguing from a point of ill-will, not a point of good-will.
Any idiot can mount your argument. It takes a real man to admit
that he is wrong. Is it in you? Or maybe not?

P.S. I recently admitted making a mistake during a senior moment.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

2997. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:04:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rvcobv4stdggv81rutbo4rlha8nljvlvvg@4ax.com>
Source record: 118549

On 9 May 2003 15:29:51 -0700, kelly@dvol.com (Brian Kelly) wrote:

>> How do you handle the feed?
>
>The SWRs hover around 4.5:1 across the 20M band pretty much like they
>do at the feedpoint of a g6rv. With a 4:1 balun the coax should see a
>1.1/1.2:1 match.
>
>Maybe I'm full of soup but this is a learning experience for me so
>fire away, NEC sez it works here.
>
>
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Brian w3rv

Hi Brian,

I still don't know how you handle the feed. Do you choke it? With
what?

73's
Richard Clark, KB7QHC

2998. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:06:42 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305091506.55c8f145@posting.google.com>
Source record: 118550

Roy Lewallen <w7el@eznec.com> wrote in message news:<vbjq5tt3g14c6a@corp.supernews.com>...
>
> It's really important not to confuse or equate power and energy. Energy
> can be stored without there being any power involved.
>

Understood Roy. But the energy stored in a DC-blocking capacitor
is definitely changing, so there is definitely power transfered
through it.

The point i was trying to get to Cecil, is that no DC current must
flow through a point, in order to transfer power through that point.
And likewise, no DC current need flow through a maximum voltage swing
point on a transmission line for incident and reflected power to be
transfered.
Indeed, i understand the AC current in a transmission line of
infinite SWR (full reflections) to be flowing back-and-forth between
two max voltage points WHICH ARE 1/2 WAVELENGTH APART, with the max
current point in between these points, 1/4 WAVELENGTH AWAY from each
end.

With NO current flowing at all at the max voltage points.

Slick

2999. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:10:46 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbodc6immep99f@corp.supernews.com>
Source record: 118551

It's a tank circuit.
At resonance it's a big resistor.
The less the loss the greater the resistance.
If you want current flowing in and out use a shorted half wave.
The shorted 1/4 wave stub's parallel-resonant steady-state dynamics have the
current peak (voltage node -duh, it's shorted)
at the short and the voltage peak at the terminals, equal and opposite to
the driving signal, less the loss.
If it had no losses I could disconnect the source and it would sit there and
oscillate like a dipole folded back around itself, electrons sloshing from
the end of the center conductor through the short to the end of the shield
and back ad nauseum.
But sadly as I have observed with real stubs some won't oscillate at all,
they're so lossy.
The little fellas (electrons) can't even make one trip around without giving
it all up to friction, especially if the trip's 160 meters.
So why not just build a silver-plated tank circuit with both L and C
variable?
Trimming stubs leaves so many little bits of coax about and they're so damn
difficult to lengthen.
73
H.
NQ5H

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305091441.4e0a8ac2@posting.google.com...
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBACE58.9080905@ieee.org>...
> > Richard Harrison wrote:
> > > At the open end of a 1/4-wave lossless shorted stub, the current is
> > > zero. That is a very high impedance indeed.
> >
> > That's the net current, Richard, the sum of two waves traveling in
> > opposite directions. The forward current flowing into the stub is
> > still one amp. The reflected current flowing out of the stub is still
> > one amp. No reflections happen at the mouth of the stub. All of the
> > reflections happen at the open end of the stub.
> >
>
> Absolutely wrong Cecil. There is an initial current flow into the
> 1/4 shorted stub, but once it has been charged and the current is
> oscillating in
> it, and it is in steady-state, there is very little current that flows
> into the stub.

>
>
> > > Well, we don`t need no stinkin` wave interferences to confound
> our
> > > explanations of transmission line occurrences.
> >
> > It's not confounding, it is understanding. The forward current is one
> > amp all up and down the stub. The reflected current is one amp all up
> > and down the stub. If you don't believe that, all you have to do is
> > measure it.
>
>
> This is absolutely incorrect, the current at any one point is
> different depending on where you measure it (in a system with standing
> waves).
>
> The only time the RMS current and voltages would always be the
> same no matter where on the transmission line you looked, would be in
> a perfectly matched system with NO REFLECTIONS.
>
>
> It's obvious that you feel you can "win" net arguments by brute
> force, always getting the last argument in. Well, i don't respect
> people who do this (admittedly, sometimes it's me!), and after a
> while, i learn whose typing is worth my time to read, and whose is
> not.
> You, Cecil, are frustating because it doesn't seem like you read
> what other people have to say, or you never really consider their
> point. You are a bad communicator, and wish only to output ideas but
> never input them.
>
> I have more respect for people who make sense and reason in their
> messages, and don't have to post that often to make their point.
>
>
> Slick

3000. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:11:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8ddobvoavs8bh1it1p0ed6dcrgn3rcu0b5@4ax.com>
Source record: 118552

On Fri, 09 May 2003 17:54:44 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>P.S. I recently admitted making a mistake during a senior moment.

Problem is you've had many such moments, and this but another.

From one who discovered that aforementioned senior moment
Richard Clark, KB7QHC

3001. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:12:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kgdobvg4mpu4hos89vsd109eik75mmt5ai@4ax.com>
Source record: 118553

On Fri, 09 May 2003 23:04:12 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>
>I still don't know how you handle the feed. Do you choke it? With
>what?
>
Not all BalUns are chokes.

73's
Richard Clark, KB7QHC

3002. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:18:24 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305091518.da57488@posting.google.com>
Source record: 118554

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB9DF14.8050407@ieee.org>...
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EB94B89.3070107@ieee.org>...
> >
> >>Dr. Slick wrote:
> >>
> >>> Richard and i are saying that no current is flowing INTO the
> >>>stub, which is not to say that current doesn't flow WITHIN the shorted
> >>>stub itself, which does happen.
> >>
> >>You guys have been brain-washed into believing your model dictates reality.
> >>Consider the following system driven by a signal generator equipped with
> >>a circulator+load, designated by SGCL.
> >>
> >>100w SGCL-+---1/4WL feedline--+--1/4WL feedline--+--1/4WL feedline--open
> >>
> >>You are trying to tell me that no current flows at any of the '+' points.
> >>Please explain why the circulator load resistor is dissipating almost 100w.
> >>
> > But NO current flows through the cap at all!
>
> There's no caps in the above diagram so I don't see how caps are relevant.
>

My point is that you don't need a "net" current flowing through a
point to transfer power through that point.

> The point is you can only say the NET current is zero at the middle '+'
> in the diagram above. If the feedline is 50 ohms, the forward current is
> a *constant* 1.414 amps all up and down the feedline. So is the reflected
> current. 100w is being dissipated in the circulator load resistor.
>

If the NET current is zero, that's all we care about, right?

So in essense, you agree with us that the net current is zero into
a 1/4 wave shorted stub, it's just that you insist that this is a
superposition of forward and reflected. Maybe we agree?

Slick

3003. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:19:55 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbodta8v0m8me1@corp.supernews.com>
Source record: 118556

as 1/4 => 3/4 , loss => loss x 6 so Q => Q/6
just a guess
73
H.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9hbfm$de6$1@hercules.btinternet.com...
> It's a practical question but just for entertainment -
>
> Given R,L,C & G per unit length and operating frequency of a transmission
> line calculate -
>
> Q of a short-circuited 1/4-wavelength ?
>
> Q of a short-circuited 3/4-wavelength ?
>
> What's the relationship between the two Q's ?
>
> But first have a guess !
> ---
> Reg.
>
>
>

3004. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:22:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC383B.18D262C4@uci.edu>
Source record: 118555

OC_CAM's Razor wrote:
> The true statement is: The magnitude of destructive interference is *NOT*
> zero, (it is -2SQRT(I1*I2)), and the magnitude of constructive interference
> when I1=I2 is *NOT* equal to 4*I1, (it is equal to +2SQRT(I1*I2), which
> is straight from Hecht's "Optics" (to which you offer lip service.)

You haven't said enough times to make it come true yet. Funny you think
there's such a thing as a negative intensity.

Have fun tryin' to sell that one somewhere.

GL OM es 73 de AC6XG

> P.S. I recently admitted making a mistake during a senior moment.

You need to do that more often.

3005. 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:28:22 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305091528.7d1e52f2@posting.google.com>
Source record: 118557

Hello,

I'd like a broadcast band 88-108 MHz antenna, with at least the
gain of a 5/8ths, that can handle 300 watts.

Here's a folded-dipole from Broadcast Warehouse:

http://www.broadcastwarehouse.com/p?pid=107

I'm not sure about this one, though, as the gain is 0 dBd, and
it's broadband, which would lead me to believe that you sacrifice gain
for the lower "Q".

Any affordable commercial grade broadcast antennas?

Any suggestions? Homemade schematics, etc.??

Dr. Slick

3006. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:36:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC3B72.5000600@ieee.org>
Source record: 118558

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:

> Absolutely wrong Cecil. There is an initial current flow into the
> 1/4 shorted stub, but once it has been charged and the current is
> oscillating in > it, and it is in steady-state, there is very little
> current that flows into the stub.

Heh, heh. One more person seduced by the steady-state mashed-potatoes-model.
Here's the circuit. A directional wattmeter reads the same thing all up and
down the transmission line which tells us that the current is the same
all up and down the transmission line, does it not? The source is a signal
generator equipped with a circulator+load (SGCL) so it doesn't fold back
and doesn't reflect anything.

I'm begging you to follow this discussion to see where it leads for you.

100w SGCL--------random-feedline-------+---1/4WL same feedline--short

Do you really believe that my act of putting an ASCII '+' on a diagram
on a posting to r.r.a.a is going to change reality? This is just a random
length of feedline. Nothing special happens at the '+' point. The forward
current just keeps on flowing. The reflected current just keeps on flowing.
After all, exactly what exists at that point on the feedline to change
anything? Put on your thinking cap. The only reflections in the entire
system occurs at the short!!! Do you disagree? Remember, there is no
real break of any kind at the '+' point. I just drew it on the diagram.

> This is absolutely incorrect, the current at any one point is
> different depending on where you measure it (in a system with standing
> waves).

You're talking about the ***NET*** current. I am talking about the forward
and reflected currents - BIG DIFFERENCE!!!!!!!! Don't you know that the
current in a series circuit cannot change?

> The only time the RMS current and voltages would always be the
> same no matter where on the transmission line you looked, would be in
> a perfectly matched system with NO REFLECTIONS.

Give me an ever-loving break. Current CANNOT change value in a series
circuit with no losses. Current in a series circuit with no losses is
constant in that current's closed loop. EE 101.

> It's obvious that you feel you can "win" net arguments by brute
> force, always getting the last argument in.

Absolutely not true. I simply am water wearing away a rock. I'm just
persistent. If you prove me wrong on any point, I will readily admit it.
You task is to prove me wrong.

> You are a bad communicator, and wish only to output ideas but
> never input them.

I apologize for being a bad communicator. I hope you will not hold that
against me. I am in the upper 1/2 of 1% of intelligence and assume that
everyone else is there also, probably a bad assumption, eh? :-)

> I have more respect for people who make sense and reason in their
> messages, and don't have to post that often to make their point.

Gallieo posted often. :-) I am un-married and taking care of my elderly
kinfolk in a town that doesn't sell beer. If that doesn't explain my
frequent postings, I will explain farther. :-) Please try to understand
what I am saying.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3007. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:41:29 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-97AF81.18412909052003@hermes-ge0.rdc-kc.rr.com>
Source record: 118559
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <3ebc2d11@snipnews.snip.net>,
"Ole King Cat" <bovordde333@yahoo.com> wrote:

> "Max" <ts850_guy@cogeco.ca> wrote in message
> news:_OMua.8239$ER4.774529@news20.bellglobal.com...
>
> > Plenty of Toyota taxi cabs in my city. Who exactly were you talking to at
> > Toyota? Doesn't sound to me like they have a clue what they are talking
> > about.
>
> It's right in Toyota and Subaru Owner's Manuals in "black-and-white".
>
> Says all extended warranties will be VOID if a "RF Emitter"
> of greater than *10 watts output* is installed in their vehicles.
> Better save that old low RF power vintage Yaesu FT-723R
> Memorizer! (it's rated at 10 Watts)
>
>

Better not buy a Toy-ota.

--
email: dalej2@mac.com

3008. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:42:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t6fobv85ud4225gt9rnqs1s3htv0klfcto@4ax.com>
Source record: 118560

On Fri, 09 May 2003 18:36:18 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>I'm begging you to follow this discussion to see where it leads for you.

Another appeal for acolyte grinding for baloney fill.

3009. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:54:11 UTC
From: "Bob M." <no@nospam.com>
Message-ID: <DcXua.830721$S_4.836621@rwcrnsc53>
Source record: 118561
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

It said -extended- warranties, not the standard, from-the-factory warranty.

Extended warranties are a waste of money anyhow.

"Ole King Cat" <bovordde333@yahoo.com> wrote in message
news:3ebc2d11@snipnews.snip.net...
>
> "Max" <ts850_guy@cogeco.ca> wrote in message
> news:_OMua.8239$ER4.774529@news20.bellglobal.com...
>
> > Plenty of Toyota taxi cabs in my city. Who exactly were you talking to
at
> > Toyota? Doesn't sound to me like they have a clue what they are talking
> > about.
>
> It's right in Toyota and Subaru Owner's Manuals in "black-and-white".
>
> Says all extended warranties will be VOID if a "RF Emitter"
> of greater than *10 watts output* is installed in their vehicles.
> Better save that old low RF power vintage Yaesu FT-723R
> Memorizer! (it's rated at 10 Watts)
>
>

3010. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-09 23:54:30 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbofu9kfp4c2ff@corp.supernews.com>
Source record: 118562

100w SGCL--------random-feedline-------+---1/4WL same feedline--short
equals
100w SGCL--------random-feedline-------+open
for a lossless stub
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBC3B72.5000600@ieee.org...
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>
> > Absolutely wrong Cecil. There is an initial current flow into the
> > 1/4 shorted stub, but once it has been charged and the current is
> > oscillating in > it, and it is in steady-state, there is very little
> > current that flows into the stub.
>
> Heh, heh. One more person seduced by the steady-state
mashed-potatoes-model.
> Here's the circuit. A directional wattmeter reads the same thing all up
and
> down the transmission line which tells us that the current is the same
> all up and down the transmission line, does it not? The source is a signal
> generator equipped with a circulator+load (SGCL) so it doesn't fold back
> and doesn't reflect anything.
>
> I'm begging you to follow this discussion to see where it leads for you.
>
> 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
>
> Do you really believe that my act of putting an ASCII '+' on a diagram
> on a posting to r.r.a.a is going to change reality? This is just a random
> length of feedline. Nothing special happens at the '+' point. The forward
> current just keeps on flowing. The reflected current just keeps on
flowing.
> After all, exactly what exists at that point on the feedline to change
> anything? Put on your thinking cap. The only reflections in the entire
> system occurs at the short!!! Do you disagree? Remember, there is no
> *real* break of any kind at the '+' point. I just drew it on the diagram.
>
> > This is absolutely incorrect, the current at any one point is
> > different depending on where you measure it (in a system with standing
> > waves).
>

> You're talking about the ***NET*** current. I am talking about the forward
> and reflected currents - BIG DIFFERENCE!!!!!!!! Don't you know that the
> current in a series circuit cannot change?
>
> > The only time the RMS current and voltages would always be the
> > same no matter where on the transmission line you looked, would be in
> > a perfectly matched system with NO REFLECTIONS.
>
> Give me an ever-loving break. Current CANNOT change value in a series
> circuit with no losses. Current in a series circuit with no losses is
> constant in that current's closed loop. EE 101.
>
> > It's obvious that you feel you can "win" net arguments by brute
> > force, always getting the last argument in.
>
> Absolutely not true. I simply am water wearing away a rock. I'm just
> persistent. If you prove me wrong on any point, I will readily admit it.
> You task is to prove me wrong.
>
> > You are a bad communicator, and wish only to output ideas but
> > never input them.
>
> I apologize for being a bad communicator. I hope you will not hold that
> against me. I am in the upper 1/2 of 1% of intelligence and assume that
> everyone else is there also, probably a bad assumption, eh? :-)
>
> > I have more respect for people who make sense and reason in their
> > messages, and don't have to post that often to make their point.
>
> Gallieo posted often. :-) I am un-married and taking care of my elderly
> kinfolk in a town that doesn't sell beer. If that doesn't explain my
> frequent postings, I will explain farther. :-) Please try to understand
> what I am saying.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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3011. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:01:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC4143.5050808@ieee.org>
Source record: 118563

Jim Kelley wrote:
> The equation is (I1 + I2) + 2*SQRT(I1+I2)*cos theta, so for theta = 180,
> it's (I1 + I2) - 2*SQRT(I1 + I2).

Well then, let's see. If I1 = I2 then that expression equals
2*I1 - 2*SQRT(2*I1) = zero??????????????????????

That certainly doesn't equal zero under all conditions as you previously
asserted. What the heck is wrong with your head, amigo? Sober up and try
again.

> And will ya quit with the interference/irrandiance bit already?.

So are you defending this statement of yours?

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

That is wrong, wrong, wrong, Jim. The exact opposite of that statement
is true. When the destructive interference is zero, the constructive
interference is also zero. How can you defend an indefensible position?
In the absence of additional energy, the destructive interference is
always equal to the constructive interference. You are crashing and
burning, my friend. You have been doing that ever since you got back
from Hawaii. (You can't say I didn't warn you.) You seem to be on the
verge of a nervous breakdown. I sympathize but that doesn't modify
the truth. If there's anything I can do, short of compromising the
truth, please let me know.
--
73, Cecil http://www.qsl.net/w5dxp

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3012. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:07:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC42D3.2090903@ieee.org>
Source record: 118564

Richard Clark wrote:
> What a maroon.

My, my, Richard. What an absolutely astute technical statement. What in the world would rraa do without such technical enlightenment?

I ask again. Do you agree with this statement of Jim's? It's a simple yes/no question. Your refusal to answer has spoken magnitudes so far.

> Jim said:
>> The magnitude of destructive interference is zero, and the magnitude of
>> constructive interference when I1 = I2 is equal to 4*I1.
--
73, Cecil http://www.qsl.net/w5dxp

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3013. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:14:53 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC447D.4050808@ieee.org>
Source record: 118565

Dr. Slick wrote:
> With NO current flowing at all at the max voltage points.

No "NET" current flowing. The forward and reflected current components continue to flow uninhibited. When the forward and reflected current components are out of phase, there exists a current minimum, equal to zero in a lossless line with an SWR equal to infinity. When the forward and reflected current components are in phase, there exists a current maximum. What could be simpler than that? Why is there any disagreement?
--
73, Cecil http://www.qsl.net/w5dxp

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3014. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:20:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC45C5.3050401@ieee.org>
Source record: 118567

H. Adam Stevens wrote:
> At resonance it's a big resistor.

Not exactly. That "resistor" is just a V/I ratio. A V/I ratio is NOT
a resistor. It is a lossless "resistance" so there is an infinite
difference. (Loss Vs lossless is an infinite difference)
--
73, Cecil http://www.qsl.net/w5dxp

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3015. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:22:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC4649.91453774@uci.edu>
Source record: 118566

I = I1+I2 + 2*SQRT(I1*I2)*cos theta

For I1 = I2 and theta = 180, I = 2*I1 - 2 * I1 = 0

NOT A NEGATIVE NUMBER!!!

I made a typo. Sorry. Now will you work the problem correctly?
If not, then don't bother to reply. Thank you.

ac6xg

3016. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:25:09 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC46E5.4090701@ieee.org>
Source record: 118568

Dr. Slick wrote:
> If the NET current is zero, that's all we care about, right?

:-) :-) :-) The NET current is zero ***only*** at a single point in
a 1/4WL transmission line with reflections. One point out of an infinite
number of points is hardly enough to win your argument. What is one
divided by infinity times 100. That is the percent of the time that
the NET current is zero. Calculus tells us that is zero percent. Do
you disagree?
--
73, Cecil http://www.qsl.net/w5dxp

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3017. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:34:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC4923.6000702@ieee.org>
Source record: 118469

Jim Kelley wrote:
> You haven't said enough times to make it come true yet. Funny you think
> there's such a thing as a negative intensity.

Prove that you are correct by re-posting any posting of mine that
asserted that there is such a thing as negative intensity. If you
can't do that, Jim, I am calling you a liar in public.

Jim, a real man would admit when he makes a mistake. Your following
statement is obviously a mistake. Too bad you are not man enough to
admit it.

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.
--
73, Cecil http://www.qsl.net/w5dxp

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3018. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:48:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC4C58.8030704@ieee.org>
Source record: 118470

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>I'm begging you to follow this discussion to see where it leads for you.
>
> Another appeal for acolyte grinding for baloney fill.

Exactly which truth are you afraid of, Richard? Why don't you just technically debunk what I am saying instead of harping and carping. Your technical input is apparent in the extreme by its absence. You still haven't answered the question: Do you agree with Jim's following statement?

>> The magnitude of destructive interference is zero, and the magnitude of
>> constructive interference when I1 = I2 is equal to 4*I1.

Why do you side with the irrational argument?
--
73, Cecil http://www.qsl.net/w5dxp

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3019. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 00:51:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC4D20.8000804@ieee.org>
Source record: 118471

H. Adam Stevens wrote:
> 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> equals
> 100w SGCL--------random-feedline-------+open
> for a lossless stub

Identical? Of course not! Measure the SWR with a directional wattmeter in the 1/4WL feedline in the first example and measure the SWR in the empty space of the second example. Is there any difference? Please don't say "yes".
--
73, Cecil http://www.qsl.net/w5dxp

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3020. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:01:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBC4F57.1000109@ieee.org>
Source record: 118472

Jim Kelley wrote:
> I = I1+I2 + 2*SQRT(I1*I2)*cos theta
>
> For I1 = I2 and theta = 180, I = 2*I1 - 2 * I1 = 0
>
> NOT A NEGATIVE NUMBER!!!
>
> I made a typo. Sorry. Now will you work the problem correctly?
> If not, then don't bother to reply. Thank you.

Typo's are freely forgiven, Jim. I make a lot of them. But this
quotation of yours cannot possibly be a typo. When are you going
to remedy this error?

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

If the magnitude of destructive interference is zero, then the magnitude
of constructive interference has to be zero, by definition. You cannot have
different values unless there is an extra power source somewhere. You are not
authorized by God to violate the conservation of energy principle. Get it?
--
73, Cecil http://www.qsl.net/w5dxp

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3021. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:26:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC5533.F3C5C331@uci.edu>
Source record: 118475

```
cos theta = 1, I1=I2
I=2*I1 + 2*I1= 4*I1

cos theta = -1, I1=I2
I=2*I1 - 2*I1 = 0

How hard ya been hittin' that bottle, there Cec?

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > I = I1+I2 + 2*SQRT(I1*I2)*cos theta
> >
> > For I1 = I2 and theta = 180, I = 2*I1 - 2 * I1 = 0
> >
> > NOT A NEGATIVE NUMBER!!!
> >
> > I made a typo. Sorry. Now will you work the problem correctly?
> > If not, then don't bother to reply. Thank you.
>
> Typo's are freely forgiven, Jim. I make a lot of them. But this
> quotation of yours cannot possibly be a typo. When are you going
> to remedy this error?
>
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.
>
> If the magnitude of destructive interference is zero, then the magnitude
> of constructive interference has to be zero, by definition. You cannot have
> different values unless there is an extra power source somewhere. You are not
> authorized by God to violate the conservation of energy principle. Get it?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
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```

3022. Re: Using Versa Tuner II

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:26:20 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <oqYua.51889$xf.16238@fe01.atl2.webusenet.com>
Source record: 118473

'Corse, the ones I used were for the Railroad-- Roads rougher than a Corncobb! And even in
a Proper case, with the Element in CENTER position (element arrow straight up to dampen the meter, not in EITHER DIRECTION) ! Er- THINGS happen!! Like crud, blocking the dampening action of a dead short across the meter contacts.! Tho lot of folks have the luxury of not haveing to transport their test equipment (Old Bell Telephone was one, each site had its own Full Set of test equipment (had some of their equipment, even after 20 years, looked like NEW!)), lots of techs had to transport their stuff where ever they went! and, some of the sites had little, if NO road to transport this stuff over (can show you some here in Nevada, you wouldnt take your 4-runner on! Jim NN7K

"Bob Miller" wrote:
> I guess I've been lucky. I've had two different Bird 43s, and neither
> one has ever stuck or malfunctioned, that I was aware of.
>
> I can even vouch for the much-cussed cross-needle meter on my mfj989c.
> Works fine, far as I can see.
>
> Bob
> k5qwg
>

3023. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:32:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBC56B5.63A46157@uci.edu>
Source record: 118474

Oh yeah, and just for grins, set I1 equal to say, maybe.... 25? :-)

Jim Kelley wrote:
>
> cos theta = 1, I1=I2
> I=2*I1 + 2*I1= 4*I1
>
> cos theta = -1, I1=I2
> I=2*I1 - 2*I1 = 0
>
> How hard ya been hittin' that bottle, there Cec?
>
> OC_CAM's Razor wrote:
> >
> > Jim Kelley wrote:
> > > I = I1+I2 + 2*SQRT(I1*I2)*cos theta
> > >
> > > For I1 = I2 and theta = 180, I = 2*I1 - 2 * I1 = 0
> > >
> > > NOT A NEGATIVE NUMBER!!!
> > >
> > > I made a typo. Sorry. Now will you work the problem correctly?
> > > If not, then don't bother to reply. Thank you.
> >
> > Typo's are freely forgiven, Jim. I make a lot of them. But this
> > quotation of yours cannot possibly be a typo. When are you going
> > to remedy this error?
> >
> > > The magnitude of destructive interference is zero, and the magnitude of
> > > constructive interference when I1 = I2 is equal to 4*I1.
> >
> > If the magnitude of destructive interference is zero, then the magnitude
> > of constructive interference has to be zero, by definition. You cannot have
> > different values unless there is an extra power source somewhere. You are not
> > authorized by God to violate the conservation of energy principle. Get it?
> > --
> > 73, Cecil http://www.qsl.net/w5dxp
> >
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3024. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:36:18 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBC575A.5070800@attbi.com>
Source record: 118476
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

The exact language will be interesting to read.

My Icom 706 MKIIg is installed in my vehicle[s][Ford Ranger or Chrysler
LHS]. But it is NOT an 'RF Emitter' IN the vehicle! ... The RF emitter
is the antenna and that is located outside the vehicle!!

What is the exact wording? Read it like a lawyer!!

Deacon Dave, W1MCE
+ + +

Ole King Cat wrote:
> "Max" <ts850_guy@cogeco.ca> wrote in message
> news:_OMua.8239$ER4.774529@news20.bellglobal.com...
>
>
>>Plenty of Toyota taxi cabs in my city. Who exactly were you talking to at
>>Toyota? Doesn't sound to me like they have a clue what they are talking
>>about.
>
>
> It's right in Toyota and Subaru Owner's Manuals in "black-and-white".
>
> Says all extended warranties will be VOID if a "RF Emitter"
> of greater than *10 watts output* is installed in their vehicles.
> Better save that old low RF power vintage Yaesu FT-723R
> Memorizer! (it's rated at 10 Watts)
>
>

3025. Re: Lightning Arrester

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 01:53:22 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <FPYua.51984$xf.19202@fe01.atl2.webusenet.com>
Source record: 118477

Consider this: most of these discharge tubes are the same ones that are used for cable protectors (Telco). and, if they have been "hit" (even near miss's), the glass surrounding them gets darkened. When in doubt replace them- they are a cheap insurance policy! However, IF you wish to test them , Note the Color on the end -You will have to remove the gas tube, dissassemble them to get to the tub, or assume the following rateings (Orange is 300 volt, Red, 200 volt) , trick being to use a TRANSFORMER, AND a current limiting resistor. Use something to limit current flow to , maybe 2 Ma's, and then apply your voltage across the protector , thru the resistor and a milliampmeter - DC! at , 200 volts, or 300 volts, if you see current start to flow, than you may assume that it's good., as the voltage is below that flash voltage, and no current flowed. But when in SERIOUS doubt (like a near hit, spend the 10 bux! its cheap insurance for a 1-2 KILOBUCK radio/amp !!! btw, the Alpha =Delta version, at least uses these, the 300 volters are the ones in the KW units, the 200 Volters in the regular units. -these gas discharge protectors replaced the old telco Carbon protectors, but if you should try to use carbons-- after they short, they are easily cleaned-- simply scrape the surface of both the carbon block, AND the ceramic surrounding carbon button, until the surface is free of pits, and then reassemble! ---- Jim NN7K
"ray gaschk" <rgaschk@ca.astound.net> wrote in message
news:b9h57a$1sp$1@news.astound.net...
> Kevin,
> If it's still intact with no evidence of arcing, it is good. The only one
> that I have ever seen after exposure, looked like the contacts had been
> manhandled by a large welding machine.
>
> ray,w6fya
> "Kevin Smeltz" <ksmeltz@rogers.com> wrote in message
> news:onNua.120983$M81.48046@news02.bloor.is.net.cable.rogers.com...
> > I just bought a Cushcraft LAC4 gas tube lightning arrester with
> replaceable
> > gas cartridge. How do I know if I have to change the cartridge?
> >
> >
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.476 / Virus Database: 273 - Release Date: 4/24/03
>
>

3026. Tmatch rather than gamma match

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 02:09:00 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EBC5F27.2090205@tampabay.rr.com>
Source record: 118480

hey guys
i picked up a cushcraft 617-6B 6 ele yagi on a 34 foot boom and i am not able to use it in its current configuration so i was thinking of cutting the boom down to the size of the A50S-6 which is a 6 ele yagi on a 20 foot boom
what i need to know is what spacing and element lenght differnce will there be by using the Tmatch that came with the 617-6 rather than the gamma match that the A50S-6 has on it
let me know what you think
thanks

3027. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 02:16:46 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9hned$f$1@hercules.btinternet.com>
Source record: 118478

"H. Adam Stevens" says

as 1/4 => 3/4 , loss => loss x 6 so Q => Q/6

Just a guess.

==========

H., you are a brave guesser. Let's see what the other 'experts' have to say
before doing some sums. No hurry. No prizes,

Reg

3028. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 02:24:38 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <0hZua.52148$xf.1762@fe01.atl2.webusenet.com>
Source record: 118479

Pardon me for butting into everyones fun, BUT if memory serves me correctly, the R7000 series has a network, to feed a kind of COUNTERPOISE, in its feed system (4 radials, if memory serves me , thru a torid transformer, or something like that. While as stated, at a lower frequency, 80 meters will just go thru the traps (non- resonant circuits), JUST WHAT will happen to the COUNTER-POISE portion's effeciency of the feed (and similar problem with a couple of mfj's feeds) ???? As these counterpoise elements are quite short (one I saw was under 8 feet), to get SOME effeciency from this, should you run a:) couple counterpoise's about 75 feet in length to hit the portion that the short counter poise elements?, b:) Remove the counterpoise elements, and torid and, run counter poise elements for EACH BAND? , or c:) just do as recomended above? or D): anyone with a better solution?? this why never bought that %&*(@!~ antenna in first place, want 80 (and possibley 160), BUT with SOME effeciency!! Jim NN7K

"Dave Sent:>
>
> OC_CAM's Razor wrote:
> > Dave Shrader wrote:
> >
> >> Easy!!
> >> Step #1 Tune antenna system with vy low power <QRP levels for VSWR
> >> = 1:1.
> >
> >
> > My antenna system is non-resonant. The Pi-net in the amplifier
> > is used to match that non-resonant impedance value.
> >
> >> Step #2 Switch to dummy load
> >
> >
> > A dummy load is nowhere near the non-resonant impedance of my
> > antenna system.
> >
> >> Step #3 Tune your rig AND SB-101 into the dummy load!
> >
> >
> > Then it will be untuned when I switch to my non-resonant antenna.
> >
> >> Step #4 Flip the antenna switch back to the tuned antenna
> >
> >
> > The antenna is not tuned.

> >
> >> Step #5 VOILA!! U R Tuned!!!
> >
> >
> > Ploink! The amp blew up. Please try again. :-)
> > --
> > 73, Cecil, W5DXP
> >
> Ah Cecil! You need to upgrade your station <grin>!
>
> My antenna is also non resonant! [REALLY]. It's maximum VSWR for all
> frequencies between 13.5 and 33 MHz is less than 1.7:1 with NO loading
> coils, traps or B&W Resistors. But a tuner is used to set the input Z to
> the transmission line in the station to 50 ohms.
>
> I use the PI-L network in my amplifier to load the amplifier into 50
> ohms [dummy load] Also, the tuning network in the amplifier is optimized
> for linearity and minimal 3rd Order products when working into 50 ohms.
> Then just switch loads <grin>.
>
> So, in MY redesign of your NEW STATION I'll add a good Dummy Load
> [Bird], a good Antenna Tuner, a good Coax Switch, plus the incidentals
> of a transceiver and an 'OLD' SB-101.
>
> Moral [being a preacher I must deliver the moral of the story]: build a
> 50 ohm antenna "SYSTEM" and load your amplifier into 50 ohms off the
> air. It works ;-)
>
> Deacon Dave, W1MCE
>

3029. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 03:24:54 UTC
From: jsn35 <28@47.com>
Message-ID: <5i_ua.2565$hE4.243@newsfep1-gui.server.ntli.net>
Source record: 118481

Hello,

What do you mean by "Q" ?

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305091528.7d1e52f2@posting.google.com...
> Hello,
>
> I'd like a broadcast band 88-108 MHz antenna, with at least the
> gain of a 5/8ths, that can handle 300 watts.
>
> Here's a folded-dipole from Broadcast Warehouse:
>
> http://www.broadcastwarehouse.com/p?pid=107
>
>
> I'm not sure about this one, though, as the gain is 0 dBd, and
> it's broadband, which would lead me to believe that you sacrifice gain
> for the lower "Q".
>
> Any affordable commercial grade broadcast antennas?
>
> Any suggestions? Homemade schematics, etc.??
>
>
> Dr. Slick

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.478 / Virus Database: 275 - Release Date: 07/05/2003

3030. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 03:39:18 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebc756e_4@news1.prserv.net>
Source record: 118482

www.antennasystems.com
www.dielectric.com
www.broadcast.harris.com
www.shively.com
www.omb.com
www.psibroadcast.com

for starters.

--
Crazy George
Remove NO and SPAM from return address
"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305091528.7d1e52f2@posting.google.com...
> Hello,
>
> I'd like a broadcast band 88-108 MHz antenna, with at least the
> gain of a 5/8ths, that can handle 300 watts.
>
> Here's a folded-dipole from Broadcast Warehouse:
>
> http://www.broadcastwarehouse.com/p?pid=107
>
>
> I'm not sure about this one, though, as the gain is 0 dBd, and
> it's broadband, which would lead me to believe that you sacrifice gain
> for the lower "Q".
>
> Any affordable commercial grade broadcast antennas?
>
> Any suggestions? Homemade schematics, etc.??
>
>
> Dr. Slick

3031. FA FA homebrew bal out put tuner kit ready to build

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 03:42:17 UTC
From: kf4toh@aol.com
Message-ID: <20030509234217.07002.00000108@mb-m11.aol.com>
Source record: 118483

if interested please check it out
joe kf4toh

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=4675&item=3023565179

3032. Re: Tmatch rather than gamma match

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 04:27:51 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305092027.16866de2@posting.google.com>
Source record: 118484

Dennis Kaylor <k4oxg@tampabay.rr.com> wrote in message
news:<3EBC5F27.2090205@tampabay.rr.com>...
> hey guys
> i picked up a cushcraft 617-6B 6 ele yagi on a 34 foot boom and i am not
> able to use it in its current configuration so i was thinking of cutting
> the boom down to the size of the A50S-6 which is a 6 ele yagi on a 20
> foot boom
> what i need to know is what spacing and element lenght differnce will
> there be by using the Tmatch that came with the 617-6 rather than the
> gamma match that the A50S-6 has on it
> let me know what you think
> thanks

The element spacing and lengths are cut to formula regardless of the
type of matching device used. You can use either type with no changes
to the antenna dimensions. You never want to alter or use the
dimensions of a beam to try to get a better match, unless the spacing
and lengths were designed to provide a 50 ohm feedpoint impedance in
the first place. Some are, but most are not. Most yagi's designed for
the highest performance will give you a lower feed impedance than 50
ohms and need a matching device. In such a case, cut the antenna
exactly to plan for the appx gain and f/b ratio you want, and adjust
the matching device as the last step. A beam with a true 50 ohm
impedance as designed only needs a 1:1 balun or choke. My cushcraft
A4S is one such animal. It uses no matching device.
But my 6 and 2 meter yagi's do. Both have gamma matches. MK

3033. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 04:29:23 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBC8023.A891CD70@cwis.net>
Source record: 118485

"Dr. Slick",
Just out of curiosity, why do you need one?
'Doc

3034. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 04:36:03 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBC81B3.2F52C1B7@cwis.net>
Source record: 118486

Tom,
When you said, "It seems that if the configuration works as
(was) claimed, it would be very useful in services other than
just MF and LF broadcasting.", you pretty well answered your
own question...
'Doc

3035. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 04:45:10 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBC83D6.5DAAA2B1@cwis.net>
Source record: 118487

Carl,
They must have changed insurance carriers. The
last time I checked, no antennas were covered, didn't
have a tower, so didn't bother asking.
'Doc

3036. Re: Homebrew "Bug Catcher" Advise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 05:03:23 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305092103.2cdcd3bd@posting.google.com>
Source record: 118488

"FlyCaster" <+++NOSPAM+++kenwells@kiva.net> wrote in message
news:<ARTua.23210$VP.3077119@twister.neo.rr.com>...
> Hello all,
> I was given a Hustler mobile antenna and several coils. They work OK, but I
> am thinking of winding my own mini-bugcatcher using 1 1/2 inch PVC Schedule
> 40 and pipe caps.
>
> I have a 31" whip for the top section. I am planning on using about 4" of
> coil (If that is enough) to use on 20-10 meters. I have a 40 meter Hustler
> coil.
>
> The Question: I have seen various arrangements on the coil and have heard
> discussion about "autotransformer " effects of shorted turns on a tapped
> coil.
> Some homebrew antenna coils connect the jumper to the bottom of the coil
> (which is also connected to the mast) ..Others leave the bottom of the coil
> floating and use the jumper to pick the tap on the coil (the unused section
> of the coil is not connected to anything). Still others connect the bottom
> of the coil to the mast, and leave the whip floating and tap from the top
> whip to the coil, leaving the top unused section of the coil unconnected.
>
> Which way is preferable, and which is most efficient? Does it make any
> difference if the bottom of the coil is connected to the mast or not? Do
> floating, unused turns have the same effect as shorted turns on the coil?
>
> What do you think?
>
> Thanks....

I've tried leaving the bottom floating, and bottom connected. I think
there was a slight difference, but it's not really enough to worry
about. My present antenna is a home made "plastic" bugcatcher made
from an old 6 ft ham stick, and a 5 ft stinger whip. I mounted the
coil just below the top of the stick at about 5 ft 4 inches above the
base. So the antenna is almost exactly center fed. My present coil
tunes 80,40,30,20,17 meters with that 5 ft whip. I have to use shorter
whips for 12 and 10. I leave the coil connected at both ends, and I
run the jumper from the base of the coil to the tap I want to use on
the side of the coil. I have taps pre set for each band. 80 meters has
3 taps. I've also run the coils with no taps at all. There is a
difference, but it's really fairly small and not really worth worrying
about unless you are trying to win a shootoff or something. In the
real world, I can hardly tell the difference either way on the air. On
80m, I using most of the turns. The taps are right at the bottom just

to give me a little tuning leeway. So any losses on that band should be unnoticeable. On the higher bands, it's still efficient enough that any small losses would be fairly unnoticable. The coil is totally bypassed on 12 and 10. I'm running a full 1/4 wave on those two bands. BTW, PVC is heavy. My present coil is wound on a thin plastic tube. It's strong, but much thinner and lighter than PVC. It's about 3 inches dia. I used two plastic peanut butter jar caps painted black as the end caps. They were a perfect fit. I'll have to take a picture of this thing some day. I don't have a digi camera though. It sort of looks like an antenna you would see on a tank. All black, with the coil pretty high up above the roofline. It weighs about the same as an average saltwater rod and reel. About as flexible too. I add a 3 ft solid mast to the base if I'm parked, to put the coil 8 ft up. "13 ft total" MK

3037. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 05:20:16 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <k_%ua.797343$F1.100246@sccrnsc04>
Source record: 118489

In 1997, I bought 20 acres with some tall trees on it. I found
the trees were more trouble than they were worth for antennas
and put up verticals and inverted vees using irrigation tubing
as documented on my web site www.n6rk.com. You can scrounge
the irrigation tubing for little money or possibly free. Guy it
with baler twine at 1/3 cent per foot and the only money you
need to spend is on coax. Since there are 8 bands from 80-10,
you'll want to use multiple antennas. Perhaps one pole with
40, 20 and 10 meter inverted vees, with the 40 meter vee working
on 15 as well. Another with 30, 17 and 12 inverted vees. A 3rd
pole is an 80 meter vertical. 60 foot poles are a snap to build.

Rick N6RK

"Joel" <joel@cyberbest.com> wrote in message
news:JzEua.421$cX3.123115573@twister1.starband.net...
> If you lived in the country with a lot of land and trees and a very
limited
> budget. What antenna would you put up to cover 80-10 meters to the legal
> limit? I was thinking about a Carolina Windom, but don't like the idea of
> the feed line radiating. Anyway, I'm sort of fishing here..
>
> Joel
>
>

3038. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 05:47:22 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305092147.3d0bf633@posting.google.com>
Source record: 118490

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC4D20.8000804@ieee.org>...
> H. Adam Stevens wrote:
> > 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> > equals
> > 100w SGCL--------random-feedline-------+open
> > for a lossless stub
>
> Identical? Of course not! Measure the SWR with a directional wattmeter
> in the 1/4WL feedline in the first example and measure the SWR in the
> empty space of the second example. Is there any difference? Please don't
> say "yes".

Adam is absolutely correct, Cecil. Please listen to reason!

You are silly to ask us to measure the SWR in "empty space", so i
will ignore this request as an attempt to save face in a lost
argument!

Thank you for the intelligent response, Mr. Stevens, brilliance
in simplicity. They are equal in a lossless system, and no ("NET")
current flows at the "+" on either diagram.

Slick

3039. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 06:02:39 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305092202.1d97252f@posting.google.com>
Source record: 118491

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC3B72.5000600@ieee.org>...
>
> 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
>
> Do you really believe that my act of putting an ASCII '+' on a diagram
> on a posting to r.r.a.a is going to change reality? This is just a random
> length of feedline. Nothing special happens at the '+' point. The forward
> current just keeps on flowing. The reflected current just keeps on flowing.
> After all, exactly what exists at that point on the feedline to change
> anything? Put on your thinking cap.

Put on YOUR thinking cap, Cecil. Mr. Stevens put it best:

100w SGCL--------random-feedline-------+---1/4WL same feedline--short
equals
100w SGCL--------random-feedline-------+open
for a lossless stub

>
> You're talking about the ***NET*** current. I am talking about the forward
> and reflected currents - BIG DIFFERENCE!!!!!!!! Don't you know that the
> current in a series circuit cannot change?
>

But we only care about "NET" current anyways! If a "net" current
is zero in a wire that is not hooked up to anything, are you going to
say that there is actually a forward and reflected current there that
actually you cannot measure?

> > The only time the RMS current and voltages would always be the
> > same no matter where on the transmission line you looked, would be in
> > a perfectly matched system with NO REFLECTIONS.
>
> Give me an ever-loving break. Current CANNOT change value in a series
> circuit with no losses. Current in a series circuit with no losses is
> constant in that current's closed loop. EE 101.
>

Give ME a break. I'm taking about AC currents measured at one
point, and you are talking about DC currents or something. I
understand Kirchoff's current laws very well. Basic Circuits 1.

>
> Absolutely not true. I simply am water wearing away a rock. I'm just
> persistent. If you prove me wrong on any point, I will readily admit it.

> You task is to prove me wrong.
>

Me and others have proven you wrong, and you will NEVER admit it!

> > You are a bad communicator, and wish only to output ideas but
> > never input them.
>
> I apologize for being a bad communicator. I hope you will not hold that
> against me. I am in the upper 1/2 of 1% of intelligence and assume that
> everyone else is there also, probably a bad assumption, eh? :-)
>

HA! Maybe you have that scale turned up-side-down?

But you at least you admit that you are a sh**ty communicator,
which i give you credit for. Because even if you are the most
brilliant person in the world, if you don't know how to put your ideas
into words, you will appear to be a complete idiot to the rest of the
world!!

You need to work on this, in my opinion. The smartest engineer
in the world would also be the dumbest if he can't communicate.

Slick

3040. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 06:27:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cr6pbv8v527ldat3bf31a3ov6ugr0266jo@4ax.com>
Source record: 118492

On Fri, 09 May 2003 19:07:47 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>> Jim said:
And this from someone who takes umbrage at having words put in his mouth? I can read what Jim has offered, that is, after all, the point of a newsgroup.

Frankly Cecil, you are the last one I would accept as a source of authority in reporting other's comments. As such, you will no doubt observe many such occasions of my disappointing your agenda.

73's
Richard Clark, KB7QHC

3041. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 06:36:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tb7pbvodpirfbs2idend6ka4aqo4as1u7v@4ax.com>
Source record: 118493

On Fri, 09 May 2003 19:34:43 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Jim, a real man would admit when he makes a mistake.

"His foot should stamp
and his throat should growl,
His hair should twirl and his face should scowl,
His eyes should flash and his breast protrude,
And this should be his customary attitude!"

73's
Richard Clark, KB7QHC

3042. homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 07:10:53 UTC
From: wess@gtii.com
Message-ID: <vbp9e1lkledpb3@corp.supernews.com>
Source record: 118494

I tried looking for info myself but keywords like build, antenna, mobile, mount turn up everything but what I want to find.

I bought a Comet UHV-4 which the instruction indicates uses an 'M' type connector. At first I thought they ment an 'N' but it isn't. Looks like a pl-259 to me and a so-239 screws into it.

Since I am mounting this on a pickup truck, I plan to use a stake pocket. I pulled out a tie down block that is a block of rubber that has a eye screw that expands block it to keep block in pocket. I am going to use this to hold down an aluminum plate that I mounted the so-239 to.

1. Is a so-239 the right item to make this thing from?

2. The body of the connector looks like diecast. Are there stronger/better so-239's or alternatives.

3. I assume I need to bond plate to box of truck via jumper for ground plane

4. Any better things to use.

73, Wes, KC8Spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

3043. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 07:41:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oi9pbv0ice1okmn3al34fcs9u88gfsgmrb@4ax.com>
Source record: 118495

On Fri, 09 May 2003 19:01:07 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>How can you defend an indefensible position?
By moving half a wave (of the total integrable 360 degrees) to observe one partial solution (one of 360, if done by 1 degree increments). This is a well known property of observing the so called conservation-of-energy in that the complete solution requires integration over the entire physical space of one wavelength. The complete solution, of course, is simply the sum total of the two (apparent) sources. Partial solutions occupy a continuum of 0 to twice the sum of the two (apparent) sources at a predictable value based on the trig relationship of angular displacement through that same cycle of 360 degrees.

However, this reveals the failure of an Optical metaphor (in the hands of an amateur). The Optics crowd easily works within the constraints of this integration as they are accustomed to working in 3-space. In transmission lines we are more used to the confines of a 2-space and including the necessary 3rd dimension to perform the sacred observance of conservation-of-energy is often forgotten, resulting in erroneous reports.

Hence, any argument confined to a transmission line that neglects to account for the complete cycle of interference is simply providing a partial solution at the cost of the True complete solution. A partial solution is not necessarily incorrect if the reporter acknowledges all constraints, but the enumeration of such constraints necessarily precludes that more correct general answer.

73's
Richard Clark, KB7QHC

3044. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 09:07:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBCC15E.8070003@ieee.org>
Source record: 118496

Jim Kelley wrote:
> cos theta = 1, I1=I2
> I=2*I1 + 2*I1= 4*I1
>
> cos theta = -1, I1=I2
> I=2*I1 - 2*I1 = 0
>
> How hard ya been hittin' that bottle, there Cec?

Apparently not nearly as hard as you. You wrote:

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

I is irradiance. I is NOT interference. Please try again. From "Optics"
by Hecht:

I = I1 + I2 + I12, the last term being known as the interference term.

I12 is the interference. I is the irradiance. Sorry about that.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3045. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 09:20:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBCC46F.5080902@ieee.org>
Source record: 118497

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC4D20.8000804@ieee.org>...
>
>>H. Adam Stevens wrote:
>>
>>>100w SGCL--------random-feedline-------+---1/4WL same feedline--short
>>>equals
>>>100w SGCL--------random-feedline-------+open
>>>for a lossless stub
>>
>>Identical? Of course not! Measure the SWR with a directional wattmeter
>>in the 1/4WL feedline in the first example and measure the SWR in the
>>empty space of the second example. Is there any difference? Please don't
>>say "yes".
>
> Adam is absolutely correct, Cecil. Please listen to reason!
>
> You are silly to ask us to measure the SWR in "empty space", so i
> will ignore this request as an attempt to save face in a lost
> argument!

No, you are silly to suggest that the two circuits above are identical.
There is absolutely nothing at the '+' point in the first diagram capable
of causing reflections.

> Thank you for the intelligent response, Mr. Stevens, brilliance
> in simplicity. They are equal in a lossless system, and no ("NET")
> current flows at the "+" on either diagram.

That's true. No "NET" current. But in the upper diagram, forward current
is flowing unobstructed into the 1/4WL stub and reflected current is
flowing unobstructed out of the 1/4WL stub. The forward current is
1.414 amps if Z0 is 50 ohms. The reflected current is 1.414 amps if
Z0 is 50 ohms. The current at the short is 2.414 amps. If you don't
believe it, simply go measure it.

The reason that the "NET" current at '+' is zero is that the forward
current of 1.414 amps is equal in magnitude and opposite in sign to
the reflected current of 1.414 amps. At point '+' in the first diagram,
the forward power is 100W and the reflected power is 100W.
--
73, Cecil http://www.qsl.net/w5dxp

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3046. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 09:38:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBCC887.6060006@ieee.org>
Source record: 118498

Dr. Slick wrote:
> But we only care about "NET" current anyways!

Nope, I don't care about "NET" current. All I care about is forward
and reflected current. That the forward and reflected current superpose
to zero every half wavelength is interesting but doesn't tell me anything
about SWR, maximum current, or losses in the stub.

> Give ME a break. I'm taking about AC currents measured at one
> point, and you are talking about DC currents or something.

Nope, I'm talking about forward and reflected RF currents. They are
in a series circuit and can only change directions at a physical
impedance discontinuity like an open or short. There is nothing
at the '+' point to change the direction of either the forward
or reflected current. Current always flows in a closed loop.
Here's the current diagram.

```
Forward current
100W Signal Generator------->---------->---------->---------->---+
|
circulator load-------------<----------<----------<----------<---+
Reflected current
```

```
100w SGCL--------random-feedline-------x---1/4WL same feedline--short
```

Measure the forward and reflected power at point 'x' and report back
to us.

> Me and others have proven you wrong, and you will NEVER admit it!

Current cannot disappear from a series circuit for no reason. The
forward current and reflected current are there at the mouth of
the stub. All you have to do is measure it. Hint: current disappearing
from a series circuit is a violation of the laws of physics. There
is a closed current loop all the way to the short above and back
to the circulator load.
--
73, Cecil http://www.qsl.net/w5dxp

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3047. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 09:43:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBCC9CC.9020001@ieee.org>
Source record: 118499

Richard Clark wrote:
> A partial
> solution is not necessarily incorrect if the reporter acknowledges all
> constraints, but the enumeration of such constraints necessarily
> precludes that more correct general answer.

For the purposes of this discussion, we are not interested in the general answer. We are interested in the minute details of what happens at a Z0-match point. Everyone agrees on the general answer and it is therefore not worth discussing.
--
73, Cecil http://www.qsl.net/w5dxp

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3048. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 09:49:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBCCB17.3030703@ieee.org>
Source record: 118500

Richard Clark wrote:
> Frankly Cecil, you are the last one I would accept as a source of
> authority in reporting other's comments. As such, you will no doubt
> observe many such occasions of my disappointing your agenda.

This is a direct quote, Richard. You can verify it for yourself.

> Jim said:
>>The magnitude of destructive interference is zero, and the magnitude of
>>constructive interference when I1 = I2 is equal to 4*I1.

The truth is: The magnitude of destructive interference is NOT zero, and
the magnitude of constructive interference when I1=I2, is NOT equal to 4*I1.

I stands for irradiance, not for interference.

The magnitude of minimum *irradiance* is zero, and the magnitude of
maximum *irradiance* when I1 + I1, is equal to 4*I1.

Jim confused interference with irradiance. It's no big deal but he
needs to correct that error.
--
73, Cecil http://www.qsl.net/w5dxp

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3049. Re: Comments On This Antenna for Field Day?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 10:37:33 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305100237.36a746f3@posting.google.com>
Source record: 118501

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<rvcobv4stdggv81rutbo4rlha8nljvlvvg@4ax.com>...
> On 9 May 2003 15:29:51 -0700, kelly@dvol.com (Brian Kelly) wrote:
>
> >> How do you handle the feed?
> >
> >The SWRs hover around 4.5:1 across the 20M band pretty much like they
> >do at the feedpoint of a g6rv. With a 4:1 balun the coax should see a
> >1.1/1.2:1 match.
> >
> >Maybe I'm full of soup but this is a learning experience for me so
> >fire away, NEC sez it works here.
> >
> >
> >>
> >> 73's
> >> Richard Clark, KB7QHC
> >
> >Brian w3rv
>
> Hi Brian,
>
> I still don't know how you handle the feed.

. . . very carefully . .

1. Wind a 4:1 balun with some #14 Formvar using a core which doesn't
saturate or explode at 100W on 20/15.

2. Install it in the center of the horizontal element of the "U".

3. Run the 8X coax from the output of the balun to the radio.

Handled.

My thrust so far has been the antenna itself, not the feed issues. I'm
looking for easy-up 20/15 Field Day antennas which yield patterns
which should be better than the usual collection of more traditional
types of antennas from this location. The Inverted "U" looks like it
should do what I want an antenna to do on this specific mission. The
antenna performance is the first consideration, if the antenna
performance is what I want I'll feed the thing one way or another
which is the no-brainer side of the installation.

> Do you choke it? With
> what?

Dunno on either account yet. I'm not much of a worshipper of the extant Holy Quest to suppress coax shield radiation anyway. I'm of the opinion that in many if not most instances it's a bunch of anal retentive nonsense. I had some bits and pieces of hot coax back when I glomed 5BDXCC #142 from a 50 x 100 foot urban lot with 400w before anybody I know had "coke bauns" on feedlines. I figger that stray radiation ain't necsessarily a bad, it fills in the nulls and makes it easier to snipe a new one if he isn't in a "theoretical" lobe(s).

>
> 73's
> Richard Clark, KB7QHC

Brian w3rv

3050. Re: homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 12:00:32 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBCE9A3.3030309@attbi.com>
Source record: 118502

HRO has a Stake hole antenna mount right off the shelf for about $20.

I've used one for about a year. It comes with the bond strap and
connector all mounted.

W1MCE

wess@gtii.com wrote:
> I tried looking for info myself but keywords like build, antenna,
> mobile, mount turn up everything but what I want to find.
>
> I bought a Comet UHV-4 which the instruction indicates uses an 'M'
> type connector. At first I thought they ment an 'N' but it isn't.
> Looks like a pl-259 to me and a so-239 screws into it.
>
> Since I am mounting this on a pickup truck, I plan to use a stake
> pocket. I pulled out a tie down block that is a block of rubber that
> has a eye screw that expands block it to keep block in pocket. I am
> going to use this to hold down an aluminum plate that I mounted the
> so-239 to.
>
> 1. Is a so-239 the right item to make this thing from?
>
> 2. The body of the connector looks like diecast. Are there
> stronger/better so-239's or alternatives.
>
> 3. I assume I need to bond plate to box of truck via jumper for
> ground plane
>
> 4. Any better things to use.
>
>
> 73, Wes, KC8Spr

3051. Re: homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 12:31:37 UTC
From: K7SAM <2smoore@nemontel.net>
Message-ID: <6ZmcnfqrNr70bCGjXTWcog@vnet-inc.com>
Source record: 118503

Have used the mounts GeoTool for a couple of years now. They are a bit spendy but you don't have to worry about every buying another one, unless you switch pickups maybe. These things are just about bullet proof. Have a pair installed on my 1999 Ford F-250 and have never had a problem with them. I know they should be in the rear pockets but have mine mounted up front, that way I can use them while pulling the 5th wheel down the road. It is a compromise but it sure beats not having an antenna on the pickup. I have numerous hamsticks in the pickup, all with quick connects on the base. Makes for easy antenna swaps, just twist on and off, takes a couple of seconds and I can switch bands.

Sam

3052. Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 13:06:33 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <b9itgk$i3v$1@slb1.atl.mindspring.net>
Source record: 118504

Hi,

Here's a very basic lightning related question.

Suppose you have two absolutely identical tall towers.

One, somehow, is totally insulated from any earth "ground."
The other has a good, perfect, solid, earth ground.

My (very tentative) belief is that they would both be equally prone to being hit by lightning ??

The grounded one would of course have the stroke's current passed to earth ground, and therefor the tower
would have no potential built up on it.

The ungrounded one would have the full potential on it, but no current flow.
If the insulators are perfect, there would be no subsequent arcing.

Opinions?

B.

3053. Re: Putting up a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 13:12:41 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <dV6va.72088$3h5.3446539@news2.east.cox.net>
Source record: 118505

Yes, exactly!

I recently installed a sixty-foot Rohn foldover, and was surprised
to discover the town only wanted to see the engineering specifications
before issuing a building permit. The inspector wanted to see the
guy wire anchor holes, and he also requested that the coax and rotor
cables be buried at least 24" (he waivered that when I informed him
there were no AC voltages). And, I am in a AAA zoned area, the highest
residental rating in the town.

Pete

"'Doc" <w5lz@cwis.net> wrote in message news:3EBB2632.EDD3F66D@cwis.net...
>
>
> David,
> Before your imagination carries you away, why no
> call your local 'codes' department and find out just
> exactly what the requirements and procedures are?
> 'Doc

3054. Re: DX from VO-land

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 14:05:28 UTC
From: Terry <tsanford@nf.sympatico.ca>
Message-ID: <3EBD0728.B7105B45@nf.sympatico.ca>
Source record: 118507
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna

Bill M wrote to Terry.

Regarding antenna used during VO.... DXpeditions (Newfoundland)
written up by WA1ION. at
< www.geocities.com/Mark/WA1ION/nfdx2001/htm >

Thanks Bill most interesting. Also noted the part about one
antenna being broken about 200 metres out; "Probably because a
moose or caribou had stumbled through it!"

There was an article written time of 100th anniversary of the
1901 first Transatlantic reception, that suggested that what
Marconi actually received was a harmonic of the basic frequency
transmitted from Poldhu in Cornwall.

This seems to be confirmed by the fact that Marconi's own notes
observe that he received the signal when his 'apparatus was
untuned'. When it was tuned he did not receive.

The Poldhu output power was probably high and 'rough'; i.e. full
of harmonics. The sensitivity of his receiver was very low;
probably a crystal detector or coherer?

Again it all seems to be confirmed by the fact that less than a
year later (1902) Marconi set up a permanent commercially
operating Transatlantic station near Glace Bay Nova Scotia,
Canada; located further away!

Historical note: Newfoundland, much involved with US and British
forces during WWII, was declared a colony of Britain in 1497. It
remained so, although fought over by the French and British
during the 1600s and 1700s, until until it became part of Canada
in 1949.

The islands of St. Pierre et Miquelon, another DX 'target' just
off the south coast of Newfoundland are still French.

My regards and hope you don't mind me 'advertising' this bit of
Radio History and replying to you also.

3055. Lightning arrestor for twin lead??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 14:10:16 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <cL7va.100329$vU3.81186@news1.central.cox.net>
Source record: 118506

I'm going to put up a SpiRo 75' antenna on my roof, which has a 450 ohm twin lead feed line. I've looked all over the internet and am not finding lightning arrestors for twin lead. I live in Kansas - really don't want to invite the weather into my shack.
Besides all the other grounding and safety concerns (as noted in the 2002 articles in QST about lightning protection), I'd like to protect the antenna. Radio Shack has an air gap arrestor, which I could certainly duplicate (I actually have one) but I'm skeptical that this is really adequate. I suspect a gas discharge tube unit would be better.
Anyone know of sources? Can I home-brew one with gas tubes across each leg of the twin lead without messing up the antenna?
I'm aware that this antenna can have relatively high VSWR at times - the reason I've chosen it are 1 - tunes all bands, 2 - YL will allow it.
Thanks.
Bob AB0OD

3056. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 14:22:33 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <z-OdnVLNydCsliCjXTWcpg@crocker.com>
Source record: 118508

"Robert11" <rgsrose@tiac.net> wrote in message
news:b9itgk$i3v$1@slb1.atl.mindspring.net...
> Hi,
>
> Here's a very basic lightning related question.
>
> Suppose you have two absolutely identical tall towers.
>
> One, somehow, is totally insulated from any earth "ground."
> The other has a good, perfect, solid, earth ground.
>
> My (very tentative) belief is that they would both be equally prone to
being
> hit by lightning ??

probably not. you must consider the physics leading up to a lightning stroke. before the stroke that you see happens there is an almost invisible leader that is carrying a large amount of (normally) negative charge. On the ground, negative charges are being repelled so that the ground and any objects attached to it become positively charged. when the leader is close enough the positive charge on the ground and tall objects starts to send streamers up toward it (this is when your hair stands on end and you start to hear hissing from tall objects!). the first streamer to reach the leader triggers the visible part of the stroke as the charge that is built up in the leader channel rapidly drains to the ground.

now, on your tower that is connected to ground there would be a large positive charge on it since it has the whole earth to draw from. your insulated tower would become positive near the top and negative near the bottom as the charges separate, but there would be much less charge to work with... so, i would expect the leaders from the insulated tower to start later and be weaker with less of a chance of reaching the leader than the ones from the grounded tower.

>
> The grounded one would of course have the stroke's current passed to earth
> ground, and therefor the tower
> would have no potential built up on it.
>
> The ungrounded one would have the full potential on it, but no current
flow.
> If the insulators are perfect, there would be no subsequent arcing.

even if the insulators are perfect there is more than enough charge in the leader coming down to complete the path to ground through the air around

them, after all it has already come thousands of feet down from the cloud, some little base insulator isn't going to stop it... thats why insulated base towers have spark gap balls to make an easy path instead of having the current go through or over the surface of an expensive base insulator.

> Opinions?
>
> B.
>

3057. Re: Lightning arrestor for twin lead??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 14:32:08 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <eo2qbv01nl8u7dee3udkvkq3u6v51qj5dc@4ax.com>
Source record: 118509

On Sat, 10 May 2003 14:10:16 GMT, "Robert McCown"
<bmccown(nospam)@cox.net> wrote:

>I'm going to put up a SpiRo 75' antenna on my roof, which has a 450 ohm twin
>lead feed line. I've looked all over the internet and am not finding
>lightning arrestors for twin lead. I live in Kansas - really don't want to
>invite the weather into my shack.
>Besides all the other grounding and safety concerns (as noted in the 2002
>articles in QST about lightning protection), I'd like to protect the
>antenna. Radio Shack has an air gap arrestor, which I could certainly
>duplicate (I actually have one) but I'm skeptical that this is really
>adequate. I suspect a gas discharge tube unit would be better.
>Anyone know of sources? Can I home-brew one with gas tubes across each leg
>of the twin lead without messing up the antenna?
>I'm aware that this antenna can have relatively high VSWR at times - the
>reason I've chosen it are 1 - tunes all bands, 2 - YL will allow it.
>Thanks.
>Bob AB0OD
>

Try the web site for the Wireman. They have a couple of choices, one
that uses two spark plugs and clamps to your ground rod, and the
other, an I.C.E. device made for balanced line. Whether they provide
sure protection, I couldn't say. (You can always put banana plugs on
your line and just unplug it.)

Bob
k5qwg

3058. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 14:43:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD1014.7090807@ieee.org>
Source record: 118510

OC_CAM's Razor wrote:
> The current at the short is 2.414 amps.

Typo: Should have been 2.828 amps.
--
73, Cecil http://www.qsl.net/w5dxp

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3059. Re: 1/4 wave stub X vs ideal tank X for various tank L

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:02:08 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbq53tmju383a5@corp.supernews.com>
Source record: 118511

Reg
No hurry.
My prize is having a pasture to walk about in while building antennas.
Even if, after weeks of walking, the 160 bazooka's too lossy to sing, I got
my exercise.
(It's 100 meters from one tree to the other. pant-pant)
I'm looking for nice silver-plater tuner parts.
It's tanks for me from now on.
H.
NQ5H

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9hned$f$1@hercules.btinternet.com...
> "H. Adam Stevens" says
>
> as 1/4 => 3/4 , loss => loss x 6 so Q => Q/6
>
> Just a guess.
>
> ==========
>
> H., you are a brave guesser. Let's see what the other 'experts' have to
say
> before doing some sums. No hurry. No prizes,
> ---
> Reg
>
>
>

3060. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:06:58 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbq5cvkahaql40@corp.supernews.com>
Source record: 118512

I misunderstood. Measurements to the right of + not allowed.
Stub = tank circuit= open (no loss).
I can put an LC tank of the correct Q at + and it's indistinguishable from
the stub.
Of courst there's an SWR in the stub, electrons are sloshing back and forth
in there, holding energy as best they acan against loss.
H.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBC4D20.8000804@ieee.org...
> H. Adam Stevens wrote:
> > 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> > equals
> > 100w SGCL--------random-feedline--------+open
> > for a lossless stub
>
> Identical? Of course not! Measure the SWR with a directional wattmeter
> in the 1/4WL feedline in the first example and measure the SWR in the
> empty space of the second example. Is there any difference? Please don't
> say "yes".
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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3061. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:08:00 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebd168b_3@news1.prserv.net>
Source record: 118513

Listen, if that lightning stroke can find its way thousands of feet from the cloud to the top of the insulated tower, an insulator of any attainable length will be no challenge for it to jump and continue on its way to earth. This, however is a vast oversimplification. There have been some rather detailed tomes on the mechanics of lightning published, and at least one of them should be thoroughly digested to understand the answer to your question.

--
Crazy George
Remove NO and SPAM from return address

3062. Re: QHF antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:14:15 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <dp5qbv8pb7f55mfmamv84hlc0j0d820qgl@4ax.com>
Source record: 118514

On Fri, 09 May 2003 11:23:27 -0400, Glenn Ashmore <rutu@bellsouth.net>
wrote:

>I have built a couple of 137.55 Mhz QHF antennas for receiving NOAA
>polar satellite APT pictures. They work pretty well but they are all
>from proven designs and built from copper tube. I need one that will
>stand up to ocean weather better so am thinking about using 4mm
>stainless tube. Will the difference in conductivity between stainless
>and copper present a problem?

Why not use aluminium?

w.
--
On the Internet nobody knows that I am a dog.

3063. Re: homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:17:50 UTC
From: wess@gtii.com
Message-ID: <vbq5v16otfrq70@corp.supernews.com>
Source record: 118515

Sadly, it has a 3/8-24 mounting post, not something that will mate
with the pl-259 connector in antenna. Thanks though.

73, wes, kc8spr

Dave Shrader <david.shrader@attbi.com> wrote:

>HRO has a Stake hole antenna mount right off the shelf for about $20.
>
>I've used one for about a year. It comes with the bond strap and
>connector all mounted.
>
>W1MCE
>
>wess@gtii.com wrote:
>> I tried looking for info myself but keywords like build, antenna,
>> mobile, mount turn up everything but what I want to find.
>>
>> I bought a Comet UHV-4 which the instruction indicates uses an 'M'
>> type connector. At first I thought they ment an 'N' but it isn't.
>> Looks like a pl-259 to me and a so-239 screws into it.

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

3064. Going to the Dayton Hamvention ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:24:59 UTC
From: arrow146@aol.com
Message-ID: <20030510112459.07824.00000061@mb-m19.aol.com>
Source record: 118516

Arrow Antenna is Celebrating our 10th Year at the Dayton Hamvention
So we are having a 10% Off SALE at the Hamvention.

I know all you Antenna Experts don't need any of my stuff, but
Maybe you can stop by and say Hello.

I finely got the outside spaces I have been trying to get for years.
Spaces 501, 502 & 503 , Just inside gate J

I sure miss all the arguments over J-Poles, but I have just
been too busy making them . (I still scan this group though)

See you at Dayton

73 Al Lowe N0IMW
<A HREF="http://ArrowAntennas.com">ArrowAntenna.com</A>

3065. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:31:26 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbq6qrojem454e@corp.supernews.com>
Source record: 118517

Periodically I like to re-tell this lightning observation.
This happened in Lubbock, Texas at the Texas Tech vs Rice game in 1973.
Picture a football stadium: tall light poles all around. The poles were not struck.
The lightning struck the concrete retaining wall just above the track, blowing a hole about three feet in diameter out of the concrete.
The game was called. (duh)
Lightning follows a path where the electrostatic potential can build enough to ionize the air.
Grounded, sharp points (see "sharp point discharge") can leak charge off into the air preventing electrostatic potential difference build up. Wasn't it Ben Franklin invented the lightning rod? The pointed ends leak charge off onto the air.
Since then the subject has been visited in excruciating detail and still is yielding it's secrets grudgingly.
A well-grounded tower with some pointed rods at the top is good , but no guarantee.
My antennas remain disconnected unless used; Power remains disconnected as well.
I had a 300 foot ladder line fed doublet a few years back. The ladder line was disconnected but on the floor.
A thunderstorm was passing about 10 miles north;
sparks were jumping across the ladder line.
73 es stay safe
H.
NQ5H

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message news:3ebd168b_3@news1.prserv.net...
> Listen, if that lightning stroke can find its way thousands of feet from the
> cloud to the top of the insulated tower, an insulator of any attainable
> length will be no challenge for it to jump and continue on its way to earth.
> This, however is a vast oversimplification. There have been some rather
> detailed tomes on the mechanics of lightning published, and at least one of
> them should be thoroughly digested to understand the answer to your
> question.
>
> --
> Crazy George
> Remove NO and SPAM from return address
>

>
>
>
>

3066. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:41:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD1DA6.7030900@ieee.org>
Source record: 118518

H. Adam Stevens wrote:
> I misunderstood. Measurements to the right of + not allowed.

When we are trying to find out exactly what happens in a stub,
don't allow any measurements on the stub?????

I repeat, there is nothing to prohibit the forward current
from flowing into the mouth of the stub and there is nothing
to prohibit the reflected current from flowing out of the
mouth of the stub. The current at the current maximum point
inside a stub is the sum of the forward and reflected current
when they are *in phase*. For a 100W source and 50 ohm Z0,
the maximum total current in the stub will be about 2.8 amps.
That doesn't sound like the stub is blocking much of anything.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3067. Re: electric fence lightning arrestor & twin lead?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 15:47:39 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <va9va.72133$3h5.3504625@news2.east.cox.net>
Source record: 118419

The power level doesn't mean much unless you know the SWR on the
line. I'm assuming since your using open feeder line you might be using
non-resonant antennas? Your best bet is to used rain resistors to drain
off static build ups while operating, and a good DPDT knife switch to
ground the line when not in use. You'll need to check the electrical codes
regarding the arrestors, since I'd they would require something before
the line enters the dwelling.

Pete

"denton" <denton@oregontrail.net> wrote in message
news:b9gglb$e4i$1@news.oregontrail.net...
>
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EBBC27B.7020105@ieee.org...
> > denton wrote:
> > > I have procured a couple of electric fence lightning arrestors...Twin
> Towers
> > > brand...and am wondering if they are suitable for the project. A web
> site
> > > states that these are gas filled.
> >
> > They are designed for 60 Hz operation and will probably fire
> > at a relatively low RF voltage. All it takes to ionize a
> > fluorescent light is an RF field.
> > --
> > 73, Cecil, W5DXP
> >
>
> Aw too bad..they are nice and stout looking and cheap.
> I will take them back and go back to plan "A"...a pair of non resistor
cheap
> spark plugs....wonder what would be a decent gap for 100 watt operation?
>
>

3068. Re: Software to aid in 60 kHz Ferrite WWVB receiver antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 16:23:35 UTC
From: rw <rwNOSPAM@netscape.net>
Message-ID: <3EBD280D.8090809@netscape.net>
Source record: 118420

Brooke Clarke wrote:
> Hi:
>
> I'm trying to optimize the windings on an Amidon R33-050-750 7.5" long x
> 0.5" diameter Ferrite rod for the best signal to noise ratio for WWVB
> reception. I remember someone had some design software that may be of
> help. Could someone let me know the URL?
> 73,
>
> Brooke Clarke, N6GCE
> http://www.prc68.com
>

I read in one NG that ATMEL has something in their appnotes
for some of their chips about a 60khz ferrite antenna.
rw

3069. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 16:31:39 UTC
From: "Alexander S. Wood" <alec_wood@dont.spam.me.ntlworld.com>
Message-ID: <oQ9va.1361$Mu3.18218@newsfep4-glfd.server.ntli.net>
Source record: 118422

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0305091109.2c478d23@posting.google.com...
> Hello all,
>
>
> Has anyone ever seen any antenna range data for them, particularly
> from a disinterested test facility? (Seems like, given the small
> size, they would be very easy to test at scaled frequencies.)
>

All the published range data seems to suggest that they do not work, certainly not in the way their proponents would have us believe.

All the experiments I have seen written up have centred on a frequency of 50MHz (for example Surrey University, UK http://www.ee.surrey.ac.uk/Personal/D.Jefferies/ref.html). Many computer modelling experiments have been done at frequencies higher than or lower than this, but the results of these are usually rejected by the proponents of CFA theory as being fundamentally flawed in that the CFA is alleged to radiate in a manner substantially different from that which would be assumed at the heart of modelling programs such as EZNEC.

CFA sounds good at first glance, however I have been completely unsuccessful at obtaining a useful antenna of the type at frequencies of 144, 50 and 14MHz.despite many attempts.

The old adage of "If it sounds too good to be true, it probably is" would appear to apply here.

I would dearly love to be proved wrong in my judgement of CFA. I have a very small garden and the idea of a small radiator appeals greatly. I would challenge any proponent of CFA to supply a repeatable design for one frequency, say 145MHz. Such a design would, if widely replicated, produce a pool of empirical data sufficiently large to allow a real picture of the behaviour of the device to be appreciated.

The above would apply equally to that other "wonder of modern science", the fractal antenna.

--
Alec Wood M1BNK
Teesside UK

Interested in Ham Radio....have a look at www.ukradioamateur.org

3070. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 16:32:20 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305100832.32b0a1a5@posting.google.com>
Source record: 118421

'Doc <w5lz@cwis.net> wrote in message news:<3EBC81B3.2F52C1B7@cwis.net>...
> Tom,
> When you said, "It seems that if the configuration works as
> (was) claimed, it would be very useful in services other than
> just MF and LF broadcasting.", you pretty well answered your
> own question...
> 'Doc

Well, the question has been pretty well answered in my head for well over ten years. But by pure coincidence, I met someone recently who is non-technical and has an interest (apparently financial) in CFA development. I'm casting about for ways I can get her to ask the right (non-technical) questions to get to the truth. I think I've covered the ground pretty well, but the more specific answers I have to the questions I've already suggested, the better. One of the keys to narrowing in on the truth is to keep an open mind. Never presuppose you _know_ the answer, even though you have proposed an answer/theory/hypothesis. Then make all the observations you can relating to your theory, and as objectively as possible evaluate the theory in the light of those observations. The scientific method, no? My impression is that has not been done vis a vis the CFA, at least not by its proponents, and they seem to not want to provide enough info to be useful to others who might actually make objective evaluations.

Cheers,
Tom

3071. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 16:34:53 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbqajhf6grdhb9@corp.supernews.com>
Source record: 118423

Cecil
I know what happens in the stub: it's a tank circuit.
The current has a maximum at the short. It is of the form I=sin(wt). Here energy is stored in the electron's kinetic energy.
The voltage across the line has a maximum 1/4 wavelength in from the short. It is of the form E=cos(wt). Here energy is stored in the electric field across the line. This much of the line is a tank circuit, it stores energy by transferring it back and forth between the E field and electron's motion (the magnetic field). It will oscillate if excited sufficiently to overcome losses.
An open half wave of line is also a tank circuit, so we can string an arbitrary number of these off to the left ad nauseum.

As we move to the left from the short the amplitude of the current will decrease, becoming zero 1/4 wave from the short, where the voltage between the conductors is maximum. These current nodes repeat every 1/2 wavelength. If you could watch the conduction electrons at a current node they would be still. Move 1/4 wavelength either side and they're sloshing back and forth in opposing directions.

I think I'll use a zero impedance source (<0.1 ohm is easy) and feed it at a voltage node. Or just an infinite line to the left.

Moving to the left, the current increases IN THE OPPOSITE DIRECTION untill we travel another 1/4 wavelength where the current is again a maximum. This continues on repeatedly. They are called STANDING WAVES; they STAND AND WAVE.
Each 1/2 wave of line is an independent tank circuit.
Buy a slinky. Study longitudinal waves.
73
H.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EBD1DA6.7030900@ieee.org...
> H. Adam Stevens wrote:
> > I misunderstood. Measurements to the right of + not allowed.
>
> When we are trying to find out exactly what happens in a stub,
> don't allow any measurements on the stub?????
>
> I repeat, there is nothing to prohibit the forward current
> from flowing into the mouth of the stub and there is nothing
> to prohibit the reflected current from flowing out of the
> mouth of the stub. The current at the current maximum point
> inside a stub is the sum of the forward and reflected current

> when they are *in phase*. For a 100W source and 50 ohm Z0,
> the maximum total current in the stub will be about 2.8 amps.
> That doesn't sound like the stub is blocking much of anything.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3072. Re: QFH antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 16:48:55 UTC
From: Glenn Ashmore <rutu@bellsouth.net>
Message-ID: <3EBD2D77.4000607@bellsouth.net>
Source record: 118424

I am worried about aluminum tube being rugged enough. The antenna will be in a rather exposed spot and there is always the possibility of a loose sheet whipping into it. I also want to keep the windage to a minimum by making the eliment diameters small. I think maybe I will look into aluminum rod though. That might be the best choice.

As with everything else on boats, money is secondary. :-)

Helmut Wabnig wrote:
> On Fri, 09 May 2003 11:23:27 -0400, Glenn Ashmore <rutu@bellsouth.net>
> wrote:
>
>
>>I have built a couple of 137.55 Mhz QHF antennas for receiving NOAA
>>polar satellite APT pictures. They work pretty well but they are all
>
>from proven designs and built from copper tube. I need one that will
>
>>stand up to ocean weather better so am thinking about using 4mm
>>stainless tube. Will the difference in conductivity between stainless
>>and copper present a problem?
>
>
> Why not use aluminium?
>
>
> w.

--
Glenn Ashmore

I'm building a 45' cutter in strip/composite. Watch my progress (or lack there of) at: http://www.rutuonline.com
Shameless Commercial Division: http://www.spade-anchor-us.com

3073. HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 17:09:21 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com>
Source record: 118425

Any hams having problems with HF and Directv?
I have bleed thru on 15 meters, anyone else??

3074. Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 17:40:55 UTC
From: "RW@nowhere.com" <>
Message-ID: <71eqbv8hd3g640i9bed8m3edelv21a5i04@4ax.com>
Source record: 118426

I just installed and new receiver for the Ku band on Telstar 5. It works great except that now I have some interference coming in on my cable channels. Does anyone know of a readily available (Radioshack?) filter to get rid of this problem?

Thanks,
RW

3075. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 17:46:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD3B02.4090505@ieee.org>
Source record: 118427

H. Adam Stevens wrote:
> They are called STANDING WAVES; they STAND AND WAVE.

And they cannot exist without forward and reflected waves
flowing in opposite directions. In any stub, the forward
current and reflected current are very close to the same
value and are each approximately 1/2 the magnitude of
the current at the current maximum point. There's lots of
current flowing in a stub, SWR is very high, and so are
losses.
--
73, Cecil http://www.qsl.net/w5dxp

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3076. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 17:59:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1jfqbv4iq0528s80st0h6g3uka95h2aulm@4ax.com>
Source record: 118428

On Sat, 10 May 2003 04:49:11 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Frankly Cecil, you are the last one I would accept as a source of
>> authority in reporting other's comments. As such, you will no doubt
>> observe many such occasions of my disappointing your agenda.
>
>This is a direct quote, Richard. You can verify it for yourself.
op. cit.

3077. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 18:05:25 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <MoydnQ70ruz4oiCjXTWcow@crocker.com>
Source record: 118429

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:vbq6qrojem454e@corp.supernews.com...
> Grounded, sharp points (see "sharp point discharge") can leak charge off
> into the air preventing electrostatic potential difference build up.
Wasn't
> it Ben Franklin invented the lightning rod? The pointed ends leak charge
off
> onto the air.

Wrong. the Franklin 'lightning rod' is a device to initiate the streamer
that i described in another post that goes up to meet the downcoming leader.
its purpose is to trigger the lightning, but in such a way that it hits the
rod and is conducted safely outside the building to ground. over the years
these have been enhanced by various methods including radioactive material,
small spark gaps, and lots of odd looking shapes, all meant to trigger
lightning in a controlled way.

there is no way that any device on the ground is going to leak off enough
charge to prevent the build up. going back to some of the other comments,
since the charge builds up in the cloud which is thousands of feet above
most structures and attracts the opposite charge from a very large radius on
the ground well before the stroke actually occurs, there is nothing you can
do that will cancel that build up... indeed the actual charging effect is
all within the cloud, with normally negative charge getting pumped to the
bottom of the cloud and positive charge to the top. the build up of charge
on the ground is just a secondary effect from the proximity of the charged
cloud base and is then enhanced as the leader approaches the ground.

one good observation is that the charge on the ground charges up everything,
buildings, fences, trees, etc. so if sharp points could dissipate the
charge why do pine forests get struck at all???

3078. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 18:06:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD3FC1.70701@ieee.org>
Source record: 118430

Jim Kelley wrote:
> I made a typo. Sorry. Now will you work the problem correctly?
> If not, then don't bother to reply. Thank you.

I am working the problem correctly, Jim. It is you who is confusing
interference with irradiance as proven by your following assertion.

You said:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

That shows your point of confusion. That statement is true for irradiance,
false for interference. The following is quoted from Hecht:

I = I1 + I2 + 2*SQRT(I1*I2)cos(theta)

Imax = I1 + I2 + 2*SQRT(I1*I2) Imin = I1 + I2 - 2*SQRT(I1+I2)

The term, 2*SQRT(I1*I2)cos(theta) is known as the *interference term*.

Whenever (I1+I2 < I) the situation is referred to as constructive
interference, and whenever (I1+I2 > I) it is spoken of as destructive
interference.
--
73, Cecil http://www.qsl.net/w5dxp

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3079. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 18:52:41 UTC
From: tdonaly@aol.com
Message-ID: <20030510145241.13958.00000160@mb-m28.aol.com>
Source record: 118431

Cecil wrote,
>
>H. Adam Stevens wrote:
>> They are called STANDING WAVES; they STAND AND WAVE.
>
>And they cannot exist without forward and reflected waves
>flowing in opposite directions. In any stub, the forward
>current and reflected current are very close to the same
>value and are each approximately 1/2 the magnitude of
>the current at the current maximum point. There's lots of
>current flowing in a stub, SWR is very high, and so are
>losses.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

This is one of the reasons I have a hard time believing what
you write, Cecil. Go ahead, prove that standing waves can't
exist without "...forward and reflected waves flowing in opposite
directions." You may even be right, but bald, unproven statements uttered
with Jehovah-like solemnity don't make you so. Moreover, you seem to
be blind to some of the difficulties of your assertions. How can you
have two currents, at the same point, traveling in two directions? A given
charge can't move in two directions at once without violating the principle of
conservation of charge, so it has to be something else that is moving in
two directions. What is it? If it's not charge then how can you call it
current? You need to start thinking in more fundamental terms, Cecil,
or spend the rest of your life racking your brains making up objection-stoppers

to the various criticisms of your primitive theories.
73,
Tom Donaly, KA6RUH

3080. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:03:31 UTC
From: Floyd Sense <sentek@sprintmail.com>
Message-ID: <72cva.64799$ey1.5808414@newsread1.prod.itd.earthlink.net>
Source record: 118432

I've had DirecTV for about 3 years and operate all the HF bands. Never had a problem with interference from it, and never had any TVI while operating legal limit on any HF band.

K8AC

"helmsman" <helmsman@mindspring.com> wrote in message news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
> Any hams having problems with HF and Directv?
> I have bleed thru on 15 meters, anyone else??

3081. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:09:35 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <4hjqbvsj4nhd7h8ntf0fig5ntn43443htv@4ax.com>
Source record: 118433

On Sat, 10 May 2003 19:03:31 GMT, "Floyd Sense"
<sentek@sprintmail.com> wrote:

>I've had DirecTV for about 3 years and operate all the HF bands. Never had
>a problem with interference from it, and never had any TVI while operating
>legal limit on any HF band.
>
>K8AC
>
>"helmsman" <helmsman@mindspring.com> wrote in message
>news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
>> Any hams having problems with HF and Directv?
>> I have bleed thru on 15 meters, anyone else??
>
How far away from the dish was your coax or antenna?
TIA
.
Boycott France and there products
and find another place to vacation.
The U.N is a JOKE!!!!

3082. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:12:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vugqbvshigiqsia5o6tu03f5pgpjjbfi7s@4ax.com>
Source record: 118434

On Sat, 10 May 2003 09:06:33 -0400, "Robert11" <rgsrose@tiac.net>
wrote:

>Suppose you have two absolutely identical tall towers.
>
>One, somehow, is totally insulated from any earth "ground."
>The other has a good, perfect, solid, earth ground.
>
>My (very tentative) belief is that they would both be equally prone to being
>hit by lightning ??

Hi OM,

There's too much speculative treatment of currents wandering around,
previous to the final event which is largely (and consistent with your
choice of word "belief") given over to ascribing purpose to what is
essentially chaos.

There is a world-wide average potential field of 600V/M between earth
and the atmosphere. Through the action of weather, there is a
continuous upsurge of charge-laden particles that convert the sun's
thermal currents into electrical currents charging one vast capacitor.
In any particular 1mmï¿½ extended vertically from ground to say 100
miles, there are only femtoamperes of conduction. Over the bulk
surface area of a planet, that accumulates to tera-amperes.

Now if you consider this yardstick of voltage fields, in terms of
layers 1M thick, stacked up many thousands of meters, you can
appreciate how the introduction of two vertical conductors easily
disturbs these fields. The conductors would short those potentials of
600V/M drawing the higher elevated potentials closer to ground. They
would present "energy wells" to the surrounding atmosphere whose
disturbed balance might then find itself presenting a breakdown
potential.

If we lived in a perfect world (and then being amateurs, we disturb
paradise's covenants and erect antennas), then these "energy wells"
could scarcely qualify as hints of dimples.

73's
Richard Clark, KB7QHC

3083. Re: QHF antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:13:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <urjqbvggob61mjmgq7ead3mhh8fu8umfm4@4ax.com>
Source record: 118435

On Sat, 10 May 2003 17:14:15 +0200, Helmut Wabnig <hXwabnig@aXon.at>
wrote:

>On Fri, 09 May 2003 11:23:27 -0400, Glenn Ashmore <rutu@bellsouth.net>
>wrote:
>
>>I have built a couple of 137.55 Mhz QHF antennas for receiving NOAA
>>polar satellite APT pictures. They work pretty well but they are all
>>from proven designs and built from copper tube. I need one that will
>>stand up to ocean weather better so am thinking about using 4mm
>>stainless tube. Will the difference in conductivity between stainless
>>and copper present a problem?
>
>Why not use aluminium?
>
>
>w.

How about the metal that has survived this environment since the
bronze age?

73's
Richard Clark, KB7QHC

3084. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:19:23 UTC
From: Glenn Ashmore <rutu@bellsouth.net>
Message-ID: <3EBD50BB.5000209@bellsouth.net>
Source record: 118436

David Robbins wrote:
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> news:vbq6qrojem454e@corp.supernews.com...
>
>>Grounded, sharp points (see "sharp point discharge") can leak charge off
>>into the air preventing electrostatic potential difference build up.
>
> Wasn't
>
>>it Ben Franklin invented the lightning rod? The pointed ends leak charge
> off onto the air.
>
>
> Wrong. the Franklin 'lightning rod' is a device to initiate the streamer
> that i described in another post that goes up to meet the downcoming leader.
> its purpose is to trigger the lightning, but in such a way that it hits the
> rod and is conducted safely outside the building to ground. over the years
> these have been enhanced by various methods including radioactive material,
> small spark gaps, and lots of odd looking shapes, all meant to trigger
> lightning in a controlled way.
>
> there is no way that any device on the ground is going to leak off enough
> charge to prevent the build up. going back to some of the other comments,
> since the charge builds up in the cloud which is thousands of feet above
> most structures and attracts the opposite charge from a very large radius on
> the ground well before the stroke actually occurs, there is nothing you can
> do that will cancel that build up... indeed the actual charging effect is
> all within the cloud, with normally negative charge getting pumped to the
> bottom of the cloud and positive charge to the top. the build up of charge
> on the ground is just a secondary effect from the proximity of the charged
> cloud base and is then enhanced as the leader approaches the ground.
>
> one good observation is that the charge on the ground charges up everything,
> buildings, fences, trees, etc. so if sharp points could dissipate the
> charge why do pine forests get struck at all???

This is always a hot topic with sailors. We are often sitting under the
tallest piece of aluminum for miles floating on an infinite supply of
positive charge. While I personally put little credance in the bottle
brush dissapators, the Florida Sea Grant Program lightning research
project at U Florida has found some statistical evedence that they work.
They don't know why they work and only reluctantly included their
findings in a recent report but evidently well grounded sailboats
equipped with dissapators are statistically less likely to receive a

direct strike.

--
Glenn Ashmore

I'm building a 45' cutter in strip/composite. Watch my progress (or lack there of) at: http://www.rutuonline.com
Shameless Commercial Division: http://www.spade-anchor-us.com

3085. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:25:16 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <K8qdnTZYSr-AzyCjXTWcoA@crocker.com>
Source record: 118437

more than likely you are getting rf into the cables between the dtv box and the tv, or if you have a vcr in line also that is picking it up. another possibility is its getting right into the tv through the case or power cord. i have had dtv for years here with up to 6 1.5kw hf stations running at once and never seen a problem.

"helmsman" <helmsman@mindspring.com> wrote in message news:4hjqbvsj4nhd7h8ntf0fig5ntn43443htv@4ax.com...
> On Sat, 10 May 2003 19:03:31 GMT, "Floyd Sense"
> <sentek@sprintmail.com> wrote:
>
> >I've had DirecTV for about 3 years and operate all the HF bands. Never had
> >a problem with interference from it, and never had any TVI while operating
> >legal limit on any HF band.
> >
> >K8AC
> >
> >"helmsman" <helmsman@mindspring.com> wrote in message
> >news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
> >> Any hams having problems with HF and Directv?
> >> I have bleed thru on 15 meters, anyone else??
> >
> How far away from the dish was your coax or antenna?
> TIA
> .
> Boycott France and there products
> and find another place to vacation.
> The U.N is a JOKE!!!!

3086. Re: QHF antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:44:50 UTC
From: Glenn Ashmore <rutu@bellsouth.net>
Message-ID: <3EBD56B2.6020908@bellsouth.net>
Source record: 118439

Richard Clark wrote:

>
> How about the metal that has survived this environment since the
> bronze age?

There is the other problem. It will be mounted just above the primary outside living area so it has to stay pretty and not bleed green all over the teak deck.

--
Glenn Ashmore

I'm building a 45' cutter in strip/composite. Watch my progress (or lack there of) at: http://www.rutuonline.com
Shameless Commercial Division: http://www.spade-anchor-us.com

3087. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:46:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD5703.7030506@ieee.org>
Source record: 118438

Tdonaly wrote:
> This is one of the reasons I have a hard time believing what
> you write, Cecil. Go ahead, prove that standing waves can't
> exist without "...forward and reflected waves flowing in opposite
> directions." You may even be right, but bald, unproven statements uttered
> with Jehovah-like solemnity don't make you so.

Unproven? Page 107, section 4.5, "Transmission Lines and Networks"
by Walter C. Johnson; Frederick Emmons Terman, Consulting Editor.
"However, when the load reflects part of the incident energy, it is
found that the rms voltage and current vary almost periodically
along the line. This effect is caused by the interference between
the incident and reflected waves, and the resultant variation is
called a *standing wave*."

"Fields and Waves in Communication Electronics" by Ramo, Whinnery,
and Van Duzer. Page 27, section 1.16.
"The total voltage in the line may be regarded as the sum of voltage
in a positively traveling wave, equal to V+ at the point of discontinuity,
and a voltage in a reflected or negatively traveling wave, equal to
V- at the discontinuity."

"Electromagnetics" by Joseph A. Edminister section 14.11, page 224.
"... the reflected wave in combination with the incident wave
produces a "standing wave*."

I don't have a reference book that gives any other explanation.
You're pulling my leg, right?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3088. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 19:59:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qemqbvchef1odn3u0i9au5j6vcke4bhcnh@4ax.com>
Source record: 118440

On Sat, 10 May 2003 04:20:47 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Dr. Slick wrote:
>> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC4D20.8000804@ieee.org>...
>>Please listen to reason!
>>
>> You are silly to ask
>
>No, you are silly to suggest

Only premium ground acolyte found in this baloney.

3089. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:05:25 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <krmqbvcgsmik2m0re2fdj114uugegq0a86@4ax.com>
Source record: 118441

On Sat, 10 May 2003 19:25:16 -0000, "David Robbins" <k1ttt@arrl.net>
wrote:

>more than likely you are getting rf into the cables between the dtv box and
>the tv, or if you have a vcr in line also that is picking it up. another
>possibility is its getting right into the tv through the case or power cord.
>i have had dtv for years here with up to 6 1.5kw hf stations running at once
>and never seen a problem.

Thanks. Just my luck :'(

>
>
>"helmsman" <helmsman@mindspring.com> wrote in message
>news:4hjqbvsj4nhd7h8ntf0fig5ntn43443htv@4ax.com...
>> On Sat, 10 May 2003 19:03:31 GMT, "Floyd Sense"
>> <sentek@sprintmail.com> wrote:
>>
>> >I've had DirecTV for about 3 years and operate all the HF bands. Never
>had
>> >a problem with interference from it, and never had any TVI while
>operating
>> >legal limit on any HF band.
>> >
>> >K8AC
>> >
>> >"helmsman" <helmsman@mindspring.com> wrote in message
>> >news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
>> >> Any hams having problems with HF and Directv?
>> >> I have bleed thru on 15 meters, anyone else??
>> >
>> How far away from the dish was your coax or antenna?
>> TIA
>> .
>> Boycott France and there products
>> and find another place to vacation.
>> The U.N is a JOKE!!!!
>

.
Boycott France and there products
and find another place to vacation.
The U.N is a JOKE!!!!

3090. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:06:29 UTC
From: richardharrison@webtv.net
Message-ID: <29734-3EBD5BC5-271@storefull-2312.public.lawson.webtv.net>
Source record: 118442

Tom, KA6RUH wrote:
"How can you have two currents, at the same point, traveling in two directions?"

Before the days of radio, balanced wire pairs carried signals. Advantage of not grounding one side of the circuit was that the noise induced equal voltages and currents in both wires of the pair.

At the load, take your pick, equal noise volts on both on both ends of the load produce no potential difference across the load, or equal currents through the load produce offsetting effects as they flow in opposite directions.

SWR as seen in a trough line (slotted line) is conclusive proof of currents flowing in opposite directions. Unidirectional flow could not produce an interference pattern.

Best regards, Richard Harrison, KB5WZI

3091. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:18:10 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbqnkfk7n14614@corp.supernews.com>
Source record: 118443

Point conceded.
The scale of the thunderstorm dictates dimensions, which makes the poles very small.
My main point was that tall metal structures aren't necessarily going to be what gets hit.
People were quite shaken. Big hole in the wall. Quit thinking about football.
73
H.

"David Robbins" <k1ttt@arrl.net> wrote in message news:MoydnQ70ruz4oiCjXTWcow@crocker.com...
>
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> news:vbq6qrojem454e@corp.supernews.com...
> > Grounded, sharp points (see "sharp point discharge") can leak charge off
> > into the air preventing electrostatic potential difference build up.
> Wasn't
> > it Ben Franklin invented the lightning rod? The pointed ends leak charge
> off
> > onto the air.
>
> Wrong. the Franklin 'lightning rod' is a device to initiate the streamer
> that i described in another post that goes up to meet the downcoming leader.
> its purpose is to trigger the lightning, but in such a way that it hits the
> rod and is conducted safely outside the building to ground. over the years
> these have been enhanced by various methods including radioactive material,
> small spark gaps, and lots of odd looking shapes, all meant to trigger
> lightning in a controlled way.
>
> there is no way that any device on the ground is going to leak off enough
> charge to prevent the build up. going back to some of the other comments,
> since the charge builds up in the cloud which is thousands of feet above
> most structures and attracts the opposite charge from a very large radius on
> the ground well before the stroke actually occurs, there is nothing you can
> do that will cancel that build up... indeed the actual charging effect is
> all within the cloud, with normally negative charge getting pumped to the

> bottom of the cloud and positive charge to the top. the build up of
charge
> on the ground is just a secondary effect from the proximity of the charged
> cloud base and is then enhanced as the leader approaches the ground.
>
> one good observation is that the charge on the ground charges up
everything,
> buildings, fences, trees, etc. so if sharp points could dissipate the
> charge why do pine forests get struck at all???
>
>
>
>
>

3092. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:20:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbqnnlsphud771@corp.supernews.com>
Source record: 118444

Tom Bruhns wrote:
> . . . One of the keys
> to narrowing in on the truth is to keep an open mind. Never
> presuppose you _know_ the answer, even though you have proposed an
> answer/theory/hypothesis. Then make all the observations you can
> relating to your theory, and as objectively as possible evaluate the
> theory in the light of those observations. The scientific method, no?
> My impression is that has not been done vis a vis the CFA, at least
> not by its proponents, and they seem to not want to provide enough
> info to be useful to others who might actually make objective
> evaluations.

And the whole question is, why hasn't this been done by the CFA proponents? Or at least why hasn't it made public? I can see only two possible reasons: 1. They're incredibly stupid, or 2. The results show, or would show, that it's a scam.

Roy Lewallen, W7EL

3093. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:20:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hdnqbv8ue93h22v8ke3ohvtdhgq1p3cn8o@4ax.com>
Source record: 118445

On Sat, 10 May 2003 14:46:11 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Tdonaly wrote:
>> This is one of the reasons I have a hard time believing what
>> you write, Cecil. Go ahead, prove that standing waves can't
>> exist without "...forward and reflected waves flowing in opposite
>> directions." You may even be right, but bald, unproven statements uttered
>> with Jehovah-like solemnity don't make you so.
>
>Unproven? Page 107, section 4.5, "Transmission Lines and Networks"
>by Walter C. Johnson; Frederick Emmons Terman, Consulting Editor.
>"However, when the load reflects part of the incident energy, it is
>found that the rms voltage and current vary almost periodically
>along the line. This effect is caused by the interference between
>the incident and reflected waves, and the resultant variation is
>called a *standing wave*."
>
>"Fields and Waves in Communication Electronics" by Ramo, Whinnery,
>and Van Duzer. Page 27, section 1.16.
>"The total voltage in the line may be regarded as the sum of voltage
>in a positively traveling wave, equal to V+ at the point of discontinuity,
>and a voltage in a reflected or negatively traveling wave, equal to
>V- at the discontinuity."
>
>"Electromagnetics" by Joseph A. Edminister section 14.11, page 224.
>"... the reflected wave in combination with the incident wave
>produces a "standing wave*."
>
>I don't have a reference book that gives any other explanation.
>You're pulling my leg, right?

Better than what you are pulling.

A simple word search through your proffered quotes for the basis of
the charge brought:
>>"...forward and reflected waves flowing in opposite directions."
contains neither of the words: opposite nor directions.

You would have failed equally in response as if you had simply cut and
paste the preamble to the Iraqi constitution.

73's
Richard Clark, KB7QHC

3094. Re: QHF antenna questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:21:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2snqbvk0tefto32u2okbuf7vodianfffb2@4ax.com>
Source record: 118446

On Sat, 10 May 2003 15:44:50 -0400, Glenn Ashmore <rutu@bellsouth.net>
wrote:

>
>
>Richard Clark wrote:
>
> >
> > How about the metal that has survived this environment since the
> > bronze age?
>
>There is the other problem. It will be mounted just above the primary
>outside living area so it has to stay pretty and not bleed green all
>over the teak deck.
paint it.

3095. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:22:57 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbqntemgdeeo34@corp.supernews.com>
Source record: 118447

"Glenn Ashmore" <rutu@bellsouth.net> wrote in message
news:3EBD50BB.5000209@bellsouth.net...
>
>
> David Robbins wrote:
> > "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> > news:vbq6qrojem454e@corp.supernews.com...
> >
> >>Grounded, sharp points (see "sharp point discharge") can leak charge off
> >>into the air preventing electrostatic potential difference build up.
> >
> > Wasn't
> >
> >>it Ben Franklin invented the lightning rod? The pointed ends leak charge
> > off onto the air.
> >
> >
> > Wrong. the Franklin 'lightning rod' is a device to initiate the
streamer
> > that i described in another post that goes up to meet the downcoming
leader.
> > its purpose is to trigger the lightning, but in such a way that it hits
the
> > rod and is conducted safely outside the building to ground. over the
years
> > these have been enhanced by various methods including radioactive
material,
> > small spark gaps, and lots of odd looking shapes, all meant to trigger
> > lightning in a controlled way.
> >
> > there is no way that any device on the ground is going to leak off
enough
> > charge to prevent the build up. going back to some of the other
comments,
> > since the charge builds up in the cloud which is thousands of feet above
> > most structures and attracts the opposite charge from a very large
radius on
> > the ground well before the stroke actually occurs, there is nothing you
can
> > do that will cancel that build up... indeed the actual charging effect
is
> > all within the cloud, with normally negative charge getting pumped to
the
> > bottom of the cloud and positive charge to the top. the build up of

charge
> > on the ground is just a secondary effect from the proximity of the
charged
> > cloud base and is then enhanced as the leader approaches the ground.
> >
> > one good observation is that the charge on the ground charges up
everything,
> > buildings, fences, trees, etc. so if sharp points could dissipate the
> > charge why do pine forests get struck at all???
>
> This is always a hot topic with sailors. We are often sitting under the
> tallest piece of aluminum for miles floating on an infinite supply of
> positive charge. While I personally put little credance in the bottle
> brush dissapators, the Florida Sea Grant Program lightning research
> project at U Florida has found some statistical evedence that they work.
> They don't know why they work and only reluctantly included their
> findings in a recent report but evidently well grounded sailboats
> equipped with dissapators are statistically less likely to receive a
> direct strike.
>
> --
> Glenn Ashmore
>
> I'm building a 45' cutter in strip/composite. Watch my progress (or lack
> there of) at: http://www.rutuonline.com
> Shameless Commercial Division: http://www.spade-anchor-us.com
>
>
Thanks for the source.
I saw something on some cable show to that effect from the Florida folks,
but the point of scaling the storm to the metal pole put it in perspective
for me.
Everything is short next to a super cell.
OTOH don't hit a power line with that mast!
73
H.
NQ5H

3096. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:30:24 UTC
From: richardharrison@webtv.net
Message-ID: <16551-3EBD6160-198@storefull-2317.public.lawson.webtv.net>
Source record: 118448

Tom, KA6RUH wrote:
"---prove that standing waves can`t exist without forward and reflected waves flowing in opposite directions."

A negative is hard to prove, but common sense says a single wave on a uniform line produces a non-varying voltage response, on a multicycle basis, other than a steady decline due to loss.

As there is a single signal source on the line, and as a matched line has no SWR, the only possible source of standing waves is reflection.

Best regards, Richard Harrison, KB5WZI

3097. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 20:52:40 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbqpl68kja3cc6@corp.supernews.com>
Source record: 118449

Cecil
Energy is traveling both ways simultaneously in the line, to be sure. Down and back.
I was speaking of current; the physical movement of electric charge.
Electromagnetic waves are not currents. Currents are part of electromagnetic waves in transmission lines.
Electromagnetic waves transport energy in E and H fields which are coupled through their time derivatives.
The energy goes down the line, is reflected, comes back and cooks your transmitter.
A the 1/4 wavelength point from the short the electrons are standing still and the voltage across the line is oscillating.
Every next 1/2 wavelength along the line the electrons are standing still and the voltage across the line is oscillating.
A the short and every 1/2 wavelength from the short the electrons are oscillating back and forth and the voltage across the line is zero.

Here's your quote from Johnson
> "However, when the load reflects part of the incident energy, it is
> found that the rms voltage and current vary almost periodically
> along the line. This effect is caused by the interference between
> the incident and reflected waves, and the resultant variation is
> called a *standing wave*."

Change "part" to "all" and the current and voltage will vary exactly periodically in a lossless transmission line.
There will be zeros in the current starting 1/4 wave from the short and back every 1/2 wavelength.
There will be zeros in the voltage starting at the short and back every 1/2 wavelength.
Increase the R of the short from 0 to Zo and the zeros in current and voltage will vanish and your transmitter will stop smoking.
73
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EBD5703.7030506@ieee.org...
> Tdonaly wrote:
> > This is one of the reasons I have a hard time believing what
> > you write, Cecil. Go ahead, prove that standing waves can't
> > exist without "...forward and reflected waves flowing in opposite
> > directions." You may even be right, but bald, unproven statements uttered
> > with Jehovah-like solemnity don't make you so.

>
> Unproven? Page 107, section 4.5, "Transmission Lines and Networks"
> by Walter C. Johnson; Frederick Emmons Terman, Consulting Editor.
> "However, when the load reflects part of the incident energy, it is
> found that the rms voltage and current vary almost periodically
> along the line. This effect is caused by the interference between
> the incident and reflected waves, and the resultant variation is
> called a *standing wave*."
>
> "Fields and Waves in Communication Electronics" by Ramo, Whinnery,
> and Van Duzer. Page 27, section 1.16.
> "The total voltage in the line may be regarded as the sum of voltage
> in a positively traveling wave, equal to V+ at the point of discontinuity,
> and a voltage in a reflected or negatively traveling wave, equal to
> V- at the discontinuity."
>
> "Electromagnetics" by Joseph A. Edminister section 14.11, page 224.
> "... the reflected wave in combination with the incident wave
> produces a "standing wave*."
>
> I don't have a reference book that gives any other explanation.
> You're pulling my leg, right?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3098. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 21:16:41 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9jq7s$j9nrv$1@ID-134747.news.dfncis.de>
Source record: 118450

I doubt it very much. The only filters they have
are high-pass, designed to reduce interference
from frequencies below 30 mhz. I expect that your
Ku Band is considerably higher than that. Maybe a
narrow band-pass filter for that would be best.
You need to know what frequencies are running
around inside the Ku Receiver in order to figure
out what needs to be done.

73 es cul

wb3fup
a Salty Bear (and 10yr Radio Shack Employee)

<RW@nowhere.com> wrote in message
news:71eqbv8hd3g640i9bed8m3edelv21a5i04@4ax.com...
> I just installed and new receiver for the Ku
band on Telstar 5. It
> works great except that now I have some
interference coming in on my
> cable channels. Does anyone know of a readily
available (Radioshack?)
> filter to get rid of this problem?
>
>
> Thanks,
> RW

3099. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 21:21:15 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9jqgd$jdf15$1@ID-134747.news.dfncis.de>
Source record: 118451

HF and 15 meters have never been very good
friends. You of course have a lo-pass filter
attached to your transmitter. The filter, and
your transmitter are well grounded, and you have
at least one 1/4 wave length counterpoise attached
to your driven earth ground.
--
73 es cul

wb3fup
a Salty Bear

"helmsman" <helmsman@mindspring.com> wrote in
message
news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
> Any hams having problems with HF and Directv?
> I have bleed thru on 15 meters, anyone else??

3100. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 21:51:48 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <2fsqbv0fapid1o5f9shv4dp7riu133aan8@4ax.com>
Source record: 118452

On Sat, 10 May 2003 17:21:15 -0400, "WB3FUP \(Mike Hall\)"
<wb3fup@msn.com> wrote:

>HF and 15 meters have never been very good
>friends. You of course have a lo-pass filter
>attached to your transmitter. The filter, and
>your transmitter are well grounded, and you have
>at least one 1/4 wave length counterpoise attached
>to your driven earth ground.

I have a low pass filter between the tranciever and the tuner. The
radio and the tuner use seperate grounds, one to a water pipe in the
basement and the other to a ground rod 8' long outside the basement.
The antenna is a "Spider Dipole"
http://www.spiderantenna.com/spec.html Second picture down the page.
Works good on a 20' pole, Cape Town, Bankok, Alice Springs, ect.
I have a Dell sitting 2 ft from the radio. No problem, only the sat tv
is a problem.

.
Boycott France and there products not made in the U.S.A.
and find another place to vacation.
The U.N is a JOKE!!!!

3101. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:07:08 UTC
From: tdonaly@aol.com
Message-ID: <20030510180708.11765.00000172@mb-m01.aol.com>
Source record: 118453

Richard Harrison said,
>
>Tom, KA6RUH wrote:
>"How can you have two currents, at the same point, traveling in two
>directions?"
>
>Before the days of radio, balanced wire pairs carried signals. Advantage
>of not grounding one side of the circuit was that the noise induced
>equal voltages and currents in both wires of the pair.
>
>At the load, take your pick, equal noise volts on both on both ends of
>the load produce no potential difference across the load, or equal
>currents through the load produce offsetting effects as they flow in
>opposite directions.
>
>SWR as seen in a trough line (slotted line) is conclusive proof of
>currents flowing in opposite directions. Unidirectional flow could not
>produce an interference pattern.
>
>Best regards, Richard Harrison, KB5WZI
>

Well, o.k., so you believe that the charge at a point can move in two
directions at
the same time. That means that, at some point, the same charge is in two
different places. This means there is twice as much charge. Congratulations!
You have just created charge out of nothing. Do you think you could do the
same with energy, which is also conserved? The world could use a good
perpetual motion machine.
73,
Tom Donaly, KA6RUH

3102. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:17:51 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305101417.1452d1db@posting.google.com>
Source record: 118454

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBCC46F.5080902@ieee.org>...
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC4D20.8000804@ieee.org>...
> >
> >>H. Adam Stevens wrote:
> >>
> >>>100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> >>>equals
> >>>100w SGCL--------random-feedline-------+open
> >>>for a lossless stub
> >>
>
> No, you are silly to suggest that the two circuits above are identical.
> There is absolutely nothing at the '+' point in the first diagram capable
> of causing reflections.
>

There doesn't need to be, the current resonating in the stub will
build up charge (increase voltage) at the input to the stub, thereby
preventing the flow of current, because the voltage from the feedline
will be in the same phase and magnitude. Don't be silly!

> > Thank you for the intelligent response, Mr. Stevens, brilliance
> > in simplicity. They are equal in a lossless system, and no ("NET")
> > current flows at the "+" on either diagram.
>
> That's true. No "NET" current. But in the upper diagram, forward current
> is flowing unobstructed into the 1/4WL stub and reflected current is
> flowing unobstructed out of the 1/4WL stub.

Ok, if that's how you wish to think of this situation, that's
fine, but the bottom line in the NET current anyways! So in essence,
you don't really disagree with us at all!

Whew! Don't worry folks, it's not really a complete waste of
time...excellent review and learning for all of us i think!

Slick

3103. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:17:59 UTC
From: tdonaly@aol.com
Message-ID: <20030510181759.11765.00000173@mb-m01.aol.com>
Source record: 118455

>
>Tdonaly wrote:
>> This is one of the reasons I have a hard time believing what
>> you write, Cecil. Go ahead, prove that standing waves can't
>> exist without "...forward and reflected waves flowing in opposite
>> directions." You may even be right, but bald, unproven statements uttered
>> with Jehovah-like solemnity don't make you so.
>
Cecil wrote,
>Unproven? Page 107, section 4.5, "Transmission Lines and Networks"
>by Walter C. Johnson; Frederick Emmons Terman, Consulting Editor.
>"However, when the load reflects part of the incident energy, it is
>found that the rms voltage and current vary almost periodically
>along the line. This effect is caused by the interference between
>the incident and reflected waves, and the resultant variation is
>called a *standing wave*."
>
>"Fields and Waves in Communication Electronics" by Ramo, Whinnery,
>and Van Duzer. Page 27, section 1.16.
>"The total voltage in the line may be regarded as the sum of voltage
>in a positively traveling wave, equal to V+ at the point of discontinuity,
>and a voltage in a reflected or negatively traveling wave, equal to
>V- at the discontinuity."
>
>"Electromagnetics" by Joseph A. Edminister section 14.11, page 224.
>"... the reflected wave in combination with the incident wave
>produces a "standing wave*."
>
>I don't have a reference book that gives any other explanation.
>You're pulling my leg, right?
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Maybe I should get new glasses, but I don't see anything in those references
which would lead me to believe that two oppositely oriented waves are the
only way to create a standing wave. As I said, you _may_ be right, but
you surely haven't proved it.
73,
Tom Donaly

3104. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:36:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD7F09.7070905@ieee.org>
Source record: 118456

Richard Clark wrote:
>>>"...forward and reflected waves flowing in opposite directions."
>>
> contains neither of the words: opposite nor directions.

What is it about "incident", "reflected", "V+", "V-", "positively
traveling", and "negatively traveling", that you don't understand?
--
73, Cecil http://www.qsl.net/w5dxp

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3105. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:45:43 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305101445.23ec84a4@posting.google.com>
Source record: 118457

"jsn35" <28@47.com> wrote in message
news:<5i_ua.2565$hE4.243@newsfep1-gui.server.ntli.net>...
> Hello,
>
> What do you mean by "Q" ?
>

Well, a resonant tank circuit will have a circuit "Q" based upon
the center resonant frequency divided by the difference of the -3dB
roll-off frequencies to each side of the center frequency.

By the same token, you can think of "Q" of an antenna as the
center frequency (1:1 SWR) divided by the difference of the 2:1 SWR
frequencies on either side.

Look at these sites:

http://ourworld.compuserve.com/homepages/demerson/endfire.htm
http://www.cebik.com/bw.html

The folded dipole i was looking at is supposedly no-tune,
broadband for 88-108MHz. But as you never get anything for nothing, i
would expect the gain to less overall, as opposed to the higher gain
("gain" gets complex for antennas, as we are dealing with 3-dimensions
here, but we can assume horizontal gain) that you would get with a
dedicated frequency design that requires tuning for each new
frequency.

Slick

3106. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:49:34 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305101449.56e9f69b@posting.google.com>
Source record: 118458

'Doc <w5lz@cwis.net> wrote in message news:<3EBC8023.A891CD70@cwis.net>...
> "Dr. Slick",
> Just out of curiosity, why do you need one?
> 'Doc

Err, uuhh...research. Yeah! that's it! Reseach for a friend of mine!

:^}

Slick

3107. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:59:41 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD845D.5060908@ieee.org>
Source record: 118460

H. Adam Stevens wrote:
> Energy is traveling both ways simultaneously in the line, to be sure. Down
> and back.
> I was speaking of current; the physical movement of electric charge.
> Electromagnetic waves are not currents.

Current is an intrinsic quantity associated with electromagnetic waves
in a transmission line.

How about this one? Vehicles are not engines.
--
73, Cecil http://www.qsl.net/w5dxp

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3108. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 22:59:59 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <Pvfva.48685$g41.4612357@news1.east.cox.net>
Source record: 118459

I had an R7000 which melted down on a band it was designed for (20 meters). The things are notoriously cranky, poorly made, and can't take any mismatch above 2:1 - it says so right in the manual. The manual also warns you not to try to use the antenna with a tuner. Such warnings were conspicuously absent from the advertising.

If Cushcraft puts that caveat on the bands it is designed for, one can only guess that operating on 80 would be a disaster unless you run QRP. Problem is the antenna would be so inefficient you wouldn't be heard.

--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64

"Kevin Smeltz" <ksmeltz@rogers.com> wrote in message
news:TlNua.120980$M81.47717@news02.bloor.is.net.cable.rogers.com...
> I have a Cushcraft R7000 (40-10) and an MFJ-969 tuner. Would it be stupid
/
> harmful to run 80m with this combination?
>
>

3109. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:04:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD8566.10307@ieee.org>
Source record: 118461

Tdonaly wrote:
> Well, o.k., so you believe that the charge at a point can move in two
> directions at the same time.

You are confusing energy with charge carriers. Energy can indeed move
in two directions at the same time. It's the charge carriers that cannot
move in two directions at the same time.

Can water wave energy move in two directions at the same time? Of course.
Can a water molecule move in two directions at the same time. Of course not.
--
73, Cecil http://www.qsl.net/w5dxp

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3110. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:16:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD8858.7090901@ieee.org>
Source record: 118463

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:

100w SGCL--------random-feedline-------+---1/4WL same feedline--short
1.4 amps forward, 1.4 amps reflected 2.8 amps

> There doesn't need to be, the current resonating in the stub will
> build up charge (increase voltage) at the input to the stub, thereby
> preventing the flow of current, because the voltage from the feedline
> will be in the same phase and magnitude. Don't be silly!

But it *doesn't* prevent the flow of current at all. You can measure 2.8
amps at the shorted end of the stub. How did that current get there if the
stub is preventing the flow of current? All that happens at the '+' point
above is that forward current equals reflected current, they are out of
phase, and thus superpose to zero, but only at the '+' point and other
similar points N*1/2WL away.

> Ok, if that's how you wish to think of this situation, that's
> fine, but the bottom line in the NET current anyways! So in essence,
> you don't really disagree with us at all!

Net current is too trivial to need discussing. There exist forward and
reflected component currents that can cause certain effects like high
SWR and losses within the stub.
--
73, Cecil http://www.qsl.net/w5dxp

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3111. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:17:08 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr240ra0naea6@corp.supernews.com>
Source record: 118462

Cecil
You are comparing photons and volkswagens.....
and backwards.....
but to get it right

engines are not vehicles
but vehicles contain engines

currents are not electromagnetic waves
but electromagnetic waves in transmission lines use currents to propagate

if the transmission line is open or shorted:
the current has nodes every 1/2 wavelength
the voltage has nodes every 1/2 wavelength
these node sets are offset 1/4 wavelength

It doesn't mean energy isn't moving through the line

electric is part of electromagnetic
magnetic is part of electromagnetic

This thread has me thinking of the physics toy consisting of several
steel spheres suspended in a line such that each may swing along the line.
Pull one back at one end an let it go; The one at the other end bounces.

73
H.

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBD845D.5060908@ieee.org...
> H. Adam Stevens wrote:
> > Energy is traveling both ways simultaneously in the line, to be sure.
Down
> > and back.
> > I was speaking of current; the physical movement of electric charge.
> > Electromagnetic waves are not currents.
>
> Current is an intrinsic quantity associated with electromagnetic waves
> in a transmission line.
>
> How about this one? Vehicles are not engines.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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3112. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:26:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD8ABA.7090108@ieee.org>
Source record: 118465

Tdonaly wrote:
> Maybe I should get new glasses, but I don't see anything in those references
> which would lead me to believe that two oppositely oriented waves are the
> _only_ way to create a standing wave. As I said, you _may_ be right, but
> you surely haven't proved it.

As you probably know, it is impossible to prove negative assertions except in exclusive binary situations. So instead of asking me to "Go ahead, prove that standing waves can't exist without ... forward and reflected waves flowing in opposite directions.", you need to accept the rules of classical logic and set about proving your own positive assertion.

Tom's Postulate: Standing waves in a transmission line can be created by some means other than the superposition of a forward traveling wave and a rearward traveling wave.

The possibilities are unlimited and all you have to do is find one case to make your implication true. Good luck, Tom.
--
73, Cecil http://www.qsl.net/w5dxp

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3113. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:27:15 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr2n07qsab8d2@corp.supernews.com>
Source record: 118464

Cecil asked

"How did that current get there if the stub is preventing the flow of current?"

It got there before equilibrium was reached; Filling the tank circuit, so to speak.
As soon as the energy flow was the same in both directions current at 1/4 wave from the short vanished.
(Any further current at the 1/4 wave point is due to losses.)

73
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EBD8858.7090901@ieee.org...
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>
> 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> 1.4 amps forward, 1.4 amps reflected 2.8 amps
>
> > There doesn't need to be, the current resonating in the stub will
> > build up charge (increase voltage) at the input to the stub, thereby
> > preventing the flow of current, because the voltage from the feedline
> > will be in the same phase and magnitude. Don't be silly!
>
> But it *doesn't* prevent the flow of current at all. You can measure 2.8
> amps at the shorted end of the stub. How did that current get there if the
> stub is preventing the flow of current? All that happens at the '+' point
> above is that forward current equals reflected current, they are out of
> phase, and thus superpose to zero, but only at the '+' point and other
> similar points N*1/2WL away.
>
> > Ok, if that's how you wish to think of this situation, that's
> > fine, but the bottom line in the NET current anyways! So in essence,
> > you don't really disagree with us at all!
>
> Net current is too trivial to need discussing. There exist forward and
> reflected component currents that can cause certain effects like high
> SWR and losses within the stub.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>

>
>
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3114. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:34:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD8C90.5050701@ieee.org>
Source record: 118467

H. Adam Stevens wrote:
> This thread has me thinking of the physics toy consisting of several
> steel spheres suspended in a line such that each may swing along the line.
> Pull one back at one end an let it go; The one at the other end bounces.

Pull one back at each end and let it go. You will have two balls moving
in opposite directions.
--
73, Cecil http://www.qsl.net/w5dxp

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3115. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:35:52 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <uqidndGE8OFHESCjXTWcpA@crocker.com>
Source record: 118466

that is true, it isn't always the tallest structure, or even the top of a structure that gets hit. in my work i have seen some interesting pictures of lighting coming down then going sideways into power lines. also the sides of the empire state building sometimes get hit well below the antennas at the top.

"H. Adam Stevens" <solo@totalaccess.net> wrote in message news:vbqnkfk7n14614@corp.supernews.com...
> Point conceded.
> The scale of the thunderstorm dictates dimensions, which makes the poles
> very small.
> My main point was that tall metal structures aren't necessarily going to be
> what gets hit.
> People were quite shaken. Big hole in the wall. Quit thinking about
> football.
> 73
> H.
>
> "David Robbins" <k1ttt@arrl.net> wrote in message
> news:MoydnQ70ruz4oiCjXTWcow@crocker.com...
> >
> > "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> > news:vbq6qrojem454e@corp.supernews.com...
> > > Grounded, sharp points (see "sharp point discharge") can leak charge off
> > > into the air preventing electrostatic potential difference build up.
> > Wasn't
> > > it Ben Franklin invented the lightning rod? The pointed ends leak charge
> > off
> > > onto the air.
> >
> > Wrong. the Franklin 'lightning rod' is a device to initiate the streamer
> > that i described in another post that goes up to meet the downcoming
> leader.
> > its purpose is to trigger the lightning, but in such a way that it hits
> the
> > rod and is conducted safely outside the building to ground. over the
> years
> > these have been enhanced by various methods including radioactive
> material,
> > small spark gaps, and lots of odd looking shapes, all meant to trigger

> > lightning in a controlled way.
> >
> > there is no way that any device on the ground is going to leak off
enough
> > charge to prevent the build up. going back to some of the other
> comments,
> > since the charge builds up in the cloud which is thousands of feet above
> > most structures and attracts the opposite charge from a very large
radius
> on
> > the ground well before the stroke actually occurs, there is nothing you
> can
> > do that will cancel that build up... indeed the actual charging effect
is
> > all within the cloud, with normally negative charge getting pumped to
the
> > bottom of the cloud and positive charge to the top. the build up of
> charge
> > on the ground is just a secondary effect from the proximity of the
charged
> > cloud base and is then enhanced as the leader approaches the ground.
> >
> > one good observation is that the charge on the ground charges up
> everything,
> > buildings, fences, trees, etc. so if sharp points could dissipate the
> > charge why do pine forests get struck at all???
> >
> >
> >
> >
> >
>
>

3116. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:36:14 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305101536.5eb9b416@posting.google.com>
Source record: 118468

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:<3ebc756e_4@news1.prserv.net>...
> www.antennasystems.com
> www.dielectric.com
> www.broadcast.harris.com
> www.shively.com
> www.omb.com
> www.psibroadcast.com
>
> for starters.
>

Thanks George. The MP-1 from OMB looks promising, Progressive
Concepts selling it for $270. I wonder if there is a cheaper place?

Slick

3117. Re: Going to the Dayton Hamvention ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:41:33 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <8g3rbv89gpbe2b8t7ohkheq5vks6oo632d@4ax.com>
Source record: 118374

Hope you have a good time Allen. As j-pole go you build one of the
better ones.

Danny, K6MHE

On 10 May 2003 15:24:59 GMT, arrow146@aol.com (Arrow146) wrote:

>Arrow Antenna is Celebrating our 10th Year at the Dayton Hamvention
>So we are having a 10% Off SALE at the Hamvention.
>
>I know all you Antenna Experts don't need any of my stuff, but
>Maybe you can stop by and say Hello.
>
>I finely got the outside spaces I have been trying to get for years.
>Spaces 501, 502 & 503 , Just inside gate J
>
>I sure miss all the arguments over J-Poles, but I have just
>been too busy making them . (I still scan this group though)
>
>See you at Dayton
>
>73 Al Lowe N0IMW
><A HREF="http://ArrowAntennas.com">ArrowAntenna.com</A>

3118. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:42:44 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr3k0dileof19@corp.supernews.com>
Source record: 118369

And the ones in the center don't move.
73 om es tnx fer the qso
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBD8C90.5050701@ieee.org...
> H. Adam Stevens wrote:
> > This thread has me thinking of the physics toy consisting of several
> > steel spheres suspended in a line such that each may swing along the
line.
> > Pull one back at one end an let it go; The one at the other end bounces.
>
> Pull one back at each end and let it go. You will have two balls moving
> in opposite directions.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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3119. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:43:01 UTC
From: richardharrison@webtv.net
Message-ID: <18747-3EBD8E85-225@storefull-2318.public.lawson.webtv.net>
Source record: 118377

Tom, KA6RUH wrote:
"---prove that standing waves can`t exist without forward and reflected waves flowing in opposite directions."

A negative is hard to prove, but common sense says a single wave on a uniform line produces a non-varying voltage response, on a multicycle basis, other than a steady decline due to loss.

As there is a single signal source on the line, and as a matched line has no SWR, the only possible source of standing waves is reflection.

Best regards, Richard Harrison, KB5WZI

3120. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:46:54 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr3rrqimqlrec@corp.supernews.com>
Source record: 118370

To quote one of my Physics profs: "It follows it's forces."
I should repeat the Lubbock tale periodically.
It's like "Where does an 800 pound gorilla sleep?"
Bottom line for us hams: DISCONNECT.

73 es gud DX
H.
NQ5H

"David Robbins" <k1ttt@arrl.net> wrote in message
news:uqidndGE8OFHESCjXTWcpA@crocker.com...
> that is true, it isn't always the tallest structure, or even the top of a
> structure that gets hit. in my work i have seen some interesting pictures
> of lighting coming down then going sideways into power lines. also the
> sides of the empire state building sometimes get hit well below the
antennas
> at the top.
>
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> news:vbqnkfk7n14614@corp.supernews.com...
> > Point conceded.
> > The scale of the thunderstorm dictates dimensions, which makes the poles
> > very small.
> > My main point was that tall metal structures aren't necessarily going to
> be
> > what gets hit.
> > People were quite shaken. Big hole in the wall. Quit thinking about
> > football.
> > 73
> > H.
> >
> > "David Robbins" <k1ttt@arrl.net> wrote in message
> > news:MoydnQ70ruz4oiCjXTWcow@crocker.com...
> > >
> > > "H. Adam Stevens" <solo@totalaccess.net> wrote in message
> > > news:vbq6qrojem454e@corp.supernews.com...
> > > > Grounded, sharp points (see "sharp point discharge") can leak charge
> off
> > > > into the air preventing electrostatic potential difference build up.
> > > Wasn't
> > > > it Ben Franklin invented the lightning rod? The pointed ends leak
> charge
> > > off
> > > > onto the air.
> > >

> > > Wrong. the Franklin 'lightning rod' is a device to initiate the
> streamer
> > > that i described in another post that goes up to meet the downcoming
> > leader.
> > > its purpose is to trigger the lightning, but in such a way that it
hits
> > the
> > > rod and is conducted safely outside the building to ground. over the
> > years
> > > these have been enhanced by various methods including radioactive
> > material,
> > > small spark gaps, and lots of odd looking shapes, all meant to trigger
> > > lightning in a controlled way.
> > >
> > > there is no way that any device on the ground is going to leak off
> enough
> > > charge to prevent the build up. going back to some of the other
> > comments,
> > > since the charge builds up in the cloud which is thousands of feet
above
> > > most structures and attracts the opposite charge from a very large
> radius
> > on
> > > the ground well before the stroke actually occurs, there is nothing
you
> > can
> > > do that will cancel that build up... indeed the actual charging effect
> is
> > > all within the cloud, with normally negative charge getting pumped to
> the
> > > bottom of the cloud and positive charge to the top. the build up of
> > charge
> > > on the ground is just a secondary effect from the proximity of the
> charged
> > > cloud base and is then enhanced as the leader approaches the ground.
> > >
> > > one good observation is that the charge on the ground charges up
> > everything,
> > > buildings, fences, trees, etc. so if sharp points could dissipate the
> > > charge why do pine forests get struck at all???
> > >
> > >
> > >
> > >
> > >
> >
> >
>
>

3121. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:48:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBD8FB1.6090206@ieee.org>
Source record: 118371

H. Adam Stevens wrote:
> Cecil asked
>
> "How did that current get there if the stub is preventing the flow of
> current?"
>
> It got there before equilibrium was reached; Filling the tank circuit, so to
> speak.
> As soon as the energy flow was the same in both directions current at 1/4
> wave from the short vanished.
> (Any further current at the 1/4 wave point is due to losses.)

RF current flow is dynamic. Where is the 2.8 amps steady-state at the
stub's shorted end coming from and going to? Current must flow in a
loop. Where is the current loop? There is no impedance discontinuity
at the mouth of the stub that could cause reflections.

Here is what seems logical to me:

```
SGCL-----------------50 ohm coax---------------------------------------
2.8 amp
1.4A forward current short
100W Signal Generator----->---------->---------->---------->----------+
| 50 ohm coax |
Circulator Load-----------<----------<----------<----------<----------+
1.4A reflected current
```

There's the current loop. Kirchhoff is happy. 100w of reflected power
is dissipated in the circulator load.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3122. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:55:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBD9168.437358E8@cwis.net>
Source record: 118372

helmsman,
You wouldn't by any chance be using a 'wall-wort'
to power anything, would you?
'Doc

3123. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-10 23:58:03 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBD91C7.2060808@attbi.com>
Source record: 118373

H. Adam Stevens wrote:
> And the ones in the center don't move.

> NQ5H
>

But there is elastic deformation and energy transfer in the middle balls!!

W1MCE

3124. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 00:05:33 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr4upkhq8bhcd@corp.supernews.com>
Source record: 118375

Cecil
It's an LC tank circuit: ..... See "flywheel effect".
DC current needs a "loop". Cecil, this ain't DC.
The electrons are just sloshing back and forth from the center to the shield through the short, alternately storing the energy in the H field between the center and shield and the E field between the center and shield. When times comes to escape the little suckers see an equally charged mob of indistinguishable kin at the door and they run away in repulsion. This is spatially repeated every 1/2 wave back to the (by now smoking) transmitter.
73
H.
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message news:3EBD8FB1.6090206@ieee.org...
> H. Adam Stevens wrote:
> > Cecil asked
> >
> > "How did that current get there if the stub is preventing the flow of
> > current?"
> >
> > It got there before equilibrium was reached; Filling the tank circuit, so to
> > speak.
> > As soon as the energy flow was the same in both directions current at 1/4
> > wave from the short vanished.
> > (Any further current at the 1/4 wave point is due to losses.)
>
> RF current flow is dynamic. Where is the 2.8 amps steady-state at the
> stub's shorted end coming from and going to? Current must flow in a
> loop. Where is the current loop? There is no impedance discontinuity
> at the mouth of the stub that could cause reflections.
>
> Here is what seems logical to me:
>
> SGCL-----------------50 ohm coax--
> 2.8 amp
> 1.4A forward current short
> 100W Signal Generator----->---------->---------->---------->----------+
> | 50 ohm coax |
> Circulator Load----------<----------<----------<----------<----------+
> 1.4A reflected current
>

> There's the current loop. Kirchhoff is happy. 100w of reflected power
> is dissipated in the circulator load.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3125. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 00:11:20 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbr59kcn9aa667@corp.supernews.com>
Source record: 118376

you betcha
but it's a neat widget

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EBD91C7.2060808@attbi.com...
>
>
> H. Adam Stevens wrote:
> > And the ones in the center don't move.
>
> > NQ5H
> >
>
> But there is elastic deformation and energy transfer in the middle balls!!
>
> W1MCE
>

3126. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 00:44:32 UTC
From: richardharrison@webtv.net
Message-ID: <24293-3EBD9CF0-191@storefull-2315.public.lawson.webtv.net>
Source record: 118381

Tom, KA6RUH wrote:
"Well, o.k., so you believe that the charge at a point can move in two directions at once."

Yes, because it is divisible. The total charge consists of billions and billions of them. Like the word "fish", "charge" can represent one or a million of them. I can`t predict the movement of a single "charge", the electrical value of a single electron that is, but in many instances, I can make a good estimate of what most of the gang will do.

Best regards, Richard Harrison, KB5WZI

3127. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 00:50:37 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9k6othia1@titan.btinternet.com>
Source record: 118378

"David Robbins" wrote
> that is true, it isn't always the tallest structure, or even the top of a
> structure that gets hit. in my work i have seen some interesting pictures
> of lighting coming down then going sideways into power lines. also the
> sides of the empire state building sometimes get hit well below the
antennas
> at the top.
==========

Is it because somebody left a window open on a lower floor? A current of warm, moist, higher conductivity air flows upwards at an angle from the building. If you were an angry downcoming streak of lightning putting out feelers and wondering where to go next what would you do ?

Although, in the 1920's when I was about four years of age, during thunderstorms my aged grandmother always gave me strict instructions to stand by the back door and open it fast and wide whenever lightning flashed. After the thunder the door had to be banged shut. This had something to do with allowing the devil easy access to the house and disappear again up the house chimney at the bottom of which there was a roaring coal fire in the grate. It was intended as a sort of appeasement to the old boy. It seemed to work. At any rate dear old grandmother's house was never struck by lightning. The only damage was a wet floor carpet when the rain blew in.

I hope this helps with your investigations.

Reg, G4FGQ

3128. Re: Suggestions for a triband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 00:51:30 UTC
From: fmmck@aol.com
Message-ID: <20030510205130.26892.00000148@mb-m04.aol.com>
Source record: 118379

<< Can anyone recommend a triband mobile antenna for 6m/2m/70cm that will work with a magmount NMO mount? >>

Andy-

I have the Diamond CR627NMOB. However, it came with a warning NOT to use it with a magnet mount.

I also have an NMO mount on a large magnet. I didn't get very far down the highway before it came off!

73, Fred, K4DII

3129. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 01:07:35 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <if8rbv8390iu8o5onpm7d3s08n1qppfe5c@4ax.com>
Source record: 118380

On Sat, 10 May 2003 18:55:20 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>helmsman,
> You wouldn't by any chance be using a 'wall-wort'
>to power anything, would you?
> 'Doc

No, I use a Kenwood PS-52 12 Volt DC power supply.
.
Boycott France and there products not made in the U.S.A.
and find another place to vacation.
The U.N is a JOKE!!!!

3130. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 01:27:15 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <158rbvgq8767vioopjiokpmiudbvpia03n@4ax.com>
Source record: 118382

On 10 May 2003 15:45:43 -0700, radio913@aol.com (Dr. Slick) wrote:

|"jsn35" <28@47.com> wrote in message
news:<5i_ua.2565$hE4.243@newsfep1-gui.server.ntli.net>...
|> Hello,
|>
|> What do you mean by "Q" ?
|>
|
| Well, a resonant tank circuit will have a circuit "Q" based upon
|the center resonant frequency divided by the difference of the -3dB
|roll-off frequencies to each side of the center frequency.
|
| By the same token, you can think of "Q" of an antenna as the
|center frequency (1:1 SWR) divided by the difference of the 2:1 SWR
|frequencies on either side.

I disagree. First of all, at the zero reactance point, the SWR isn't necessarily 1:1. What if it's 2:1 to start with; what is the Q by your definition?

Antenna Q is better determined by looking at the reactance slope around resonance.

3131. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 01:57:26 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbrbgi65tqgh69@corp.supernews.com>
Source record: 118383

reality check

q is not divisible
one electron at a time
sorry, them's the rules

oh, and angular momentum is in integers
it's just that way
deal with it

the electron(s) at (ideal) current nodes do not move
(don't give me the temp or Brownian motion or uncertainty principle (Gauss
1600's, nice homework problem in E&M) ....BS)
and "jitter"

oh plaese.......

(pair production) may work for Steve Hawking (tears) explaining black hole
radiation
but waves are sophomoric (as in a sophomore course in physics)

see:
1. TRAVELING WAVES
2. STANDING WAVES

Reg, I really must introduce you to Bourbon and Quantum Mechanics.
Surely you've read A Brief History of Time and Pale Blue Dot?
I read Hawking decades before: Big SpaceTime math iconography.
Large Scale Structure of SpaceTime. Before that Thorne and Wheeler.
I visited The Royal Society and Cambridge once on Motorola's tab.
Wonderful place what with Copernicus' bust at the door and Newton's portrait
above..
nite
H.

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:24293-3EBD9CF0-191@storefull-2315.public.lawson.webtv.net...
> Tom, KA6RUH wrote:
> "Well, o.k., so you believe that the charge at a point can move in two
> directions at once."
>
> Yes, because it is divisible. The total charge consists of billions and
> billions of them. Like the word "fish", "charge" can represent one or a
> million of them. I can`t predict the movement of a single "charge", the
> electrical value of a single electron that is, but in many instances, I
> can make a good estimate of what most of the gang will do.
>

> Best regards, Richard Harrison, KB5WZI
>
>
>

3132. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 01:58:32 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBDAE48.9000309@ieee.org>
Source record: 118384

H. Adam Stevens wrote:
> Cecil
> It's an LC tank circuit: ..... See "flywheel effect".
> DC current needs a "loop". Cecil, this ain't DC.
> The electrons are just sloshing back and forth from the center to the shield
> through the short, alternately storing the energy in the H field between the
> center and shield and the E field between the center and shield.

I'm sorry, but I can't find "sloshing" in my IEEE Dictionary. :-)

At the shorted end of the stub, all the energy is stored in the H field,
none in the E field. At that point, it is NOT sloshing back and forth.
How does the H-field at the shorted end of the stub sustain itself
without an E-field and therefore without any sloshing back and forth?
--
73, Cecil http://www.qsl.net/w5dxp

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3133. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 02:10:51 UTC
From: Travis Jordan <no.one@no.net>
Message-ID: <Liiva.115663$My6.1956903@twister.tampabay.rr.com>
Source record: 118385
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EBC575A.5070800@attbi.com...
> The exact language will be interesting to read.

I asked Toyota this question directly by email:
"I would like to know if there are any restrictions (output power, antenna gain and/or location, frequency band, modulation type, etc.) on the installation of 2-way radio equipment in the 2003/2004 model year vehicles, and if so, what those restrictions are."

Here is their response, edited only to remove HTML tags.

Subject
Inquiry regarding limitations of 2-way radio equipment installed in 2003/2004 Toyota vehicles

Discussion Thread

Response (Sharon) 05/09/2003 03:42 PM
Thank you for contacting Toyota Motor Sales, U.S.A., Inc. We appreciate the opportunity to address your inquiry.

The installation of a mobile two-way radio system in any Toyota vehicle could affect electronic systems such as multiport fuel injection system/sequential multiport fuel injection system, cruise control system, anti-lock brake system, SRS (supplemental restraint system) air bag system and seat belt pretensioner system.

Vehicle electronic components could be damaged, and/or the proper and safe operation of the vehicle might be compromised if, for example, any of the following situations (and potentially others) existed:

The transceiver is not "type-accepted."

The power and/or antenna cables radiate RF current

Routing of the power and/or antenna cables results in inductive or capacitive coupling

Transmitter, feedline and/or antenna inefficiencies result in an unacceptable level of RF radiation exposure to the ECM's

The standing wave ratio is unacceptably high

The antenna ground plane is inadequate

Installation of a 2-way radio in Toyota vehicles should not present issues under the following conditions:

The transceiver must be type-accepted by the FCC, and not modified in any way

Maximum output power complies with FCC regulations (100 watts)

All installation and operating instructions provided by Toyota and the equipment manufacturer must be followed closely

The antenna must be installed as far away as possible from all vehicle electronic control modules (ECM) or other onboard computer/sensors

The antenna cabling must be routed no closer than 20 cm (7-7/8 inches) to any ECM or other onboard computers/sensors

Antenna and power cabling must not be routed along side or in conjunction with the vehicle's wire harness

It is always preferable to cross vehicle harness at right angles when possible

Antenna and antenna cabling should be properly adjusted to obtain the lowest possible SWR (standing wave radio)

Disclaimer: The basic installation guidelines provided may be of assistance to you. Although they may not fully answer all your specific requests, Toyota must take reasonable precautions to limit our potential legal liability, because the full range of possible variables noted earlier could never be fully anticipated. Also, more detailed information that would provide the operational details of Toyota's electronic system is considered proprietary.
It must be emphasized that, under the terms of Toyota's new vehicle warranty, damage caused by RF energy from a higher power mobile radio is specifically excluded from coverage because it is not the result of faulty materials or workmanship. Accordingly, the owner assumes all such responsibility.

We recommend that you contact your local Toyota dealership for any additional clarification regarding the installation process that you may need.

3134. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 02:22:18 UTC
From: tdonaly@aol.com
Message-ID: <20030510222218.20256.00000096@mb-m13.aol.com>
Source record: 118386

Cecil wrote,
>
>Tdonaly wrote:
>> Maybe I should get new glasses, but I don't see anything in those
>references
>> which would lead me to believe that two oppositely oriented waves are the
>> _only_ way to create a standing wave. As I said, you _may_ be right, but
>> you surely haven't proved it.
>
>As you probably know, it is impossible to prove negative assertions except
>in exclusive binary situations. So instead of asking me to "Go ahead, prove
>that standing waves can't exist without ... forward and reflected waves
>flowing in opposite directions.", you need to accept the rules of classical
>logic and set about proving your own positive assertion.
>
>Tom's Postulate: Standing waves in a transmission line can be created by
>some means other than the superposition of a forward traveling wave and a
>rearward traveling wave.
>
>The possibilities are unlimited and all you have to do is find one case
>to make your implication true. Good luck, Tom.
>--
>73, Cecil http://www.qsl.net/w5dxp
>
You're the one who said, without any proof, that the only way a standing wave
can exist on a transmission line is if it is the resultant of two opposing
waves.
Perhaps you'd like to explain why you think it is the "only" way. Challenging
me
to prove the opposite is the old "you cain't prove it ain't" conundrum. I
didn't say
or imply that standing waves can be created in any other way than the one you
postulated. In fact, I said you might even be right. The problem is that you
made
a statement without bothering to provide any proof. Since you don't feel
compelled
to provide any evidence that what you said is true, there's no reason for
anyone
to feel compelled to believe it.
73,
Tom Donaly

3135. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 02:34:22 UTC
From: tdonaly@aol.com
Message-ID: <20030510223422.20256.00000097@mb-m13.aol.com>
Source record: 118387

Cecil wrote,
>
>
>Tdonaly wrote:
>> Well, o.k., so you believe that the charge at a point can move in two
>> directions at the same time.
>
>You are confusing energy with charge carriers. Energy can indeed move
>in two directions at the same time. It's the charge carriers that cannot
>move in two directions at the same time.
>
>Can water wave energy move in two directions at the same time? Of course.
>Can a water molecule move in two directions at the same time. Of course not.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

I'm glad you agree with me. I was only talking about charge. You claim that
two "currents," one coming out of and the other going into a shorted quarter
wave
stub have a physical existence, even though the resultant current is zero. If
charge carriers can't move in two directions at the same time, will you tell me
just
what the hell is moving?
73,
Tom Donaly, KA6RUH

3136. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 02:39:31 UTC
From: richardharrison@webtv.net
Message-ID: <29734-3EBDB7E3-321@storefull-2312.public.lawson.webtv.net>
Source record: 118389

Tom, KA6RUH wrote:
"q is not divisible."

An example: On a capacitor, q = CE , or the charge is the product of capacitance and volts.

The capacitance could be the sum of several capacitors in parallel. If there were two identical capacitors making the total capacitance and I took one away, then each would contain 1/2 the previous charge.

I just divided q by two.

Best regards, Richard Harrison KB5WZI

3137. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 02:42:52 UTC
From: tdonaly@aol.com
Message-ID: <20030510224252.20256.00000098@mb-m13.aol.com>
Source record: 118388

Richard Harrison wrote,
>
>Tom, KA6RUH wrote:
>"Well, o.k., so you believe that the charge at a point can move in two
>directions at once."
>
>Yes, because it is divisible. The total charge consists of billions and
>billions of them. Like the word "fish", "charge" can represent one or a
>million of them. I can`t predict the movement of a single "charge", the
>electrical value of a single electron that is, but in many instances, I
>can make a good estimate of what most of the gang will do.
>
>Best regards, Richard Harrison, KB5WZI
>

Nice try, Richard. Evidently, you think it divides up into two parts, not necessarily equal. Switching the discussion to the atomic level won't save you because all the charge at a certain point in a transmission line is subject to the same combination of influences.
73,
Tom Donaly

3138. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 03:03:07 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030510230307.11876.00000204@mb-m12.aol.com>
Source record: 118390

> But by pure coincidence, I met someone recently who
>is non-technical and has an interest (apparently financial) in CFA
>development. I'm casting about for ways I can get her to ask the
>right (non-technical) questions to get to the truth.

Almost as good investment as in Nigerian scams.
Better to blow the money in the casino, you get some fun and possibility of winning something, rather than blowing it on CFA (Crazy Freaktal Antenna?)

Yuri, K3BU

3139. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 03:05:48 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030510230548.11876.00000205@mb-m12.aol.com>
Source record: 118391

> Just out of curiosity, why do you need one?

That is the Q!

Yuri

3140. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 03:07:46 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030510230746.11876.00000206@mb-m12.aol.com>
Source record: 118392

>60 foot poles are a snap to build.
>
>Rick N6RK

Nice job on verticals and radials, Thanks!

Yuri

3141. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 03:42:46 UTC
From: richardharrison@webtv.net
Message-ID: <24294-3EBDC6B6-79@storefull-2315.public.lawson.webtv.net>
Source record: 118395

CAM, W5DXP wrote:
"How does the H-field at the shorted end of the stub sustain itself
without an E-field and therefore without any sloshing back and forth?"

The changing current, traveling longitudinally in and out of the short, induces a new voltage difference across the transmission line. Polarity of the new voltage is out-of-phase with the incident voltage. This accounts for zero volts found at the short. It is the sum of equal volts in incident and reflected waves found at a hard short because they are 180-degrees out-of-phase and the reflection is complete. The new volts reach their maximum 1/4-wave back from the short. They are the sum of counter-rotating vectors representing the incident and reflected voltages. Maximum is twice the magnitude of the incident wave volts. At this maximum voltage point, the current has dropped to zero in a lossless line with a hard short. In the short the current was double that of the incident current because the H-field had to absorb for an instant the energy of the momentairily collapsed E-field.

Fields, are proportional to the volts and amps which produce them. E and H fields equally share the energy in normal propagation. The direction of the H-field depends on the travel direction of the current producing the the field. Remember the right-hand and left-hand rules?

Best regards, Richard Harrison, KB5WZI

3142. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 03:50:46 UTC
From: lousherry <lousherry@lanset.com>
Message-ID: <3EBDC896.4040909@lanset.com>
Source record: 118393
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

You could make millions if you could figure that one out. Something in
the line of a continuous loop feedback system.

Craig Buck wrote:

> Let me know when you find a way to put the key down and blow the woofers and
> amp off the obnoxious bass pounding moron in the car next to you.
>

3143. 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 04:11:29 UTC
From: RoyaltyFreePhotos.com
Message-ID: <b9kiht$3v1$1@news.chatlink.com>
Source record: 118394

I am hell bent on the idea of building a Sturba Curtain for 10 meters this spring. I have some good plans and formulas. Does anyone have any actual experience building one of these things?

73,

Bill
- - - - -
Great European Gramour photos -
Great European models -

http://RoyaltyFreePhotos.com
- - - - -

3144. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 04:58:30 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBDD876.8070907@ieee.org>
Source record: 118396

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "How does the H-field at the shorted end of the stub sustain itself
> without an E-field and therefore without any sloshing back and forth?"
>
> The changing current, traveling longitudinally in and out of the short,
> induces a new voltage difference across the transmission line. Polarity
> of the new voltage is out-of-phase with the incident voltage. This
> accounts for zero volts found at the short. It is the sum of equal volts
> in incident and reflected waves found at a hard short because they are
> 180-degrees out-of-phase and the reflection is complete.

It was a loaded question if no forward and reflected waves exist.
You see, the opposing argument is that energy just sloshes back
and forth between the reactive components and forward and reflected
waves don't really exist.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3145. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 05:11:42 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <vbrmshc1huksd8@corp.supernews.com>
Source record: 118397

Hi,

Guessing you combined the sat receiver signal with the cable someway and fed to the TV? Perhaps you used a splitter/coupler? Interference goes away when you disconnect sat coax? How about with sat coax connected and KU receiver unplugged - powered down?

Is really a filter needed? Perhaps an attenuator on the sat coax before you combine?

Just curios, what's on T5 at KU? My KU LNB has been dead a couple of years.

Regards,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

3146. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 06:10:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBDE96B.E1269216@cwis.net>
Source record: 118398

helmsman,
Should have been more specific. I meant with the
DirectTV thingy...
'Doc

3147. Re: homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 06:18:44 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBDEB44.68280980@cwis.net>
Source record: 118399

Wes,
Have you tried asking 'Comet' where you can
find the required mount, or is this strictly
because you want to make one your self?
'Doc

3148. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 11:34:12 UTC
From: richardharrison@webtv.net
Message-ID: <24293-3EBE3534-232@storefull-2315.public.lawson.webtv.net>
Source record: 118401

Robert 11 wrote:
"If the insulators are perfect, there would be no arcing."

Don`t count on it. The insulator can make little difference for lightning. I worked 10 years in a radio station with a 4-tower directional array. It was in thunderstorm country. Approaching stornms would often charge the air so highly that guy wire segments flashed over their insulators with a loud bang. At times these flashes were so numerous that transmitter loading was affected and the transmitter would shut-down for a moment. This, in a system where the power was divided between 4 towers.

Your base insulator will have little effect when lightning strikes your tower, or even on less severe discharges which will occur if you are situated in an area which has lightning. I`ve erected towers in Tierra Del Fuego which has never seen a lightning strike in the memory of mankind. The base insulator in any case has little to do with the attractiveness of the tower to a lightning strike. The voltages are far too high for the insulator to make any practical difference.

Best regards, Richard Harrison, KB5WZI

3149. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 11:40:20 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <nkdsbvoe4rhdarivla1qgnlr6j3kuj3c8t@4ax.com>
Source record: 118400

On Sun, 11 May 2003 01:10:51 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>helmsman,
> Should have been more specific. I meant with the
>DirectTV thingy...
> 'Doc

120V right out of the wall plug.

.
Boycott France and there products not made in the U.S.A.
and find another place to vacation.
The U.N is a JOKE!!!!

3150. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 12:13:21 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <b9lep3$km4pu$1@ID-52642.news.dfncis.de>
Source record: 118402

I have two Directv dishes up, one of the old style 18" circular and one new, elliptical. On 40-10m at 500w I get no interference. On 6m > 70cm at 100w, I get no interference. No problems whatsoever.

I'd check for a bad ground/cable connection on one of the coaxes to/from the DirecTV setup.

...hasan, N0AN

"helmsman" <helmsman@mindspring.com> wrote in message
news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
> Any hams having problems with HF and Directv?
> I have bleed thru on 15 meters, anyone else??

3151. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 12:26:43 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <7krva.160$mK2.9406@news20.bellglobal.com>
Source record: 118404

"J Tabor"
> Just curios, what's on T5 at KU?

http://www.lyngsat.com/t5.shtml
Scroll down past the C band for the Ku band.

Lots of 'ethnic' programming, much of it FTA (Free to Air).
Also, various subscription channels.

3152. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 12:30:18 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <sigsbvclelekikqhhq1brvorks23lb2cfh@4ax.com>
Source record: 118403

On Sun, 11 May 2003 07:13:21 -0500, "hasan schiers"
<schiers@netins.net> wrote:

>I have two Directv dishes up, one of the old style 18" circular and one new,
>elliptical. On 40-10m at 500w I get no interference. On 6m > 70cm at 100w, I
>get no interference. No problems whatsoever.
>
>I'd check for a bad ground/cable connection on one of the coaxes to/from the
>DirecTV setup.
>
>...hasan, N0AN
>
Thanks I'll check it.
.
Boycott France and there products not made in the U.S.A.
and find another place to vacation.
The U.N is a JOKE!!!!

3153. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 12:35:49 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <Esrva.187$mK2.10134@news20.bellglobal.com>
Source record: 118405

RW@nowhere.com
> I just installed and new receiver for the Ku band on Telstar 5.
> It works great except that now I have some interference coming
> in on my cable channels. Does anyone know of a readily available
> (Radioshack?) filter to get rid of this problem?

If you could give some information about which cable channels are being affected, then this would be helpful to narrow down the source. The typical satellite system used on Telstar 5 has an LNBF mounted at the dish which converts the Ku band (T5 = 11.749 - 12.177GHz) using a 10.750GHz local oscillator down to the receiver input 950 - 2150 MHz (for T5 = 999 - 1427MHz).

All of this should be shielded from the Cable TV, and the Cable TV should be shielded as well. There should be no interference.

Are you doing anything funny like trying to combine the signals into one feedline to bring the signals into your house ?

3154. Re: homemade mobile antenna mount questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 13:10:11 UTC
From: wess@gtii.com
Message-ID: <vbsipp8up35s60@corp.supernews.com>
Source record: 118406

Replying to my own post, this is what I ended up with. I took a piece of 1/4 x 2" x 6" aluminum. I drilled a 5/8" hole in it for back of connector and then drilled and tapped for 4 5-40 SHCS. Then I mounted a radio shack so-239 connector to it and soldered a 20ft piece of coax with pl-259 that I bought today at radio shack.

At the hardware store, I bought a 3 1/2 stainless steel cap screw to replace the eye bolt in the stake pocket hold downs that I bought at Meijers 10 years ago. Drilling a 3/8 " hole in the aluminum plate allowed me to use bolt and hold down to mount my new antenna mount to stake pocket of truck.

I soldered the coax center wire to connector center pin, tapped another hole to attach shield and a jumper wire that I attached to bed of truck with a self drilling self tapping screw. I screwed on the comet UHV-4, checked swr < 2:1 and got full s meter reading on the TC repeater (TVC) 20+ miles away. It seems to work and I have 13 bucks into it since I had the tie downs already.

Pretty happy here now. Had a long conversation (any other kind) with a local area ham and learned about local area club activities and got tips on studying for the code so I can up grade.

I am still wondering if cheap skates use other connectors to make mounts for pl-259 antennas.

73, wes, kc8spr

wess@gtii.com wrote:

>Sadly, it has a 3/8-24 mounting post, not something that will mate
>with the pl-259 connector in antenna. Thanks though.
>
>73, wes, kc8spr
>
>Dave Shrader <david.shrader@attbi.com> wrote:
>
>>HRO has a Stake hole antenna mount right off the shelf for about $20.
>>
>>I've used one for about a year. It comes with the bond strap and
>>connector all mounted.
>>
>>W1MCE
>>
>>wess@gtii.com wrote:
>>> I tried looking for info myself but keywords like build, antenna,

>>> mobile, mount turn up everything but what I want to find.
>>>
>>> I bought a Comet UHV-4 which the instruction indicates uses an 'M'
>>> type connector. At first I thought they ment an 'N' but it isn't.
>>> Looks like a pl-259 to me and a so-239 screws into it.

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

3155. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 13:49:27 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBE54E7.A3628DF3@cwis.net>
Source record: 118407

helmsman,
Just wondered. I had problems with a neighbor,
who's antenna mounted amplifier was powered by a
'wall-wort', being interfered with from an 80 m
signal. Replaced the 'wall-wort', no more trouble.
'Doc

3156. Re: Oh, no! CFAs again?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 13:57:48 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBE56DC.BA322D9C@cwis.net>
Source record: 118408

Tom,
Well, I'd have to say that the lack of 'scientific'
proof is proof in it's self. This thing has been
around for 15 - 20 years and no one has done any legitimate
testing? Really?? Sort of a 'perpetual motion' smell to
it, huh?
'Doc

3157. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 14:02:11 UTC
From: tdonaly@aol.com
Message-ID: <20030511100211.13815.00000201@mb-m28.aol.com>
Source record: 118409

Richard Harrison wrote,
>
>Tom, KA6RUH wrote:
>"q is not divisible."
>
>An example: On a capacitor, q = CE , or the charge is the product of
>capacitance and volts.
>
>The capacitance could be the sum of several capacitors in parallel. If
>there were two identical capacitors making the total capacitance and I
>took one away, then each would contain 1/2 the previous charge.
>
>I just divided q by two.
>
>Best regards, Richard Harrison KB5WZI
>

I didn't write that, Richard.
73,
Tom Donaly, KA6RUH

3158. Re: Tmatch rather than gamma match

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 14:29:38 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <m7tva.550318$OV.520378@rwcrnsc54>
Source record: 118410

Before I would even attempt or plan such an "adaptation" -- I would start
by
downloading the instruction and assembly manuals from the Cushcraft web site

IF more than 75% of the parts are common, then I would likely order the
specific different
parts used on the A50S-6 and then reassemble the yagi/beam to the A50-S-6
instructions.

HOWEVER, if they are totally different - I would sell the 617-6B
With the number of new 6 meter /"magic band" advocates - you should at least
get 2 or 3 good $$ offers

Then purchase the antenna that will work for your QTH.

w9gb

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3EBC5F27.2090205@tampabay.rr.com...
> hey guys
> i picked up a cushcraft 617-6B 6 ele yagi on a 34 foot boom and i am not
> able to use it in its current configuration so i was thinking of cutting
> the boom down to the size of the A50S-6 which is a 6 ele yagi on a 20
> foot boom
> what i need to know is what spacing and element lenght differnce will
> there be by using the Tmatch that came with the 617-6 rather than the
> gamma match that the A50S-6 has on it
> let me know what you think
> thanks
>

3159. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 14:35:08 UTC
From: helmsman <helmsman@mindspring.com>
Message-ID: <etnsbvgbch727n8n462lp8ftnu839h3ihc@4ax.com>
Source record: 118411

On Sun, 11 May 2003 12:30:18 GMT, helmsman <helmsman@mindspring.com>
wrote:

>On Sun, 11 May 2003 07:13:21 -0500, "hasan schiers"
><schiers@netins.net> wrote:
>
>>I have two Directv dishes up, one of the old style 18" circular and one new,
>>elliptical. On 40-10m at 500w I get no interference. On 6m > 70cm at 100w, I
>>get no interference. No problems whatsoever.
>>
>>I'd check for a bad ground/cable connection on one of the coaxes to/from the
>>DirecTV setup.
>>
>>...hasan, N0AN
>>
>Thanks I'll check it.

Grounds are tight.

>.
>Boycott France and there products not made in the U.S.A.
>and find another place to vacation.
>The U.N is a JOKE!!!!

.
Boycott France and there products not made in the U.S.A.
and find another place to vacation.
The U.N is a JOKE!!!!

3160. Re: Tmatch rather than gamma match

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 15:02:29 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <9Ctva.289248$Si4.233867@rwcrnsc51.ops.asp.att.net>
Source record: 118412

Looks like over 80% parts and assembly techniques are same.

You will need a few parts (and have some extras from 617 config)
Shorten boom, I would not change match - unless you wanted to have
the A50S-6 RediMatch for this antenna.

w9gb

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3EBC5F27.2090205@tampabay.rr.com...
> hey guys
> i picked up a cushcraft 617-6B 6 ele yagi on a 34 foot boom and i am not
> able to use it in its current configuration so i was thinking of cutting
> the boom down to the size of the A50S-6 which is a 6 ele yagi on a 20
> foot boom
> what i need to know is what spacing and element lenght differnce will
> there be by using the Tmatch that came with the 617-6 rather than the
> gamma match that the A50S-6 has on it
> let me know what you think
> thanks
>

3161. Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 15:03:02 UTC
From: N4IXT <n4ixt@arrl.net>
Message-ID: <b9lonf$kbvd9$1@ID-105647.news.dfncis.de>
Source record: 118413

Looking for some designs (websites, books, whatever) for some wire antennas with some gain. Our club wants to do something beyond the typical inverted V or dipole this year for field day.

Thanks and 73's,

Robert / N4IXT

3162. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 15:29:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u2rsbvkk67ku4qp1dfmkuejh0c79eskubd@4ax.com>
Source record: 118414

On Thu, 08 May 2003 19:02:34 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Wow, that's almost exactly what the Catholic Church said to Galileo.

Hi Galileo,

You haven't reported which of your balls hit ground first.

73's
Richard Clark, KB7QHC

3163. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 15:43:08 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b9lr4e$ms1$1@slb6.atl.mindspring.net>
Source record: 118415

"N4IXT" <n4ixt@arrl.net> wrote in message
news:b9lonf$kbvd9$1@ID-105647.news.dfncis.de...
> Looking for some designs (websites, books, whatever) for some wire
antennas
> with some gain. Our club wants to do something beyond the typical inverted
V
> or dipole this year for field day.
>
> Thanks and 73's,
>
> Robert / N4IXT
>
>

Any edition of the ARRL Antenna Handbook.
Any edition of the William Orr antenna books.
And for lowband stuff "Lowband Dxing by ON4UN"

Enjoy

Dan/W4NTI

3164. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 15:49:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <twadnY0_IY-Q7COjXTWcqQ@comcast.com>
Source record: 118416

I have seen that. Some years ago I was looking out the window at work when a thunderstorm passed through. There was a 200 - 300 foot commercial tower about a mile away. The tower got hit twice during a 5 minute interwal. Both times the hit was about 1/3 the way up from the bottom.

Tam/WB2TT

"David Robbins" <k1ttt@arrl.net> wrote in message news:uqidndGE8OFHESCjXTWcpA@crocker.com...
> that is true, it isn't always the tallest structure, or even the top of a
> structure that gets hit. in my work i have seen some interesting pictures
> of lighting coming down then going sideways into power lines. also the
> sides of the empire state building sometimes get hit well below the antennas
> at the top.
.....

3165. Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 16:51:21 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9lv29$7q5$1@titan.btinternet.com>
Source record: 118417

Q OF RESONANT TRANSMISSION LINES

A 1/4-wavelength line, either open or closed at the other end, has -

Q = 13.64 / dB

where dB is the attenuation (matched loss) of the 1/4-wavelength line at its resonant frequency and dB is not greater than 1 or 2.

Yep, it's as simple as that.

And Q has the same value for any number of 1/4-waves at the same frequency.

This applies to all coaxial and balanced type of lines.

Another formula for Q which gives the same value as 13.64 / dB is -

Q = Omega * L / R

where L = line inductance per unit length and R is the line resistance per unit length, which is precisely the same formula for the Q of a lumped L & C tuned circuit when capacitance loss can be neglected. Q is a constant independent of line length because the ratio L / R is a constant.

L and R are not often known for an HF transmission line but dB per 1/4-wavelength is easily found.

The shape of a line's input impedance versus frequency in the vicinity of resonance is the same as a lumped L & C circuit.

When a voltage is applied to the input of a 1/4-wavelength open-circuited resonant line, Vout / Vin = Q.

Q = 13.64 / dB is exact because it takes into account both conductor and dielectric losses. It's easy to see why open-wire Q is far better than the coaxial stuff. On the other hand, even an open-wire Q will not guarantee less loss in a line transformer than in a lumped LC matching circuit.

Reg, G4FGQ

3166. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 17:42:47 UTC
From: "RW@nowhere.com" <>
Message-ID: <3m1tbvkhk9epibidhvgkk7srfmd7j9ao55@4ax.com>
Source record: 118418

Here is the setup:

Forty feet of RG6 coming in from LNB to a dual female wall plate. Top jack is Satellite antenna and the bottom is the CATV. (The two signals are not combined anywhere.)

RG6 into LNB in jack of receiver
Gold plated cables from Video Out of receiver to the Video In of the TV. Second Video out to the Video in of VCR with same type of cables.

CATV jack to IN From Antenna of VCR. Out To TV of VCR to the TV.
These cables are the gold plated kind with the push in type connectors - not RG6. I am not sure if they are double-shiedled or not. I have considered trying RG6 jumpers instead. Good idea?

CATV is grounded in two places - once outside and again on the cold water pipe in the basement. The pole for the dish is 1.5 inch electrical conduit buried three feet deep and filled with cement. (It is rock solid.) This pole is the only ground for the Satellite antenna as I have yet to install a grounding block at the house entrance. Maybe I should also bond this ground to the cold water pipe that the CATV is grounded to?

RW

P.S. I use Telstar 5 for Chinese langauge broadcasts...

On Sun, 11 May 2003 08:35:49 -0400, "J. Harvey"
<JM002.Harvey_NOSPAM@Sympatico.ca> wrote:

>If you could give some information about which cable channels are being
>affected, then this would be helpful to narrow down the source. The typical
>satellite system used on Telstar 5 has an LNBF mounted at the dish which
>converts the Ku band (T5 = 11.749 - 12.177GHz) using a 10.750GHz local
>oscillator down to the receiver input 950 - 2150 MHz (for T5 = 999 -
>1427MHz).
>
>All of this should be shielded from the Cable TV, and the Cable TV should be
>shielded as well. There should be no interference.
>
>Are you doing anything funny like trying to combine the signals into one
>feedline to bring the signals into your house ?
>

3167. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 18:33:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBE9769.9080200@ieee.org>
Source record: 118319

Reg Edwards wrote:
> Q = 13.64 / dB is exact because it takes into account both conductor and
> dielectric losses. It's easy to see why open-wire Q is far better than the
> coaxial stuff. On the other hand, even an open-wire Q will not guarantee
> less loss in a line transformer than in a lumped LC matching circuit.

Yep, like I said, stubs with their near-infinite SWR are lossy,
especially coax stubs.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3168. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 18:35:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBE9807.8090101@ieee.org>
Source record: 118320

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Wow, that's almost exactly what the Catholic Church said to Galileo.
>
> You haven't reported which of your balls hit ground first.

It's all covered in that reference book by the distinguished Chinese
author, Wung Hung Lo.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3169. Re: 80m on R7000

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 19:13:44 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305111113.1b102258@posting.google.com>
Source record: 118321

<Jimnn7k@reno.rmci.net> wrote in message
news:<0hZua.52148$xf.1762@fe01.atl2.webusenet.com>...
> Pardon me for butting into everyones fun, BUT if memory serves me
> correctly, the R7000 series has a network, to feed a kind of COUNTERPOISE,
> in its feed system (4 radials, if memory serves me , thru a torid
> transformer, or something like that.

The radials are not a counterpoise in the traditional sense. They are
decoupling radials to reduce currents on the feedline. A "1/2 wave"
type of antenna needs no counterpoise.
While as stated, at a lower frequency,
> 80 meters will just go thru the traps (non- resonant circuits), JUST WHAT
> will happen to the COUNTER-POISE portion's effeciency of the feed (and
> similar problem with a couple of mfj's feeds) ????

The radials have nothing to do with the efficiency of the antenna.
They are not intended to form a "lower half" of the antenna as in a
1/4 wave monopole. Adding 1/4 wave radials could help, if you can find
a way to just feed the whole structure as a 1/4 wave vertical of
sorts. But in that case, I'd just build a normal vertical for 80m.
Actually, I'd probably just build a dipole...Unless you are shooting
for dx, verticals are lame on 80m for average use. MK

3170. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 19:48:23 UTC
From: cooperjim@aol.com
Message-ID: <20030511154823.26712.00000297@mb-m04.aol.com>
Source record: 118323

```
>
>"Dee D. Flint" <deehays@qix.net> wrote in message
>news:<KR7ta.3378$3f7.2781849@newssvr28.news.prodigy.com>...
>> "VK2HXY - Troy" <SPAMvk2hxy@hotmail.com> wrote in message
>> news:9I3ta.1144$qK.31885@nnrp1.ozemail.com.au...
>> > Nor is there a certainty that the world will end. The only thing that is
>> > certain my friend is life, death and taxes.
>> >
>>
>> Exactly that is why one should wait around but meet the current
>> requirements. Life is too short to waste on waiting.
>>
>> > CW will be removed as an examinable requirement for access to the HF
>> > spectrum. So it should, you don't see examinations being conducted for
>> those
>> > who chose to use RTTY, IRLP, Packet, FM, Echolink...All differing modes
>of
>> > operation, do you?
>>
>> Echolink is too new yet but the tests do include material on the use of
>> RTTY, packet, etc. Due to their nature, it's only necessary to understand
>> how to hook up the hardware and what the operating limits (such as max baud
>> rate of HF vs VHF) and procedures are. These questions are on the US
>tests.
>>
>> >
>> > The argument that CW is required for access to HF because of an
>> emergencies
>> > and the like excuse is long past its use by date...
>> >
>> > I haven't heard one logical, non emotive, non old scholar argument to
>> > continue with CW being an examinable requirement.
>> >
>>
>> It's a viable mode of operation. It is one of the fundamentals of radio.
>> It is part of a well rounded education in radio. It is an area where a
>> person needs actual experience to judge its usefulness. We are required to
>> learn a lot of things in other aspects of our life that are not germane to
>> our lives simply because it is considered one of the fundamentals and/or
>> part of a well rounded education. After all by the time you finish
>> elementary school, you can read, write, and add and subtract. More than
>> that is not necessary in daily life. So let's let people drop out of
>school
>> after 8th grade. The ordinary person doesn't need algebra or geometry or
```

>> chemistry or physics or Shakespeare. Only those who are going on to
>college
>> "need" that sort of stuff.
>>
>> You see there is no logical, non-emotive, non-"I don't want to do it"
>> argument that is viable for dropping the CW requirement.
>> Dee D. Flint, N8UZE

Following this line of reasoning (warning: tongue in cheek):

Why should addition and subtraction be required in schools? Everyone uses calculators. Forcing students to learn obsolete basics like this takes away from the important stuff they teach in school (.................fill in your own list).

For that matter, why teach reading and writing? Most books are on cassette or CD. And you can compose all your documents by voice. If you have to communicate with some old-timer who insists on using the obsolete written language, there are very good voice recognition programs and text to voice converters.

The Marines all have fancy Hummers and helicopters to take them to where they want to go. Why should they require new recruits to go on 20 mile hikes with full packs? Wouldnt their time be better spent on other things?

Seriously (tongue back in middle of mouth), I think CW Morse/International Code is useful for at least the following reasons (there are surely more that I can not think of at the moment):

1) It is the simplest radio mode. It allows hams to build and operate their own equipment with a minimun of cost and expertise.

2) It gets through when voice modes dont!!! If a HF voice channel is marginal, switch to CW at the same power level and its solid armchair copy. (This is why the Marines take their 20 mile hikes, sometimes they have to do something that the Hummers and helicopters cant.).

3) The HF bands are crowded. In a typical 100 KHz segment you can only have about 30 voice QSOs going at the same time. On CW, the same 100 kHz would easily support over 200 CW QSOs! I generally find more QSOs going on in the CW segment that in the phone segment, especially on 20 meters. (This is also an argument for PSK31.)

4) When you send a message, you spell it out, and have a written copy exaxctly as the sender sent it! (The extra 'x' in 'exactly' would be there if it was sent!) If you are requested to send a list of people at an emergency shelter, some names will not be Smith or Jones. I once had to deliver a message from Angrage, Alaska (it was Anchorage (sp?), but it got garbled on an earlier voice relay.) Admitted, packet, rtty, or psk31 would be a good choice for this need.

5) Many hams have little or no knowledge of English. Ham CW uses a creole that allows you to communicate with them. Even among people proficient in English, there are wide variations in accents that can make voice communication

difficult. (Try listening to BBC television shows where the actors are using regional accents and not standard BBC news presenter English!!!!)

There is no code requirement on the higher frequency bands where most of your listeners will be native English speakers (here in So Cal, this is not true). Code is required only on the HF bands where there is the very real possibility that your signal will go to areas of the world where English is not the primary language. CW provides a common language.

One of the main selling points (IMHO) of amateur radio is that it promotes communication and understanding among the different peoples of the world. Removing all people who do not speak English goes against this. IMHO, this is the strongest reason for requiring knowledge of CW for the HF bands.

73
Jim Cooper NE6O

3171. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 19:49:12 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <d0atbv4ler1asjf1q9cb42luid825use0c@4ax.com>
Source record: 118322

On Sat, 10 May 2003 22:11:29 -0600, "RoyaltyFreePhotos.com"
<"rffimages"@yahoo.comNO@SPAMyahoo.com> wrote:

>I am hell bent on the idea of building a Sturba Curtain for 10 meters
>this spring. I have some good plans and formulas. Does anyone have any
>actual experience building one of these things?
>

A guy in a club I belong to has one and I've researched it pretty
thoroughly. Do a web search on "sterba" and you will find a good bit
of data. They are extremely directional front and back and the more
bays you add, the more the gain goes up and the more narrow the
pattern gets. It's a decent antenna for working one area of the world
consistantly. That's why AT&T used them on overseas HF circuits.

Russ

3172. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 19:51:20 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <uaatbvs6kg1vkge2hal1bv9ftuu8p1va6n@4ax.com>
Source record: 118324

On Sun, 11 May 2003 10:03:02 -0500, "N4IXT" <n4ixt@arrl.net> wrote:

>Looking for some designs (websites, books, whatever) for some wire antennas
>with some gain. Our club wants to do something beyond the typical inverted V
>or dipole this year for field day.
>
>Thanks and 73's,

I just posted a reply about a Sterba curtain. They have a good bit of
gain and directionality but they're a bitch to rotate!

Russ

3173. Re: If you had.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 20:17:08 UTC
From: jder8745@aol.com
Message-ID: <20030511161708.11721.00000299@mb-m01.aol.com>
Source record: 118325

Center fed doublet 130 ft or so. Feed with ladder line or low loss transmitting twin lead.

You'll need a matcher and a balun.

(I am lucky. I use a MFJ 941 tuner)

Of course thelength of the twin lead may make it hard to tune some of the bands.

Jack K9CUN

3174. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 20:59:13 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBEB94B.6000704@attbi.com>
Source record: 118326
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I've responded to Travis Jordan's post by inserting comments into the Toyota response. I don't see any problems assuming a good engineering installation. My comments are based on Engineering management principles, good installation practice, and commercially available transceivers.

If the reader still has reservations [s]he is advised to review Toyota's response with a contract attorney.

Deacon Dave, W1MCE
+ + +

Travis Jordan wrote:
> "Dave Shrader" <david.shrader@attbi.com> wrote in message
> news:3EBC575A.5070800@attbi.com...
>
>>The exact language will be interesting to read.
>

Travis Jordan wrote:
>
> I asked Toyota this question directly by email:
> "I would like to know if there are any restrictions (output power, antenna gain
> and/or location, frequency band, modulation type, etc.) on the installation of 2-way
> radio equipment in the 2003/2004 model year vehicles, and if so, what those
> restrictions are."
>
> Here is their response, edited only to remove HTML tags.
>
> Subject
> Inquiry regarding limitations of 2-way radio equipment installed in 2003/2004 Toyota
> vehicles
>
> Discussion Thread
> ------------------
> Response (Sharon) 05/09/2003 03:42 PM
> Thank you for contacting Toyota Motor Sales, U.S.A., Inc. We appreciate the
> opportunity to address your inquiry.
>
> The installation of a mobile two-way radio system in any Toyota vehicle could affect
> electronic systems such as multiport fuel injection system/sequential multiport fuel
> injection system, cruise control system, anti-lock brake system, SRS (supplemental
> restraint system) air bag system and seat belt pretensioner system.
>

> Vehicle electronic components could be damaged, and/or the proper and safe operation
> of the vehicle might be compromised if, for example, any of the following situations
> (and potentially others) existed:
>
> The transceiver is not "type-accepted."

COMMENT: ICOM, Yaesu, Kenwood, Alinco, etc. are ALL type accepted. So,
NO PROBLEM here.

>
> The power and/or antenna cables radiate RF current

COMMENT: Power in Twisted #12 AWG from battery is suitable and ferrites
on coax should deal with this 'concern'. A proper installation is
required. So, NO PROBLEM here.

>
> Routing of the power and/or antenna cables results in inductive or capacitive
> coupling

COMMENT: A proper installation is required. So, NO PROBLEM here.

>
> Transmitter, feedline and/or antenna inefficiencies result in an unacceptable level
> of RF radiation exposure to the ECM's

COMMENT: This puts burden an manufacturer to define what is acceptable
level of RF Exposure [field intensity as a function of frequency, AKA a
susceptibility plot] as a function of frequency. This is a hole big
enough to drive 10 KW through!!

>
> The standing wave ratio is unacceptably high

COMMENT: High VSWR does not contribute to radiated field intensity or to
stray currents. This requires a burden of proof on the manufacturer to
prove the assertion.

>
> The antenna ground plane is inadequate

COMMENT: With today's plastic cars this may be a point to address. I ran
100 watts on HF in a Plastic Saturn SL-1 with adequate ground plane. The
trunk hood was bonded to the frame with multiple 1 inch wide straps.
This is a red herring issue. Good installation will eliminate this concern.

>
> Installation of a 2-way radio in Toyota vehicles should not present issues under the
> following conditions:
>
> The transceiver must be type-accepted by the FCC, and not modified in any way

COMMENT: AGREE

>
> Maximum output power complies with FCC regulations (100 watts)

COMMENT: DISAGREE. MAXIMUM POWER OUTPUT IS 1000 WATTS IAW FCC REGULATIONS.

Note: In the preparation of contract language the party composing the
language is responsible for accuracy in requirements, errors, possible
multiple interpretations, misinterpretations, or any interpretation that
favors the non-composing party. This claim is not binding due to errors
of fact.

>
> All installation and operating instructions provided by Toyota and the equipment
> manufacturer must be followed closely

COMMENT: FINE. Ask Toyota to provide installation instructions for all
past, present and future 2 way radios. I'm sure they will love doing
that! <grin>. They made the assertion so they are bound to provide the
instructions!

>
> The antenna must be installed as far away as possible from all vehicle electronic
> control modules (ECM) or other onboard computer/sensors

COMMENT: REASONABLE.

>
> The antenna cabling must be routed no closer than 20 cm (7-7/8 inches) to any ECM or
> other onboard computers/sensors
>
COMMENT: REASONABLE. Since ECM components are generally mounted in or
around the engine/exhaust subsystems and antennas are typically mounted
at or near the rear of the vehicle this should be a non issue.

> Antenna and power cabling must not be routed along side or in conjunction with the
> vehicle's wire harness

COMMENT: REASONABLE

>
> It is always preferable to cross vehicle harness at right angles when possible
>
COMMENT: REASONABLE

> Antenna and antenna cabling should be properly adjusted to obtain the lowest
> possible SWR (standing wave radio)
>
RED HERRING. BUT GOOD INSTALLATION PRACTICE ANYWAY.

> Disclaimer: The basic installation guidelines provided may be of assistance to you.
> Although they may not fully answer all your specific requests, Toyota must take
> reasonable precautions to limit our potential legal liability, because the full
> range of possible variables noted earlier could never be fully anticipated. Also,
> more detailed information that would provide the operational details of Toyota's
> electronic system is considered proprietary.

> It must be emphasized that, under the terms of Toyota's new vehicle warranty, damage
> caused by RF energy from a higher power mobile radio is specifically excluded from
> coverage because it is not the result of faulty materials or workmanship.
> Accordingly, the owner assumes all such responsibility.

COMMENT: THERE MAY BE DESIGN/WORKMANSHIP ISSUES IN THAT EM
SUSCEPTIBILITY HAS NOT BEEN ADEQUATELY ADDRESSED IN THE DESIGN PHASE.

>
> We recommend that you contact your local Toyota dealership for any additional
> clarification regarding the installation process that you may need.
>
>
>

CONCLUSION

I don't see anything that prohibits the proper installation of a typical
HF/VHF/UHF commercial radio in Toyota vehicles.

If you have further concerns take the Toyota text and ARRL Mobile Radio
booklet to your attorney for an opinion.

Deacon Dave, W1MCE
Program Chief Engineer, retired
S-118 RS/RV

3175. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 21:15:44 UTC
From: Mike Luther <mike.luther@ziplog.com>
Message-ID: <vbtfbe7dfjgne3@corp.supernews.com>
Source record: 118327

Yep .. and the most horizontal killer strike that has been documented
that I've heard about was the one that was on PBS a while back. They
traced a specific strike on the TV sferics network to a bolt which was
clearly documented to the exact time and place on the sferics data
collection system. It then traveled some 20 miles horizontally in the
Colorado area, if my memory is correct. After romping some 20 miles,
much of it through perfectly clear air, it struck, in clear air, and
killed a golfer on a golf course completely out of the blue.

Tarmo Tammaru wrote:

>I have seen that. Some years ago I was looking out the window at work when a
>thunderstorm passed through. There was a 200 - 300 foot commercial tower
>about a mile away. The tower got hit twice during a 5 minute interwal. Both
>times the hit was about 1/3 the way up from the bottom.
>
>Tam/WB2TT
>
>"David Robbins" <k1ttt@arrl.net> wrote in message
>news:uqidndGE8OFHESCjXTWcpA@crocker.com...
>
>
>>that is true, it isn't always the tallest structure, or even the top of a
>>structure that gets hit. in my work i have seen some interesting pictures
>>of lighting coming down then going sideways into power lines. also the
>>sides of the empire state building sometimes get hit well below the
>>
>>
>antennas
>
>
>>at the top.
>>
>>
>.....................
>
>
>
>

--

--> Sleep well; OS2's still awake! ;)

Mike Luther

3176. Re: Software to aid in 60 kHz Ferrite WWVB receiver antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 21:24:29 UTC
From: Brooke Clarke <brooke@pacific.net>
Message-ID: <3EBEBF8D.50006@pacific.net>
Source record: 118328

Hi rw:

They do, but the design is optimized ofr the very high impedance levels
that they use to reduce battery power drain.

73,

Brooke

rw wrote:

>
>
> Brooke Clarke wrote:
>
>> Hi:
>>
>> I'm trying to optimize the windings on an Amidon R33-050-750 7.5"
>> long x 0.5" diameter Ferrite rod for the best signal to noise ratio
>> for WWVB reception. I remember someone had some design software that
>> may be of help. Could someone let me know the URL? 73,
>>
>> Brooke Clarke, N6GCE
>> http://www.prc68.com
>>
>
> I read in one NG that ATMEL has something in their appnotes
> for some of their chips about a 60khz ferrite antenna.
> rw
>

3177. Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 21:55:38 UTC
From: Wayne Watson <mtnviews@earthlink.net>
Message-ID: <3EBEC6EB.A2BEF472@earthlink.net>
Source record: 118329

I drilled a 1" hole in an outside wall into a room through drywall to push 3-4 coax cables. What's a
good way to close up the hole from both inside and outside. I would prefer not to remove the cable.

--
Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada City, CA

"In the end, our society will be defined not only by what we create,
but by what we refuse to destroy." --John C. Sawhill, The Nature Conservancy

Web Page: <home.earthlink.net/~mtnviews>
Imaginarium Museum: <home.earthlink.net/~mtnviews/imaginarium.html>

3178. Re: HF and Directv?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:03:51 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <rEzva.59605$xf.16906@fe01.atl2.webusenet.com>
Source record: 118330

No problem with interference here either (and has the advantage of service--
the cable system doesn't want to run a drop up here for 3 families (1500
feet from cable head end)) But, there MAY be another source of problems--
their local antenna and preamp. This is an ad-on for the reception of local
channels (I dont use one) , and runs down the same cable drop (as I
understand) Maybe this option a cause?? Kinda looks like a folded dipole
right above the rim of the dish. As info, Jim NN7K

"hasan schiers" <schiers@netins.net> wrote in message
news:b9lep3$km4pu$1@ID-52642.news.dfncis.de...
> I have two Directv dishes up, one of the old style 18" circular and one
new,
> elliptical. On 40-10m at 500w I get no interference. On 6m > 70cm at 100w,
I
> get no interference. No problems whatsoever.
>
> I'd check for a bad ground/cable connection on one of the coaxes to/from
the
> DirecTV setup.
>
> ...hasan, N0AN
>
> "helmsman" <helmsman@mindspring.com> wrote in message
> news:4icqbv0b7f9rub1idt3fckpusskdgffv3h@4ax.com...
> > Any hams having problems with HF and Directv?
> > I have bleed thru on 15 meters, anyone else??
>
>

3179. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:05:20 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ebecab3_1@news1.prserv.net>
Source record: 118331

Perma Gum or equivalent. Air conditioning installers use it to block holes. Takes about 35 years to get too hard to remove, and doesn't sag in the meanwhile.

--
Crazy George
Remove NO and SPAM from return address
"Wayne Watson" <mtnviews@earthlink.net> wrote in message news:3EBEC6EB.A2BEF472@earthlink.net...
> I drilled a 1" hole in an outside wall into a room through drywall to push 3-4 coax cables. What's a
> good way to close up the hole from both inside and outside. I would prefer not to remove the cable.
>
> --
> Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada City, CA
>
> "In the end, our society will be defined not only by what we create,
> but by what we refuse to destroy." --John C. Sawhill, The Nature Conservancy
>
> Web Page: <home.earthlink.net/~mtnviews>
> Imaginarium Museum: <home.earthlink.net/~mtnviews/imaginarium.html>
>
>

3180. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:15:19 UTC
From: ? <a@b.c>
Message-ID: <b9mi1nkjb1@sparta.btinternet.com>
Source record: 118332

Expanding foam is wonderful stuff for this sort of thing.
--

"Wayne Watson" <mtnviews@earthlink.net> wrote in message
news:3EBEC6EB.A2BEF472@earthlink.net...
> I drilled a 1" hole in an outside wall into a room through drywall to push
3-4 coax cables. What's a
> good way to close up the hole from both inside and outside. I would prefer
not to remove the cable.
>
> --
> Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada
City, CA
>
> "In the end, our society will be defined not only by what we
create,
> but by what we refuse to destroy." --John C. Sawhill, The Nature
Conservancy
>
> Web Page: <home.earthlink.net/~mtnviews>
> Imaginarium Museum:
<home.earthlink.net/~mtnviews/imaginarium.html>
>
>

3181. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:24:15 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbtjd6hniai11b@corp.supernews.com>
Source record: 118333

"> And Q has the same value for any number of 1/4-waves at the same
frequency."

Oh! I see!
Each 1/4 wave bit is a tank circuit unto itself.
Lining them up increases the total loss but doesn't change the loss in each
little tank, which maintains the same Q.

Still looking for silver-plated tank circuit parts. ;^)
73
H.
NQ5H

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9lv29$7q5$1@titan.btinternet.com...
> Q OF RESONANT TRANSMISSION LINES
>
> A 1/4-wavelength line, either open or closed at the other end, has -
>
> Q = 13.64 / dB
>
> where dB is the attenuation (matched loss) of the 1/4-wavelength line at
its
> resonant frequency and dB is not greater than 1 or 2.
>
> Yep, it's as simple as that.
>
> And Q has the same value for any number of 1/4-waves at the same
frequency.
>
> This applies to all coaxial and balanced type of lines.
>
> Another formula for Q which gives the same value as 13.64 / dB is -
>
> Q = Omega * L / R
>
> where L = line inductance per unit length and R is the line resistance per
> unit length, which is precisely the same formula for the Q of a lumped L &
C
> tuned circuit when capacitance loss can be neglected. Q is a constant
> independent of line length because the ratio L / R is a constant.
>
> L and R are not often known for an HF transmission line but dB per
> 1/4-wavelength is easily found.
>

> The shape of a line's input impedance versus frequency in the vicinity of
> resonance is the same as a lumped L & C circuit.
>
> When a voltage is applied to the input of a 1/4-wavelength open-circuited
> resonant line, Vout / Vin = Q.
>
> Q = 13.64 / dB is exact because it takes into account both conductor and
> dielectric losses. It's easy to see why open-wire Q is far better than the
> coaxial stuff. On the other hand, even an open-wire Q will not guarantee
> less loss in a line transformer than in a lumped LC matching circuit.
> ---
> Reg, G4FGQ
>
>

3182. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:27:25 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbtjj3o4aldsc4@corp.supernews.com>
Source record: 118334

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBE9769.9080200@ieee.org...
> Reg Edwards wrote:
> > Q = 13.64 / dB is exact because it takes into account both conductor and
> > dielectric losses. It's easy to see why open-wire Q is far better than
the
> > coaxial stuff. On the other hand, even an open-wire Q will not guarantee
> > less loss in a line transformer than in a lumped LC matching circuit.
>
> Yep, like I said, stubs with their near-infinite SWR are lossy,
> especially coax stubs.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>

Which is why I'm looking for silver plated variable L and C.
73 es tnx fer the many qso om
H
NQ5H

3183. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:30:47 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305111430.49b0b49d@posting.google.com>
Source record: 118335

"N4IXT" <n4ixt@arrl.net> wrote in message
news:<b9lonf$kbvd9$1@ID-105647.news.dfncis.de>...
> Looking for some designs (websites, books, whatever) for some wire antennas
> with some gain. Our club wants to do something beyond the typical inverted V
> or dipole this year for field day.
>
> Thanks and 73's,
>
> Robert / N4IXT

Depends on the band, but on the low bands like 80 and 40, it's often preferable not to have much gain in any certain direction. Being calls come from all directions, it would be like a dog chasing it's tail trying to turn for all.
If I used a gain antenna, I would try to have some way of turning it, or use an antenna that doesn't have "too" much gain. We use yagis' for the higher bands, and it's not too bad, because on those bands, the paths are often best in a certain direction for a certain time of day. And we can easily turn it if needed. But the lower bands, I'd stay simple. If you want gain, use antennas like parallel phased dipoles which can easily be steered in two directions, or EDZ's , etc. These would also work well on the higher bands. You could use phased verticals for long haul, but I don't recommend, because who wants to do all the work needed for that, "radials, etc" and then tear it up a day later...
For me, here in the middle of the country, a dipole is actually about the best thing you can use for most bands. It's no slouch antenna to use. MK

3184. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:31:10 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbtjq7pikh67b3@corp.supernews.com>
Source record: 118336

These sorts of things bear repeating from time-to-time.
Thanks for the thread.
H.
NQ5H

"Mike Luther" <mike.luther@ziplog.com> wrote in message
news:vbtfbe7dfjgne3@corp.supernews.com...
> Yep .. and the most horizontal killer strike that has been documented
> that I've heard about was the one that was on PBS a while back. They
> traced a specific strike on the TV sferics network to a bolt which was
> clearly documented to the exact time and place on the sferics data
> collection system. It then traveled some 20 miles horizontally in the
> Colorado area, if my memory is correct. After romping some 20 miles,
> much of it through perfectly clear air, it struck, in clear air, and
> killed a golfer on a golf course completely out of the blue.
>
>
> Tarmo Tammaru wrote:
>
> >I have seen that. Some years ago I was looking out the window at work
when a
> >thunderstorm passed through. There was a 200 - 300 foot commercial tower
> >about a mile away. The tower got hit twice during a 5 minute interwal.
Both
> >times the hit was about 1/3 the way up from the bottom.
> >
> >Tam/WB2TT
> >
> >"David Robbins" <k1ttt@arrl.net> wrote in message
> >news:uqidndGE8OFHESCjXTWcpA@crocker.com...
> >
> >
> >>that is true, it isn't always the tallest structure, or even the top of
a
> >>structure that gets hit. in my work i have seen some interesting
pictures
> >>of lighting coming down then going sideways into power lines. also the
> >>sides of the empire state building sometimes get hit well below the
> >>
> >>
> >antennas
> >
> >
> >>at the top.

> >>
> >>
> >.....................
> >
> >
> >
> >
>
> --
>
>
> --> Sleep well; OS2's still awake! ;)
>
> Mike Luther
>

3185. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:32:42 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305111432.1c1c283e@posting.google.com>
Source record: 118337

"N4IXT" <n4ixt@arrl.net> wrote in message
news:<b9lonf$kbvd9$1@ID-105647.news.dfncis.de>...
> Looking for some designs (websites, books, whatever) for some wire antennas
> with some gain. Our club wants to do something beyond the typical inverted V
> or dipole this year for field day.
>
> Thanks and 73's,
>
> Robert / N4IXT

I said" Being calls
come from all directions, it would be like a dog chasing it's tail
trying to turn for all.".

I guess that might not apply to all people though...I get used to
being in the middle of things...."Texas" MK

3186. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:34:23 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <1njtbvoaju9aqlvq88v9fd2l73lfnqn41k@4ax.com>
Source record: 118339
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Sun, 11 May 2003 20:59:13 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>
>>
>> The standing wave ratio is unacceptably high
>
>COMMENT: High VSWR does not contribute to radiated field intensity or to
>stray currents. This requires a burden of proof on the manufacturer to
>prove the assertion.
>

Coax mantle currents caused by high VSWR?

Obviously something controversial ....

I own a Toyota too.
The best car you can get for money.
Not a single repair necessary for 7 (seven) years now.

HF equipment restrictions apply for ALL car manufacturers,
read the small print.

w.

3187. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 22:34:44 UTC
From: N4IXT <n4ixt@arrl.net>
Message-ID: <b9mj6i$k2o7o$1@ID-105647.news.dfncis.de>
Source record: 118338

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:b9lr4e$ms1$1@slb6.atl.mindspring.net...
>
> "N4IXT" <n4ixt@arrl.net> wrote in message
> news:b9lonf$kbvd9$1@ID-105647.news.dfncis.de...
> > Looking for some designs (websites, books, whatever) for some wire
> antennas
> > with some gain. Our club wants to do something beyond the typical
inverted
> V
> > or dipole this year for field day.
> >
> > Thanks and 73's,
> >
> > Robert / N4IXT
> >
> >
>
> Any edition of the ARRL Antenna Handbook.
> Any edition of the William Orr antenna books.
> And for lowband stuff "Lowband Dxing by ON4UN"

Thanks, I'm looking through those now, I was hoping someone might be able to
reccommend one based on personal experience. (Guess I should have mentioned
that, duh!)

73's

Robert / N4IXT

3188. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 23:09:08 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EBED7B7.4080705@attbi.com>
Source record: 118340
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Helmut, High VSWR is not a problem of circulating or coupled currents.
That's a simple fact.

My center fed doublet on 75 meters has a VSWR of more than 30:1 with
negligible currents on the feed system. [open wire feeders and a tuner].

W1MCE

Helmut Wabnig wrote:
> On Sun, 11 May 2003 20:59:13 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
>
>>>The standing wave ratio is unacceptably high
>>
>>COMMENT: High VSWR does not contribute to radiated field intensity or to
>>stray currents. This requires a burden of proof on the manufacturer to
>>prove the assertion.
>>
>
>
> Coax mantle currents caused by high VSWR?
>
> Obviously something controversial ....
>
>
> I own a Toyota too.
> The best car you can get for money.
> Not a single repair necessary for 7 (seven) years now.
>
> HF equipment restrictions apply for ALL car manufacturers,
> read the small print.
>
> w.

3189. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 23:11:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbtm55357m3cc@corp.supernews.com>
Source record: 118341

An important thing to keep in mind is that the more gain you get, the narrower the pattern is. So you don't want too much gain in an antenna you can't rotate, unless there's a particular area you want to work and/or you have a broader antenna you can use to cover other areas. From the Pacific Northwest, a two-element array is just about optimum for Field Day, with a pattern that nicely covers most of the U.S. Higher gain would be a disadvantage from this location.

An antenna I've used for many years is a two element wire beam similar to a ZL Special. It has the advantage of being switchable in direction from front to rear, although I don't use that feature on Field Day. I've used 40, 20, and 15 meter versions on Field Day, and 20 and 15 meter versions from home.

You can get details about the antenna by going to ftp://eznec.com/pub/ and downloading fdsp~.exe. It's a self-extracting ZIP file.

On my list of things to do -- someday -- is make a genuine web page out of this. But in the meantime, I hope the plain text version is adequate.

I've gotten feedback over the years from quite a few people who have built this "Field Day Special" antenna and gotten good results with it. It's been my standard Field Day antenna for 20 meters for around 20 years now.

The antenna requires two spreaders which are about eight feet long. I generally backpack my gear on Field Day, so weight (and volume) are critical. At first, I carried four 4 foot pieces of PVC pipe, with a threaded joint to assemble them. But for quite a few years now, I've just scrounged fallen branches, splicing a couple together when necessary. There's not much stress on the spreaders, so I haven't had one break yet.

Roy Lewallen, W7EL

N4IXT wrote:
> Looking for some designs (websites, books, whatever) for some wire antennas
> with some gain. Our club wants to do something beyond the typical inverted V
> or dipole this year for field day.
>
> Thanks and 73's,
>
> Robert / N4IXT
>
>

3190. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 23:32:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9mmisskd1@sparta.btinternet.com>
Source record: 118342

> Which is why I'm looking for silver plated variable L and C.

==========

I havn't read your initial enquiry so I'm uncertain why you want silver plated tuned circuits.

If you like things to look pretty regardless of expense all well and good.

But if you expect silver plating to provide a significant increase in Q then you would do better just by increasing the diameter of the copper wire by twice the thickness of the proposed silver plate.

To go the next thicker copper wire gauge would be overkill. ;o)

Reg, G4FGQ

3191. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-11 23:52:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbtohpa1sbq0d0@corp.supernews.com>
Source record: 118343

Silver plating might be an advantage for a roller inductor, since
contact resistance is important. But for a fixed inductor, I absolutely
agree with Reg that all you get for the trouble and expense is a pretty
inductor. Actually, enameled wire or copper wire sprayed with Krylon
will keep that pretty copper color just fine, while a plain silver one
will tarnish soon enough.

Roy Lewallen, W7EL

Reg Edwards wrote:
>>Which is why I'm looking for silver plated variable L and C.
>
>
> ======================
>
> I havn't read your initial enquiry so I'm uncertain why you want silver
> plated tuned circuits.
>
> If you like things to look pretty regardless of expense all well and good.
>
> But if you expect silver plating to provide a significant increase in Q then
> you would do better just by increasing the diameter of the copper wire by
> twice the thickness of the proposed silver plate.
>
> To go the next thicker copper wire gauge would be overkill. ;o)
> ---
> Reg, G4FGQ
>
>

3192. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:02:06 UTC
From: k9sqg@aol.com
Message-ID: <20030511200206.26650.00000279@mb-m03.aol.com>
Source record: 118344

One was is to carefully and slowly use some expanding foam insulation in a spray can...

3193. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:10:17 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbtpju38g96u56@corp.supernews.com>
Source record: 118345

Dear Delightful Reg
Silver, etc is a metaphor for LOW LOSS tanks with variable L and C.
I just need a proper roller and variable cap from an honest 5 kw tuner.
I want to see just how wide I can make the X=0, SWR=1:1 region of a
"bazooka".
The coax stub approach is demonstrably too lossy and there is no control of
L and C independently, making it a limited (no, pitiful) research tool.
Besides, that Times Microwave stuff is expensive!!!!!
And a change in Q from 20 to 25 just ain't gettin' it.
The Q of the dipole antenna and the Q of the tank are convoluted in the
strict math sense, I suspect.
BTW, My 160 meter data clearly show the loss-related SWR phenomenon
described by Walt Maxwell.
There's, in addition, a resonance effect if you can get the tank circuit to
oscillate; X=0.
I've been fascinated with this since I was 11.
And I suspect I can make R=50 flat across that band with the precisely
correct L and C in the tank.
I want to see if I can get a 160 dipole to exhibit this effect without the
expense
of hanging the damn thing >1/4 wavelength in the air.
I've seen the resonance effect on 80.
My trees are a nice height for 40 meter antennas, however.
Yes I know a perfect bazooka will be just a dipole in radiation efficiency.
I just think they're neat since I built one that "sang" back in Jr High.
Besides, this is VASTLY more interesting than watching whatever quacking
idiot is on TV.
73
H.
NQ5H

PS
The indivisible q is that of the electron.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9mmisskd1@sparta.btinternet.com...
> > Which is why I'm looking for silver plated variable L and C.
>
> ======================
>
> I havn't read your initial enquiry so I'm uncertain why you want silver
> plated tuned circuits.
>
> If you like things to look pretty regardless of expense all well and good.
>

> But if you expect silver plating to provide a significant increase in Q
then
> you would do better just by increasing the diameter of the copper wire by
> twice the thickness of the proposed silver plate.
>
> To go the next thicker copper wire gauge would be overkill. ;o)
> ---
> Reg, G4FGQ
>
>

3194. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:35:52 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <qCqdnVnSTLHvcSOjXTWcog@comcast.com>
Source record: 118346

RW,

Afew years ago the cable company came to my house because there was cable leakage eminating from it. The first thing the guy did was to get rid of all cables that had push on connectors, gold plated or not.

I would try to locate the pont of crosstalk by removing cables one at a time, working back from the TV set towards the antenna. Probably the coupling is happening where the two coaxes run parallel to each other for some distance. More than likely the problem is an improperly installed connector. If not, I would suspect coupling inside the TV or VCR.

Tam/WB2TT
<RW@nowhere.com> wrote in message
news:3m1tbvkhk9epibidhvgkk7srfmd7j9ao55@4ax.com...
> Here is the setup:
>
> Forty feet of RG6 coming in from LNB to a dual female wall plate. Top
> jack is Satellite antenna and the bottom is the CATV. (The two signals
> are not combined anywhere.)
>
> RG6 into LNB in jack of receiver
> Gold plated cables from Video Out of receiver to the Video In of the
> TV. Second Video out to the Video in of VCR with same type of cables.
>
> CATV jack to IN From Antenna of VCR. Out To TV of VCR to the TV.
> These cables are the gold plated kind with the push in type connectors
> - not RG6. I am not sure if they are double-shiedled or not. I have
> considered trying RG6 jumpers instead. Good idea?
>
> CATV is grounded in two places - once outside and again on the cold
> water pipe in the basement. The pole for the dish is 1.5 inch
> electrical conduit buried three feet deep and filled with cement. (It
> is rock solid.) This pole is the only ground for the Satellite
> antenna as I have yet to install a grounding block at the house
> entrance. Maybe I should also bond this ground to the cold water pipe
> that the CATV is grounded to?
>
> RW
>
> P.S. I use Telstar 5 for Chinese langauge broadcasts...
>
> On Sun, 11 May 2003 08:35:49 -0400, "J. Harvey"
> <JM002.Harvey_NOSPAM@Sympatico.ca> wrote:
>

>
> >If you could give some information about which cable channels are being
> >affected, then this would be helpful to narrow down the source. The
typical
> >satellite system used on Telstar 5 has an LNBF mounted at the dish which
> >converts the Ku band (T5 = 11.749 - 12.177GHz) using a 10.750GHz local
> >oscillator down to the receiver input 950 - 2150 MHz (for T5 = 999 -
> >1427MHz).
> >
> >All of this should be shielded from the Cable TV, and the Cable TV should
be
> >shielded as well. There should be no interference.
> >
> >Are you doing anything funny like trying to combine the signals into one
> >feedline to bring the signals into your house ?
> >
>

3195. Resonance Also Works...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:38:51 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <v2Cva.66443$ey1.5976469@newsread1.prod.itd.earthlink.net>
Source record: 118347

You have several replies suggesting the ubiquitous 135 foot doublet
with ladder line and a tuner. And there's nothing wrong with that,
if you don't mind an expensive high-power tuner (or already have one),
don't mind slow QSY, and don't mind knarly patterns on the high bands.

But if any of those side-effects bother you, you could consider a
multi-band resonant dipole, or combinations of multi-band resonant
dipoles, such as those made by W9INN. (They can also be configured
as inverted Vees, of course.)

If the resonant antenna option interests you, check out Cable Experts
1318FX cable. It's very low loss (for coax), high-power, reasonably
light, reasonably flexible, and is claimed to be OK for direct burial.
(Don't even think about buying those slightly cheaper no-name cables!)

"Joel" <joel@cyberbest.com> wrote in message
news:JzEua.421$cX3.123115573@twister1.starband.net...
> If you lived in the country with a lot of land and trees and a very
limited
> budget. What antenna would you put up to cover 80-10 meters to the legal
> limit? I was thinking about a Carolina Windom, but don't like the idea of
> the feed line radiating. Anyway, I'm sort of fishing here..
>
> Joel
>
>

3196. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:44:45 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <shrtbvk746vpvrn9l7d2acamumdjkstpd8@4ax.com>
Source record: 118348

But, doesn't that stuff soak up water like a sponge? I wouldn't want
water getting inside the wall from a heavy rainstorm. I like Crazy
George's idea best.

Dick

On 12 May 2003 00:02:06 GMT, k9sqg@aol.com (K9SQG) wrote:

>One was is to carefully and slowly use some expanding foam insulation in a
>spray can...

3197. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 00:58:06 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <79rtbvk0ji2vbpauaf9bodic2o0e72brod@4ax.com>
Source record: 118349

On Sun, 11 May 2003 16:52:28 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

|Silver plating might be an advantage for a roller inductor, since
|contact resistance is important. But for a fixed inductor, I absolutely
|agree with Reg that all you get for the trouble and expense is a pretty
|inductor. Actually, enameled wire or copper wire sprayed with Krylon
|will keep that pretty copper color just fine, while a plain silver one
|will tarnish soon enough.

Once upon a time, I redesigned the first "amplifier" stage in the
Phoenix missile transmitter. This was a single IMPATT diode matched
with a 1/4 wave geometric mean line, which stepped 50 ohm down to ~2
ohm to match the diode's negative 2 ohm impedance.

The old design used a "pogo stick" spring-loaded telescoping line that
was made from gold plated brass, and a beryllium-copper spring.
Unfortunately, trying to get gold plating inside a .080" diameter
cylinder was impossible and over time the assembly was corroding and
freezing up the works.

So I specified parts machined out of solid silver and were done with
it:) Of course, the missile was hermetically sealed and backfilled
with dry nitrogen so tarnishing wasn't an issue.

I really tried to make the parts from solid gold, but management
wouldn't go for it :(

3198. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 01:05:00 UTC
From: "RW@nowhere.com" <>
Message-ID: <2ortbv45v1mfdtqgposueadgt4u52bppii@4ax.com>
Source record: 118350

Tam,

I have just realized one thing:
The LNB housing fits into a plastic sleeve and is therefore insulated
from the rest of the antenna. I unwittingly assummed it was grounded
at the pole. Moreover, the receiver power cable has only a two prong
plug. (No ground to the chasis.) So I have no ground on the coax run
for the shield to bleed the interfering signal. I suppose that I
first need to install the ground block outside the brick (Required by
the NEC) wall to see if that eliminates the problem. Additionally, I
will bond to the CATV ground to the Satellite antenna ground.

The push on cables that I mentioned are made by Magnavox and are new.
If the above procedure does not work, I will try your suggestion next.
In either case, I will post the results...

RW

On Sun, 11 May 2003 20:35:52 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>RW,
>
>Afew years ago the cable company came to my house because there was cable
>leakage eminating from it. The first thing the guy did was to get rid of all
>cables that had push on connectors, gold plated or not.
>
>I would try to locate the pont of crosstalk by removing cables one at a
>time, working back from the TV set towards the antenna. Probably the
>coupling is happening where the two coaxes run parallel to each other for
>some distance. More than likely the problem is an improperly installed
>connector. If not, I would suspect coupling inside the TV or VCR.
>

3199. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 01:05:07 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbtsqq96rja5cd@corp.supernews.com>
Source record: 118351

"gold plated brass"
I hope you had a Ni diffusion barrier under the gold,
if not, you end up with Cu on the surface.
H.
NQ5H
My data:
JEOL JAMP-10 Auger microprobe, Motorola, Austin, TX.

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:79rtbvk0ji2vbpauaf9bodic2o0e72brod@4ax.com...
> On Sun, 11 May 2003 16:52:28 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
> |Silver plating might be an advantage for a roller inductor, since
> |contact resistance is important. But for a fixed inductor, I absolutely
> |agree with Reg that all you get for the trouble and expense is a pretty
> |inductor. Actually, enameled wire or copper wire sprayed with Krylon
> |will keep that pretty copper color just fine, while a plain silver one
> |will tarnish soon enough.
>
> Once upon a time, I redesigned the first "amplifier" stage in the
> Phoenix missile transmitter. This was a single IMPATT diode matched
> with a 1/4 wave geometric mean line, which stepped 50 ohm down to ~2
> ohm to match the diode's negative 2 ohm impedance.
>
> The old design used a "pogo stick" spring-loaded telescoping line that
> was made from gold plated brass, and a beryllium-copper spring.
> Unfortunately, trying to get gold plating inside a .080" diameter
> cylinder was impossible and over time the assembly was corroding and
> freezing up the works.
>
> So I specified parts machined out of solid silver and were done with
> it:) Of course, the missile was hermetically sealed and backfilled
> with dry nitrogen so tarnishing wasn't an issue.
>
> I really tried to make the parts from solid gold, but management
> wouldn't go for it :(
>

3200. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 01:45:53 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <87k7cxq6ni.fld@barrow.com>
Source record: 118352

Dick <rhughes33@cableone.net> wrote:
>But, doesn't that stuff soak up water like a sponge? I wouldn't want
>water getting inside the wall from a heavy rainstorm. I like Crazy
>George's idea best.
>
>Dick

It's moisture proof.

That is exceedingly important in areas where the outside
temperature can be significantly lower than the inside
temperature. I.e., when you need a moisture barrier that
actually works poking holes through the wall is the quickest way
to learn a lot about moisture barriers and how they fail!

Using foam will seal the hole back up again if applied
correctly, and that will prevent moisture from condensing in the
insulation and ruining it.

>On 12 May 2003 00:02:06 GMT, k9sqg@aol.com (K9SQG) wrote:
>
>>One was is to carefully and slowly use some expanding foam insulation in a
>>spray can...
>

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

3201. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 01:58:15 UTC
From: Wayne Watson <mtnviews@earthlink.net>
Message-ID: <3EBEFFC7.C3CAB4E2@earthlink.net>
Source record: 118353

Seems right to me. I bought some. I was using modeling clay. They look similiar but the clay didn't
have lasting power. Thanks.

Crazy George wrote:

> Perma Gum or equivalent. Air conditioning installers use it to block holes.
> Takes about 35 years to get too hard to remove, and doesn't sag in the
> meanwhile.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "Wayne Watson" <mtnviews@earthlink.net> wrote in message
> news:3EBEC6EB.A2BEF472@earthlink.net...
> > I drilled a 1" hole in an outside wall into a room through drywall to push
> 3-4 coax cables. What's a
> > good way to close up the hole from both inside and outside. I would prefer
> not to remove the cable.
> >
> > --
> > Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada
> City, CA
> >
> > "In the end, our society will be defined not only by what we
> create,
> > but by what we refuse to destroy." --John C. Sawhill, The Nature
> Conservancy
> >
> > Web Page: <home.earthlink.net/~mtnviews>
> > Imaginarium Museum:
> <home.earthlink.net/~mtnviews/imaginarium.html>
> >
> >

--
Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada City, CA

"In the end, our society will be defined not only by what we create,
but by what we refuse to destroy." --John C. Sawhill, The Nature Conservancy

Web Page: <home.earthlink.net/~mtnviews>
Imaginarium Museum: <home.earthlink.net/~mtnviews/imaginarium.html>

3202. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 02:09:22 UTC
From: Harold Burton <hwburton@cableone.net>
Message-ID: <vbvaolrscuni9d@corp.supernews.com>
Source record: 118283

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:f36vbvkbsuvdseqpj9p2clov84frqm3bq4@4ax.com...
> On Mon, 12 May 2003 11:12:52 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:

>> Well, I'm glad that I've never made a mistake. <G>

I thought I had erred once, but I was wrong. Wait..... let me think about
that a minute.

3203. Re: 300 Watt Antenna Ideas for Broadcast Band VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 02:12:36 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305111812.63bf3339@posting.google.com>
Source record: 118354

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<158rbvgq8767vioopjiokpmiudbvpia03n@4ax.com>...
> |
> | Well, a resonant tank circuit will have a circuit "Q" based upon
> |the center resonant frequency divided by the difference of the -3dB
> |roll-off frequencies to each side of the center frequency.
> |
> | By the same token, you can think of "Q" of an antenna as the
> |center frequency (1:1 SWR) divided by the difference of the 2:1 SWR
> |frequencies on either side.
>
> I disagree. First of all, at the zero reactance point, the SWR isn't
> necessarily 1:1. What if it's 2:1 to start with; what is the Q by
> your definition?
>

Well, i was giving the ideal case. I can usually get at least a
1.3:1, so you can roughly say that the bandwidth is at the 2:1 points
(I haven't checked this mathematically yet, to make sure the -3dB ERP
would really be at 2:1, but it sounds about right). I would be
hesitant to use a 3:1 VSWR antenna with some power amplifiers that are
sensistive to reflections, not to mention the degradation in the ERP.

You can define the Q with the form: resonant freq. divided by the
difference of the -3dB two frequencies on each side. If i had a 2:1
to start with, i would try to retune the antenna first.

If this was the absolute best i could get, under ideal
conditions, i would measure the ERP in an anechoic chamber and note
where the ERP goes down to the one-half power point (-3dB) on either
side. These points would coincide at a certain SWR, although i have
never actually measured how accurately a math calculation of the -3dB
SWR would correlate with a ERP field measurement.
I would take the difference of these frequencies and divide the
resonant freq. with them, to get the "Q" of the antenna.

> Antenna Q is better determined by looking at the reactance slope
> around resonance.

Ok, then how exactly, would you determine this? How much
reactance would give you the -3dB ERP points? The "Q" would still be
of the form: resonant freq. divided by the difference of the two -3dB
frequencies on each side.

Disclaimer: I'm ain't no antenna specialist!

Dr. Slick

3204. RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 02:57:14 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <r83ubvoac03r61k99uvbnp6o29i4r1am34@4ax.com>
Source record: 118355

Who knew Radio Shack has a antenna rotor for $70+ $15 control cable?

If it weren't for the complex nature of setting one up and the fact that I have nowhere to put it at
the moment (apartment), I would buy the darn thing. No way I'm getting a $600 unit from the candy
store.

John

3205. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 03:30:00 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <fGWdndHSaax9NyKjXTWcqA@comcast.com>
Source record: 118282

Hope it works. I should have mentioned that the push on connectors I was talking about were F connectors. Obviously RCA connectors are all push on. Also, I hope your video is on cables meant for video, not audio cables, some of which have poor shielding.

Tam
<RW@nowhere.com> wrote in message
news:2ortbv45v1mfdtqgposueadgt4u52bppii@4ax.com...
> Tam,
>
> I have just realized one thing:
> The LNB housing fits into a plastic sleeve and is therefore insulated
> from the rest of the antenna. I unwittingly assummed it was grounded
> at the pole. Moreover, the receiver power cable has only a two prong
> plug. (No ground to the chasis.) So I have no ground on the coax run
> for the shield to bleed the interfering signal. I suppose that I
> first need to install the ground block outside the brick (Required by
> the NEC) wall to see if that eliminates the problem. Additionally, I
> will bond to the CATV ground to the Satellite antenna ground.
>
> The push on cables that I mentioned are made by Magnavox and are new.
> If the above procedure does not work, I will try your suggestion next.
> In either case, I will post the results...
>
> RW
>
>
>
> On Sun, 11 May 2003 20:35:52 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
> >RW,
> >
> >Afew years ago the cable company came to my house because there was cable
> >leakage eminating from it. The first thing the guy did was to get rid of
all
> >cables that had push on connectors, gold plated or not.
> >
> >I would try to locate the pont of crosstalk by removing cables one at a
> >time, working back from the TV set towards the antenna. Probably the
> >coupling is happening where the two coaxes run parallel to each other for
> >some distance. More than likely the problem is an improperly installed
> >connector. If not, I would suspect coupling inside the TV or VCR.
> >

>

3206. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 03:42:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF181E.19512CF3@cwis.net>
Source record: 118356

John,
Radio Shack has sold rotors for years. Unfortunately,
they aren't very 'heavy duty' at all. If you can get by
with using a very 'light duty' rotor, you're in luck...
'Doc

3207. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 03:51:24 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF1A3C.8AE5569F@cwis.net>
Source record: 118357

Wayne,
If you've solved your problem this is a little late,
but still a good idea to keep in mind.
When making entries like this, it's a good idea to
'cap' the outer side with a 90 degree bend of PVC pipe,
ot a 'dryer vent'. (Point the 90 degree adapter down to
keep the rain out.) It also makes it easier to run more
or different lines later. If a 1" hole will serve your
purpose that's good, but bigger is better (more lines,
easier to run them). 'Stop' the pipe with steel wool, or
screening to keep critters out...
'Doc

3208. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 03:55:32 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF1B34.7428804D@cwis.net>
Source record: 118358

Russ,
They also have a fairly narrow frequency bandwidth
or range because of the tuning lines...
'Doc

3209. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 04:04:53 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030512000453.11659.00000182@mb-m12.aol.com>
Source record: 118359

>Who knew Radio Shack has a antenna rotor for $70+ $15 control cable?
>
>If it weren't for the complex nature of setting one up and the fact that I
>have nowhere to put it at
>the moment (apartment), I would buy the darn thing. No way I'm getting a $600
>unit from the candy
>store.

I've been using one for years to rotate VHF and UHF antennas. Works great.

The "candy store"? That's a phrase I haven't heard since my CB days...
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3210. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 04:41:14 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <kc9ubvcjauor1se7a41lrs4rhcusggk7vc@4ax.com>
Source record: 118360

On Sun, 11 May 2003 22:55:32 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Russ,
> They also have a fairly narrow frequency bandwidth
>or range because of the tuning lines...
> 'Doc

I'll ask him about the bandwidth, but please explain "tuning lines".
As I understand it, the Sterba curtain is a series of dipoles (aren't
they all!) connected with 1/4 wave phasing lines.

Russ

3211. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 04:52:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBF2887.7010704@ieee.org>
Source record: 118361

'Doc wrote:
> Radio Shack has sold rotors for years. Unfortunately,
> they aren't very 'heavy duty' at all. If you can get by
> with using a very 'light duty' rotor, you're in luck...

I took a look at them and couldn't find a wind loading
spec anywhere.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3212. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 05:15:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g8bubvgmdrvj30qqc91jl2m3g89cnc1s46@4ax.com>
Source record: 118362

On Sun, 11 May 2003 19:10:17 -0500, "H. Adam Stevens"
<solo@totalaccess.net> wrote:

>PS
>The indivisible q is that of the electron.

Hi OM,

Physics (at least astro-physics) has gone a LONG way beyond these
simple energy considerations.

The fetish of the conservation-of-energy is another one of those old
wive's tales that is doomed to failure. [Yes, you can still jimmy
the books if you close your eyes and ignore what is happening around
us.]

"There's more in heaven and earth dear Cecilio,
than is dreamt of in your philosophy...."

73's
Richard Clark, KB7QHC

3213. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 06:34:52 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305112234.787eb4a8@posting.google.com>
Source record: 118363

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBE9769.9080200@ieee.org>...
> Reg Edwards wrote:
> > Q = 13.64 / dB is exact because it takes into account both conductor and
> > dielectric losses. It's easy to see why open-wire Q is far better than the
> > coaxial stuff. On the other hand, even an open-wire Q will not guarantee
> > less loss in a line transformer than in a lumped LC matching circuit.
>
> Yep, like I said, stubs with their near-infinite SWR are lossy,
> especially coax stubs.

You can rearrange Reg's equation so it uses published line loss data.
Since dB/100ft is commonly given (at least here), I like the
arrangement as Qu = 2.775*f(MHz)/(v.f.*atten(dB/100ft)).
Unfortunately, that seems to be just 1/2 the value given by Reg's
formula quoted above. It would be nice to resolve that factor of two
difference. Reg, would you agree that Qu = beta/(2*alpha) where beta
is the line phase constant in radians per unit length and alpha is the
attenuation in nepers per unit length? In fact, I agree with one of
Reg's other formulas, Qu = omega*L/R, but that does not seem to agree
with the 13.64/db, for one example line I tried. ??

And not all stubs are particularly lossy. I can easily make a coax
stub at 1000MHz with Qu>3000. As I said in a previous posting, stubs
are most useful when their diameter (or spacing for open wire lines)
is a significant fraction of their length. RG-8 at 1.9MHz is silly:
it far larger and far lossier than a simple LC tank. But we use
coaxial resonators commonly at 144MHz and above when we want high Q.
Repeater duplexers commonly use coaxial resonators, for example. A 6"
diameter resonator on 144MHz should have a Qu around 7500.

Cheers,
Tom

3214. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 06:47:06 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <85gubv454fr4fh72lam4me9qm1b0jqn8tb@4ax.com>
Source record: 118364

On Sun, 11 May 2003 20:05:07 -0500, "H. Adam Stevens"
<solo@totalaccess.net> wrote:

|"gold plated brass"
|I hope you had a Ni diffusion barrier under the gold,

Of course.

This is not without problems if the thicknesses of the layers aren't specified properly. We once plated some prototype waveguide oscillator test fixtures in-house and after the design was proven, sent a bunch out that were going to be delivered to our suppliers. One of my junior engineers was in charge of this and when nothing worked anymore he asked for help. I asked him how much gold was used and he shruged and said he didn't know; he just specified gold flash over electroless nickel, not to exceed so many microinches. The plating house knew the difference in cost between nickel and gold. <g>. Lotsa nickel, not so much gold.

3215. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 07:17:01 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305112317.bfcd005@posting.google.com>
Source record: 118365

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBC447D.4050808@ieee.org>...
> Dr. Slick wrote:
> > With NO current flowing at all at the max voltage points.
>
> No "NET" current flowing. The forward and reflected current components
> continue to flow uninhibited. When the forward and reflected current
> components are out of phase, there exists a current minimum, equal to
> zero in a lossless line with an SWR equal to infinity. When the
> forward and reflected current components are in phase, there exists
> a current maximum. What could be simpler than that? Why is there any
> disagreement?

As I've written before, in essence, there really ISN'T a
disagreement here! For you agree that there is no net current flowing
at the max. voltage points. If you want to think about this in terms
of incident and reflected current waves, please do...but all i am
concerned with is the net current anyways!

Slick

3216. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 07:30:47 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305112330.c26ee8c@posting.google.com>
Source record: 118366

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBCC887.6060006@ieee.org>...
> Dr. Slick wrote:
> > But we only care about "NET" current anyways!
>
> Nope, I don't care about "NET" current. All I care about is forward
> and reflected current. That the forward and reflected current superpose
> to zero every half wavelength is interesting but doesn't tell me anything
> about SWR, maximum current, or losses in the stub.
>

WRONG! The Voltage Standing Wave RATIO can be accertained by
the point voltages ONLY. This Ratio is the MAX voltage divided by the
MIN voltage points.
You can also get this ratio from the MAX currents and MIN currents.
You can also get the losses in the stub from, guess what?
Return Loss, which can be related to the VSWR.

>
> Nope, I'm talking about forward and reflected RF currents. They are
> in a series circuit and can only change directions at a physical
> impedance discontinuity like an open or short. There is nothing
> at the '+' point to change the direction of either the forward
> or reflected current. Current always flows in a closed loop.
> Here's the current diagram.
> Forward current
> 100W Signal Generator------->---------->---------->---------->---+
> |
> circulator load-------------<----------<----------<----------<---+
> Reflected current
>

You draw this like a Direct Current diagram, which is incorrect
in my opinion, because it gives the impression that there is DC
current here, which there is not.

>
> Current cannot disappear from a series circuit for no reason. The
> forward current and reflected current are there at the mouth of
> the stub. All you have to do is measure it. Hint: current disappearing
> from a series circuit is a violation of the laws of physics. There
> is a closed current loop all the way to the short above and back
> to the circulator load.

the current doesn't disappear, but just resonates back and forth
through

the stub. We are not breaking Kirchoff's law.

Slick

3217. Re: Bandpass filter or Bandstop filter

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 08:46:53 UTC
From: "J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca>
Message-ID: <ZbJva.1791$mK2.141119@news20.bellglobal.com>
Source record: 118368

RW@nowhere.com
> Here is the setup: <snip>

I'll put a dollar bet on the VCR being the leakage point...

Good luck.

3218. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 08:56:10 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbuoe0ns7dbrd0@corp.supernews.com>
Source record: 118367

been listening to limbaugh again?
I am a physicist
I counted ions for a living for better than a decade and the damned charges were always in units of q
nite
H
"Richard Clark" <kb7qhc@attbi.com> wrote in message news:g8bubvgmdrvj30qqc91jl2m3g89cnc1s46@4ax.com...
> On Sun, 11 May 2003 19:10:17 -0500, "H. Adam Stevens"
> <solo@totalaccess.net> wrote:
>
> >PS
> >The indivisible q is that of the electron.
>
> Hi OM,
>
> Physics (at least astro-physics) has gone a LONG way beyond these
> simple energy considerations.
>
> The fetish of the conservation-of-energy is another one of those old
> wive's tales that is doomed to failure. [Yes, you can still jimmy
> the books if you close your eyes and ignore what is happening around
> us.]
>
> "There's more in heaven and earth dear Cecilio,
> than is dreamt of in your philosophy...."
>
> 73's
> Richard Clark, KB7QHC

3219. DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 10:19:54 UTC
From: - = krusty = - <18@mailbox.co.za>
Message-ID: <3ebf7589$0$237@hades.is.co.za>
Source record: 118269

Hi All,
I use an AR-108 to pickup the local air traffic, but could do with a little more range...I manage to pick up the heavy aircraft on finals, but don't get signal from the tower or radar guys.
I have searched, but cannot seem to find any local suppliers of decent antennas and I figured it can't be all that difficult to build something that'll make a difference.
I figured that I'm using that 2M band (approx) so if I string up a vertical wire 2M high on the roof of my house, insulated of course and connect that to the scanner as well as a ground cable from the sheild of the SMA connector into a stake buried in the ground, is it gonna make much difference or is it not worth the effort?
If I make this wire longer than 2M, say 4M, would this help too?
I must admit that I'm not a guru when it comes to this technical stuff, but I'd like to see what I can do.
Any help would be much appreciated.
Many thanks
-c.

3220. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 10:58:18 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-48BBA4.05581812052003@hermes-ge0.rdc-kc.rr.com>
Source record: 118270
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <1njtbvoaju9aqlvq88v9fd2l73lfnqn41k@4ax.com>,
Helmut Wabnig <hXwabnig@aXon.at> wrote:

> On Sun, 11 May 2003 20:59:13 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
> >
> >>
> >> The standing wave ratio is unacceptably high
> >
> >COMMENT: High VSWR does not contribute to radiated field intensity or to
> >stray currents. This requires a burden of proof on the manufacturer to
> >prove the assertion.
> >
>
> Coax mantle currents caused by high VSWR?
>
> Obviously something controversial ....
>
>
> I own a Toyota too.
> The best car you can get for money.
> Not a single repair necessary for 7 (seven) years now.
>
> HF equipment restrictions apply for ALL car manufacturers,
> read the small print.
>
> w.

I had a 1989 Camry, it was no doubt the best car I ever owned. The
engine ran like a wrist watch, you could put a cup of coffee on top of
the running engine and barely see a ripple and get this, I bought it
used from Hertz with 27000 miles already on it and after a couple of
years of ownership and a thousands more miles on it I noticed a little
paint peeling off on the passenger door. Someone told me to take it to
a Toyota dealer and have them look at it so I did and they fixed it
..... no charge. I almost fell over.

After all is said and done, when I get ready to buy and if I decide on a
model I would not let that legal disclaimer stop me from installing a
radio in MY car just as I have done in my 94 Dodge Caravan and have had
no problems.

73
Dale, K9VUJ

--
email: dalej2@mac.com

3221. Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 11:12:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9nvjk$6bo$1@hercules.btinternet.com>
Source record: 118271

```
Damn! damn! damn! damn,! damn! Another arithmetic error. Everybody now has
to disrupt routine, go back to their carefully maintained notebooks and make
the necessary correction. Thanks Tom. Sorry folks.

Please delete 13.64 and insert 6.822

Q of a resonant 1/4-wave transmission line
--------------------------------------------------
The following are all equivalent.

Q = Beta / 2 / Alpha
Q = Omega * L / R
Q = Pi / 4 / Nepers
Q = 6.822 / dB

Beta = phase shift along a 1/4-wave line = Pi / 2 radians.
Alpha = attenuation along a 1/4-wave line in nepers.
Omega = 2*Pi*F
R and L = resistance and inductance per unit length.
dB = attenuation along a 1/4-wave line.
1 Neper = 8.686 decibels.

Programs COAXPAIR and RJELINE4 will tell you most things you want to know
about transmission lines. Precision Classical calculating formula used.
Pity I didn't make use of one of them as a sanity check on the constant
6.822.
=======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
=======================
```

3222. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 11:55:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF8BC7.7A42B13D@cwis.net>
Source record: 118272

What will help more than a resonant antenna will be
more height. Almost any antenna will work, but the trick
is to get it as high as possible.
'Doc

3223. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 11:57:52 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF8C40.76D439C1@cwis.net>
Source record: 118273

Cecil,
I don't ever remember seeing the wind loading figures
for any of Radio Shack's rotors, but for the size of them,
and for how they're made, it can't be much.
'Doc

3224. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 11:59:29 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBF8CA1.3A614293@cwis.net>
Source record: 118274

Russ
..."connected with 1/4 wave phasing lines", right, those.
'Doc

3225. Comet GP-9 antenna Lightning damage

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:12:46 UTC
From: Tom S <t_stenbraaten@hotmail.com>
Message-ID: <jt3vbvo0obn9esacl5jjsvdmgummq3qq2p@4ax.com>
Source record: 118275

A friend recently gave me a Comet GP-9 antenna that he has has lying around for years. It was hit by lightning and my friend just got it replaced through insurance.
Other than the obvious damage of the top section on the antenna being destroyed what other possible damage may occured. Is there any way to check the rest of the antenna to see if it works before going to the trouble and expense of replacing the top section??

Look forward to all your replys and comments,

Tom S
Ontario Canada

3226. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:38:36 UTC
From: Wayne Watson <mtnviews@earthlink.net>
Message-ID: <3EBF95D0.549A9668@earthlink.net>
Source record: 118277

Yes, this is a good idea. In fact, I had done it, but need to revisit my work. I realized last night
too that I need to do more than stick the gum in the hole. I need to anchor the cable so that in
heavy winds or by accident that the cables don't get pulled out or cause the gum/caulk to loosen.

'Doc wrote:

> Wayne,
> If you've solved your problem this is a little late,
> but still a good idea to keep in mind.
> When making entries like this, it's a good idea to
> 'cap' the outer side with a 90 degree bend of PVC pipe,
> ot a 'dryer vent'. (Point the 90 degree adapter down to
> keep the rain out.) It also makes it easier to run more
> or different lines later. If a 1" hole will serve your
> purpose that's good, but bigger is better (more lines,
> easier to run them). 'Stop' the pipe with steel wool, or
> screening to keep critters out...
> 'Doc

--
Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada City, CA

"In the end, our society will be defined not only by what we create,
but by what we refuse to destroy." --John C. Sawhill, The Nature Conservancy

Web Page: <home.earthlink.net/~mtnviews>
Imaginarium Museum: <home.earthlink.net/~mtnviews/imaginarium.html>

3227. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:44:14 UTC
From: - = krusty = - <18@mailbox.co.za>
Message-ID: <3ebf975d$0$227@hades.is.co.za>
Source record: 118278

"'Doc" <w5lz@cwis.net> wrote in message news:3EBF8BC7.7A42B13D@cwis.net...
> What will help more than a resonant antenna will be
> more height. Almost any antenna will work, but the trick
> is to get it as high as possible.
> 'Doc

Ah, the joys of VHF & line of sight. My house is gonna look pretty funny
with 15ft of cable going up on a pole!
Thanks!
-c.

3228. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:44:49 UTC
From: Jim Leder <jleder@cinci.rr.com>
Message-ID: <t95vbvc0lucs3ktsp13re3nqnnjs4aoki9@4ax.com>
Source record: 118276

And why the old VOA site in Mason, Ohio had one for European
transmissions.

3229. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:49:06 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vbv62sco9jaq96@corp.supernews.com>
Source record: 118279

That does improve the loss estimates from empirical Q measurements.
I'll be sure and correct my carefully maintained notebooks.
=]8O
73
H.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:b9nvjk$6bo$1@hercules.btinternet.com...
> Damn! damn! damn! damn,! damn! Another arithmetic error. Everybody now
has
> to disrupt routine, go back to their carefully maintained notebooks and
make
> the necessary correction. Thanks Tom. Sorry folks.
>
> Please delete 13.64 and insert 6.822
>
> Q of a resonant 1/4-wave transmission line
> --
> The following are all equivalent.
>
> Q = Beta / 2 / Alpha
> Q = Omega * L / R
> Q = Pi / 4 / Nepers
> Q = 6.822 / dB
>
> Beta = phase shift along a 1/4-wave line = Pi / 2 radians.
> Alpha = attenuation along a 1/4-wave line in nepers.
> Omega = 2*Pi*F
> R and L = resistance and inductance per unit length.
> dB = attenuation along a 1/4-wave line.
> 1 Neper = 8.686 decibels.
>
> Programs COAXPAIR and RJELINE4 will tell you most things you want to know
> about transmission lines. Precision Classical calculating formula used.
> Pity I didn't make use of one of them as a sanity check on the constant
> 6.822.
> ======================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ======================
>
>

3230. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 12:51:18 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <f36vbvkbsuvdseqpj9p2clov84frqm3bq4@4ax.com>
Source record: 118280

On Mon, 12 May 2003 11:12:52 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

|Damn! damn! damn! damn,! damn! Another arithmetic error.

Well, I'm glad that I've never made a mistake. <G>

3231. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 13:30:04 UTC
From: richardharrison@webtv.net
Message-ID: <15128-3EBFA1DC-16@storefull-2311.public.lawson.webtv.net>
Source record: 118281

Tom,KA6RUH wrote:
"I didn`t write that, Richard." (q is not divisible)

I apologize for the misattribution.

Best regards, Richard Harrison, KB5WZI

3232. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:28:11 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030512102811.28097.00000405@mb-m17.aol.com>
Source record: 118284

>Cecil,
> I don't ever remember seeing the wind loading figures
>for any of Radio Shack's rotors, but for the size of them,
>and for how they're made, it can't be much.
> 'Doc

Probably because they are selling them as TV antenna rotators and not ham radio rotators. I have used mine to turn a 4 element 2m quad, 5 element 2m yagi and a 3 element 6m yagi (at seperate times). Now I use it to rotate my Cushcraft dualband 2m/70cm 5 element yagi and my 3 ele 6m yagi. I've got a Rat Shack 3' tripod on the roof with a 5' mast. The rotator is on top of that and I have another 5' mast, on which the 2 antennas are. I've never had a problem with small antennas like these.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3233. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:29:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFAFBA.7070400@ieee.org>
Source record: 118285

Tom Bruhns wrote:
> And not all stubs are particularly lossy. I can easily make a coax
> stub at 1000MHz with Qu>3000. As I said in a previous posting, stubs
> are most useful when their diameter (or spacing for open wire lines)
> is a significant fraction of their length. RG-8 at 1.9MHz is silly:
> it far larger and far lossier than a simple LC tank. But we use
> coaxial resonators commonly at 144MHz and above when we want high Q.
> Repeater duplexers commonly use coaxial resonators, for example. A 6"
> diameter resonator on 144MHz should have a Qu around 7500.

I apologize, Tom, for not being clear. Unless stated otherwise, I
am invariably talking about HF situations.
--
73, Cecil http://www.qsl.net/w5dxp

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3234. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:38:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFB1DE.6080602@ieee.org>
Source record: 118286

Dr. Slick wrote:
> As I've written before, in essence, there really ISN'T a
> disagreement here! For you agree that there is no net current flowing
> at the max. voltage points.

I have never disagreed about the NET current. The disagreement was
whether forward and reflected currents flow undisturbed within a
stub. A few of you said I was wrong about that. Sounds like
I convinced you otherwise. And there's been no response from anyone
to my challenge to come up with an explanation for standing waves
that doesn't require forward-traveling and rearward-traveling waves.

>If you want to think about this in terms
> of incident and reflected current waves, please do...

I cannot think of another way to achieve standing waves, can you?
Standing waves are the result of superposition of a forward-traveling
wave and a rearward-traveling wave. Why should we ignore that fact
when we are trying to ascertain the details about what happens in
a stub or a mismatched transmission line or at a Z0-match point.
--
73, Cecil http://www.qsl.net/w5dxp

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3235. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:41:14 UTC
From: richardharrison@webtv.net
Message-ID: <5762-3EBFB28A-400@storefull-2316.public.lawson.webtv.net>
Source record: 118291

Dr. Slick wrote:
"For you agree that there is no net current flowing at the max. voltage points."

A d-c analogy may help. It`s been said by some, not here of course, that a balanced d-c resistance bridge allows equal and opposite current flows through the bridge detector. That isn`t what happens at balance when a null is indicated. What happens is, the volts are equal on both ends of the indicator, so no current flows through the indicator. A similar thing happens with a simple battery charger. When the volts of the battery rise to that of the charger, charging current abates.

The zero current points on a shorted lossless transmission line coincide with voltage maxima. Equal volts confront each other at these points. Incident and reflected waves are their source. As in a charger and charged battery confronting each other, no current flows. A-C makes no difference in the transmission line example because as the energy cycles, the phase is fixed between the incident and reflected volts at a point on the transmission line. This is the phenomenon which produces SWR.

Current really is zero at the points indicated in a perfect line SWR diagram. Current is regenerated by the volts at the virtual open circuits, just as it is from at a real open circuit at the end of a transmission line.

Best regards, Richard Harrison, KB5WZI

3236. Re: Tmatch rather than gamma match

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:52:08 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <sM6dnWuaI6aGKCKjXTWcoA@comcast.com>
Source record: 118287

Dennis,

You can't directly make a 617 into a 50-6 because the elements are too short, but I think bigger in diameter. This is probably no big deal because the 50-6 is not the world's best antenna anyhow. My guess is that just leaving off some of the front directors from the 617 will give you something that is no worse than a 50-6.. Do keep the T match, it will give you a better pattern than a gamma match. You will probably have to adjust the T match to compensate for the shorter boom.

I don't know how many sections your boom is in, but I would not cut it, if it is possible to just leave off whole sections.

If you have access to EZNEC, you could compare a 50-6 to a 617 and a shortened 617.

Tam/WB2TT
"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3EBC5F27.2090205@tampabay.rr.com...
> hey guys
> i picked up a cushcraft 617-6B 6 ele yagi on a 34 foot boom and i am not
> able to use it in its current configuration so i was thinking of cutting
> the boom down to the size of the A50S-6 which is a 6 ele yagi on a 20
> foot boom
> what i need to know is what spacing and element lenght differnce will
> there be by using the Tmatch that came with the 617-6 rather than the
> gamma match that the A50S-6 has on it
> let me know what you think
> thanks
>

3237. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 14:57:59 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <PPCdnbxZvvXnKyKjXTWcoA@comcast.com>
Source record: 118288

If you want a real rotator, the Yaesu G-450 at $249 can't be beat for price.
Specs beat a Hygain CD45.

Tam/WB2TT
"Dr. John" <frellyou@privacy.net> wrote in message
news:r83ubvoac03r61k99uvbnp6o29i4r1am34@4ax.com...
> Who knew Radio Shack has a antenna rotor for $70+ $15 control cable?
>
> If it weren't for the complex nature of setting one up and the fact that I
have nowhere to put it at
> the moment (apartment), I would buy the darn thing. No way I'm getting a
$600 unit from the candy
> store.
>
> John

3238. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 15:02:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFB77F.1050807@ieee.org>
Source record: 118289

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>>Nope, I don't care about "NET" current. All I care about is forward
>>and reflected current. That the forward and reflected current superpose
>>to zero every half wavelength is interesting but doesn't tell me anything
>>about SWR, maximum current, or losses in the stub.
>>
> WRONG! The Voltage Standing Wave RATIO can be accertained by
> the point voltages ONLY. This Ratio is the MAX voltage divided by the
> MIN voltage points.

Please read that sentence again. I said the fact that the current superposes to zero every half wavelength doesn't tell me anything about SWR. With that single fact, I DON'T KNOW what the current maximum value is. I repeat: Knowing the minimum current "does NOT tell me anything about SWR, maximum current, or losses in the stub". If you still think that statement is wrong, please explain. How can you calculate anything when ALL YOU KNOW is that the net current is zero?

Please note that every time you have said I was wrong, you have wound up agreeing with me. And the voltage standing wave ratio cannot be achieved without a forward-traveling voltage wave and a rearward-traveling voltage wave. Coherent waves traveling in the same direction do NOT cause the voltage maximums and voltage minimums necessary for standing waves.

> You can also get this ratio from the MAX currents and MIN currents.
> You can also get the losses in the stub from, guess what?
> Return Loss, which can be related to the VSWR.

The point was that you cannot obtain the MAX current value simply by knowing the MIN current value is zero. Please read the sentence again.

> You draw this like a Direct Current diagram, which is incorrect
> in my opinion, because it gives the impression that there is DC
> current here, which there is not.

Good Lord, have you never chosen a reference amplitude and phase for an AC signal? Exactly how do *you* draw AC current on a diagram?

> the current doesn't disappear, but just resonates back and forth
> through the stub. We are not breaking Kirchoff's law.

The forward current is flowing into the stub. The reflected current is flowing out of the stub. It is no different from any other point up and down the transmission line. Those two currents superpose to a net zero current every 1/2 wavelength, not just at the stub.
--

73, Cecil http://www.qsl.net/w5dxp

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3239. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 15:06:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFB858.300@ieee.org>
Source record: 118290

'Doc wrote:
> I don't ever remember seeing the wind loading figures
> for any of Radio Shack's rotors, but for the size of them,
> and for how they're made, it can't be much.

Yep, that's obvious. The question is, "How much?" My rotatable
dipole has a wind loading of about 30 square inches.
--
73, Cecil http://www.qsl.net/w5dxp

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3240. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 15:38:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbvfvo6rguml19@corp.supernews.com>
Source record: 118292

In electrical circuit analysis and at least some elementary physics(*), q is used to mean total charge (just about always in coulombs) while e is used to represent the charge of a single electron. I believe it's this common usage of q that other posters are meaning.

As you know, a total charge q of one coulomb is about 6.24 X 10^18 e.

Roy Lewallen, W7EL

(*) Cf. Van Valkenburg, _Network Analysis_ or Weidner and Sells, _Elementary Classical Physics_, Vol. 2. A commonly seen equation is q = CV, relating the charge and voltage on a capacitor.

H. Adam Stevens wrote:
> been listening to limbaugh again?
> I am a physicist
> I counted ions for a living for better than a decade and the damned charges
> were always in units of q
> nite
> H

3241. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 15:56:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b9ofpp$3e0$1@news.service.uci.edu>
Source record: 118293

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EB7FA54.9040709@ieee.org...
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>I agree but the discussion is not about "net" energy.
> >
> > When you're talking about the movement of energy, there really isn't any
> > other kind.
>
> Well, that can be proven wrong, Jim. The net energy flowing through
> a feedline is 100W. The forward power is 200W and the reflected
> power is 100W. There are more losses in that line than if the system
> were flat. That proves that more current is flowing in that transmission
> than just I=SQRT(100W/Z0).

It doesn't prove that more than 100 watts of net energy moved to the load.

ac6xg

3242. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 15:58:45 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EBFC4B5.9CA45EBB@cwis.net>
Source record: 118294

Naaaw, put a bird house on top of it...
'Doc

3243. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 16:05:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <b9ogal$3ht$1@news.service.uci.edu>
Source record: 118295

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EBCCB17.3030703@ieee.org...
> > Jim said:
> >>The magnitude of destructive interference is zero, and the magnitude of
> >>constructive interference when I1 = I2 is equal to 4*I1.
>
> The truth is: The magnitude of destructive interference is NOT zero, and
> the magnitude of constructive interference when I1=I2, is NOT equal to
4*I1.
>
> I stands for irradiance, not for interference.

I never said it didn't, Cecil. We're talking about the irrandiance produced
in an interference pattern. The two extremeties of the pattern are at the
constructive and destructive interference nodes.
How did you want me to say it?

> The magnitude of minimum *irradiance* is zero, and the magnitude of
> maximum *irradiance* when I1 + I1, is equal to 4*I1.

> Jim confused interference with irradiance. It's no big deal but he
> needs to correct that error.

I wasn't confused about that at all. It's a red herring. The point you're
trying to gloss over is the actual math error you made You were the one who
was confused.

3244. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 16:10:20 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b9oh0l$ce7$1@slb6.atl.mindspring.net>
Source record: 118296

"N4IXT" <n4ixt@arrl.net> wrote in message
news:b9mj6i$k2o7o$1@ID-105647.news.dfncis.de...
>
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
> news:b9lr4e$ms1$1@slb6.atl.mindspring.net...
> >
> > "N4IXT" <n4ixt@arrl.net> wrote in message
> > news:b9lonf$kbvd9$1@ID-105647.news.dfncis.de...
> > > Looking for some designs (websites, books, whatever) for some wire
> > antennas
> > > with some gain. Our club wants to do something beyond the typical
> inverted
> > V
> > > or dipole this year for field day.
> > >
> > > Thanks and 73's,
> > >
> > > Robert / N4IXT
> > >
> > >
> >
> > Any edition of the ARRL Antenna Handbook.
> > Any edition of the William Orr antenna books.
> > And for lowband stuff "Lowband Dxing by ON4UN"
>
> Thanks, I'm looking through those now, I was hoping someone might be able
to
> reccommend one based on personal experience. (Guess I should have
mentioned
> that, duh!)
>
> 73's
>
> Robert / N4IXT
>
>

Those are my recomendations, based on personal experience of nearly 43 years
of Amateur Radio.

Dan/W4NTI

3245. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 16:10:51 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <qkhvbvks9dnjj9h4thponap7p6c8ovg2dc@4ax.com>
Source record: 118297

On Mon, 12 May 2003 01:58:15 GMT, Wayne Watson
<mtnviews@earthlink.net> wrote:

Try the white Dap (tm) expandable foam. It stays flexible, does not
move mountains when it expands, and is moisture proof.

The yellow foam works well, as long as you don't get too much into a
closed area. It doesn't work well around doors and windows unless
great care is taken to prevent the door and window frames from moving.
(I have it around the doors in my shop, but gave it room to expand. I
use the Dap soft foam around the windows, and around the coax cables.

http://www.rogerhalstead.com/cablebox.htm

I also use it where the cables come into the house.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3246. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 16:44:23 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305120844.661cf751@posting.google.com>
Source record: 118298

A few years ago, I had a wonderful email exchange with a fellow who had researched the effects of silver plating on RF loss. As I recall, it was for the Australian telecom organization. Anyway, what he found was that real platings more often ding the Q than enhance it. For benefit, the plating must be very carefully controlled. His advice was to use smooth, polished copper with a thin layer of protection such as acrylic spray, just as Roy suggests.

In any event, a "perfect" silver conductor compared with a "perfect" copper conductor, each at least a few skin-depths thick, will have only 3% better RF conductivity. So if you've designed your tank circuit so the copper coil wastes 10% of your RF, replacing it with silver lowers that to 9.7%. In that scenario, it would save 3 watts for a 1000 watt transmitter output. That's a whopping 0.01dB. And real silver plating may well make things worse instead of "better". There's often way more to be gained by re-thinking the circuit topology for what you're trying to accomplish so the Qu/Ql can be higher, and you'll have lower loss in the coil.

Of course as Roy says, there may be reason to use silver plating with a roller (or sliding) inductor.

Cheers,
Tom

Roy Lewallen <w7el@eznec.com> wrote in message news:<vbtohpa1sbq0d0@corp.supernews.com>...
> Silver plating might be an advantage for a roller inductor, since
> contact resistance is important. But for a fixed inductor, I absolutely
> agree with Reg that all you get for the trouble and expense is a pretty
> inductor. Actually, enameled wire or copper wire sprayed with Krylon
> will keep that pretty copper color just fine, while a plain silver one
> will tarnish soon enough.
>
> Roy Lewallen, W7EL
>
> Reg Edwards wrote:
> >>Which is why I'm looking for silver plated variable L and C.
> > >
> > >
> > > ======================
> > >
> > > I havn't read your initial enquiry so I'm uncertain why you want silver
> > > plated tuned circuits.
> > >
> > > If you like things to look pretty regardless of expense all well and good.

> >
> > But if you expect silver plating to provide a significant increase in Q then
> > you would do better just by increasing the diameter of the copper wire by
> > twice the thickness of the proposed silver plate.
> >
> > To go the next thicker copper wire gauge would be overkill. ;o)
> > ---
> > Reg, G4FGQ
> >
> >

3247. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:21:54 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <a0mvbvoha1hb7h3j1vof48f9fe6dpbpasc@4ax.com>
Source record: 118299

On 12 May 2003 09:44:23 -0700, k7itm@aol.com (Tom Bruhns) wrote:

|A few years ago, I had a wonderful email exchange with a fellow who
|had researched the effects of silver plating on RF loss. As I recall,
|it was for the Australian telecom organization. Anyway, what he found
|was that real platings more often ding the Q than enhance it. For
|benefit, the plating must be very carefully controlled. His advice
|was to use smooth, polished copper with a thin layer of protection
|such as acrylic spray, just as Roy suggests.

Yep. I have his paper around here someplace. Seems to me I sent a
copy to Roy.

3248. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:40:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFDC8C.3090003@ieee.org>
Source record: 118300

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote:
>>Well, that can be proven wrong, Jim. The net energy flowing through
>>a feedline is 100W. The forward power is 200W and the reflected
>>power is 100W. There are more losses in that line than if the system
>>were flat. That proves that more current is flowing in that transmission
>>than just I=SQRT(100W/Z0).
>
> It doesn't prove that more than 100 watts of net energy moved to the load.

More than 100 watts if NET energy is NOT moved to the load and nobody has ever said it is. Why the straw man? It is common knowledge that the NET energy delivered to the load is the forward power (200W) minus the reflected power (100W) equals 100 watts NET power delivered to the load. Everything is perfectly consistent.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3249. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:47:30 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <mV2jaOJy49v+EAct@ifwtech.co.uk>
Source record: 118301

Tom Bruhns wrote:
>A few years ago, I had a wonderful email exchange with a fellow who had
>researched the effects of silver plating on RF loss. As I recall, it was for the
>Australian telecom organization. Anyway, what he found was that real
>platings more often ding the Q than enhance it. For benefit, the plating must
>be very carefully controlled. His advice was to use smooth, polished copper
>with a thin layer of protection such as acrylic spray, just as Roy suggests.
>

I remember that - and kept a copy.

(Since it was originally a public posting to this newsgroup, netiquette
allows it to be re-posted here again, unchanged.)

****

From: Alan_M._Fowler@ieaust.org.au (Alan M. Fowler)
Reply-To: Alan_M._Fowler@ieaust.org.au
Newsgroups: rec.radio.amateur.antenna
Distribution: world
Subject: Re: RF Skin effect & Slow antennas
Date: 19 Jun 1996 06:04:37 GMT
Message-ID: <2204757982.16046618@ieaust.org.au>
Organization: Institution of Engineers, Australia
Lines: 113

>rec.radio.antenna Item
>From: JAMES MCEWEN,mcewenjv@songs.sce.COM,Internet
>Subject: RF Skin effect & Slow antennas
>To: rec.radio.antenna

> One of the drawbacks to a helically wound antenna is its low
> radiation resistance coupled with the ohmic resistance of the
> wavelength or so of wire that is needed for resonance. So my
> thought on reducing the wire resistance is to use silver plated
> wire (16 GA Teflon insulated is available from Newark Electronics
> for ~$36/100ft.). I started looking for info on skin effect and
> have sort of drawn a blank.
> My question, for anyone with a reference book or table of
> values, is how thick does the silver coating have to be?

The best thickness of silver plating is 0" (zero inches).
i.e. DO NOT USE SILVER PLATING AT ALL AT R.F. Before the
"Tar and Feather Brigade" arrive, I'll explain the background,
and why using silver plating at r.f. is not a good idea.

Back in the old days, when people actually built receivers
and transmitters themselves, someone who had wound a coil
from 1/4" copper tube found that the Q was much higher after
the coil was silver plated. He spread the word, and soon everybody
was doing it. And many people still believe it's holy writ, and
continue to use silver plating today.

I used to use silver plating, because everybody else did.
Then I got the bill for silver plating a two foot long, two foot
diameter coil wound from 1" copper tube. It was part of an aerial
coupling unit for a 50 kW MF transmitter. That started me
looking for a cheaper alternative.

Looking back at the original reason for using silver plating
I found two things:
(i) the commonly available 1/4" copper tubing at that time
was automobile fuel line. This was made from copper which has
a small percentage of, I think, arsenic added to it to increase its
resistance to fracture. It also increased its electrical resistance
about four times.
(ii) The silver plating in use at that time gave a dull deposit
which had to be buffed and polished to produce a shining surface
. The deposit was very nearly pure silver, and had a conductivity
not much less than pure silver.

The upshot was that the silver plated coil had about twice
the Q of the copper coil.

So what has changed, and why am I saying you should not
use silver plating for r.f. conductors today? For a start, electrical
grade copper is now available in wire, rod and tube. Secondly,
electroplaters found that by adding certain chemicals to the
plating baths the deposit was fully bright as it came out of the
bath. This eliminated the laborious and costly hand polishing.
It also resulted in silver deposits with a conductivity much lower
than pure silver.

The result in this case was that the silver plated coil had
a much lower Q than an unplated copper coil.

I spent a lot of time in the 1960's trying to track down
information on the conductivity of electroplated finishes. I read,
or skimmed, nearly 1,000 references, wrote to many of the
leading plating authorities throughout the world, and the result
was nearly always the same - there is little or no information on
the conductivity of plated finishes, because nobody thought it
would be important.

The only really useful information came from Albert Keil in
Germany, and E. Raub also in Germany. Some of their
measurements of electrodeposits from baths with various
additives showed an increase in resistivity of up to 500 times
that of the pure metal.

Some further information from the investigation:
1. Beware of nickel underlays under silver or other metals.
2. A thin plating (a fraction of a skin depth in thickness)
of high resistance metal can be used to provide corrosion
protection without increasing the losses.
3. Beware of dielectric (insulating) coatings. If you pick
the wrong one you can get significant losses at r.f.
4. Check the physical design of coils. Picking the right
proportions, size and spacing of conductor can do more good
than silver plating.
Be careful of the design of any enclosure for the coil.
The wrong choice of size or metal can result in circulating
currents, and high losses.
5. The value usually given for the resistivity of chromium
is 2.6 instead of the correct value of 12.6. There was a typing
error in the original table published, I think, by NBS. And all
the best text books simply copied the table without checking.
6. Galvanised fencing wire makes a good conductor for
large rhombic, vee, or long wire aerials. Zinc has about 3 to 4
times the resistivity of copper, and the losses in this sort of
aerial are insignificant.
7. Use a magnetic stainless steel for mobile whip aerials
instead of nickel plated (or more usually, chrome over nickel)
A local firm made comparison measurements some years ago,
and switched production to the stainless steel model.
8. Don't silver plate the inside of cavity resonators. Polish
them to a mirror finish, making sure there are no micro-scatches
at right angles to the current flow. Spray with a VERY thin film
of Incralac.

The results of my search, calculations and conclusions were
published in a number of international journals around 1970. If
anyone is sufficiently interested to follow this up, I will dig out the
references and post them here.

Alan.

****

As far as I know, there was no follow-up posting.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3250. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:47:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBFDE4A.57A42318@uci.edu>
Source record: 118304

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > I made a typo. Sorry. Now will you work the problem correctly?
> > If not, then don't bother to reply. Thank you.
>
> I am working the problem correctly, Jim. It is you who is confusing
> interference with irradiance as proven by your following assertion.
>
> You said:
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.
>
> That shows your point of confusion. That statement is true for irradiance,
> false for interference. The following is quoted from Hecht:
>
> I = I1 + I2 + 2*SQRT(I1*I2)cos(theta)
>
> Imax = I1 + I2 + 2*SQRT(I1*I2) Imin = I1 + I2 - 2*SQRT(I1+I2)

Yes. Those are the equations.

> The term, 2*SQRT(I1*I2)cos(theta) is known as the *interference term*.

Is this what you've been babbling on about? What's the point?
The equation, the entire equation, gives the magnitude of the irradiance
for interfering waves. You can't just throw out a couple of terms and
say, see what I get. It's meaningless.
From Hecht: When I1 equals I2, I = 4*Io*cos^2 theta/2. min = 0. max =
4*Io. No negative solutions. Get it?

If I1 and I2 = 25 (like your "lost power" for example), then the
destructive irradiance on one side of the discontinuity is zero, and the
constructive irradiance on the other side of the discontinuity is 100.
Seems to suggest what might actually be going on.

3251. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:51:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EBFDF30.7080400@ieee.org>
Source record: 118302

Jim Kelley wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EBCCB17.3030703@ieee.org...
>
>> > Jim said:
>> >>The magnitude of destructive interference is zero, and the magnitude of
>> >>constructive interference when I1 = I2 is equal to 4*I1.
>>
>>The truth is: The magnitude of destructive interference is NOT zero, and
>>the magnitude of constructive interference when I1=I2, is NOT equal to 4*I1.
>
>>I stands for irradiance, not for interference.
>
> I never said it didn't, Cecil. We're talking about the irrandiance produced
> in an interference pattern. The two extremeties of the pattern are at the
> constructive and destructive interference nodes.
> How did you want me to say it?

I told you how you should have said it to avoid the error, Jim. Taking your
false statement above and changing it to be true:

The magnitude of irradiance (not destructive interference) is zero at
an Imin point. The magnitude of irradiance (not constructive interference)
when I1=I2 is equal to 4*I1.

You erroneously said "interference" when you should have said "irradiance".
Irradiance and interference are not the same thing. Your statement about
interference is simply FALSE. The destructive interference is MAXIMUM when
the irradiance is zero. The destructive interference is not zero. The
constructive interference is MAXIMUM when the irradiance is 4*I1. The
constructive interference is 2*I1, not 4*I1. The irradiance is 4*I1.

>>Jim confused interference with irradiance. It's no big deal but he
>>needs to correct that error.
>
> I wasn't confused about that at all. It's a red herring.

Jim, your assertion is false. That's all there is to it. Here it is
again. Please read it over and over until you realize that you should
have said, "irradiance", not "interference".

Jim said:
>The magnitude of destructive interference is zero, and the magnitude of
>constructive interference when I1 = I2 is equal to 4*I1.

That is simply a false statement and indicates that you do not understand
the difference between interference and irradiance.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3252. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:55:16 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBFE004.CAF69135@uci.edu>
Source record: 118305

OC_CAM's Razor wrote:
> Your following
> statement is obviously a mistake. Too bad you are not man enough to
> admit it.

> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.

I admit that the equations I posted are correct, that yours were not,
and that for some reason you want me to say the word irradiance when I
talk about interfering waves.

3253. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:57:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vbvo3rd8l11o88@corp.supernews.com>
Source record: 118303

Yes, Wes, you did. And again my thanks. Among other interesting things, it points out that most silver plating is done with alloys, many of which are considerably less conductive than copper.

Roy Lewallen, W7EL

Wes Stewart wrote:
> On 12 May 2003 09:44:23 -0700, k7itm@aol.com (Tom Bruhns) wrote:
>
> |A few years ago, I had a wonderful email exchange with a fellow who
> |had researched the effects of silver plating on RF loss. As I recall,
> |it was for the Australian telecom organization. Anyway, what he found
> |was that real platings more often ding the Q than enhance it. For
> |benefit, the plating must be very carefully controlled. His advice
> |was to use smooth, polished copper with a thin layer of protection
> |such as acrylic spray, just as Roy suggests.
>
> Yep. I have his paper around here someplace. Seems to me I sent a
> copy to Roy.

3254. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 17:59:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBFE0E8.18515FD2@uci.edu>
Source record: 118306

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> > "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote:
> >>Well, that can be proven wrong, Jim. The net energy flowing through
> >>a feedline is 100W. The forward power is 200W and the reflected
> >>power is 100W. There are more losses in that line than if the system
> >>were flat. That proves that more current is flowing in that transmission
> >>than just I=SQRT(100W/Z0).
> >
> > It doesn't prove that more than 100 watts of net energy moved to the load.
>
> More than 100 watts if NET energy is NOT moved to the load and nobody has
> ever said it is.

Your example using 200 watts forward and "high" line losess was supposed
to prove that there is something "other" than net energy invovled.
There is nothing other than net energy involved.

3255. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:05:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EBFE261.A90F710@uci.edu>
Source record: 118307

OC_CAM's Razor wrote:
> The magnitude of irradiance (not destructive interference) is zero at
> an Imin point. The magnitude of irradiance (not constructive interference)
> when I1=I2 is equal to 4*I1.

Yes. I was the one who pointed that out to you, and you told me I was
wrong. I'm glad you finally agree.

> You erroneously said "interference" when you should have said "irradiance".
> Irradiance and interference are not the same thing. Your statement about
> interference is simply FALSE. The destructive interference is MAXIMUM when
> the irradiance is zero. The destructive interference is not zero. The
> constructive interference is MAXIMUM when the irradiance is 4*I1. The
> constructive interference is 2*I1, not 4*I1. The irradiance is 4*I1.

'I' stands for irradiance (or intensity) in the equation! Everybody
knows that.

> Jim, your assertion is false. That's all there is to it. Here it is
> again. Please read it over and over until you realize that you should
> have said, "irradiance", not "interference".

Whatever you say, Cecil. I think the important point is that you now
agree on the math.

> Jim said:
> >The magnitude of destructive interference is zero, and the magnitude of
> >constructive interference when I1 = I2 is equal to 4*I1.

> That is simply a false statement and indicates that you do not understand
> the difference between interference and irradiance.

That's a stupid thing to say, and it happens to be another lie.

3256. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:07:18 UTC
From: DHH <dhhnews0@hotmail.com>
Message-ID: <7rRva.2200$mK2.182482@news20.bellglobal.com>
Source record: 118308

I'd suggest two types of antenna
1- a horizontal loop - up about 15 to 20 ft - this can be used on all bands - feed with open wire and a balun - make the loop as large as you can using available trees - no need to be resonate on any band - this will give you some good all directional coverage on all bands - with gain at the higher ones

2- an all band bobtail - see recent QST article - believe Feb or March or use a dedicated wire 'half square' - just an excellent gain wire beam and bidirectional with wide capture area

73 Dan VA3MA qrp

"N4IXT" <n4ixt@arrl.net> wrote in message news:b9lonf$kbvd9$1@ID-105647.news.dfncis.de...
> Looking for some designs (websites, books, whatever) for some wire antennas
> with some gain. Our club wants to do something beyond the typical inverted V
> or dipole this year for field day.
>
> Thanks and 73's,
>
> Robert / N4IXT
>
>

3257. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:27:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pepvbvkpsf9agu3gbjgq5b3f5ut100clfq@4ax.com>
Source record: 118309

On Mon, 12 May 2003 09:41:14 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>The zero current points on a shorted lossless transmission line coincide
>with voltage maxima. Equal volts confront each other at these points.
>Incident and reflected waves are their source.
...
>
>Current really is zero at the points indicated in a perfect line SWR
>diagram. Current is regenerated by the volts at the virtual open
>circuits, just as it is from at a real open circuit at the end of a
>transmission line.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

And this, of course, harkens back to your Terman reference of Fig.
4-17. It is with these contributions that this thread has any hope of
providing sustenance. As I pondered the SWR relationships, it dawned
on me that it also describes the common garden variety of step
transformer. It also illustrates the logic for port connections to
resonant cavities. These working solutions devastate Cecil's illogic.

73's
Richard Clark, KB7QHC

3258. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:46:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8nqvbv0e43foisdr7l5avfhtmeo9m6qm01@4ax.com>
Source record: 118310

On Mon, 12 May 2003 03:56:10 -0500, "H. Adam Stevens"
<solo@totalaccess.net> wrote:

>I am a physicist

Even an armchair "astro" physicist of the Scientific American variety
such as myself has learned there is more "energy" in the universe,
than has been taught at university 10 years ago.

And more than 40 years ago, Feynman was trying to cool enthusiasm in
this boutique culture that embroiders their logic with "conservation."

73's
Richard Clark, KB7QHC

3259. Re: better hamsticks vs little tarheel

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:54:48 UTC
From: n5kzw@arrl.net
Message-ID: <3ebfecd8.10602664@news.ev1.net>
Source record: 118311

On 2 May 2003 14:12:41 GMT, Bill Turner <noway@nohow.com> wrote:

>theplanters95@aol.comnospam (Theplanters95) wrote in
>news:20030502014552.26954.00000346@mb-m26.aol.com:
>
>> My wife does not like any antennas period! I see a work of art, she
>> sees a pile of junk wire! She wants me to use my 2m antenna for 80m!
>>
>>
>
>Gently explain to her that ham radio is your hobby. You could have a hobby
>such as chasing other women, but isn't she lucky you don't? Also mention
>you have been a ham longer than you have been a husband (if true) and
>seniority takes precedence.
>
>Or you could marry a woman like I did who was astonished that I could build
>radio stuff and thought I was the smartest guy in the world. I don't know
>if she *really* believed that, but she was smart enough to say so. And
>start referring to her as your "current" wife. :-)
>
>--
>Bill Turner
>W7TI

Or, you could marry a woman who was a ham and had the patience to work
with me for 2 years to get me up to 5 wpm. She insists we have a HF
rig installed whenvever we take a driving vacation.

Ed Bailen
N5KZW

3260. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 18:58:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2jrvbv830g4po2ifgnucen0l7vjsame954@4ax.com>
Source record: 118312

On Sun, 11 May 2003 21:09:22 -0500, "Harold Burton"
<hwburton@cableone.net> wrote:

>
>"Wes Stewart" <n7ws@#arrl.net> wrote in message
>news:f36vbvkbsuvdseqpj9p2clov84frqm3bq4@4ax.com...
>> On Mon, 12 May 2003 11:12:52 +0000 (UTC), "Reg Edwards"
>> <g4fgq.regp@btinternet.com> wrote:
>
>>> Well, I'm glad that I've never made a mistake. <G>
>
>I thought I had erred once, but I was wrong. Wait........ let me think about
>that a minute.
>

Unlike this lineup of virgins, I've made enough mistakes to appreciate
I can live with my own, easier, than someone else's.

73's
Richard Clark, KB7QHC

3261. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 19:32:50 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <7itvbvcov0bqahb6s3s1hb9h11cd64jc9f@4ax.com>
Source record: 118313

On Sun, 11 May 2003 21:55:38 GMT, Wayne Watson
<mtnviews@earthlink.net> wrote:
>I drilled a 1" hole in an outside wall into a room through drywall to push 3-4 coax cables. What's a
>good way to close up the hole from both inside and outside. I would prefer not to remove the cable.

A good approach is to make a hole to accommodate a PVC pipe and 90
degree elbow large enough to pass a PL-259 with a few coax cables
already in there. You seal around the pipe with silicone and stuff
glass insulation up the elbow (opening down!) around the wires to keep
out the elements and the critters.

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

3262. Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 20:18:41 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0305121218.61d0e5a9@posting.google.com>
Source record: 118314
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Thanks to everyone who gave me great advice on the improved SWR/wattmeter I have been working on this semester for an independent study project in my graduate work. I put my device together, and it works. Though it doesn't quite have the performance I hoped for, it still runs rings around the MFJ cross-needle meters (high SWR and QRP capability as well as 100W capability). In case you are wondering, I am using FT82-43 toroids for the transformers with #30 wire for the primary (high voltage, low current) windings. I really pushed the limits on many things, such as the capability of LM324s, the capability of LM3914s, the current capacity of wire (>1A and #30 wire on an FT50-43 core do not mix), the space needed for the wires connecting 20-40 LEDs, and what happens when you accidentally connect a capacitor the wrong way (leaking fluid, noise, mess on the breadboard).

I am working on my report, and one thing that still puzzles me is the significance of the inductive reactance in transformers. The design I am using is based on the one at http://engphys.mcmaster.ca/~elmer101/rfpower/swrtheory.html

I have heard that the inductive reactance across a transformer winding should be at least 4 times the resistance that is connected across it. There is 100 ohms of resistance across the voltage transformer, so that should mean j400 ohms of resistance are required in the winding. According to the software programs of Reg Edwards (and the ARRL formulas), the secondary winding (the 1-turn side) of the voltage transformer would have only .45uH with one of the FT82-43 cores I am using. Most other SWR meter designs actually use SMALLER cores (FT50, even FT37), which have even less inductance per turn. The .45uH is only j5 ohms on 160m and j84 ohms on 10m, a far cry from j400 ohms.

Could someone please shed some light on what is going on? How much inductive reactance is REALLY needed, and what would have happened if I did not have enough? Why can't RF transformers use plastic or air cores? (They would be much cheaper.)

Jason Hsu, AG4DG
usenet@@@jasonhsu.com

3263. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 20:30:47 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9p09q$lkf8r$1@ID-134747.news.dfncis.de>
Source record: 118315

I have a 4 element log periodic dipole cut for 80
meters. Have a way to store it down, before you
build it. I only use it on field day. Aim it
west and work everything, and anything. Got the
plans from ARRL Antenna Book. It is 4 80 meter
dipoles, with elements fed out of phase. The
feedline is made from two 65 foot pieces of #12
copperweld. There are separators where each of
the dipoles join the antenna. A 4:1 balun at the
end of the feedline converts to a reasonable match
for the rig.

73 es cul

wb3fup
a Salty Bear

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
message
news:b9oh0l$ce7$1@slb6.atl.mindspring.net...
>
> "N4IXT" <n4ixt@arrl.net> wrote in message
> news:b9mj6i$k2o7o$1@ID-105647.news.dfncis.de...
> >
> > "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote
in message
> > news:b9lr4e$ms1$1@slb6.atl.mindspring.net...
> > >
> > > "N4IXT" <n4ixt@arrl.net> wrote in message
> > >
news:b9lonf$kbvd9$1@ID-105647.news.dfncis.de...
> > > > Looking for some designs (websites, books,
whatever) for some wire
> > > antennas
> > > > with some gain. Our club wants to do
something beyond the typical
> > inverted
> > > V
> > > > or dipole this year for field day.
> > > >
> > > > Thanks and 73's,
> > > >
> > > > Robert / N4IXT
> > > >
> > > >

> > >
> > > Any edition of the ARRL Antenna Handbook.
> > > Any edition of the William Orr antenna
books.
> > > And for lowband stuff "Lowband Dxing by
ON4UN"
> >
> > Thanks, I'm looking through those now, I was
hoping someone might be able
> to
> > reccommend one based on personal experience.
(Guess I should have
> mentioned
> > that, duh!)
> >
> > 73's
> >
> > Robert / N4IXT
> >
> >
>
> Those are my recomendations, based on personal
experience of nearly 43 years
> of Amateur Radio.
>
> Dan/W4NTI
>
>

3264. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 21:47:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC0168C.9030707@ieee.org>
Source record: 118316

Jim Kelley wrote:

> The equation, the entire equation, gives the magnitude of the irradiance
> for interfering waves.

Exactly right, but you said the entire equation gives the magnitude of
the interference. Got it? The entire equation is IRRADIANCE, not
interference. Interference is only part of the equation.

You said: "The magnitude of destructive interference is zero." You
are wrong. The magnitude of irradiance is zero when the destructive
interference is at its maximum value.

> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.

IRRADIANCE AND INTERFERENCE ARE NOT THE SAME THING. THERE IS NO SUCH THING
AS DESTRUCTIVE IRRADIANCE!!!!! THERE IS NO SUCH THING AS CONSTRUCTIVE
IRRADIANCE!!!!! Please correct your error so we can proceed.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3265. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 21:52:44 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC017AC.3010708@ieee.org>
Source record: 118317

Jim Kelley wrote:
> I admit that the equations I posted are correct, that yours were not,
> and that for some reason you want me to say the word irradiance when I
> talk about interfering waves.

You said: "The magnitude of destructive interference is zero." You are wrong. The magnitude of the destructive interference is MAXIMUM when the irradiance is zero.

Itot = I1 + I2 + 2SQRT(I1*I2)

Itot is the total irradiance and is zero when I1+I2 = -2SQRT(I1*I2).

It is NOT the destructive interference that is zero. It is the total irradiance that is zero. How you can continue to defend your false assertions in the face of overwhelming evidence to the contrary is, well, underwhelming.
--
73, Cecil http://www.qsl.net/w5dxp

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3266. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 21:55:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC0185A.5020203@ieee.org>
Source record: 118219

Jim Kelley wrote:
> Your example using 200 watts forward and "high" line losess was supposed
> to prove that there is something "other" than net energy invovled.
> There is nothing other than net energy involved.

If net energy equals forward energy minus reflected energy, of course there is something other than net energy involved. There is forward energy and reflected energy involved. This can be proven by the extra losses associated with an SWR higher than 1:1.

If you believe that coax always has matched line losses, no matter what the SWR, I feel really sorry for you.
--
73, Cecil http://www.qsl.net/w5dxp

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3267. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 21:57:31 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vc0653ccoh4eb7@corp.supernews.com>
Source record: 118318

Outstanding.
I have had a number of CW contacts with radio amateurs who had
almost no command of English and yet, using Q signals and the like, we
could have a simple conversation. This was especially common when,
before the end of the Soviet empire, I was chasing Oblasts.
CW fosters one of the fundamental purposes of amateur radio.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
<snip>
> >> It's a viable mode of operation. It is one of the fundamentals of
radio.
> >> It is part of a well rounded education in radio. It is an area
where a
> >> person needs actual experience to judge its usefulness. We are
required to
> >> learn a lot of things in other aspects of our life that are not
germane to
> >> our lives simply because it is considered one of the fundamentals
and/or
> >> part of a well rounded education. After all by the time you finish
> >> elementary school, you can read, write, and add and subtract. More
than
> >> that is not necessary in daily life. So let's let people drop out
of
> >school
> >> after 8th grade. The ordinary person doesn't need algebra or
geometry or
> >> chemistry or physics or Shakespeare. Only those who are going on
to
> >college
> >> "need" that sort of stuff.
> >>
<snip>

>
> Seriously (tongue back in middle of mouth), I think CW
Morse/International Code
> is useful for at least the following reasons (there are surely more
that I can
> not think of at the moment):
>
> 1) It is the simplest radio mode. It allows hams to build and operate

their
> own equipment with a minimun of cost and expertise.
>
> 2) It gets through when voice modes dont!!! If a HF voice channel is
marginal,
> switch to CW at the same power level and its solid armchair copy.
(This is why
> the Marines take their 20 mile hikes, sometimes they have to do
something that
> the Hummers and helicopters cant.).
>
> 3) The HF bands are crowded. In a typical 100 KHz segment you can
only have
> about 30 voice QSOs going at the same time. On CW, the same 100 kHz
would
> easily support over 200 CW QSOs! I generally find more QSOs going on
in the CW
> segment that in the phone segment, especially on 20 meters. (This is
also an
> argument for PSK31.)
>
> 4) When you send a message, you spell it out, and have a written copy
exaxctly
> as the sender sent it! (The extra 'x' in 'exactly' would be there if
it was
> sent!) If you are requested to send a list of people at an emergency
shelter,
> some names will not be Smith or Jones. I once had to deliver a
message from
> Angrage, Alaska (it was Anchorage (sp?), but it got garbled on an
earlier voice
> relay.) Admitted, packet, rtty, or psk31 would be a good choice for
this need.
>
> 5) Many hams have little or no knowledge of English. Ham CW uses a
creole that
> allows you to communicate with them. Even among people proficient in
English,
> there are wide variations in accents that can make voice communication
> difficult. (Try listening to BBC television shows where the actors
are using
> regional accents and not standard BBC news presenter English!!!!)
>
> There is no code requirement on the higher frequency bands where most
of your
> listeners will be native English speakers (here in So Cal, this is not
true).
> Code is required only on the HF bands where there is the very real
possibility
> that your signal will go to areas of the world where English is not

the primary
> language. CW provides a common language.
>
> One of the main selling points (IMHO) of amateur radio is that it
promotes
> communication and understanding among the different peoples of the
world.
> Removing all people who do not speak English goes against this. IMHO,
this is
> the strongest reason for requiring knowledge of CW for the HF bands.
>
> 73
> Jim Cooper NE6O
>
>

3268. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 22:10:02 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC01BBA.9050108@ieee.org>
Source record: 118220

Jim Kelley wrote:
> I'm glad you finally agree.

I don't agree. Your statement is false!!!

You said:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Until you admit that is a false statement, further communications is
irrelevant.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3269. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 22:30:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC02088.A6B0AFC0@uci.edu>
Source record: 118222

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
>
> > The equation, the entire equation, gives the magnitude of the irradiance
> > for interfering waves.
>
> Exactly right, but you said the entire equation gives the magnitude of
> the interference. Got it?

I'm sorry that you didn't get it when I said it before. I thought it was obvious. The equation is for irradiance or intensity. That's what "I" stands for. I never implied otherwise. There are two solutions; one for constructive interference, and one for destructive interference. That is what I said. I never implied otherwise. Why are you so intent on picking a fight? Perhaps as a cover up for your blunder?

> The entire equation is IRRADIANCE, not
> interference. Interference is only part of the equation.

There are no units of 'interference'. Obviously there isn't an equation whose solution is 'interference'.

Now that we find you are in agreement with the facts, will you still be inventing something to argue about?

> IRRADIANCE AND INTERFERENCE ARE NOT THE SAME THING. THERE IS NO SUCH THING
> AS DESTRUCTIVE IRRADIANCE!!!!! THERE IS NO SUCH THING AS CONSTRUCTIVE
> IRRADIANCE!!!!! Please correct your error so we can proceed.

Please stop arguing symantics so we can procede. The point is you cannot use 2*SQRT(I1*I2) as a solution in an "energy analysis". Please try using the correct equation in your analysis, and you won't have to invent a mechanism for how energy is transmitted through the discontinuity. You're right that interference is taking place. Now all you have to do is correct your analysis and use the correct formula.

3270. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 22:31:59 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC020DF.F075596B@uci.edu>
Source record: 118221

OC_CAM's Razor wrote:
> It is NOT the destructive interference that is zero. It is the total
> irradiance that is zero. How you can continue to defend your false
> assertions in the face of overwhelming evidence to the contrary is,
> well, underwhelming.

Does anyone else see what is going on here?

3271. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:10:33 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305121510.420149e3@posting.google.com>
Source record: 118223

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EBFB77F.1050807@ieee.org>...
> >>
> > WRONG! The Voltage Standing Wave RATIO can be accertained by
> > the point voltages ONLY. This Ratio is the MAX voltage divided by the
> > MIN voltage points.
>
> Please read that sentence again. I said the fact that the current superposes
> to zero every half wavelength doesn't tell me anything about SWR. With that
> single fact, I DON'T KNOW what the current maximum value is. I repeat: Knowing
> the minimum current "does NOT tell me anything about SWR, maximum current,
> or losses in the stub". If you still think that statement is wrong, please
> explain. How can you calculate anything when ALL YOU KNOW is that the net
> current is zero?
>

And now you are agreeing with me! Because you implied that just
knowing point voltages would not give you the SWR, but this is
incorrect. Nice save, Cecil! If you know the Max and Min of either
the voltages or the currents, you will know the SWR.

> Please note that every time you have said I was wrong, you have wound up
> agreeing with me. And the voltage standing wave ratio cannot be achieved
> without a forward-traveling voltage wave and a rearward-traveling voltage
> wave. Coherent waves traveling in the same direction do NOT cause the voltage
> maximums and voltage minimums necessary for standing waves.
>

I agree with this, because a forward traveling wave with no
reflection would not have any max and mins, the current would be the
same everywhere. But you have agreed that the net current IS ZERO at
the input to the 1/4 wave shorted lossless stub, which is the point
that we were making.

So why are we arguing? We agree, you fool!

>
> Good Lord, have you never chosen a reference amplitude and phase for
> an AC signal? Exactly how do *you* draw AC current on a diagram?
>

Point is, you can't make the violation of Kirchoff's argument
when you are talking about AC currents resonating in a lossless line.

> > the current doesn't disappear, but just resonates back and forth
> > through the stub. We are not breaking Kirchoff's law.

>
> The forward current is flowing into the stub. The reflected current
> is flowing out of the stub. It is no different from any other point
> up and down the transmission line. Those two currents superpose
> to a net zero current every 1/2 wavelength, not just at the stub.

I DON'T GIVE A SHIT ABOUT THE FORWARD AND REFLECTED CURRENTS,
ONLY THE "NET" MAX AND MIX CURRENTS AND VOLTAGES, WHICH ARE ALL I NEED
TO KNOW TO FIND THE SWR.

ARE YOU HARD OF SEEING????

SLICK

3272. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:12:49 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305121512.56019417@posting.google.com>
Source record: 118225

Thanks, Reg. This little area of the universe is once again at peace.
Those formulas all look fine from here.

Versions that say the same thing in a way I find convenient (pardon
the repetition...) are

Qu = 2.775*f(MHz)/(v.f.*attn(dB/100ft))
Qu = 91.04*f(MHz)/(v.f.*atten(dB/km))

For an air-dielectric min-loss coaxial stub (~77 ohms Zo) made from
high-conductivity copper, with outer conductor ID = D inches or D' mm,

Qu = 107*D*sqrt(f(MHz))
Qu = 4.21*D'*sqrt(f(MHz))

Actual Q likely to be a bit lower because of the difficulty making a
really low-resistance short at the shorted end. I'm sure Wes and
others can give some practical hints about keeping Q high. I don't
deal with balanced 2-wire stubs but you could easily come up with a
similar formula for them.

(After all, coaxial stubs and resonators are likely to be most useful
at frequencies where making your own air-dielectric line is practical,
so why not have a simple formula to tell you what size line you need
to make for a given Qu?)

Cheers,
Tom

(On a half-way related note, for a given outer conductor and
neglecting dielectric loss, the minimum loss coax has D/d of 3.5911,
which results in 76.7 ohms for an air-dielectric line. For a two-wire
line, if you hold the wire spacing fixed at D and find the wire
diameter d for minimum loss, it's at D/d=1.8102, or pretty big wires,
and about 144 ohms impedance if air dielectric. Note, that's NOT the
same as min loss for a given amount of copper. For both coax and
open-wire lines, the minimum is broad, not a sharp null.)

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b9nvjk$6bo$1@hercules.btinternet.com>...
> Damn! damn! damn! damn,! damn! Another arithmetic error. Everybody now has
> to disrupt routine, go back to their carefully maintained notebooks and make
> the necessary correction. Thanks Tom. Sorry folks.
>
> Please delete 13.64 and insert 6.822
>
> Q of a resonant 1/4-wave transmission line

> --
> The following are all equivalent.
>
> Q = Beta / 2 / Alpha
> Q = Omega * L / R
> Q = Pi / 4 / Nepers
> Q = 6.822 / dB
>
> Beta = phase shift along a 1/4-wave line = Pi / 2 radians.
> Alpha = attenuation along a 1/4-wave line in nepers.
> Omega = 2*Pi*F
> R and L = resistance and inductance per unit length.
> dB = attenuation along a 1/4-wave line.
> 1 Neper = 8.686 decibels.
>
> Programs COAXPAIR and RJELINE4 will tell you most things you want to know
> about transmission lines. Precision Classical calculating formula used.
> Pity I didn't make use of one of them as a sanity check on the constant
> 6.822.
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================

3273. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:12:55 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <6LVva.4424$ZA3.2233@fe01.atl2.webusenet.com>
Source record: 118224

> Ah, the joys of VHF & line of sight. My house is gonna look pretty funny
> with 15ft of cable going up on a pole!

You should then try a 50 foot tower with an 18 element yagi inside a 2
element triband HF quad.

Jim
N8EE

3274. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:18:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC02BCE.98BB0619@uci.edu>
Source record: 118228

OC_CAM's Razor wrote:
> You said:
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.
>
> Until you admit that is a false statement, further communications is
> irrelevant.

I admit that your inference is false. It is a clear misrepresentation of my statement. There is only one thing that 'I' represents in the equation. It's completely unambiguous. It is the magnitude of 'I' that I referred to for each specific type of interference. There is no other kind of magnitude.

Do you disagree that I=4*Io at a constructive interference node, and that I=0 at a destructive interference node? These magnitudes are NOT equal. That is the point - irrespective of your attempts at grammatical/symantical diversion.

3275. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:20:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC02C48.A10A10B3@uci.edu>
Source record: 118229

OC_CAM's Razor wrote:
> There is no such thing as "destructive irradiance".

No argument here. Wanna argue anyway?

jk

3276. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:20:58 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC02C5A.3000403@ieee.org>
Source record: 118226

Jim Kelley wrote:
> I'm sorry that you didn't get it when I said it before.

I got it, Jim, and it was false. Please produce the equations to
defend your following statement.

Jim said:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

I = I1 + I1 + 2SQRT(I1*I1) is NOT interference. That is irradiance. You
continue to confuse interference with irradiance. The irradiance is equal
to 4*I1. The constructive interference is NOT equal to 4*I1. You are wrong!

Please show us the equations that say that destructive interference equals
zero and constructive interference equals 4*I1.

> Now that we find you are in agreement with the facts, will you still be
> inventing something to argue about?

You are either being extremely stupid or unethical. I cannot tell which.

> Please stop arguing symantics so we can procede.

You coined "destructive irradiance", Jim. It wasn't me. That's like
you using "ohms" instead of "vars". Please be an ethical person and
admit your two mistakes. There is no such thing as "destructive
irradiance".
--
73, Cecil, W5DXP

3277. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:30:34 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC02E9A.1030800@ieee.org>
Source record: 118227

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>It is NOT the destructive interference that is zero. It is the total
>>irradiance that is zero. How you can continue to defend your false
>>assertions in the face of overwhelming evidence to the contrary is,
>>well, underwhelming.
>
> Does anyone else see what is going on here?

There's probably no one but me reading this thread, Jim. You are obviously not reading this thread. You are so convinced that you cannot even make a typo, that you are all output and no input.

Jim said:
>> The magnitude of destructive interference is zero, and the magnitude of
>> constructive interference when I1 = I2 is equal to 4*I1.

That is a false statement. Why don't you arrest your bafflegab for long enough to grok the error? The magnitude of destructive interference is NOT zero even though you said it is. The constructive interference is NOT 4*I1 even though you said it is. You made a false statement for all the world to see. Get it????

The magnitude of destructive interference is -2SQRT(I1*I2). The magnitude of constructive interference is +2SQRT(I1*I2). They are equal in magnitude and opposite in sign and neither one is zero or 4*I1. You made a false statement!!!!!!!!!!!!!!
--
73, Cecil, W5DXP

3278. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:38:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC03065.1DD6A870@uci.edu>
Source record: 118233

OC_CAM's Razor wrote:
> The magnitude of destructive interference is -2SQRT(I1*I2). The magnitude
> of constructive interference is +2SQRT(I1*I2). They are equal in magnitude
> and opposite in sign and neither one is zero or 4*I1. You made a false
> statement!!!!!!!!!!!!!!

What I haven't done is imply something false. What do you intend we
should infer from your comments about these portions of an irrandiance
equation?

3279. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:42:44 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <4lb0cvgrq4vt0htbl0md7uq0lrr8vt1sqc@4ax.com>
Source record: 118230

On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Wayne,
> If you've solved your problem this is a little late,
>but still a good idea to keep in mind.
> When making entries like this, it's a good idea to
>'cap' the outer side with a 90 degree bend of PVC pipe,

Use a "sweep L" instead of a standard 90. It's far, far easier to
pull (or push) cable through.

All the *stuff* here goes through 3" ID PVC conduit. all 90s are
actually either a pair of 45s, or a sweep L.

The "old" installation was 5" plastic sewer pipe with a water trap
about 3 feet outside the wall. The trap was a Y with one side down and
capped. The cap had several 1/8 th inch holes at the bottom to let
water drain into the back fill/sand/

Both the old and new come through the basement wall about 2 feet below
the surface. The conduit (and the old pipe) used the yellow expansion
foam to seal it in the wall (inside and out)

The pipe is sealed at the end where it comes into the basement.

Where the "pipe" comes through a wall and has an opening "outside", I
prefer to seal it at the outside end. The reason being am inside seal
may keep critters out, but it also gives the, a real handy nesting
spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
crannies of the big satellite dish alone last summer. They built a
nest in the junction box on the tower (before I sealed it). The durn
things are also inside the mast at the top of the tower. That's the
mast from the rotor to the 144/440 arrays and that pipe is over 50
feet long.

Working on the rotor at 80 feet with a bunch of *big* nasty tempered
Yellow Jackets buzzing around my head is not my idea of fun.
Course, I only got stung 4 times last Summer.

>ot a 'dryer vent'. (Point the 90 degree adapter down to
>keep the rain out.) It also makes it easier to run more
>or different lines later. If a 1" hole will serve your
>purpose that's good, but bigger is better (more lines,
>easier to run them). 'Stop' the pipe with steel wool, or
>screening to keep critters out...

I much prefer the soft (white, Dap) foam instead of the steel wool or screening. It's much more efficient and easier to handle.

It also keeps the draft out, or in, as the case may be.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
> 'Doc

3280. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:47:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC03290.30403@ieee.org>
Source record: 118231

Dr. Slick wrote:
> And now you are agreeing with me! Because you implied that just
> knowing point voltages would not give you the SWR, but this is
> incorrect.

Nope, that's not what I said. You need to re-read my statement until
you understand it. I said, just because you know the net current is
zero, you don't know anything about the SWR. And I repeat: You cannot
know anything about the SWR by only knowing that the net current is
zero. After all, the net current is zero in a transmission line with
no signals. What is the SWR in a transmission line with no signals?

> I agree with this, because a forward traveling wave with no
> reflection would not have any max and mins, the current would be the
> same everywhere.

Then why did you argue with me about it?

> So why are we arguing? We agree, you fool!

I didn't argue with you. I merely defended my assertions. You are the
one who said I was wrong, more than once. Now you say we agree. Why
did you argue with me in the first place?

> Point is, you can't make the violation of Kirchoff's argument
> when you are talking about AC currents resonating in a lossless line.

Other people have made the same argument about wire antennas. The current
must *always* have a return path. What is the return path from a short?

> ARE YOU HARD OF SEEING????

If you didn't want to discuss forward and reflected waves, why did you
engage in this thread at all? You said I was wrong but now you
agree with me. I have NEVER disagreed with you about net values but
they are so trivial they don't even merit discussion. The real action
involves the forward and reflected waves.
--
73, Cecil, W5DXP

3281. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:59:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC0355C.6050909@ieee.org>
Source record: 118232

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>You said:
>> > The magnitude of destructive interference is zero, and the magnitude of
>> > constructive interference when I1 = I2 is equal to 4*I1.
>>
>>Until you admit that is a false statement, further communications is
>>irrelevant.
>
> I admit that your inference is false. It is a clear misrepresentation
> of my statement.

Good Lord, Jim, I didn't do anything to your statement. All I did was
quote it. It is false. Have you bothered to read it?

> Do you disagree that I=4*Io at a constructive interference node, and
> that I=0 at a destructive interference node?

No, I don't disagree with that. I disagree with your assertion that destructive
interference is zero when I1+I2, which is what you said. I disagree that the
constructive interference equals 4*I1 when I1=I2, which is what you said. Why
don't you simply read what you wrote and correct your errors? We cannot proceed
as long as you fail to comprehend the difference between interference and
irradiance.
--
73, Cecil, W5DXP

3282. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-12 23:59:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC03564.A36C2817@uci.edu>
Source record: 118236

OC_CAM's Razor wrote:
> > Do you disagree that I=4*Io at a constructive interference node, and
> > that I=0 at a destructive interference node?

> No, I don't disagree with that.

That is what was intended.

> We cannot proceed
> as long as you fail to comprehend the difference between interference and
> irradiance.

I never failed to comprehend that difference, Cecil. You invented
that. Shall we continue to not proceed due to nothing more than your
incorrect inference and belligerence?

3283. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:01:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC035F4.D692D7F9@uci.edu>
Source record: 118235

OC_CAM's Razor wrote:
>
> Jim Kelley wrote:
> >
> > OC_CAM's Razor wrote:
> >>There is no such thing as "destructive irradiance".
> >
> > No argument here. Wanna argue anyway?
>
> Maybe you should argue with yourself. Here's what you said
> just today:

So I take it your answer is yes. :-)

Argue with yourself OM.

3284. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:06:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC036F8.6020204@ieee.org>
Source record: 118234

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>>There is no such thing as "destructive irradiance".
>
> No argument here. Wanna argue anyway?

Maybe you should argue with yourself. Here's what you said
just today:

> If I1 and I2 = 25 (like your "lost power" for example), then the
> *destructive irradiance* on one side of the discontinuity is zero, and the
> *constructive irradiance* on the other side of the discontinuity is 100.

You want to deny you used the words "destructive irradiance" and
"constructive irradiance" like you earlier denied confusing irradiance
and interference? Seems to me, your above posting is proof that you
are continuing to confuse irradiance and interference. We cannot continue
until you grok the difference between irradiance and interference.
--
73, Cecil, W5DXP

3285. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:20:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC03A47.2020904@ieee.org>
Source record: 118237

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>
>>The magnitude of destructive interference is -2SQRT(I1*I2). The magnitude
>>of constructive interference is +2SQRT(I1*I2). They are equal in magnitude
>>and opposite in sign and neither one is zero or 4*I1. You made a false
>>statement!!!!!!!!!!!!!!!
>
> What I haven't done is imply something false.

I know you believe that you never make a mistake, Jim, but you did.
Your refusal to read what you wrote just aggravates the problem. You
now have made two erroneous statements. They are flat out errors, not
implications.

You said:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

This quoted statement of yours is false. You are confusing interference
with irradiance.

> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.

This quoted statement of yours is false. There is no such thing as
"destructive irradiance" and "constructive irradiance". You continue
to confuse interference with irradiance.
--
73, Cecil, W5DXP

3286. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:28:15 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC03C1F.4060601@ieee.org>
Source record: 118238

Jim Kelley wrote:
> I never failed to comprehend that difference, Cecil. You invented
> that.

I am not inventing anything, Jim. Do you deny saying the following?

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Please produce the equations that indicate the destructive interference
is zero while the constructive interference is 4*I1. IF you can do that,
I will send you $1000. If you cannot, please apologize.

> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.

If you deny saying the above, you are simply lying. Those are your
EXACT quotations and they are both false.
--
73, Cecil, W5DXP

3287. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:35:22 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC03DCA.7030308@ieee.org>
Source record: 118239

Jim Kelley wrote:
>
> OC_CAM's Razor wrote:
>
>>Jim Kelley wrote:
>>
>>>OC_CAM's Razor wrote:
>>>
>>>>There is no such thing as "destructive irradiance".
>>>
>>>No argument here. Wanna argue anyway?
>>
>>Maybe you should argue with yourself. Here's what you said
>>just today:
>
> So I take it your answer is yes. :-)

My answer is yes, you are extremely confused.

Jim said:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Your statement is false. You are confusing interference with irradiance.

Jim said:
> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.

Jim, in another posting, you admitted that there is no such thing as
destructive irradiance, yet you used that exact term in your posting.
Do you know what people who lie about what they have posted are called?
--
73, Cecil, W5DXP

3288. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 00:40:12 UTC
From: richardharrison@webtv.net
Message-ID: <29734-3EC03EEC-624@storefull-2312.public.lawson.webtv.net>
Source record: 118240

Richard Clark wrote:
"As I pondered the SWR relationships, it dawned on me that it also
describes the common variety of step transformer,---."

Yes. The review of transmission lines in this thread was a refresher and
it has convinced me that I learned about all I needed to know regarding
transmission lines some 50 years ago. It`s like discovering all you need
to know about relationships was there to be learned in kindergarten.

Best regards, Richard Harrison, KB5WZI

3289. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 01:44:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pdj0cv0ahg8c6qgu4nastim2qomamp5qa2@4ax.com>
Source record: 118241

On Mon, 12 May 2003 17:28:15 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>
>Please produce the equations that indicate the destructive interference
>is zero while the constructive interference is 4*I1. IF you can do that,
>I will send you $1000. If you cannot, please apologize.
>

reprint:
>From: Richard Clark <kb7qhc@attbi.com>
>Newsgroups: rec.radio.amateur.antenna
>Subject: Re: Interference
>Message-ID: <ln7vvu0oqdd4qh7avou91vrmq6nbpvm8k0@4ax.com>
>References: <3DFF950E.6040605@ieee.org>
>X-Newsreader: Forte Agent 1.92/32.572
>MIME-Version: 1.0
>Content-Type: text/plain; charset=ISO-8859-1
>Content-Transfer-Encoding: 8bit
>Lines: 42
>NNTP-Posting-Host: 12.242.150.192
>X-Complaints-To: abuse@attbi.com
>X-Trace: sccrnsc02 1040164368 12.242.150.192 (Tue, 17 Dec 2002 22:32:48 GMT)
>NNTP-Posting-Date: Tue, 17 Dec 2002 22:32:48 GMT
>Organization: AT&T Broadband
>Date: Tue, 17 Dec 2002 22:32:48 GMT
>
...
>
>The mother science of RF, Optics, has always had the answer:
> "Optics," Miles Klein, John Wiley & Sons,
> Chptr. 5.2 "Two-Beam Interference"
>page 185 shows illustration for "Intensity Distribution" that you can
>do for yourself with simple math:
> I = 2 * I1 * (1 + cos(phi2 - phi1 - delta))
> ave(I) = 2*I1 for an integral number of waves
> where:
> I: The intensity over the variation in phase (delta)
> I1: The intensity of each, coherent source (being equal)
> phi2: source2 phase (fixed over interval of delta)
> phi1: source1 phase (fixed over interval of delta)
> delta: vary phase to observe full 360ï¿½ interference pattern
>
>This is a simpler formula to report here than the more general one
>that allows for two sources of non-equal amplitude. I offer the

>citation above so that you can pursue that venue if you wish. Two
>copies for around $50 are available at http://www.alibris.com
>
>73's
>Richard Clark, KB7QHC
>

3290. flagpole Jpole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 01:50:06 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <ibYva.43652$5M.2434036@twister.southeast.rr.com>
Source record: 118242

My current antenna farm was grandfathered in before the new covinent. I ran the plan by the neighborhood commitee last week and got aproval today for my new flagpole. A 40 footer with 10 m eter j-pole on top. Main part of the tower is the short part of the J. A nearby church has some art out front that looks very much like my J and there are some on the committee that attend there. I am sure this helped. There was a note on my returned apllication that commented of the artistic nature of my flag pole design, little do they know.

3291. The Color of Glare

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 01:50:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rgi0cvcsa4332fh01o9cceli5r8ehphf3p@4ax.com>
Source record: 118243

WARNING
For many who suffer from optics-induced narcolepsy, you have been
warned.

Another answer to one of my guru-buster questions (memorialized as the
subject):

>From: rwclark@rwclark.seanet.com (Richard Clark)
>Subject: Re: W. Maxwell & Wave Mechanics
>Date: 1998/06/10
>Message-ID: <357fbdf0.81406369@news.seanet.com>
>Content-Transfer-Encoding: 7bit
>References: <357D1ED1.34645009@mwci.net> <6ljfm9arm1@newsd-123.bryant.webtv.net>
<357D9C2F.54F5@ibm.net>
>Content-Type: text/plain; charset=us-ascii
>Organization: Seanet Online Services, Seattle WA
>Mime-Version: 1.0
>Newsgroups: rec.radio.amateur.antenna
>
>
>
>On Tue, 09 Jun 1998 13:33:51 -0700, W6RCecilA
><w6rca@ibm.net> wrote:
>
>>Richard Harrison wrote:
>>> But, it is useful I think. For instance, a 1/2 wavelength of coax has a
>>> short on one end. The ends are distinguished by which end has the real
>>> short, and which end has the VIRTUAL short.
>>
>>Yep, how does one describe a real short transformed by a 1/2WL T-line?
>>"Virtual" sure satisfies the need to describe a condition in the
>>smallest number of words possible. Besides, it is an everyday word
>>in optics, another branch of electromagnetics. Walter Maxwell
>>simply adopted the word "virtual" from the field of optics. The
>>short/open circuit seen by the reflected wave is not seen by
>>the forward wave - thus it is "virtual". There is a virtual
>>open/short circuit to electromagnetic light waves in a piece
>>of glareless glass. If I remember correctly, the thickness of
>>the glass is an odd number of quarter-wavelengths just like
>>the RF quarter-wave series section.
>
>
>Hi Cecil,
>
>In a review of my Optics references I fail to find any

>mention of Virtual Shorts. In fact the term short is not a
>common term in this field and virtual relates to image
>generally and then implies a viewer.
>
>As for the application of the term as you describe: largely
>harmless unless your correspondent doesn't wish to accept
>the term. Even in that case I see nothing in the discussion
>that breaks any concepts either way.
>
>As for it being a term imposed by a lack of alternatives.
>Here the failure is obvious in the response:
>>Yep, how does one describe a real short transformed by a 1/2WL T-line?
>>"Virtual" sure satisfies the need to describe a condition in the
>>smallest number of words possible.
>It appears "Projected Short" or "Transformed Short"
>employing words from this quote and others are equally
>suitable and applicable. "Virtual Short" certainly detracts
>nothing, and should be understood in casual conversation to
>be equivalent to these (and other) terms.
>
>As in past postings, appeals to Optics and their
>correlatives to RF are fraught with error not because they
>are different (the math and theory are absolutely the same)
>but because most posters here lack experience with
>engineering applications and treat them as different.
>Cecil, your appeal to Photons (in other threads) is
>interesting, but poorly developed (it could serve if you
>were to delve deeper). Gary's mis-read of non-reflecting
>surfaces counters our experience of RF but not Optics. I
>say common experience of Optics, because, as I conceded
>elsewhere, it takes care to observe the phenomenon he
>rejected inappropriately. With care, as described, those
>reflections, as we would expect for RF, appeared for the
>Optics case as well. This should come as no surprise, but
>with Optics, the eye is both an immense asset and a
>staggering liability in that it is not only an instrument,
>it is also an intellect. That is: the eye also contains
>processing which obscures some quantitative aspects of its
>instrument quality. It takes a great deal of effort to
>separate the mind from the eye to be able to quantitatively
>judge "by eye." This effort of separation is also a
>quality exhibited by good photographers.
>
>Glareless glass, is simply an interference coating on common
>glass (or plastic). It is the thickness of the coating (and
>its refractive index) that relates to the necessary wave
>mechanics of matching (a conjugate match). And as one might
>presume, it works for only one frequency (color). The
>"Glareless" aspect is a physiological description (as
>perceived by the mind of the eye) and not a rigorous waves

>mechanics description. The extension of these mechanics of
>lens coatings is found in interference filters (or
>Quarter-wave Stacking) which are made up of successive
>layers providing tailored Q's. Even here, the discussions
>of Optics and RF overlap completely and analogues may be
>found.
>
>I've seen you challenged for references (by those who
>pointedly lack their own) and I would like to see one for
>your "Virtual Short" statement as well - but only as a
>matter of interest (not for ad hominem fodder). For those
>that lack their own references for Optics in these matters
>of reflections from elements and their suppression I will
>offer:
> RE: "Optics," Miles Klein, 5.5 Interference by
>Reflections from Nonidentical Interfaces.
> "... Hence the name "quarter-wave layer." Often the
>wavelength Lambda0 is chosen to be near 5500 Angstroms (550
>nM or Kelly Green [rwc]), at the maximum of the visual
>response curve. [a lot of math left out] This meets the
>requirement closely enough to reduce the energy reflection
>coefficient from about 5% for an uncoated simple lens to 1 %
>for a simple lens with proper MgF2 coating."
>
>One may observe that reflections are neither completely
>removed nor attended to at all colors (frequencies). One
>may also observe that moving from the RF arena to the
>Optical arena brings no change in the issues that dominate
>power transfer; merely a new perspective. It is the lack of
>experience with this perspective that so often cripples
>discussion.
>
>73's
>Richard Clark, KB7QHC
>
>

5 years hasn't changed all that much....

73's
Richard Clark, KB7QHC

3292. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 02:11:33 UTC
From: KAZeringue <kazeringue@aol.com>
Message-ID: <3EC0546D.4060402@aol.com>
Source record: 118244

I've been wanting to try a moxon rectangle on 40 meters Field Day for the past couple of years. I tried moxons on 15 and 10 meters during the sunspot peak, and they have a bit of gain, a fairly wide 3db beamwidth, and excellent f/b ratio. They suited my need then(attenuate US QRM so I could work Europeans), although I didn't keep them up long.

Our QTH here is near the coast, so the Moxon's big fat lobe in mostly one direction should be great for Field day from near the coasts.

Maybe this year, if I get motivated to twist one up.

(Hey, if anybody has tried one for 40 meters at Field day, what luck?)

You can see W4RNL's web site, www.cebik.com, for everything about moxons you might need.

Keith, W4KAZ.

3293. Re: Comet GP-9 antenna Lightning damage

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 03:03:30 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <6gZva.820588$3D1.465696@sccrnsc01>
Source record: 118245

The Comet GP-9 is a 2m/70cm dual band vertical base antenna. It is
constructed of a three section heavy duty fiberglass radome with
nonconducting ABS section connections to eliminate corrosion and help reduce
stray RF, ensuring a clean radiation pattern. Like all Comet antennas, it is
pre-tuned, so installation is quick and easy, just put the three sections
together, tighten them up, and secure them to a mast with the supplied
stainless steel brackets.

http://www.cometantenna.com/base.html

Home Page
http://www.natcommgroup.com/index.php

If you would like to talk with customer service please call
800/962-2611. A real voice will (usually) answer.

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Tom S" <t_stenbraaten@hotmail.com> wrote in message
news:jt3vbvo0obn9esacl5jjsvdmgummq3qq2p@4ax.com...
> A friend recently gave me a Comet GP-9 antenna that he has has lying
> around for years. It was hit by lightning and my friend just got it
> replaced through insurance.
> Other than the obvious damage of the top section on the antenna
> being destroyed what other possible damage may occured. Is there any
> way to check the rest of the antenna to see if it works before going
> to the trouble and expense of replacing the top section??
>
> Look forward to all your replys and comments,
>
> Tom S
> Ontario Canada

3294. If you're looking for an HF mobile, talk to me! (Please)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 03:22:22 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <BvZva.14745$hu.7691@fe03.atl2.webusenet.com>
Source record: 118246

Please take a look at www.qsl.net/k4kwh for your next mobile HF. Save money
in the process
by purchasing your screwdriver (hey, since my stroke I have medical bills to
pay) from me! I build
'em right and build 'em tough! And if you have the IC706, I will throw in a
tuning module for FREE. This is the simple little device that allows you to
tune your screwdriver while underway,
FAST and SAFELY! And when I find a drawing of the Kenwood TS50, Alinco
DX70, and
some of the Yaesu products, I will include them as well. So visit my site
and let me build a
Carolina Cyclone for you.

73
Jerry
K4KWH

3295. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 03:46:29 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc0qlcnibcv07f@corp.supernews.com>
Source record: 118247

Roy
Notational reference:
J. D Jackson, Classical Electrodynamics, page 4, Introduction and Survey:
The basic unit of charge is the magnitude of the charge on the electron,
He writes it "q sub e", a lower case q with an e subscript and expresses it
in absolute value signs, none of which I can do here.
Anyway.....
q = 4.8032068(15)E-10 esu
q = 1.60217733(49)E-19 Coulomb
The parentheses bracket contended numbers.
If you were taking a two-semester grad course in E&M in Physics, this is the
textbook.
So the last course I took used q. It's of notational consequence only.
I don't desire to get into notational arguments; I write sqrt(-1) = i, not
j. Still the same answer.
Anyway.......
My only point is that charge is quantized;
Currents in the metals we're talking about here are the aggregate motion of
~10E19 electrons.
My wish for you all is low SWR, great radiation efficiency, and propagation
to go with it.
73
H.
NQ5H

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vbvfvo6rguml19@corp.supernews.com...
> In electrical circuit analysis and at least some elementary physics(*),
> q is used to mean total charge (just about always in coulombs) while e
> is used to represent the charge of a single electron. I believe it's
> this common usage of q that other posters are meaning.
>
> As you know, a total charge q of one coulomb is about 6.24 X 10^18 e.
>
> Roy Lewallen, W7EL
>
> (*) Cf. Van Valkenburg, _Network Analysis_ or Weidner and Sells,
> _Elementary Classical Physics_, Vol. 2. A commonly seen equation is q =
> CV, relating the charge and voltage on a capacitor.
>
> H. Adam Stevens wrote:
> > been listening to limbaugh again?
> > I am a physicist
> > I counted ions for a living for better than a decade and the damned

charges
> > were always in units of q
> > nite
> > H
>

3296. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 04:09:36 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc0s0m87u6q5d8@corp.supernews.com>
Source record: 118248

Dick Feynman was a good bongo player. Imagine working at the Manhattan
Project at the age of 24.
My favorite of his books is What Do You Care What Other People Think?
I loved his demo with the clamp on the rubber o-ring in the ice water, too.
Looks like NASA didn't learn.

The subject here involves electrons in the ordinary world of wire.
My *only* point was that we are discussing the transport of individual (if
indistinguishable) charged particles.
Now.........

For a shorted or open line.......
Power goes in the line, reflects at the end, returns and smokes your
transmitter.
73
H.
NQ5H

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:8nqvbv0e43foisdr7l5avfhtmeo9m6qm01@4ax.com...
> On Mon, 12 May 2003 03:56:10 -0500, "H. Adam Stevens"
> <solo@totalaccess.net> wrote:
>
> >I am a physicist
>
> Even an armchair "astro" physicist of the Scientific American variety
> such as myself has learned there is more "energy" in the universe,
> than has been taught at university 10 years ago.
>
> And more than 40 years ago, Feynman was trying to cool enthusiasm in
> this boutique culture that embroiders their logic with "conservation."
>
> 73's
> Richard Clark, KB7QHC

3297. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 04:10:41 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc0s2msoqpal00@corp.supernews.com>
Source record: 118249

```
Experience is directly related to the amount of equipment ruined.
73
H.
"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:2jrvbv830g4po2ifgnucen0l7vjsame954@4ax.com...
> On Sun, 11 May 2003 21:09:22 -0500, "Harold Burton"
> <hwburton@cableone.net> wrote:
>
> >
> >"Wes Stewart" <n7ws@#arrl.net> wrote in message
> >news:f36vbvkbsuvdseqpj9p2clov84frqm3bq4@4ax.com...
> >> On Mon, 12 May 2003 11:12:52 +0000 (UTC), "Reg Edwards"
> >> <g4fgq.regp@btinternet.com> wrote:
> >
> >>> Well, I'm glad that I've never made a mistake. <G>
> >
> >I thought I had erred once, but I was wrong. Wait........ let me think
about
> >that a minute.
> >
>
> Unlike this lineup of virgins, I've made enough mistakes to appreciate
> I can live with my own, easier, than someone else's.
>
> 73's
> Richard Clark, KB7QHC
```

3298. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 04:16:47 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc0se816vb2bd4@corp.supernews.com>
Source record: 118250

Well there's still Q for us experimentalists:

Q= Fc/FWHM

Fc= center, or peak response frequency in Hz
FWHM = Full Width Half Max in Hz

Giving the RG8X 160 meter stub a Q of about 20.

At least I think that's right. I didn't check.
nite
73
H.

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0305121512.56019417@posting.google.com...
> Thanks, Reg. This little area of the universe is once again at peace.
> Those formulas all look fine from here.
>
> Versions that say the same thing in a way I find convenient (pardon
> the repetition...) are
>
> Qu = 2.775*f(MHz)/(v.f.*attn(dB/100ft))
> Qu = 91.04*f(MHz)/(v.f.*atten(dB/km))
>
> For an air-dielectric min-loss coaxial stub (~77 ohms Zo) made from
> high-conductivity copper, with outer conductor ID = D inches or D' mm,
>
> Qu = 107*D*sqrt(f(MHz))
> Qu = 4.21*D'*sqrt(f(MHz))
>
> Actual Q likely to be a bit lower because of the difficulty making a
> really low-resistance short at the shorted end. I'm sure Wes and
> others can give some practical hints about keeping Q high. I don't
> deal with balanced 2-wire stubs but you could easily come up with a
> similar formula for them.
>
> (After all, coaxial stubs and resonators are likely to be most useful
> at frequencies where making your own air-dielectric line is practical,
> so why not have a simple formula to tell you what size line you need
> to make for a given Qu?)
>
> Cheers,
> Tom
>
> (On a half-way related note, for a given outer conductor and

> neglecting dielectric loss, the minimum loss coax has D/d of 3.5911,
> which results in 76.7 ohms for an air-dielectric line. For a two-wire
> line, if you hold the wire spacing fixed at D and find the wire
> diameter d for minimum loss, it's at D/d=1.8102, or pretty big wires,
> and about 144 ohms impedance if air dielectric. Note, that's NOT the
> same as min loss for a given amount of copper. For both coax and
> open-wire lines, the minimum is broad, not a sharp null.)
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<b9nvjk$6bo$1@hercules.btinternet.com>...
> > Damn! damn! damn! damn,! damn! Another arithmetic error. Everybody now
has
> > to disrupt routine, go back to their carefully maintained notebooks and
make
> > the necessary correction. Thanks Tom. Sorry folks.
> >
> > Please delete 13.64 and insert 6.822
> >
> > Q of a resonant 1/4-wave transmission line
> > --
> > The following are all equivalent.
> >
> > Q = Beta / 2 / Alpha
> > Q = Omega * L / R
> > Q = Pi / 4 / Nepers
> > Q = 6.822 / dB
> >
> > Beta = phase shift along a 1/4-wave line = Pi / 2 radians.
> > Alpha = attenuation along a 1/4-wave line in nepers.
> > Omega = 2*Pi*F
> > R and L = resistance and inductance per unit length.
> > dB = attenuation along a 1/4-wave line.
> > 1 Neper = 8.686 decibels.
> >
> > Programs COAXPAIR and RJELINE4 will tell you most things you want to
know
> > about transmission lines. Precision Classical calculating formula used.
> > Pity I didn't make use of one of them as a sanity check on the constant
> > 6.822.
> > ======================
> > Regards from Reg, G4FGQ
> > For Free Radio Design Software
> > go to http://www.g4fgq.com
> > ======================

3299. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 04:54:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc0ujs1uicfp18@corp.supernews.com>
Source record: 118251

H. Adam Stevens wrote:
> . . .
> For a shorted or open line.......
> Power goes in the line, reflects at the end, returns and smokes your
> transmitter.
> 73
> H.
> NQ5H

Consider an open circuited half wavelength 50 ohm line driven by a Thevenin source -- a 141.4 volt RMS voltage source in series with a 50 ohm resistor. For the time required for one round trip, the source furnishes 200 watts, 100 of which is dissipated in the 50 ohm resistor and the other 100 of which flows into the line.

At the end of one round trip time, steady state is reached. In steady state, a directional wattmeter inserted anywhere in the line will indicate 100 watts of forward power and 100 watts of reverse power. The dissipation in the 50 ohm resistor is zero. The source furnishes zero power.

How is it that the reflected power will "smoke the transmitter", when there's no dissipation at all in the 50 ohm source resistor, and the source isn't being required to source any power?

Of course, a favorite subject of argument is what a reasonable equivalent circuit of a transmitter is. Can you propose an equivalent circuit for a transmitter which will illustrate how reflected power from the open circuited line can "smoke" it?

Roy Lewallen, W7EL

3300. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 05:07:44 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <a0v0cv4doh258n2nlh0c1oj75agbkbcull@4ax.com>
Source record: 118252
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Sun, 11 May 2003 23:09:08 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>Helmut, High VSWR is not a problem of circulating or coupled currents.
>That's a simple fact.
>
>My center fed doublet on 75 meters has a VSWR of more than 30:1 with
>negligible currents on the feed system. [open wire feeders and a tuner].
>

Hmm.... how then do I produce currents on the outer
shield of a coax?
Say, we want to do that for experimental reasons.
What is the mechanism.
Unsymmetry at the antenna side?

(Actually I was reluctant to install an FT100 in my Toyota.
I know I must have very good grounding etc).

So, if I want to have a radiating coax feed line,
how do I proceed.
Build an EH or CFA antenna on the roof of my car?

w.

3301. FS:m2 KT-34XA upgraded to KT-36XA HF beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 05:16:28 UTC
From: "Mr.Fish" <n0sah@prodigy.net>
Message-ID: <Mc%va.171$T81.25996697@newssvr15.news.prodigy.com>
Source record: 118253

FS:m2 KT-34XA upgraded to a KT-36XA HF beam. 3" by 32' boom with 6
elements. Not put up since the upgrade. Killer antenna.
$350 and you pay for truck shipping. (Too large for UPS).
Thanks,
de N�KO
Randy in Rolla, Missouri 65401

3302. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 07:17:43 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305122317.412abe2b@posting.google.com>
Source record: 118254

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EC03290.30403@ieee.org>...
> Dr. Slick wrote:
> > And now you are agreeing with me! Because you implied that just
> > knowing point voltages would not give you the SWR, but this is
> > incorrect.
>
> Nope, that's not what I said. You need to re-read my statement until
> you understand it. I said, just because you know the net current is
> zero, you don't know anything about the SWR. And I repeat: You cannot
> know anything about the SWR by only knowing that the net current is
> zero. After all, the net current is zero in a transmission line with
> no signals. What is the SWR in a transmission line with no signals?
>

You are a shit-head Cecil, because this is such a stupid and
obvious statement.

> > I agree with this, because a forward traveling wave with no
> > reflection would not have any max and mins, the current would be the
> > same everywhere.
>
> Then why did you argue with me about it?
>

Because we were RIGHT TOO! Dumb-Fuck! There is NO net current
that flows into a 1/4 wave shorted lossless stub. You agree with this
when we pounded it into your thick-head! Again, i don't give a shit
about the forward and reflected currents, only the net current, and
this is what I meant!

>
> > Point is, you can't make the violation of Kirchoff's argument
> > when you are talking about AC currents resonating in a lossless line.
>
> Other people have made the same argument about wire antennas. The current
> must *always* have a return path. What is the return path from a short?
>

But the current is definitely zero every 1/2 wavelength from an
open stub.

> > ARE YOU HARD OF SEEING????
>
> If you didn't want to discuss forward and reflected waves, why did you
> engage in this thread at all? You said I was wrong but now you
> agree with me. I have NEVER disagreed with you about net values but

> they are so trivial they don't even merit discussion. The real action
> involves the forward and reflected waves.

You did disagree, and you have made many erroneous statements
since then.

Slick

3303. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 07:22:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC09D32.6090109@ieee.org>
Source record: 118255

Roy Lewallen wrote:
> How is it that the reflected power will "smoke the transmitter", when
> there's no dissipation at all in the 50 ohm source resistor, and the
> source isn't being required to source any power?

Tsk, tsk, Roy. It is not good engineering practice to consider the
dissipation in the resistor in a Thevenin equivalent circuit. Instead,
use a signal generator with a circulator+load. The circulator+load will
dissipate all the reflected power after it has made a round trip.

Here's a quote from "Fields and Waves in Modern Radio" by Ramo and
Whinnery. "It must be emphasized, as in any Thï¿½venin equivalent circuit,
that the equivalent circuit was derived to tell what happens in the
load under different load conditions, and significance cannot be
automatically attached to a calculation of power loss in the internal
impedance of the equivalent circuit."
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3304. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 07:31:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC09F3B.9090107@ieee.org>
Source record: 118256

Dr. Slick wrote:
> Because we were RIGHT TOO! Dumb-Fuck! There is NO net current
> that flows into a 1/4 wave shorted lossless stub.

I never said that net current flows so you obviously weren't arguing with me. I always agreed that no net current flows, i.e. the forward and reflected currents superpose to zero.

> But the current is definitely zero every 1/2 wavelength from an
> open stub.

Only the net current. The forward and reflected currents are NOT zero. They only superpose to zero every 1/2WL.

> You did disagree, and you have made many erroneous statements
> since then.

You said I was wrong. I disagreed and successfully defended all my concepts. How could they be errors? You have wound up agreeing with every single one of them. Name me one point where we disagree.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3305. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 08:38:30 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC0AF06.C22B8A65@cwis.net>
Source record: 118257

FWIW

Where did this "rotator" stuff come from? The thingy
that turns your antenna is a "rotor", the person doing
the turning is the "rotator". My dictionary even says
that. Guess it's sort of like "destinated", a word made
up by stupid people?
'Doc

3306. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 12:12:11 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030513081211.28303.00000342@mb-m18.aol.com>
Source record: 118259

>Where did this "rotator" stuff come from? The thingy
>that turns your antenna is a "rotor", the person doing
>the turning is the "rotator". My dictionary even says
>that. Guess it's sort of like "destinated", a word made
>up by stupid people?
> 'Doc

Just because a word isn't in a dictionary doesn't mean it doesn't exist. There are many dialects and slang words in the world... in any case, I suppose it's because you antenna is being rotated that people use to word "rotator" because it's rotating the antenna.

How about the often used "disorientated"? Oh well, we can't all be English majors, now can we? Besides, think how boring the world would be if everyone spoke exactly the same with the same inflection and pronunciation.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3307. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 12:24:49 UTC
From: richardharrison@webtv.net
Message-ID: <7996-3EC0E411-641@storefull-2314.public.lawson.webtv.net>
Source record: 118260

CAM, W5DXP wrote:
"It is not good engineering practice to consider the dissipation in the Thevenin equivalent circuit."

The impedance and sources within a transmitter don`t need to be known to realize that removing the load from a transmitter allows voltage to soar. Today`s transmitters may be less tolerant than hollow-state transmitters.

Best regards, Richard Harrison, KB5WZI

3308. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 13:13:43 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030513091343.28125.00000261@mb-m18.aol.com>
Source record: 118261

Ack, I've really gotta proof read my posts..

Anyway, from Radio Shack's website:

http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=
CTLG%5F002%5F004%5F002%5F000&product%5Fid=15%2D1245

"With the Outdoor Antenna Rotator you can accurately position your antenna for
the best possible TV and FM reception-perfect for suburban and rural areas.
It automatically turns your antenna to the direction you dial in on the control
panel, and then shuts off when it reaches the desired position."

They call it a rotator..
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3309. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 14:15:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc1vfh9i6jqa3@corp.supernews.com>
Source record: 118262

So are you saying that a good model of a transmitter is a generator with
a circulator, and that it will be "smoked" by the reverse power?

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Roy Lewallen wrote:
>
>> How is it that the reflected power will "smoke the transmitter", when
>> there's no dissipation at all in the 50 ohm source resistor, and the
>> source isn't being required to source any power?
>
>
> Tsk, tsk, Roy. It is not good engineering practice to consider the
> dissipation in the resistor in a Thevenin equivalent circuit. Instead,
> use a signal generator with a circulator+load. The circulator+load will
> dissipate all the reflected power after it has made a round trip.
>
> Here's a quote from "Fields and Waves in Modern Radio" by Ramo and
> Whinnery. "It must be emphasized, as in any Thï¿½venin equivalent circuit,
> that the equivalent circuit was derived to tell what happens in the
> load under different load conditions, and significance cannot be
> automatically attached to a calculation of power loss in the internal
> impedance of the equivalent circuit."

3310. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 14:55:12 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EC10750.B3D4B73E@crosslink.net>
Source record: 118258
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Helmut Wabnig wrote:
>
> Hmm.... how then do I produce currents on the outer shield of a coax?

Feed a monopole *without* any ground plane and the shield will become the other half of a dipole. Often happens when a vertical monopole is installed on a vehicle without a 1/4 wavelength of metal on at least 4 sides below it.

73, K3DWW

3311. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:23:45 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC10DD8.6070001@attbi.com>
Source record: 118263

>>Dr. Slick wrote:
>> ... What is the SWR in a transmission line with no signals?
>>
>

I hope the attribution is correct!

The VSWR in a transmission line with no signals is EXACTLY the same as
the VSWR in the same transmission line with signals!

Deacon Dave, W1MCE

3312. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:24:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC10E19.DF98B6FD@cwis.net>
Source record: 118264

VHFRadioBuff,
English majors? I don't expect much, especially in view
of what schools are turning out these days, but everyone
should know how to use the common language. Destinated...?
'Doc

3313. Re: Don't buy a Toyota if you want to install a radio transceiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:30:40 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC10F77.9090101@attbi.com>
Source record: 118265
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Helmut Wabnig wrote:
> On Sun, 11 May 2003 23:09:08 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
>
>>Helmut, High VSWR is not a problem of circulating or coupled currents.
>>That's a simple fact.
>>
>>My center fed doublet on 75 meters has a VSWR of more than 30:1 with
>>negligible currents on the feed system. [open wire feeders and a tuner].
>>
>
>
> Hmm.... how then do I produce currents on the outer
> shield of a coax?
> Say, we want to do that for experimental reasons.
> What is the mechanism.
> Unsymmetry at the antenna side?

Mis-feeding the antenna will do it: feeding a balanced antenna with an unbalanced transmission line will do it: feeding a balanced antenna with a transmission line at less than 90 degree relative angle will do it, etc.

>
> (Actually I was reluctant to install an FT100 in my Toyota.
> I know I must have very good grounding etc).
>
> So, if I want to have a radiating coax feed line,
> how do I proceed.

Why would you want a radiating feed line?

> Build an EH or CFA antenna on the roof of my car?
>

I'm not qualified to discuss EH or CFA antennas. From my reading of the newsgroups I understand that they may be better than the MFJ 250.

W1MCE

3314. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:30:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC10FA3.4070804@ieee.org>
Source record: 118266

Jim Kelley wrote:
> What I've said clearly, over and over and over again, and you hard-headly
> refuse to hear is simply what physics dictates.

In the absence of any proof, it is more likely simply what Jim Kelley
dictates.

> Obviously, when waves cancel, no energy is transferred.

Obviously, when waves cancel, energy is transferred in the opposite
direction from the canceled waves. It's all explained on the Melles-
Griot web page. What is it about the "lost" reflected energy joining
the forward wave that you do not understand?
--
73, Cecil http://www.qsl.net/w5dxp

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3315. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:34:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc243h6pghhc84@corp.supernews.com>
Source record: 118267

Depends on the frequency of the no signals and the impedance of the load
at that frequency.

Roy Lewallen, W7EL

Dave Shrader wrote:
>
>
>
>>> Dr. Slick wrote:
>>> ... What is the SWR in a transmission line with no signals?
>>>
>>
>
> I hope the attribution is correct!
>
> The VSWR in a transmission line with no signals is EXACTLY the same as
> the VSWR in the same transmission line with signals!
>
> Deacon Dave, W1MCE
>

3316. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:39:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc24d73rtf39e8@corp.supernews.com>
Source record: 118268

'Doc wrote:
>
> VHFRadioBuff,
> English majors? I don't expect much, especially in view
> of what schools are turning out these days, but everyone
> should know how to use the common language. Destinated...
> 'Doc

Engineered?

Roy Lewallen, W7EL

3317. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:43:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc24lpiepfba2a@corp.supernews.com>
Source record: 118169

I have a signal generator which contains a 50 ohm resistor and an
essentially constant voltage source. I declare this to be a "signal
generator" and not a "Thevenin source". Now, can I have permission to
look at the dissipation of the resistor? Please, Cec?

Isn't it a shame that the signal generator doesn't dissipate any power
at all when driving an open circuit, but a transmitter gets smoked.
Maybe we should replace our transmitters with signal generators?

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Roy Lewallen wrote:
>
>> How is it that the reflected power will "smoke the transmitter", when
>> there's no dissipation at all in the 50 ohm source resistor, and the
>> source isn't being required to source any power?
>
>
> Tsk, tsk, Roy. It is not good engineering practice to consider the
> dissipation in the resistor in a Thevenin equivalent circuit. Instead,
> use a signal generator with a circulator+load. The circulator+load will
> dissipate all the reflected power after it has made a round trip.
>
> Here's a quote from "Fields and Waves in Modern Radio" by Ramo and
> Whinnery. "It must be emphasized, as in any Thï¿½venin equivalent circuit,
> that the equivalent circuit was derived to tell what happens in the
> load under different load conditions, and significance cannot be
> automatically attached to a calculation of power loss in the internal
> impedance of the equivalent circuit."

3318. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:44:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC112EE.8060806@ieee.org>
Source record: 118170

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:

>>Source---------------------------------------+----------------Load
>> |
>> +---1/4WL open stub--
>>
> Ok, here we have an open on the Smith Chart, moving "towards the
> generator" 1/4 wavelength, which ends up being a virtual short.
> So even if both the source and loads are 50 Ohms each, the stub
> will indeed destroy the match, and will cause reflections.

The only reflections in the above circuit are at the open end of the
stub. There are NO reflections at the '+' point. A Bird wattmeter at
point '+' will read full forward power and full reflected power.

>>The SWR inside the stub is approximately the same as the SWR between
>>the source and the stub.
>>
> "SWR inside the stub"? You should really say: "SWR looking INTO
> the stub"

Nope, I said what I meant to say. Install your Bird wattmeter halfway
down the stub and read the forward and reflected power. It will be
approximately the same as between the source and the stub.

> In other words, if we cut the circuit somewhere between the
> source (assume 50 ohms) and the open stub, and measure INTO the
> source, we will measure 50 ohms, or a 1:1 SWR.

We don't know the driving impedance of the source. It could be
anything.

> But, if we measure into the direction of the open 1/4 Lamba
> stub, we will measure a short, or 0 ohms, or an Infinite:1 SWR ...

We measure a virtual short. Virtual shorts don't cause reflections.
Virtual shorts are the end result of the *net* voltage being zero.
The net voltage being zero is an *effect*, not a cause.

> First and foremost, you have to make yourself clearly understood
> before you even have a chance at being understood here, Cecil.

Take a sledge hammer to those concrete brains and think some new and
original thoughts for a change. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3319. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:49:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC113FD.10806@ieee.org>
Source record: 118171

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Jim's EM waves containing no energy are the new epicycles.
>
> Hi Cecil, Epicycles of what?

Already asked and answered, Richard. They are Jim's 21st century
epicycles for amateur radio transmission lines. Ptolemy would
be proud.
--
73, Cecil http://www.qsl.net/w5dxp

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3320. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:51:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC1147E.6010305@ieee.org>
Source record: 118172

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "It is not good engineering practice to consider the dissipation in the
> Thevenin equivalent circuit."
>
> The impedance and sources within a transmitter don`t need to be known to
> realize that removing the load from a transmitter allows voltage to
> soar.

Actually, the voltage plummets on my IC-706. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3321. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:54:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vv42cvse5k4sqsdvl5e49h2ng3pjih6jta@4ax.com>
Source record: 118173

On Tue, 13 May 2003 10:30:43 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>"lost" reflected energy

Is your reference phasor diagram found on the side of a milk carton?

3322. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:54:44 UTC
From: isgs294@yahoo.com
Message-ID: <56e0cd4a.0305130754.269c6170@posting.google.com>
Source record: 118174
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

> Installation of a 2-way radio in Toyota vehicles should not present
> issues under the following conditions:
>
> * The transceiver must be type-accepted by the FCC, and not modified
> in any way

Hmm, Consider fcc doesnt type-accept anything any more, they certify
it, This couldbe an issue. My 706 is part 15 type accepted as a
receiver is that enough?
>
> * Maximum output power complies with FCC regulations (100 watts)
make up your mind 100watts or complies with fcc regualtions?

> * Antenna and power cabling must not be routed along side or in
> conjunction with the vehicle's wire harness

Going to make running wires fun.

> It must be emphasized that, under the terms of Toyota's new vehicle
> warranty, damage caused by RF energy from a higher power mobile radio
> is specifically excluded from coverage because it is not the result of
> faulty materials or workmanship. Accordingly, the owner assumes all
> such responsibility.
I love this one!!! My potiently 1kw mobile could be next your Toyota
and your
warrany isnt going to cover the damage I do and most likey the average
toyota driver will never know the source of the problem.

3323. Re: Combining antennas for a car radio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:56:16 UTC
From: isgs294@yahoo.com
Message-ID: <56e0cd4a.0305130756.fba16e7@posting.google.com>
Source record: 118175

Some of the newer upscale cares are going to active and sometimes
differential antenas so handing a wire out the back isnt going to
work.

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:<3eb7c22a_1@news1.prserv.net>...
> Well, you could do like everyone else, hang a 4' piece of wire out of the
> antenna connector. The upscale bunch go get a used car radio antenna and
> plug it in, while the really ostentatious buy a new car radio antenna and
> plug it in. If you are in a shielded building, you might have to get the
> antenna near a window and run a car radio extension cable between.
> Otherwise, it's pretty darn complicated.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
> news:14Ita.223735$Si4.181300@rwcrnsc51.ops.asp.att.net...
> > Hi guys,
> >
> > I have a decent quality car radio that broke in such a way as to be unable
> > to control a CD changer anymore -- but the tuner works fine. I'm planning
> > to stick it in a wooden box one of these days and just use it as a shelf
> > radio at work or something.
> >
> > I'd like to hook it up to an external AM and FM antenna -- probably just a
> > folded dipole for FM, and a long wire for AM. How do I combine the
> > antennas? Or should I even bother to try? I'm thinking car radios expect
> > to be connected to something that's ~1/4 wavelength above a ground plane
> > (the car's body) at ~100MHz ... and then switch in some matching network
> for
> > AM, where the car's antenna is electrically quite short? Or is there
> > something different going on?
> >
> > Thanks,
> > ---Joel Kolstad
> >
> >
> >
> >

3324. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 15:58:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC1161C.3020106@ieee.org>
Source record: 118176

Roy Lewallen wrote:
> So are you saying that a good model of a transmitter is a generator with
> a circulator, and that it will be "smoked" by the reverse power?

Not smoked if the circulator resistor can dissipate all the reflected
power without burning up. But use a 100W signal generator and a 20 watt
circulator load resistor into an open-circuited transmission line and,
yes, the reflected power will smoke the circulator load resistor.

A signal generator with a perfect circulator+load will always see 50
ohms. The generated energy will make a round trip to the open-circuit,
be reflected, and return to the circulator load resistor where it will
be dissipated. If the resistor power rating is too small, it *will* smoke
even though the net voltage or net current is zero at the signal generator
terminals.

We are not supposed to calculate the dissipation in a Thevenin source.
That's was the trouble with the QEX brainteaser.
--
73, Cecil http://www.qsl.net/w5dxp

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3325. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:23:59 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030513122359.09436.00000324@mb-m02.aol.com>
Source record: 118177

>VHFRadioBuff,
> English majors? I don't expect much, especially in view
>of what schools are turning out these days, but everyone
>should know how to use the common language. Destinated...?
> 'Doc

What common language? No such thing. What's language with slang and without other words developing? Destinated is a ham thing, kind of like "73's" as if you're saying multiple good bye's when it's really "73".
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3326. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:35:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9q52cvkchp8ot1s45cfk442m56hvf3qf4u@4ax.com>
Source record: 118178

On Tue, 13 May 2003 10:24:09 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>VHFRadioBuff,
> English majors? I don't expect much, especially in view
>of what schools are turning out these days, but everyone
>should know how to use the common language. Destinated...?
> 'Doc

Hi Doc,

That particular invention is probably closer to acceptable grammar
than many words that appear on the scene. If you examine the logic of
assbackward to mean turned around, shouldn't it be assforward?

English is notable in that words are not confined to one part of
speech. Destinated is simply the verb form, past tense, of
destination without its stem. What appears as strange, if it survives
to become commonly used, arrived by the same rules as the rest.

Speaking of the notable, and illustrative of the flexibility of
language; there is one notable word in the sailor's lexicon (that I
doubt I need pen) that I found worked into a short list (half a page
of typewritten text) of its usage as a Noun, a Verb (both transitive
and intransitive), certainly a Gerund (probably the most common), an
Adjective, an Adverb.... Well, you get the point and the enumeration
wasn't nearly as funny as the "example" sentences. I am quite sure
that 100% of all listeners would understand the intent of each
sentence and respond to the subtle variations of meaning that arrived
out of careful selection of part of speech.

73's
Richard Clark, KB7QHC

3327. vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:38:04 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec11f6d$1_1@news.vo.lu>
Source record: 118179

Hi,
Question adressed to an expert es antenna...
I am using a Fritzel GPA 404 vertical antenna (HF multibands). It is a ground plane working at the ground level (also on the roof with radials tied down at 45°). Radials are made up of flexible steel wires cut for each band (1 per band, see closeup on http://www.astrosurf.com/lombry/qsl-radials.htm, mid of page).
Its gain is 3 dBi if it is used as stated. That means that without this structure that one placed horizontally at the base of the antenna, in fact screwed at the base of the mast, the antenna does not work : physically the GPA 404 measures 6m height and radials measure between 2 and 10m+. One must in theory place them in an angle < 180° around the base of the antenna in order to constitute an integral part of its physical structure (the physical length of the antenna, for example lambda/2 for the band of the 20m). This way waves are correctly emitted from the base of the "L", the point of intersection of the sector formed by the vertical and radials.
I explain you this because I have a question : is it possible to replace these flexible radials that I consider much too long for the lower bands and currently tied on the lawn by rigid radials twice shorter as one finds for example on a Cushcraft R7 ? Their length is completely different... (even if R7 is 2m higher).
Example: If the radial of the GPA for the 15m band is 3.6m long, would it be enough for me to attach a thin aluminum tube (diam 10mm, knowing that the antenna tubing is about 30mm diam.) perpendicularly to the mast (screwed on the mast at 20cm above the base of the antenna), their length being 1.8m (3.6m/2)+ the 20cm lost, so 2m on each side, to get the same result as using the radial ?
That sounds at first sight identical... Correct or not ?
Thank for advices.
Thierry

3328. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:41:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <iu72cvkam5deb5a1hs2h0g9pa8bc9knsqh@4ax.com>
Source record: 118180

On Tue, 13 May 2003 08:43:49 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>
>Isn't it a shame that the signal generator doesn't dissipate any power
>at all when driving an open circuit, but a transmitter gets smoked.
>Maybe we should replace our transmitters with signal generators?
>
>Roy Lewallen, W7EL

Hi Roy,

You should be careful of imposed solutions. Would you feel
comfortable replacing your signal generator with a transmitter? The
smoke comes heavier if your rub larger sticks together.

73's
Richard Clark, KB7QHC

3329. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:48:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rd82cv0v8stn99a41ao5qjmki07h5ppdou@4ax.com>
Source record: 118181

```
On Tue, 13 May 2003 10:49:17 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Already asked and answered, Richard.
we know, repetition is one of your character-istics.
```

3330. why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 16:57:38 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec12403$1_1@news.vo.lu>
Source record: 118182

Hi,

According rumor or facts - I don't really know - it seems that wire antennas (i.e. dipole) have never been used to work in HF over the 20m band. All hams install vertical (or beams, quad). Why ?

It seems that for a same band, say the 15m band, the dipole will be less or much less performing that a vertical, both antennas being well cut for this band.

I do not speak about the 3 dBi gain of the vertical, this a fact but it seems there is another problem. This is not a question of polarization (a beam can be very well received using a vertical too) nor a question of antenna size (dipole and vertical being well cut as I told). So is that true there is a difference between both designs in upper bands ?

Subsidiary question : it seems (we experimented during one week) that a 20m height vertical working on the 7m band works better than a dipole 4times longer (about 100m long tied at about 10m above the lawn) ? How is that possible ? Both should perform the same way, isn't it ?
O is there really a problem using to many lambda, whatever the antenna used ?

If it is true, in my mind that means that depending bands some designs are more performing than others... why, this is a complete mystery for me.

Any explanations are welcome.

73
Thierry
http://www.astrosurf.com/lombry

3331. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:08:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC12670.2080305@ieee.org>
Source record: 118183

Dave Shrader wrote:
> The VSWR in a transmission line with no signals is EXACTLY the same as
> the VSWR in the same transmission line with signals!

I know that can be proven mathematically but can it be proven
experimentally? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3332. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:12:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC12773.9000206@ieee.org>
Source record: 118184

Roy Lewallen wrote:
> Isn't it a shame that the signal generator doesn't dissipate any power
> at all when driving an open circuit, but a transmitter gets smoked.
> Maybe we should replace our transmitters with signal generators?

You may be on to something, Roy. Adding a circulator+load to a ham
transmitter would be something like adding a resistor to an antenna.
--
73, Cecil http://www.qsl.net/w5dxp

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3333. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:14:10 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <OmWdnQQpUfKPtVyjXTWcqQ@comcast.com>
Source record: 118185

Here is where: both the AES and HRO catalogs list rotators. The Hygain web site lists rotators. I don't buy the second part of your argument either. A cement mixer is a machine - not the person who mixes cement.

Tam/WB2TT
"'Doc" <w5lz@cwis.net> wrote in message news:3EC0AF06.C22B8A65@cwis.net...
> FWIW
>
> Where did this "rotator" stuff come from? The thingy
> that turns your antenna is a "rotor", the person doing
> the turning is the "rotator". My dictionary even says
> that. Guess it's sort of like "destinated", a word made
> up by stupid people?
> 'Doc

3334. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:16:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC12888.1050106@ieee.org>
Source record: 118186

VHFRadioBuff wrote:
> What common language? No such thing. What's language with slang and without
> other words developing? Destinated is a ham thing, kind of like "73's" as if
> you're saying multiple good bye's when it's really "73".

Not multiple "good bye's". There's nothing wrong with multiple
"best regards". It's like "lots of best regards".
--
73, Cecil http://www.qsl.net/w5dxp

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3335. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:18:09 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC128D1.7010802@ieee.org>
Source record: 118187

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Already asked and answered, Richard.
>
> we know, repetition is one of your character-istics.

Are you aware that you are the one who repeated the
question?
--
73, Cecil http://www.qsl.net/w5dxp

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3336. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:21:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC129A4.8070109@ieee.org>
Source record: 118188

Roy Lewallen wrote:
> I have a signal generator which contains a 50 ohm resistor and an
> essentially constant voltage source. I declare this to be a "signal
> generator" and not a "Thevenin source". Now, can I have permission to
> look at the dissipation of the resistor? Please, Cec?

Try it with a constant current generator and a 50 ohm parallel source
resistor. If the results are not the same, don't you think there is
something wrong with your model?
--
73, Cecil http://www.qsl.net/w5dxp

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3337. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:25:35 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <AIucnVOoP7cJt1yjXTWcpw@comcast.com>
Source record: 118189

Thierry,

Some people do use 20 m dipoles. I have had a few. Their problem is, that unlike a 75 m dipole at 50 feet or so, the 20 meter dipole will be quite directional. So you will want to be able to rotate it. If you are going to go to all that trouble, might as well put up a beam.

Tam/WB2TT
"Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> wrote in message news:3ec12403$1_1@news.vo.lu...
> Hi,
>
> According rumor or facts - I don't really know - it seems that wire antennas
> (i.e. dipole) have never been used to work in HF over the 20m band. All hams
> install vertical (or beams, quad). Why ?
>
> It seems that for a same band, say the 15m band, the dipole will be less or
> much less performing that a vertical, both antennas being well cut for this
> band.
>
> I do not speak about the 3 dBi gain of the vertical, this a fact but it
> seems there is another problem. This is not a question of polarization (a
> beam can be very well received using a vertical too) nor a question of
> antenna size (dipole and vertical being well cut as I told). So is that true
> there is a difference between both designs in upper bands ?
>
> Subsidiary question : it seems (we experimented during one week) that a 20m
> height vertical working on the 7m band works better than a dipole 4times
> longer (about 100m long tied at about 10m above the lawn) ? How is that
> possible ? Both should perform the same way, isn't it ?
> O is there really a problem using to many lambda, whatever the antenna used
> ?
>
> If it is true, in my mind that means that depending bands some designs are
> more performing than others... why, this is a complete mystery for me.
>
> Any explanations are welcome.
>

> 73
> Thierry
> http://www.astrosurf.com/lombry
>
>
>
>

3338. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:25:59 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305130925.6e0a185c@posting.google.com>
Source record: 118190

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vc0se816vb2bd4@corp.supernews.com>...
> Well there's still Q for us experimentalists:
>
> Q= Fc/FWHM
>
> Fc= center, or peak response frequency in Hz
> FWHM = Full Width Half Max in Hz
>
> Giving the RG8X 160 meter stub a Q of about 20.
>
> At least I think that's right. I didn't check.

Actually, I think somewhat less than that in reality. I don't trust
those meter readings you posted earlier...the reactance is clearly in
error (way too big near resonance!), and that doesn't give me much
faith in the resistive part. But the Fc/FWHM is _one_ of the ways I
checked Reg's constant when the first way didn't agree.

Cheers,
Tom

3339. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:33:18 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <71b2cv05v721ce962583pmpk5vab4hph1f@4ax.com>
Source record: 118191

On 13 May 2003 12:12:11 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>>Where did this "rotator" stuff come from? The thingy
>>that turns your antenna is a "rotor", the person doing
>>the turning is the "rotator". My dictionary even says
>>that. Guess it's sort of like "destinated", a word made
>>up by stupid people?
>> 'Doc
>
>Just because a word isn't in a dictionary doesn't mean it doesn't exist. There
>are many dialects and slang words in the world... in any case, I suppose it's
>because you antenna is being rotated that people use to word "rotator" because
>it's rotating the antenna.
>
>How about the often used "disorientated"? Oh well, we can't all be English
>majors, now can we? Besides, think how boring the world would be if everyone
>spoke exactly the same with the same inflection and pronunciation.

And we *might* even be able to communicate without having to infer
what the speaker meant.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

3340. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:34:09 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <13b2cvk4i4s537rugcud664ob8m9vi6elf@4ax.com>
Source record: 118192

On 13 May 2003 13:13:43 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>Ack, I've really gotta proof read my posts..
>
>Anyway, from Radio Shack's website:
>
>http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=
>CTLG%5F002%5F004%5F002%5F000&product%5Fid=15%2D1245
>
>"With the Outdoor Antenna Rotator you can accurately position your antenna for
>the best possible TV and FM receptionï¿½perfect for suburban and rural areas.
>It automatically turns your antenna to the direction you dial in on the control
>panel, and then shuts off when it reaches the desired position."
>
>They call it a rotator..

Yes, but you are talking about "Radioshack". <:-))

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

3341. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:38:01 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <f5b2cvgirjbqm0it96os1qdu14t06uasgk@4ax.com>
Source record: 118193

On Mon, 12 May 2003 19:12:55 -0400, "JLB" <IHateSpam@nospam.net>
wrote:

>
>
>> Ah, the joys of VHF & line of sight. My house is gonna look pretty funny
>> with 15ft of cable going up on a pole!
>
>You should then try a 50 foot tower with an 18 element yagi inside a 2
>element triband HF quad.

You should see my back yard...which unfortunately is near the bottom
of the page. The page is big, has lots of photos and takes about a
minute and a half to load using DSL, so unless you have lots of time,
forget it for dial ups.

http://www.rogerhalstead.com/tower.htm

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Jim
>N8EE
>
>

3342. Re: Comet GP-9 antenna Lightning damage

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:42:00 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <9cb2cvc57m8rksml5a5cs0mnrg6uv4jfpm@4ax.com>
Source record: 118194

On Tue, 13 May 2003 03:03:30 GMT, "G.Beat" <abuse@comcast.com> wrote:

>The Comet GP-9 is a 2m/70cm dual band vertical base antenna. It is
>constructed of a three section heavy duty fiberglass radome with
>nonconducting ABS section connections to eliminate corrosion and help reduce
>stray RF, ensuring a clean radiation pattern. Like all Comet antennas, it is
>pre-tuned, so installation is quick and easy, just put the three sections
>together, tighten them up, and secure them to a mast with the supplied
>stainless steel brackets.
>
>http://www.cometantenna.com/base.html
>

But...Does it have a tuning unit in the base?
I also have one that took a direct hit. The insides are good (took
'em apart and cleaned it", but it won'd load.

So, either the base insulator is shot, or if there is a tuning unit
that is shot.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>Home Page
>http://www.natcommgroup.com/index.php
>
>If you would like to talk with customer service please call
>800/962-2611. A real voice will (usually) answer.

3343. Re: Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:53:11 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <PtycnYfvMPSvrFyjXTWcoQ@cnmnetwork.com>
Source record: 118195
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Air core RF transformers are very practical and in general outperform those with solid cores. It's just that they are larger.

Inductance is necessary because the primary current includes both reactive (due to inductance and reflected reactance) and resistive (load real power) components. If inductance is too low, the primary current will rise to a point where it might cause a problem with the source.

With solid cores, there needs to be some primary current that can be used to magnetize the core. This current has no external function but must be provided by the source.

Transformer theory is not trivial, and can't be given in a few words.

73, Bob K6DDX

3344. Re: vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:54:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0eb2cvkhjfqk12d17i3tnegd7s756s6vg2@4ax.com>
Source record: 118196

On Tue, 13 May 2003 18:38:04 +0200, "Thierry - ON1SKY"
<lombrytNOSPAM@hotmail.com> wrote:

>That sounds at first sight identical... Correct or not ?
>Thank for advices.
>Thierry

Hi Thierry,

You are expecting too much accuracy from too much variability. Any deviation from manufacturer's recommendations will lead to cut and trim until you (hopefully) find your goal. Comparing vendors is worse.

Simplify your problem and examine the variations you can control. Your principle interest is with the "magic" of radials, and indeed they can seem to be magical (black magic or white).

The closer these radials are to earth, the less tuned they become (in fact this will broadband the antenna). The further from earth, the more tuned they become (as long as you are on the "right" frequency). Think Q.

Drooping/flexible radials compared to flat/rigid radials bring a significant difference. The ordinary ground plane offers a Z in the 30's of Ohms. The drooping ground plane offers a Z in the 50's of Ohms. The second design is a variation of the Off Center Fed dipole that also can be constructed to offer Z in the 50's of Ohms. If you have the first design close enough to earth, then ground loss adds to the 30's of Ohms to a transmitter comfortable load in the 50's of Ohms. (Notice how quickly a few variables stack up different characteristics?) The joke here is that the casual Ham will prefer the ground mounted easier match (with loss included) instead of the more efficient, hi-Q elevated cousin.

73's
Richard Clark, KB7QHC

3345. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 17:54:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc2cbgck7ok73f@corp.supernews.com>
Source record: 118197

If I use a 50 ohm parallel resistor and a current source as a model, I simply use a short circuited half wave transmission line to illustrate my point -- again the forward and reverse powers are 100 watts yet the resistor dissipation is zero. There's nothing wrong with my model -- it's illustrating a case where the reflected power does nothing at all to the source. Even though the source is perfectly matched, no reflected power is absorbed by or dissipated by the source. The fact that I can find even one such case means that someone claiming that reflected power is absorbed by the transmitter has to explain exactly what the transmitter looks like in order to cause it to react this way.

The fact is, that I can fiddle with source models, transmission line lengths and impedances, and load impedances, and get just about any relationship between reverse power and source dissipation that I want. That holds for fancy models with a circulator, too (which I don't believe for a minute is a representative model of a transmitter, either). All I need to do is change the transmission line impedance, and presto, the power dissipated in the circulator resistor is no longer equal to the reverse power in the line.

Isn't it interesting that I can get such different dissipations in different kinds of sources, all with the same reverse power?

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Roy Lewallen wrote:
>
>> I have a signal generator which contains a 50 ohm resistor and an
>> essentially constant voltage source. I declare this to be a "signal
>> generator" and not a "Thevenin source". Now, can I have permission to
>> look at the dissipation of the resistor? Please, Cec?
>
>
> Try it with a constant current generator and a 50 ohm parallel source
> resistor. If the results are not the same, don't you think there is
> something wrong with your model?

3346. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 18:02:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rnc2cv849lhkmrtbv2i2dn314sjftu5de0@4ax.com>
Source record: 118198

On Tue, 13 May 2003 12:12:19 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Adding a circulator+load to a ham
>transmitter would be something like adding a resistor to an antenna.
And it takes only a leap of Cecilian faith to achieve the perfect
system by removing the dissipating load and keeping the circulator.

3347. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 18:03:17 UTC
From: dj <DaleJ@nospam.com>
Message-ID: <DaleJ-6BAB38.13031713052003@hermes-ge0.rdc-kc.rr.com>
Source record: 118199
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <56e0cd4a.0305130754.269c6170@posting.google.com>,
isgs294@yahoo.com (Gary) wrote:

> > Installation of a 2-way radio in Toyota vehicles should not present
> > issues under the following conditions:
> >
> > * The transceiver must be type-accepted by the FCC, and not modified
> > in any way
>
> Hmm, Consider fcc doesnt type-accept anything any more, they certify
> it, This couldbe an issue. My 706 is part 15 type accepted as a
> receiver is that enough?
> >
> > * Maximum output power complies with FCC regulations (100 watts)
> make up your mind 100watts or complies with fcc regualtions?
>
> > * Antenna and power cabling must not be routed along side or in
> > conjunction with the vehicle's wire harness
>
> Going to make running wires fun.
>
> > It must be emphasized that, under the terms of Toyota's new vehicle
> > warranty, damage caused by RF energy from a higher power mobile radio
> > is specifically excluded from coverage because it is not the result of
> > faulty materials or workmanship. Accordingly, the owner assumes all
> > such responsibility.
> I love this one!!! My potiently 1kw mobile could be next your Toyota
> and your
> warrany isnt going to cover the damage I do and most likey the average
> toyota driver will never know the source of the problem.

How are they (Toyota) going to know it was caused by rf? Just curious.

73
Dale, K9VUJ

--
email: dalej2@mac.com

3348. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 18:08:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bvc2cvckbvns5vmcao42uvl3ro54tr9bde@4ax.com>
Source record: 118200

On Tue, 13 May 2003 12:18:09 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Are you aware that you are the one who repeated the
>question?
we know, a lack of response is another of your character-istics.
A bipolar symptom isn't it? Too much and/or too little? Amusing when
you do it at the same time tho'. Keeps me going. ;-)

73's
Richard Clark, KB7QHC

3349. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 18:24:46 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <s7d2cvgk1tim6v2skhttuhh5825qe64ce2@4ax.com>
Source record: 118201

On Tue, 13 May 2003 18:57:38 +0200, "Thierry - ON1SKY"
<lombrytNOSPAM@hotmail.com> wrote:

|Hi,
|
|According rumor or facts - I don't really know - it seems that wire antennas
|(i.e. dipole) have never been used to work in HF over the 20m band. All hams
|install vertical (or beams, quad). Why ?

Never say "never."

Thousands of hams use wire dipoles for the upper hf range.
|
|It seems that for a same band, say the 15m band, the dipole will be less or
|much less performing that a vertical, both antennas being well cut for this
|band.

Nonsense. The converse is true.

3350. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 18:39:15 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC13BAB.6030707@attbi.com>
Source record: 118203

OC_CAM's Razor wrote:

>
> I know that can be proven mathematically but can it be proven
> experimentally? :-)

Cecil, you remind me of my college professor who was teaching Calculus 1 to a group of 'hopeful' engineers.

The exact answer to your question is NO! However, here comes Dr. Satterthwaite's [my college professor] leap of faith, "in the limit the infinitesimal differential is definable". So, experimentally, if I start with a 2:1 VSWR at 1 KW, then reduce the power to 100 watts I still have a 2:1 VSWR. Hmmm!

Next reduce the power to 10 watts and still have a 2:1 VSWR. Hmmm, Hmmm!

Next reduce the power to 1 watt and still have a VSWR of 2:1. Hmmm, Hmmm, Hmmm!!

Next reduce the power to 0.1 watt and still have a VSWR of 2:1. Hmmm, Hmmm, Hmmm, Hmmm!!!

Next reduce the power to 0.020 watts [the limit of my antenna analyzer], and still have a VSWR of 2:1.

Eureka!! Here comes the leap of faith!! In the limit [d(VSWR)/d(P) as dP approaches 0] Dr. Satterthwaite's conclusion is that I still have a VSWR 0f 2:1.

Restated: d(VSWR)/d(P) = 0!

So, a little experimental engineering/physics supported by basic Calculus leads to the conclusion that it can't be measured at the power = zero limit, but it surely exists.

PS for Roy, as a transmission line, as opposed to a discrete circuit, frequency/wavelength is an unstated assumption in my assertion that the VSWR is real and constant in a transmission line with no power applied.

Thanks for the clarifying comment Roy!

Deacon Dave, W1MCE

3351. Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 19:18:41 UTC
From: Jim <elusive@quicksilver.co.uk>
Message-ID: <3ec14674$1_2@mk-nntp-2.news.uk.tiscali.com>
Source record: 118204

Need to modify / lengthen existing dipole.
Can anyone suggest a method of removing atmospheric pollution / oxidisation
from present flexweave conductor which will clean it up enough to enable a
satisfactory solder joint ??

Replies via newsgroup pse

Many tks M0jim

3352. Re: CW Whats Happening

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:02:05 UTC
From: Alan <alannc44@{nospam}ix.netcom.com>
Message-ID: <1bcwa.48966$5M.2603295@twister.southeast.rr.com>
Source record: 118205

I had a sked with another ham several years ago while operating mobile. The mic failed and I didn't have a keyer. I did have a plug to fit the keyer jack so I rigged up a couple of wires and pounded out the info.

Alan
WN4HOG

--
Windsurfing Club: http://www.ibscc.org

"J. McLaughlin" <JCM@Power-Net.Net> wrote in message
news:vc0653ccoh4eb7@corp.supernews.com...
> Outstanding.
> I have had a number of CW contacts with radio amateurs who had
> almost no command of English and yet, using Q signals and the like, we
> could have a simple conversation. This was especially common when,
> before the end of the Soviet empire, I was chasing Oblasts.
> CW fosters one of the fundamental purposes of amateur radio.
> 73 Mac N8TT
>
> --
> J. Mc Laughlin - Michigan USA
> Home: JCM@Power-Net.Net
> <snip>
> > >> It's a viable mode of operation. It is one of the fundamentals of
> radio.
> > >> It is part of a well rounded education in radio. It is an area
> where a
> > >> person needs actual experience to judge its usefulness. We are
> required to
> > >> learn a lot of things in other aspects of our life that are not
> germane to
> > >> our lives simply because it is considered one of the fundamentals
> and/or
> > >> part of a well rounded education. After all by the time you finish
> > >> elementary school, you can read, write, and add and subtract. More
> than
> > >> that is not necessary in daily life. So let's let people drop out
> of
> > >school
> > >> after 8th grade. The ordinary person doesn't need algebra or
> geometry or
> > >> chemistry or physics or Shakespeare. Only those who are going on
> to
> > >college

> > >> "need" that sort of stuff.
> > >>
> <snip>
>
>
> >
> > Seriously (tongue back in middle of mouth), I think CW
> Morse/International Code
> > is useful for at least the following reasons (there are surely more
> that I can
> > not think of at the moment):
> >
> > 1) It is the simplest radio mode. It allows hams to build and operate
> their
> > own equipment with a minimun of cost and expertise.
> >
> > 2) It gets through when voice modes dont!!! If a HF voice channel is
> marginal,
> > switch to CW at the same power level and its solid armchair copy.
> (This is why
> > the Marines take their 20 mile hikes, sometimes they have to do
> something that
> > the Hummers and helicopters cant.).
> >
> > 3) The HF bands are crowded. In a typical 100 KHz segment you can
> only have
> > about 30 voice QSOs going at the same time. On CW, the same 100 kHz
> would
> > easily support over 200 CW QSOs! I generally find more QSOs going on
> in the CW
> > segment that in the phone segment, especially on 20 meters. (This is
> also an
> > argument for PSK31.)
> >
> > 4) When you send a message, you spell it out, and have a written copy
> exaxctly
> > as the sender sent it! (The extra 'x' in 'exactly' would be there if
> it was
> > sent!) If you are requested to send a list of people at an emergency
> shelter,
> > some names will not be Smith or Jones. I once had to deliver a
> message from
> > Angrage, Alaska (it was Anchorage (sp?), but it got garbled on an
> earlier voice
> > relay.) Admitted, packet, rtty, or psk31 would be a good choice for
> this need.
> >
> > 5) Many hams have little or no knowledge of English. Ham CW uses a
> creole that
> > allows you to communicate with them. Even among people proficient in

> English,
> > there are wide variations in accents that can make voice communication
> > difficult. (Try listening to BBC television shows where the actors
> are using
> > regional accents and not standard BBC news presenter English!!!!)
> >
> > There is no code requirement on the higher frequency bands where most
> of your
> > listeners will be native English speakers (here in So Cal, this is not
> true).
> > Code is required only on the HF bands where there is the very real
> possibility
> > that your signal will go to areas of the world where English is not
> the primary
> > language. CW provides a common language.
> >
> > One of the main selling points (IMHO) of amateur radio is that it
> promotes
> > communication and understanding among the different peoples of the
> world.
> > Removing all people who do not speak English goes against this. IMHO,
> this is
> > the strongest reason for requiring knowledge of CW for the HF bands.
> >
> > 73
> > Jim Cooper NE6O
> >
> >
>

3353. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:02:38 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc2jrfja3qqn71@corp.supernews.com>
Source record: 118206

Reactance of a lossless stub (1/4 wave short) is a tangent function:
It is very large either side of zero.

For a parallel LC network:

Xp = (-Xl*Xc)/(Xl - Xc)
Where Xl is the L reactance and Xc the C reactance.
This is large near resonance.

The reactance of a series-resonant network, Xs = Xl-Xc is small near
resonance.
73
H.

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0305130925.6e0a185c@posting.google.com...
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vc0se816vb2bd4@corp.supernews.com>...
> > Well there's still Q for us experimentalists:
> >
> > Q= Fc/FWHM
> >
> > Fc= center, or peak response frequency in Hz
> > FWHM = Full Width Half Max in Hz
> >
> > Giving the RG8X 160 meter stub a Q of about 20.
> >
> > At least I think that's right. I didn't check.
>
> Actually, I think somewhat less than that in reality. I don't trust
> those meter readings you posted earlier...the reactance is clearly in
> error (way too big near resonance!), and that doesn't give me much
> faith in the resistive part. But the Fc/FWHM is _one_ of the ways I
> checked Reg's constant when the first way didn't agree.
>
> Cheers,
> Tom

3354. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:12:04 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC15194.9010009@ieee.org>
Source record: 118210

Roy Lewallen wrote:
> If I use a 50 ohm parallel resistor and a current source as a model, I
> simply use a short circuited half wave transmission line to illustrate
> my point --

Again, for any selected load, if you get different results using a
Thevenin equivalent circuit than you do using a Norton equivalent,
then there is something wrong. Being forced to switch loads in order
to prove your point simply proves my point.

> All I need to do is change the transmission line impedance, and
> presto, the power dissipated in the circulator resistor is no longer
> equal to the reverse power in the line.

This is similar to an SWR meter calibrated for 50 ohms being
misapplied to a 300 ohm Z0 circuit. The boundary conditions
assumed in the design have been violated.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3355. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:12:43 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc2kec4p923p7b@corp.supernews.com>
Source record: 118207

This group is truly amazing.
I am laughing so hard I can hardly type.
Make a joke and it turns into another fascinating esoteric thread while I leave the house for a few hours.
Nontheless, if you don't put the power into the antenna it just heats up something else.
73
H.

3356. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:13:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC151E5.2010608@ieee.org>
Source record: 118212

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Adding a circulator+load to a ham
>>transmitter would be something like adding a resistor to an antenna.
>
> And it takes only a leap of Cecilian faith to achieve the perfect
> system by removing the dissipating load and keeping the circulator.

I've got a simple one of those. It's called an SWR meter.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3357. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:13:39 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305131150.2989941c@posting.google.com>
Source record: 118208

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC09F3B.9090107@ieee.org>...

> > But the current is definitely zero every 1/2 wavelength from an
> > open stub.
>
> Only the net current. The forward and reflected currents are NOT
> zero. They only superpose to zero every 1/2WL.
>

All i care about is the net current, shit-brain! All i need to
know
is the min and max currents or voltages.

Put your thinking cap on, you don't need to know the forward and
reflected currents to know the swr.

>
> You said I was wrong. I disagreed and successfully defended all my
> concepts. How could they be errors? You have wound up agreeing with
> every single one of them. Name me one point where we disagree.

Name one point where i said there were no reflected and incident
currents in a shorted system? I never disagreed with you either! I
have successfully defended the concept that absolutely no current
flows into a 1/4 wave shorted loss-less stub.

I did disagree with your statement, "Stubs, with their near
infinite SWR are as lossy as they can possibly be."

This is incorrect, as as infinite SWR requires a loss-less
situation.

You need to make yourself clear, because you type like an idiot.

Slick

3358. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:13:45 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305131151.1705d64@posting.google.com>
Source record: 118209

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC09F3B.9090107@ieee.org>...

> > But the current is definitely zero every 1/2 wavelength from an
> > open stub.
>
> Only the net current. The forward and reflected currents are NOT
> zero. They only superpose to zero every 1/2WL.
>

All i care about is the net current, shit-brain! All i need to
know
is the min and max currents or voltages.

Put your thinking cap on, you don't need to know the forward and
reflected currents to know the swr.

>
> You said I was wrong. I disagreed and successfully defended all my
> concepts. How could they be errors? You have wound up agreeing with
> every single one of them. Name me one point where we disagree.

Name one point where i said there were no reflected and incident
currents in a shorted system? I never disagreed with you either! I
have successfully defended the concept that absolutely no current
flows into a 1/4 wave shorted loss-less stub.

I did disagree with your statement, "Stubs, with their near
infinite SWR are as lossy as they can possibly be."

This is incorrect, as as infinite SWR requires a loss-less
situation.

You need to make yourself clear, because you type like an idiot.

Slick

3359. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:14:13 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc2kh61susaga7@corp.supernews.com>
Source record: 118211

nah roy, it's the non-impedance of the no-load
a real zen rig

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vc243h6pghhc84@corp.supernews.com...
> Depends on the frequency of the no signals and the impedance of the load
> at that frequency.
>
> Roy Lewallen, W7EL
>
> Dave Shrader wrote:
> >
> >
> >
> >>> Dr. Slick wrote:
> >>> ... What is the SWR in a transmission line with no signals?
> >>>
> >>
> >
> > I hope the attribution is correct!
> >
> > The VSWR in a transmission line with no signals is EXACTLY the same as
> > the VSWR in the same transmission line with signals!
> >
> > Deacon Dave, W1MCE
> >
>

3360. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:19:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC15361.9090005@ieee.org>
Source record: 118213

Dave Shrader wrote:
> OC_CAM's Razor wrote:
>
> >
> > I know that can be proven mathematically but can it be proven
> > experimentally? :-)
>
> Cecil, you remind me of my college professor who was teaching Calculus 1
> to a group of 'hopeful' engineers.

> So, a little experimental engineering/physics supported by basic
> Calculus leads to the conclusion that it can't be measured at the power
> = zero limit, but it surely exists.

Don't you think it strange that I have been condemned for using exactly the same argument to come to the conclusion that reflected waves exist during steady-state. But a lot of people on this newsgroup believe when that last little sliver of wave cancellation takes place, the reflections magically disappear from the system. I say, although those reflections cannot be measured at the steady-state zero limit, they still exist.
--
73, Cecil http://www.qsl.net/w5dxp

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------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3361. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:38:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC157D6.6060906@ieee.org>
Source record: 118214

Dr. Slick wrote:
> Put your thinking cap on, you don't need to know the forward and
> reflected currents to know the swr.

Isn't a directional wattmeter a lot more convenient than chopping into
the coax and trying to locate and measure the Imin and Imax points?

> I
> have successfully defended the concept that absolutely no current
> flows into a 1/4 wave shorted loss-less stub.

Nope, you haven't. You haven't shown that forward current is prohibited
from entering a stub and reflected current is prohibited from exiting
a stub. All you have shown is that those two currents that are flowing
uninhibited into and out of the stub are equal in magnitude and opposite
in phase and thus *cause* the superposition to a net *effect* of zero.
That certainly doesn't mean that no current flows into or out of a 1/4WL
shorted loss-less stub. In fact, since the net zero current exists only
at a point with non-zero current on each side of that point, it actually
proves that forward and reflected current waves are flowing into and out
of the stub.

> I did disagree with your statement, "Stubs, with their near
> infinite SWR are as lossy as they can possibly be."
>
> This is incorrect, as as infinite SWR requires a loss-less
> situation.

There you go with another straw man. I did NOT say "infinite SWR".
Infinite SWR's are impossible in reality. I said "near infinite SWR".
The SWR in any stub is as near infinity as it can possibly get along
with losses that are as high as they can possibly be. There is nothing
in the world that will cause more reflected energy than a short or open.
--
73, Cecil http://www.qsl.net/w5dxp

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3362. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 20:45:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC15954.3090201@ieee.org>
Source record: 118215

Dr. Slick wrote:
> All i care about is the net current, shit-brain! All i need to
> know is the min and max currents or voltages.

How many cars use the Golden Gate Bridge in a day? You would say none since the Northbound cars and Southbound cars are equal in number. So we don't need the bridge at all since the *net* vehicle traffic flow approaches zero. Please contact the Golden Gate Bridge Authority and tell them they have been wasting their money all those years. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3363. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:13:11 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <vdn2cv4mb6uld0n6jnaec63p2drouukofm@4ax.com>
Source record: 118216

I agree. I have even used a wire dipole on 6-meters. Lots of
10-meter and 20-meter dipoles. Horizontal dipoles and verticals have
different radiation angles. I.E. the angle of take-off of the signal
toward the ionosphere. For a given distance between the transmitter
and receiver, there will almost always be a difference in signal
strength between the two. Sometimes the vertical will beat out the
horizontal. Height of the antennas also figure into the mix, as does
the ground plane used with the vertical. I have been very successful
over the years with vertical antennas, especially the Cushcraft R-5.
But for overall performance, I will take a horizontal antenna any
time. The problem being of course that it needs to be rotated, or
have several of them pointing in different directions.

Dick - W6CCD

On Tue, 13 May 2003 11:24:46 -0700, Wes Stewart <n7ws@#arrl.net>
wrote:

>On Tue, 13 May 2003 18:57:38 +0200, "Thierry - ON1SKY"
><lombrytNOSPAM@hotmail.com> wrote:
>
>|Hi,
>|
>|According rumor or facts - I don't really know - it seems that wire antennas
>|(i.e. dipole) have never been used to work in HF over the 20m band. All hams
>|install vertical (or beams, quad). Why ?
>
>Never say "never."
>
>Thousands of hams use wire dipoles for the upper hf range.
>|
>|It seems that for a same band, say the 15m band, the dipole will be less or
>|much less performing that a vertical, both antennas being well cut for this
>|band.
>
>Nonsense. The converse is true.

3364. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:28:53 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <0go2cvcdncgssrc31aomofm9udkuo5juqk@4ax.com>
Source record: 118071

On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>site lists rotators. I don't buy the second part of your argument either. A
>cement mixer is a machine - not the person who mixes cement.

A Yahoo web search turns up equal replies for "antenna rotors" and
"antenna rotators."

The AES catalog lists "rotors" under their product index, but then you
go to the "rotors" pages and it's spelled "rotator" everywhere. Maybe
the copywriter wanted to be consistent, at least on those pages, but
the product index got by him/her.

I'm under the impression that the entire device is a "rotator" but the
guts of the device is a "rotor." See Webster...

Bob
k5qwg

>
>Tam/WB2TT
>"'Doc" <w5lz@cwis.net> wrote in message news:3EC0AF06.C22B8A65@cwis.net...
>> FWIW
>>
>> Where did this "rotator" stuff come from? The thingy
>> that turns your antenna is a "rotor", the person doing
>> the turning is the "rotator". My dictionary even says
>> that. Guess it's sort of like "destinated", a word made
>> up by stupid people?
>> 'Doc
>

3365. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:32:16 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EC16460.67608E04@crosslink.net>
Source record: 118202
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

dj wrote:
>
> How are they (Toyota) going to know it was caused by rf? Just curious.
>
The same way BMW NA does.

(c: K3DWW

3366. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:32:25 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305131332.5410ff2b@posting.google.com>
Source record: 118217

Roy Lewallen <w7el@eznec.com> wrote in message news:<vc24d73rtf39e8@corp.supernews.com>...
> 'Doc wrote:
> >
> > VHFRadioBuff,
> > English majors? I don't expect much, especially in view
> > of what schools are turning out these days, but everyone
> > should know how to use the common language. Destinated...
> > 'Doc
>
> Engineered?

As in functionalized.

> Roy Lewallen, W7EL

w3rv

3367. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:33:38 UTC
From: Tim Richardson <ter@bellsouth.net>
Message-ID: <93p2cvo3lkh2r5v7mgscpid0r9nuim1ls5@4ax.com>
Source record: 118218

I have never cleaned flexweave but have had good success on other
copper objects by soaking it overnight in vinegar.

Tim W4IOU

On Tue, 13 May 2003 20:18:41 +0100, "Jim" <elusive@quicksilver.co.uk>
wrote:

>Need to modify / lengthen existing dipole.
>Can anyone suggest a method of removing atmospheric pollution / oxidisation
>from present flexweave conductor which will clean it up enough to enable a
>satisfactory solder joint ??
>
>Replies via newsgroup pse
>
>Many tks M0jim
>
>

3368. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:36:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc2pbk4esr3af3@corp.supernews.com>
Source record: 118069

Thanks for the insight! Now I understand. If I run my 50 ohm transmitter into an open circuited line, it'll get smoked by the reverse power. But if I change the line to 300 ohms, the transmitter will be ok because the boundary conditions have been violated.

Moral: To prevent transmitter damage, violate the boundary conditions. Nothing to it. It's all perfectly clear now.

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Roy Lewallen wrote:
>
>> If I use a 50 ohm parallel resistor and a current source as a model, I
>> simply use a short circuited half wave transmission line to illustrate
>> my point --
>
>
> Again, for any selected load, if you get different results using a
> Thevenin equivalent circuit than you do using a Norton equivalent,
> then there is something wrong. Being forced to switch loads in order
> to prove your point simply proves my point.
>
>> All I need to do is change the transmission line impedance, and
>> presto, the power dissipated in the circulator resistor is no longer
>> equal to the reverse power in the line.
>
>
> This is similar to an SWR meter calibrated for 50 ohms being
> misapplied to a 300 ohm Z0 circuit. The boundary conditions
> assumed in the design have been violated.

3369. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:38:48 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <79p2cvcp29vfoplpggdanelg5scl5tcrsq@4ax.com>
Source record: 118073

On Tue, 13 May 2003 13:25:35 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Thierry,
>
>Some people do use 20 m dipoles. I have had a few. Their problem is, that
>unlike a 75 m dipole at 50 feet or so, the 20 meter dipole will be quite
>directional. So you will want to be able to rotate it. If you are going to
>go to all that trouble, might as well put up a beam.

Cebik has a nice article on a 20 meter wire dipole hung vertically
from a tree, and fed with twin-lead to a tuner for 30-10 meter
operation. I'm thinking of building that. I wonder if it would be less
directional?

Bob
k5qwg

>
>Tam/WB2TT
>"Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> wrote in message
>news:3ec12403$1_1@news.vo.lu...
>> Hi,
>>
>> According rumor or facts - I don't really know - it seems that wire
>antennas
>> (i.e. dipole) have never been used to work in HF over the 20m band. All
>hams
>> install vertical (or beams, quad). Why ?
>>
>> It seems that for a same band, say the 15m band, the dipole will be less
>or
>> much less performing that a vertical, both antennas being well cut for
>this
>> band.
>>
>> I do not speak about the 3 dBi gain of the vertical, this a fact but it
>> seems there is another problem. This is not a question of polarization (a
>> beam can be very well received using a vertical too) nor a question of
>> antenna size (dipole and vertical being well cut as I told). So is that
>true
>> there is a difference between both designs in upper bands ?
>>
>> Subsidiary question : it seems (we experimented during one week) that a
>20m

>> height vertical working on the 7m band works better than a dipole 4times
>> longer (about 100m long tied at about 10m above the lawn) ? How is that
>> possible ? Both should perform the same way, isn't it ?
>> O is there really a problem using to many lambda, whatever the antenna
>used
>> ?
>>
>> If it is true, in my mind that means that depending bands some designs are
>> more performing than others... why, this is a complete mystery for me.
>>
>> Any explanations are welcome.
>>
>> 73
>> Thierry
>> http://www.astrosurf.com/lombry
>>
>>
>>
>>
>

3370. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:38:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc2pfi6hgruh2a@corp.supernews.com>
Source record: 118070

So all we need to do to prevent our transmitters from being smoked by reverse power is to open up the case and remove the terminating resistor from the circulator. Brilliant!

I'm having a little trouble finding the circulator in my Icom 730. Can somebody please tell me where it's located? Perhaps somewhere close to the Thevenin source?

Roy Lewallen, W7EL

Richard Clark wrote:
> On Tue, 13 May 2003 12:12:19 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
>>Adding a circulator+load to a ham
>>transmitter would be something like adding a resistor to an antenna.
>
> And it takes only a leap of Cecilian faith to achieve the perfect
> system by removing the dissipating load and keeping the circulator.

3371. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:39:46 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec16a5b_2@news1.prserv.net>
Source record: 118075

Dip it in any mild acid. I had on hand some cleaner which is sold to clean
the lime deposits from sinks and drains last time I wanted to do that, and
it cleaned the copper almost instantly. You have to be sure to neutralize
it afterwards with lots of water and bicarbonate of soda, or it will
continue to eat the copper away.

--
Crazy George
Remove NO and SPAM from return address
"Jim" <elusive@quicksilver.co.uk> wrote in message
news:3ec14674$1_2@mk-nntp-2.news.uk.tiscali.com...
> Need to modify / lengthen existing dipole.
> Can anyone suggest a method of removing atmospheric pollution /
oxidisation
> from present flexweave conductor which will clean it up enough to enable a
> satisfactory solder joint ??
>
> Replies via newsgroup pse
>
> Many tks M0jim
>
>
>

3372. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:41:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vc2pl8kmtaij79@corp.supernews.com>
Source record: 118072

You just can't be too hard on a language in which fat chance and slim chance mean the same thing.

Roy Lewallen, W7EL

Brian Kelly wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vc24d73rtf39e8@corp.supernews.com>...
>
>>'Doc wrote:
>>
>>>VHFRadioBuff,
>>> English majors? I don't expect much, especially in view
>>>of what schools are turning out these days, but everyone
>>>should know how to use the common language. Destinated...
>>> 'Doc
>>
>>Engineered?
>
>
> As in functionalized.
>
>
>>Roy Lewallen, W7EL
>
>
> w3rv

3373. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:52:42 UTC
From: dplatt@radagast.org
Message-ID: <vc2q9aqijqk3bd@corp.supernews.com>
Source record: 118074

>I have never cleaned flexweave but have had good success on other
>copper objects by soaking it overnight in vinegar.

Another useful homebrew metal cleaner can be made by mixing baking soda (sodium bicarbonate) and ammonia water (ammonium hydroxide: supermarket ammonia water is usually a 5% solution). Make a slurry or paste, of whatever consistency suits your needs.

This mix will take oxidation/tarnish off of copper, brass, and silver almost instantly. I'd be hesitant using it on thin silverplate, as the tarnish/oxidation layer is stripped off and lost rather than being converted back into base metal (at least, I'm pretty sure this is the case given the lovely blue color that the slurry acquires when used to clean copper).

Rinse very well with running water afterwards, dry, and then solder immediately. On copper, this stuff leaves a surface so completely de-oxidized that even a single fingerprint will result in visible re-tarnishing very quickly.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3374. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:55:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC169C6.3020304@ieee.org>
Source record: 118076

Roy Lewallen wrote:
> Thanks for the insight! Now I understand. If I run my 50 ohm transmitter
> into an open circuited line, it'll get smoked by the reverse power. But
> if I change the line to 300 ohms, the transmitter will be ok because the
> boundary conditions have been violated.

Roy, if you gathered that from my posting, I apologize for the misunderstanding. The boundary condition for the transmitter is that (Vfor+Vref)/(Ifor+Iref) be reasonably close to 50 ohms. With any open circuited line of reasonable length, no matter what the Z0, (Vfor+Vref)/(Ifor+Iref) will be nowhere near 50 ohms. That's why modern day transmitters have fold back circuitry. Any large deviation from (Vfor+Vref)/(Ifor+Iref) ~ 50 ohms means that (Vfor+Vref) is too high or that (Ifor+Iref) is too high, one or the other. The transmitter is protected from both over-voltage and over-current.
--
73, Cecil http://www.qsl.net/w5dxp

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3375. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 21:57:07 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC16A33.1040500@ieee.org>
Source record: 118077

Roy Lewallen wrote:
> You just can't be too hard on a language in which fat chance and slim
> chance mean the same thing.

Or "good car" and "bad car" mean the same thing.

Or "I could care less" and "I couldn't care less" mean the same thing.
--
73, Cecil http://www.qsl.net/w5dxp

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3376. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:03:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC16BB0.4080307@ieee.org>
Source record: 118078

Bob Miller wrote:
> Cebik has a nice article on a 20 meter wire dipole hung vertically
> from a tree, and fed with twin-lead to a tuner for 30-10 meter
> operation. I'm thinking of building that. I wonder if it would be less
> directional?

Of course! It would be nearly omnidirectional. It will radiate
equally poorly in all directions in the horizontal plane, just
like other verticals. :-)

It is duck soup to make a 20m dipole rotatable, even if by
hand, and it buys you more gain and less interference than a
vertical. A 20m dipole at 30 ft. used on 10m has about 8dB
gain over a ground-mounted vertical. Unwanted signals off
the side are way down on receive.
--
73, Cecil http://www.qsl.net/w5dxp

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3377. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:05:48 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC16C3C.8080705@ieee.org>
Source record: 118079

Dave Platt wrote:
> Another useful homebrew metal cleaner can be made by mixing baking
> soda (sodium bicarbonate) and ammonia water (ammonium hydroxide:

Just a word of caution. My nephew nearly died from mixing bleach
and vinegar. Be careful about mixing stuff.
--
73, Cecil http://www.qsl.net/w5dxp

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3378. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:18:50 UTC
From: dplatt@radagast.org
Message-ID: <vc2rqahebpk013@corp.supernews.com>
Source record: 118080

>> Another useful homebrew metal cleaner can be made by mixing baking
>> soda (sodium bicarbonate) and ammonia water (ammonium hydroxide:
>
>Just a word of caution. My nephew nearly died from mixing bleach
>and vinegar. Be careful about mixing stuff.

Agreed. Bleach and darned-near-anything is a bad mixture.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3379. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:27:43 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9rrgv$i50$1@titan.btinternet.com>
Source record: 118081

> This group is truly amazing.
> I am laughing so hard I can hardly type.
==========
Yes, indeed -

- - - and will it eventually occur to these wise men that antenna Q means nothing to the transmitter sitting at the other end of a transmission line of uncertain characteristics - plus a choke of even more uncertain characteristics - plus a misadjusted T-tuner - plus a so-called SWR meter.

;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o) ;o)

Reg, G4FGQ

3380. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:31:28 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <ffs2cv0uvgakftb7tt88sh7aal31top5n2@4ax.com>
Source record: 118082
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Tue, 13 May 2003 14:32:16 -0700, Vito <vito@crosslink.net> wrote:

>dj wrote:
>>
>> How are they (Toyota) going to know it was caused by rf? Just curious.
>>
>The same way BMW NA does.
>
>(c: K3DWW

So tell me, how are BMW NA, Toyota and Subaru going to tell if the
damage was caused by RF or lightning?

Russ

3381. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 22:36:38 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <vls2cvsek8bu20s2dem25f50cqig10ho2u@4ax.com>
Source record: 118083

On Tue, 13 May 2003 17:05:48 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Dave Platt wrote:
>> Another useful homebrew metal cleaner can be made by mixing baking
>> soda (sodium bicarbonate) and ammonia water (ammonium hydroxide:
>
>Just a word of caution. My nephew nearly died from mixing bleach
>and vinegar. Be careful about mixing stuff.

Good advice but baking soda and ammonia water are both bases. To
clean the flexweave, do as another poster suggested. Use a mild acid
and neutralize and rinse thoroughly. Distilled vinegar for the mild
acid and baking soda to neutralize it. Plenty of water to rinse it
clean.

Russ

3382. INTEFERENCE FROM TV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 23:20:02 UTC
From: lmhodnett@aol.com
Message-ID: <20030513192002.13815.00000381@mb-m28.aol.com>
Source record: 118084

When listening to HF our tv causes severe shrill noises on many frequencies. It becomes virtually impossbile to copy and station other than an extremely strong one. I was told to try a high pass filter on the tv. This did not work. I then put it on my receiver. It did work, but it blocked all ability to receive anything. Could someone suggest what I might do to correct this problem, besides buy a new tv?? Please correspond to my e-mail address.

Thnaks,

Larry

3383. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 23:53:37 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <7413cvoqqpt39srrj0fvnuv4eqsu6724gn@4ax.com>
Source record: 118085

On Tue, 13 May 2003 20:05:56 +0200, Stephan Walther Larsen <swl@c.dk>
wrote:

>On Tue, 13 May 2003 17:38:01 GMT, Roger Halstead <rdhalste@tm.net>
>wrote:
>
>>On Mon, 12 May 2003 19:12:55 -0400, "JLB" <IHateSpam@nospam.net>
>>wrote:
>>
>>>
>>>
>>>> Ah, the joys of VHF & line of sight. My house is gonna look pretty funny
>>>> with 15ft of cable going up on a pole!
>>>
>>>You should then try a 50 foot tower with an 18 element yagi inside a 2
>>>element triband HF quad.
>>
>>You should see my back yard...which unfortunately is near the bottom
>>of the page. The page is big, has lots of photos and takes about a
>>minute and a half to load using DSL, so unless you have lots of time,
>>forget it for dial ups.
>
>Loaded in less than 10 secs here in Denmark....on dsl

Mine is the 144 K dsl.
>
>
>I envy you Roger..what a nice backyard :=)

Thank you! There's a lot of labor out there. I did all the work by
hand except digging the holes for the guy anchor posts.

Even erecting the tower was a do-it-yourself project. <:-))

Unfortunately after the high winds last week end the antennas are
about 45 degrees off and there is about 15 degrees of play. The
antennas swing back and forth, but the mast out of the rotor doesn't.
That means the shear pins holding the masts together are either almost
shot, or the holes in the mast have elongated. Either way it means a
tower climb as soon as we get nice weather, which hopefully will be
tomorrow.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>

>
>Stephan

3384. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-13 23:57:31 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <rg13cv4n30k8326psv1am5siocu7f33vjf@4ax.com>
Source record: 118086

On Tue, 13 May 2003 12:16:56 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>VHFRadioBuff wrote:
>> What common language? No such thing. What's language with slang and without
>> other words developing? Destinated is a ham thing, kind of like "73's" as if
>> you're saying multiple good bye's when it's really "73".
>
>Not multiple "good bye's". There's nothing wrong with multiple
>"best regards". It's like "lots of best regards".

Actually it's regardses. Regards is already plural. Maybe it makes
it more plural?

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3385. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 00:01:50 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <9l13cv8eepjk142id5mejgpheovugvjun5@4ax.com>
Source record: 118087

On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>site lists rotators. I don't buy the second part of your argument either. A
>cement mixer is a machine - not the person who mixes cement.

Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
hoe and a big trough made for mixing cement is called the cement
mixer.

If you call a person who runs, a runner, and one who swims a swimmer,
what do you call one who hoes beans?

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Tam/WB2TT
>"'Doc" <w5lz@cwis.net> wrote in message news:3EC0AF06.C22B8A65@cwis.net...
>> FWIW
>>
>> Where did this "rotator" stuff come from? The thingy
>> that turns your antenna is a "rotor", the person doing
>> the turning is the "rotator". My dictionary even says
>> that. Guess it's sort of like "destinated", a word made
>> up by stupid people?
>> 'Doc
>

3386. Re: INTEFERENCE FROM TV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 00:10:13 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b9s1lbkqo1@slb5.atl.mindspring.net>
Source record: 118088

"LMHODNETT" <lmhodnett@aol.com> wrote in message
news:20030513192002.13815.00000381@mb-m28.aol.com...
> When listening to HF our tv causes severe shrill noises on many
frequencies.
> It becomes virtually impossbile to copy and station other than an
extremely
> strong one. I was told to try a high pass filter on the tv. This did not
> work. I then put it on my receiver. It did work, but it blocked all
ability
> to receive anything. Could someone suggest what I might do to correct
this
> problem, besides buy a new tv?? Please correspond to my e-mail address.
>
> Thnaks,
>
> Larry

Is it perchance a RCA consule set? If so ... buy another set. RCA dont
give a rip and has NO IDEA what to do about it.

The major problem is the switching power supply is putting out garbage.

Un plug it when you want to play HF. Or move away from the house....like I
did.

Dan/W4NTI

3387. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 00:39:44 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <j143cv4sm2ginamj1uaiuastv0m9r14hvl@4ax.com>
Source record: 118089

On Wed, 14 May 2003 00:01:50 GMT, Roger Halstead <rdhalste@tm.net>
wrote:

>On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
><t-tammaru@home.com> wrote:
>
>>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>>site lists rotators. I don't buy the second part of your argument either. A
>>cement mixer is a machine - not the person who mixes cement.
>
>Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
>hoe and a big trough made for mixing cement is called the cement
>mixer.
>
>If you call a person who runs, a runner, and one who swims a swimmer,
>what do you call one who hoes beans?
>
>Roger Halstead (K8RI EN73 & ARRL Life Member)

A cultivator!

Russ

3388. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 01:08:03 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <u653cv42lrkosj5mfq942itnp4dfdcuhcr@4ax.com>
Source record: 118090

On Wed, 14 May 2003 00:01:50 GMT, Roger Halstead <rdhalste@tm.net>
wrote:

|On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
|<t-tammaru@home.com> wrote:
|
|>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
|>site lists rotators. I don't buy the second part of your argument either. A
|>cement mixer is a machine - not the person who mixes cement.
|
|Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
|hoe and a big trough made for mixing cement is called the cement
|mixer.

NO. He is mixing "CONCRETE". Cement is glue or as my materials
science friends would say, "adhesive."

Cement is one of the components, along with aggregate, sand and water
that constitute concrete.

3389. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 02:17:19 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC1A72F.1215FCAC@cwis.net>
Source record: 118091

VHFRadioBuff,
That's right. Reward and legitimize stupidity,
that way you'll get more of it.
'Doc

3390. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 02:21:17 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC1A81D.EB586976@cwis.net>
Source record: 118092

Tarmo,
You find stupidity everywhere. Or, another way of saying it is that an idiot knows no bounds.
'Doc

3391. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 02:27:55 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC1A9AB.E887443D@cwis.net>
Source record: 118093

Thierry,
Really? As with any generalization, it's just not
true in all cases. In this case especially...
'Doc

3392. Re: Comet GP-9 antenna Lightning damage

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 02:38:29 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <F_hwa.316293$Si4.268045@rwcrnsc51.ops.asp.att.net>
Source record: 118094

Short of an Grid Drip Meter or X-ray you would have to
open the insulator or radome.

I have not tried the MFJ analyzer for troubleshooting the Comets

--
Do not use Reply (spam logger & catcher).
Reply to newsgroup or through ARRL forwarding service to W9GB

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:9cb2cvc57m8rksml5a5cs0mnrg6uv4jfpm@4ax.com...
> On Tue, 13 May 2003 03:03:30 GMT, "G.Beat" <abuse@comcast.com> wrote:
>
> >The Comet GP-9 is a 2m/70cm dual band vertical base antenna. It is
> >constructed of a three section heavy duty fiberglass radome with
> >nonconducting ABS section connections to eliminate corrosion and help
reduce
> >stray RF, ensuring a clean radiation pattern. Like all Comet antennas, it
is
> >pre-tuned, so installation is quick and easy, just put the three sections
> >together, tighten them up, and secure them to a mast with the supplied
> >stainless steel brackets.
> >
> >http://www.cometantenna.com/base.html
> >
>
> But...Does it have a tuning unit in the base?
> I also have one that took a direct hit. The insides are good (took
> 'em apart and cleaned it", but it won'd load.
>
> So, either the base insulator is shot, or if there is a tuning unit
> that is shot.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
> >Home Page
> >http://www.natcommgroup.com/index.php
> >
> >If you would like to talk with customer service please call
> >800/962-2611. A real voice will (usually) answer.
>

3393. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 03:00:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qac3cvom0v5q6qjut0ain0ts425f96c6u7@4ax.com>
Source record: 118095

On Tue, 13 May 2003 22:27:43 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:
> plus a so-called SWR meter.
plus a so-called program....

That's how we got here, isn't it? :-)

73's
Richard Clark, KB7QHC

3394. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 03:15:02 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030513231502.09482.00000248@mb-m21.aol.com>
Source record: 118096

>VHFRadioBuff,
> That's right. Reward and legitimize stupidity,
>that way you'll get more of it.
> 'Doc

And you'd rather have everyone's inflections, accents and dialect's be the same? A little intollerant of you, dontcha think?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3395. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 03:17:34 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030513231734.09482.00000249@mb-m21.aol.com>
Source record: 118097

>You just can't be too hard on a language in which fat chance and slim
>chance mean the same thing.
>
>Roy Lewallen, W7EL
>

It's said that English is one of the hardest languages to learn...
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3396. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 03:30:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t2e3cvs18jqd790rqkfsiu4oq396b3lk1j@4ax.com>
Source record: 118098

On 14 May 2003 03:17:34 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:
>It's said that English is one of the hardest languages to learn...
Especially so for the English speaking.

3397. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 03:35:02 UTC
From: tdonaly@aol.com
Message-ID: <20030513233502.28376.00000245@mb-m18.aol.com>
Source record: 118099

Roger Halstead wrote,
>
>On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
><t-tammaru@home.com> wrote:
>
>>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>>site lists rotators. I don't buy the second part of your argument either. A
>>cement mixer is a machine - not the person who mixes cement.
>
>Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
>hoe and a big trough made for mixing cement is called the cement
>mixer.
>
>If you call a person who runs, a runner, and one who swims a swimmer,
>what do you call one who hoes beans?
>
>Roger Halstead (K8RI EN73 & ARRL Life Member)
>www.rogerhalstead.com
>N833R World's oldest Debonair? (S# CD-2)
>>

Yes, and it means a bust in the beezer if you call the person
what I think you want to call him. (Or her.)
73,
Tom Donaly, KA6RUH

3398. Re: Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:00:10 UTC
From: Roger Leone <arleone.takethisout.@inreach.com>
Message-ID: <lcjwa.933$K8.355@news.inreach.com>
Source record: 118100
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Why can't RF transformers use plastic or air
cores? (They would be much cheaper.)

Jason:

I seem to recall that the 0 (zero) mix toroids from Amidon have the same permeability as air and contain no ferrite or powdered iron. They are useful in the VHF region and otherwise have the same benefits as other toroids.

Roger K6XQ

3399. Re: Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:30:07 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <mfh3cv4aqts4gdabvdubu65s1vei34ei9i@4ax.com>
Source record: 118101

On Tue, 13 May 2003 03:38:30 -0500, 'Doc <w5lz@cwis.net> belch-spoke these words:

>FWIW
>
> Where did this "rotator" stuff come from? The thingy
>that turns your antenna is a "rotor", the person doing
>the turning is the "rotator". My dictionary even says
>that. Guess it's sort of like "destinated", a word made
>up by stupid people?
> 'Doc

Don't shoot the messenger. That's what RS calls it.

And destinated is not a word made up by stupid people, unless you consider 90% of all hams in San
Diego County stupid...

John

3400. Re: Basic Lightning Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:32:11 UTC
From: don bryant <dba@yebo.co.za>
Message-ID: <b9sifn$c9c$1@ctb-nnrp2.saix.net>
Source record: 118105

Yep,

Side Flashes are the reason, or a main reason, for not standing under trees during 'incoming'. And the "protection zone" of a tower doesn't mean you are safe when you are too close to it. We get such 'lovely' stuff in Johannesburg.

Don ZS6BTP
H. Adam Stevens <solo@totalaccess.net> wrote in message
news:vbtjq7pikh67b3@corp.supernews.com...
> These sorts of things bear repeating from time-to-time.
> Thanks for the thread.
> H.
> NQ5H
>
> "Mike Luther" <mike.luther@ziplog.com> wrote in message
> news:vbtfbe7dfjgne3@corp.supernews.com...
> > Yep .. and the most horizontal killer strike that has been documented
> > that I've heard about was the one that was on PBS a while back. They
> > traced a specific strike on the TV sferics network to a bolt which was
> > clearly documented to the exact time and place on the sferics data
> > collection system. It then traveled some 20 miles horizontally in the
> > Colorado area, if my memory is correct. After romping some 20 miles,
> > much of it through perfectly clear air, it struck, in clear air, and
> > killed a golfer on a golf course completely out of the blue.
> >
> >
> > Tarmo Tammaru wrote:
> >
> > >I have seen that. Some years ago I was looking out the window at work
> when a
> > >thunderstorm passed through. There was a 200 - 300 foot commercial
tower
> > >about a mile away. The tower got hit twice during a 5 minute interwal.
> Both
> > >times the hit was about 1/3 the way up from the bottom.
> > >
> > >Tam/WB2TT
> > >
> > >"David Robbins" <k1ttt@arrl.net> wrote in message
> > >news:uqidndGE8OFHESCjXTWcpA@crocker.com...
> > >
> > >
> > >>that is true, it isn't always the tallest structure, or even the top
of

> a
> > >>structure that gets hit. in my work i have seen some interesting
> pictures
> > >>of lighting coming down then going sideways into power lines. also
the
> > >>sides of the empire state building sometimes get hit well below the
> > >>
> > >>
> > >antennas
> > >
> > >
> > >>at the top.
> > >>
> > >>
> > >.....................
> > >
> > >
> > >
> > >
> >
> > --
> >
> >
> > --> Sleep well; OS2's still awake! ;)
> >
> > Mike Luther
> >
>
>

3401. Re: Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:34:42 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <fqh3cvor3dfi9950jps900becae0q9hdfv@4ax.com>
Source record: 118102

On Tue, 13 May 2003 20:39:44 -0400, Russ <carlzomer@hotmail.com> belch-spoke these words:

>On Wed, 14 May 2003 00:01:50 GMT, Roger Halstead <rdhalste@tm.net>
>wrote:
>
>>On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
>><t-tammaru@home.com> wrote:
>>
>>>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>>>site lists rotators. I don't buy the second part of your argument either. A
>>>cement mixer is a machine - not the person who mixes cement.
>>
>>Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
>>hoe and a big trough made for mixing cement is called the cement
>>mixer.
>>
>>If you call a person who runs, a runner, and one who swims a swimmer,
>>what do you call one who hoes beans?
>>
>>Roger Halstead (K8RI EN73 & ARRL Life Member)
>
>A cultivator!
>
>Russ

But that doesn't mean that said person is a member of a cult.

John

3402. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:35:30 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305132035.2a786106@posting.google.com>
Source record: 118103

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC157D6.6060906@ieee.org>...
> Dr. Slick wrote:
> > Put your thinking cap on, you don't need to know the forward and
> > reflected currents to know the swr.
>
> Isn't a directional wattmeter a lot more convenient than chopping into
> the coax and trying to locate and measure the Imin and Imax points?
>

My point is that you don't need to know the forward and reflected
currents to find the SWR. You can do this with the min and maxes.

> > I
> > have successfully defended the concept that absolutely no current
> > flows into a 1/4 wave shorted loss-less stub.
>
> Nope, you haven't. You haven't shown that forward current is prohibited
> from entering a stub and reflected current is prohibited from exiting
> a stub. All you have shown is that those two currents that are flowing
> uninhibited into and out of the stub are equal in magnitude and opposite
> in phase and thus *cause* the superposition to a net *effect* of zero.

I understand your point, but the current (which you insist on
calling "net") is still going to be zero, just like an open, looking
into a 1/4 wave shorted lossless stub.

Look again:

100w SGCL--------random-feedline-------+---1/4WL same feedline--short
equals
100w SGCL--------random-feedline-------+open
for a lossless stub

> That certainly doesn't mean that no current flows into or out of a 1/4WL
> shorted loss-less stub. In fact, since the net zero current exists only
> at a point with non-zero current on each side of that point, it actually
> proves that forward and reflected current waves are flowing into and out
> of the stub.
>

That's untrue, if you look at the above diagram, the current on
the right of the open circuit on the bottom has absolutely no current
flowing anywhere to the right.

> > I did disagree with your statement, "Stubs, with their near
> > infinite SWR are as lossy as they can possibly be."

> >
> > This is incorrect, as as infinite SWR requires a loss-less
> > situation.
>
> There you go with another straw man. I did NOT say "infinite SWR".
> Infinite SWR's are impossible in reality. I said "near infinite SWR".
> The SWR in any stub is as near infinity as it can possibly get along
> with losses that are as high as they can possibly be.

Of course infinite SWRs are ideal. But even "near infinite SWR"
implies a pretty damn high number. Would you say 10,000 is close to
infinite? So stubs with a 10,000:1 SWR are "as lossy as they can
possibly be."?

Absolutely incorrect! They are as loss-LESS as can be!

Hit the books more, son.

Slick

3403. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:41:05 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305132041.360311df@posting.google.com>
Source record: 118104

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC15954.3090201@ieee.org>...
> Dr. Slick wrote:
> > All i care about is the net current, shit-brain! All i need to
> > know is the min and max currents or voltages.
>
> How many cars use the Golden Gate Bridge in a day? You would say
> none since the Northbound cars and Southbound cars are equal in
> number. So we don't need the bridge at all since the *net* vehicle
> traffic flow approaches zero. Please contact the Golden Gate Bridge
> Authority and tell them they have been wasting their money all
> those years. :-)

I'll contact them when you can show me the standing waves in the traffic
there! And how you can equal traffic cars with coulombs!

What a ridiculous argument!

Slick

3404. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 04:42:31 UTC
From: don bryant <dba@yebo.co.za>
Message-ID: <b9sihqcal1@ctb-nnrp2.saix.net>
Source record: 118106

Russ,
Yeah, me too, hellbent.The only thing I have found is NOKHQ@AOL.COM. I guess you have found this. He speaks of an all band 160 - 10 system. His design freq is 10 Mtrs and I assume one built for that would work down to 160??
Please copy me on anything you find and will do same.

Don ZS6BTP
xW4PZQ
Russ <carlzomer@hotmail.com> wrote in message news:d0atbv4ler1asjf1q9cb42luid825use0c@4ax.com...
> On Sat, 10 May 2003 22:11:29 -0600, "RoyaltyFreePhotos.com"
> <"rffimages"@yahoo.comNO@SPAMyahoo.com> wrote:
>
> >I am hell bent on the idea of building a Sturba Curtain for 10 meters
> >this spring. I have some good plans and formulas. Does anyone have any
> >actual experience building one of these things?
> >
>
> A guy in a club I belong to has one and I've researched it pretty
> thoroughly. Do a web search on "sterba" and you will find a good bit
> of data. They are extremely directional front and back and the more
> bays you add, the more the gain goes up and the more narrow the
> pattern gets. It's a decent antenna for working one area of the world
> consistantly. That's why AT&T used them on overseas HF circuits.
>
> Russ
>

3405. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 05:08:09 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC1CF39.5090208@ieee.org>
Source record: 118107

Dr. Slick wrote:
> My point is that you don't need to know the forward and reflected
> currents to find the SWR. You can do this with the min and maxes.

How do you know the values of the min and maxes?

> 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> equals
> 100w SGCL--------random-feedline-------+open
> for a lossless stub

Those are not the same. In the second example, all of the reflections
are happening at the open. In the first example, none of the reflections
are happening at the open. In the first example, all of the reflections
are happening at the short.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3406. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 05:09:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC1CF81.90505@ieee.org>
Source record: 118108

Dr. Slick wrote:
> What a ridiculous argument!

I'm glad you agree. Most net arguments are ridiculous.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3407. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 05:44:18 UTC
From: Wayne Watson <mtnviews@earthlink.net>
Message-ID: <3EC1D7C4.C5B78E58@earthlink.net>
Source record: 118109

OK, what's a sweep L?

Roger Halstead wrote:

> On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
>
> >
> >
> >Wayne,
> > If you've solved your problem this is a little late,
> >but still a good idea to keep in mind.
> > When making entries like this, it's a good idea to
> >'cap' the outer side with a 90 degree bend of PVC pipe,
>
> Use a "sweep L" instead of a standard 90. It's far, far easier to
> pull (or push) cable through.
>
> All the *stuff* here goes through 3" ID PVC conduit. all 90s are
> actually either a pair of 45s, or a sweep L.
>
> The "old" installation was 5" plastic sewer pipe with a water trap
> about 3 feet outside the wall. The trap was a Y with one side down and
> capped. The cap had several 1/8 th inch holes at the bottom to let
> water drain into the back fill/sand/
>
> Both the old and new come through the basement wall about 2 feet below
> the surface. The conduit (and the old pipe) used the yellow expansion
> foam to seal it in the wall (inside and out)
>
> The pipe is sealed at the end where it comes into the basement.
>
> Where the "pipe" comes through a wall and has an opening "outside", I
> prefer to seal it at the outside end. The reason being am inside seal
> may keep critters out, but it also gives the, a real handy nesting
> spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
> crannies of the big satellite dish alone last summer. They built a
> nest in the junction box on the tower (before I sealed it). The durn
> things are also inside the mast at the top of the tower. That's the
> mast from the rotor to the 144/440 arrays and that pipe is over 50
> feet long.
>
> Working on the rotor at 80 feet with a bunch of *big* nasty tempered
> Yellow Jackets buzzing around my head is not my idea of fun.
> Course, I only got stung 4 times last Summer.
>

> >ot a 'dryer vent'. (Point the 90 degree adapter down to
> >keep the rain out.) It also makes it easier to run more
> >or different lines later. If a 1" hole will serve your
> >purpose that's good, but bigger is better (more lines,
> >easier to run them). 'Stop' the pipe with steel wool, or
> >screening to keep critters out...
>
> I much prefer the soft (white, Dap) foam instead of the steel wool or
> screening. It's much more efficient and easier to handle.
>
> It also keeps the draft out, or in, as the case may be.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
> > 'Doc

--
Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada City, CA

"In the end, our society will be defined not only by what we create,
but by what we refuse to destroy." --John C. Sawhill, The Nature Conservancy

Web Page: <home.earthlink.net/~mtnviews>
Imaginarium Museum: <home.earthlink.net/~mtnviews/imaginarium.html>

3408. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 06:39:44 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC1E4B0.90979F5F@cwis.net>
Source record: 118110

VHFRadioBuff,
Would I rather have, "inflections, accents and dialect's be
the
same?", I couldn't care less. Which is "destinated',
inflection,
accent, or dialect? I can tell we ain't playing in the same
'ball-
park'...
'Doc

3409. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 06:42:29 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC1E555.52C4F5C@cwis.net>
Source record: 118111

"Dr. John" said;
----(in part)----
> And destinated is not a word made up by stupid people, unless you consider 90% of all hams in San
> Diego County stupid...
>
> John

Bitting my tongue...
'Doc

3410. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 06:57:01 UTC
From: - = krusty = - <18@mailbox.co.za>
Message-ID: <3ec1e8fe$0$225@hades.is.co.za>
Source record: 118112

<snip>
> Unfortunately after the high winds last week end the antennas are
> about 45 degrees off and there is about 15 degrees of play. The
> antennas swing back and forth, but the mast out of the rotor doesn't.
> That means the shear pins holding the masts together are either almost
> shot, or the holes in the mast have elongated. Either way it means a
> tower climb as soon as we get nice weather, which hopefully will be
> tomorrow.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
> >
> >
> >Stephan
>
I am very impressed! Might just be overkill for my purposes tho! :-) I'd
love to get into HAM, but what with all my other hobbies (flying, flying and
flying) draining my accounts, I just can't justify the cost!
-c.

3411. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 07:39:47 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <6is3cvcrteie7h1i4jn5rdfkrrtjv08n3u@4ax.com>
Source record: 118113

On Wed, 14 May 2003 05:44:18 GMT, Wayne Watson
<mtnviews@earthlink.net> wrote:

>OK, what's a sweep L?

They are like a 90, except they make a "sweeping curve. A sweep L for
3" conduit would have about a foot to foot and a half radius.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Roger Halstead wrote:
>
>> On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
>>
>> >
>> >
>> >Wayne,
>> > If you've solved your problem this is a little late,
>> >but still a good idea to keep in mind.
>> > When making entries like this, it's a good idea to
>> >'cap' the outer side with a 90 degree bend of PVC pipe,
>>
>> Use a "sweep L" instead of a standard 90. It's far, far easier to
>> pull (or push) cable through.
>>
>> All the *stuff* here goes through 3" ID PVC conduit. all 90s are
>> actually either a pair of 45s, or a sweep L.
>>
>> The "old" installation was 5" plastic sewer pipe with a water trap
>> about 3 feet outside the wall. The trap was a Y with one side down and
>> capped. The cap had several 1/8 th inch holes at the bottom to let
>> water drain into the back fill/sand/
>>
>> Both the old and new come through the basement wall about 2 feet below
>> the surface. The conduit (and the old pipe) used the yellow expansion
>> foam to seal it in the wall (inside and out)
>>
>> The pipe is sealed at the end where it comes into the basement.
>>
>> Where the "pipe" comes through a wall and has an opening "outside", I
>> prefer to seal it at the outside end. The reason being am inside seal
>> may keep critters out, but it also gives the, a real handy nesting
>> spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and

>> crannies of the big satellite dish alone last summer. They built a
>> nest in the junction box on the tower (before I sealed it). The durn
>> things are also inside the mast at the top of the tower. That's the
>> mast from the rotor to the 144/440 arrays and that pipe is over 50
>> feet long.
>>
>> Working on the rotor at 80 feet with a bunch of *big* nasty tempered
>> Yellow Jackets buzzing around my head is not my idea of fun.
>> Course, I only got stung 4 times last Summer.
>>
>> >ot a 'dryer vent'. (Point the 90 degree adapter down to
>> >keep the rain out.) It also makes it easier to run more
>> >or different lines later. If a 1" hole will serve your
>> >purpose that's good, but bigger is better (more lines,
>> >easier to run them). 'Stop' the pipe with steel wool, or
>> >screening to keep critters out...
>>
>> I much prefer the soft (white, Dap) foam instead of the steel wool or
>> screening. It's much more efficient and easier to handle.
>>
>> It also keeps the draft out, or in, as the case may be.
>>
>> Roger Halstead (K8RI EN73 & ARRL Life Member)
>> www.rogerhalstead.com
>> N833R World's oldest Debonair? (S/N CD-2)
>> > 'Doc

3412. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 07:47:39 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <8os3cvknqfedds7o0s7jcfmk7erd6a1l8e@4ax.com>
Source record: 118114

On Tue, 13 May 2003 20:39:44 -0400, Russ <carlzomer@hotmail.com>
wrote:

>On Wed, 14 May 2003 00:01:50 GMT, Roger Halstead <rdhalste@tm.net>
>wrote:
>
>>On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
>><t-tammaru@home.com> wrote:
>>
>>>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>>>site lists rotators. I don't buy the second part of your argument either. A
>>>cement mixer is a machine - not the person who mixes cement.
>>
>>Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
>>hoe and a big trough made for mixing cement is called the cement
>>mixer.
>>
>>If you call a person who runs, a runner, and one who swims a swimmer,
>>what do you call one who hoes beans?
>>
>>Roger Halstead (K8RI EN73 & ARRL Life Member)
>
>A cultivator!

Actually there is a cultivator which is quite different than a hoe.
They used to only do two rows at a time and were pulled behind a team
of horses. today's cultivators are many rows wide and are pulled
behind tractors.
The darn things are so big they have to fold the ends up into the air
to get them down a road.

I had an uncle who cultivated beans with a two row horse drawn
cultivator well into the 1990s. He'd point the horses down the rows,
get 'em going and then sleep till they got tot he other end where
they'd stop and wait for him to wake up. On a tractor you don't get
the luxury of taking a nap. It usually results in a bad case of
cultivator blight.

There may be things that take less brains than the first time through,
cultivating beans, but I can't think of any.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S/N CD-2)

>
>Russ

3413. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 07:51:26 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <i5t3cvo9asqeor4ogv3fblg3i5o5532f09@4ax.com>
Source record: 118115

On Tue, 13 May 2003 18:08:03 -0700, Wes Stewart <n7ws@#arrl.net>
wrote:

>On Wed, 14 May 2003 00:01:50 GMT, Roger Halstead <rdhalste@tm.net>
>wrote:
>
>|On Tue, 13 May 2003 13:14:10 -0400, "Tarmo Tammaru"
>|<t-tammaru@home.com> wrote:
>|
>|>Here is where: both the AES and HRO catalogs list rotators. The Hygain web
>|>site lists rotators. I don't buy the second part of your argument either. A
>|>cement mixer is a machine - not the person who mixes cement.
>|
>|Ah, but the guy who mixes the cement with a hoe and wheel barrow, or a
>|hoe and a big trough made for mixing cement is called the cement
>|mixer.
>
>NO. He is mixing "CONCRETE". Cement is glue or as my materials
>science friends would say, "adhesive."

And like the rotator at radio shack you can go to most any lumber yard
and purchase either concrete or cement in bags of 40, 60, and 80#
The terms have become pretty much interchangeable.

Many of the big "cement" mixers are sold as cement mixers and not
concrete mixers.

>
>Cement is one of the components, along with aggregate, sand and water
>that constitute concrete.

Yup and he's mixing it in with the aggregate.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3414. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 07:53:37 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <5dt3cvoerg2qsciqsnav8h1siabj550hco@4ax.com>
Source record: 118116

On Tue, 13 May 2003 21:30:07 -0700, Dr. John <frellyou@privacy.net>
wrote:

>On Tue, 13 May 2003 03:38:30 -0500, 'Doc <w5lz@cwis.net> belch-spoke these words:
>
>>FWIW
>>
>> Where did this "rotator" stuff come from? The thingy
>>that turns your antenna is a "rotor", the person doing
>>the turning is the "rotator". My dictionary even says
>>that. Guess it's sort of like "destinated", a word made
>>up by stupid people?
>> 'Doc
>
>Don't shoot the messenger. That's what RS calls it.
>
>And destinated is not a word made up by stupid people, unless you consider 90% of all hams
in San
>Diego County stupid...

Actually it originated with the CB crowd and has carried over.
It was a common term from early on with that crowd, but only became
well used by hams in recent years.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>John

3415. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 12:00:34 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC22FB4.6010006@attbi.com>
Source record: 118117

>>
>>If you call a person who runs, a runner, and one who swims a swimmer,
>>what do you call one who hoes beans?
>>
>>Roger Halstead (K8RI EN73 & ARRL Life Member)
>
>
> A cultivator!
>
> Russ
>
NO! NO! NO! James Jones [Jonestown Jones] is a cultivator!!

Try again! A beaner?? But I thought that was a baseball pitcher <grin>

Deacon Dave, W1MCE

3416. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 12:15:17 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <inc4cvsa2gr72anagqgqphvsrq3qr485jp@4ax.com>
Source record: 118020

On Wed, 14 May 2003 06:42:31 +0200, "don bryant" <dba@yebo.co.za>
wrote:

>Russ,
>Yeah, me too, hellbent.The only thing I have found is NOKHQ@AOL.COM. I guess
>you have found this. He speaks of an all band 160 - 10 system.

How does a series of 10 meter dipoles work 160 meters? Doesn't make
sense, even with a tuner.

Bob
k5qwg

>His design
>freq is 10 Mtrs and I assume one built for that would work down to 160??
>Please copy me on anything you find and will do same.
>
>Don ZS6BTP
>xW4PZQ
>Russ <carlzomer@hotmail.com> wrote in message
>news:d0atbv4ler1asjf1q9cb42luid825use0c@4ax.com...
>> On Sat, 10 May 2003 22:11:29 -0600, "RoyaltyFreePhotos.com"
>> <"rffimages"@yahoo.comNO@SPAMyahoo.com> wrote:
>>
>> >I am hell bent on the idea of building a Sturba Curtain for 10 meters
>> >this spring. I have some good plans and formulas. Does anyone have any
>> >actual experience building one of these things?
>> >
>>
>> A guy in a club I belong to has one and I've researched it pretty
>> thoroughly. Do a web search on "sterba" and you will find a good bit
>> of data. They are extremely directional front and back and the more
>> bays you add, the more the gain goes up and the more narrow the
>> pattern gets. It's a decent antenna for working one area of the world
>> consistantly. That's why AT&T used them on overseas HF circuits.
>>
>> Russ
>>
>

3417. FS HYGAIN TAPE MEASURE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 12:21:03 UTC
From: airwavesmith@aol.com
Message-ID: <20030514082103.09545.00000001@mb-m13.aol.com>
Source record: 118019

One Hy Gain Tape Doublet DIPOLE . A rare find. $160 shipped and insured.
Can be seen also at DAYTON HAMVENTION.
e mail at airwavesmith@aol.com
see you all there!

3418. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 12:28:41 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305140428.df75589@posting.google.com>
Source record: 118118

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote in message
news:<20030513122359.09436.00000324@mb-m02.aol.com>...
> >VHFRadioBuff,
> > English majors? I don't expect much, especially in view
> >of what schools are turning out these days, but everyone
> >should know how to use the common language. Destinated...?
> > 'Doc
>
> What common language? No such thing. What's language with slang and without
> other words developing? Destinated is a ham thing, kind of like "73's" as if
> you're saying multiple good bye's when it's really "73".

I first heard "destinated" on 27 Mhz and not when it was a ham band.
Along with "good buddy", "skip shooting", "county mounties", "local
yokels" and a flock of other CB colloquialisms which migrated into ham
radio. Something about repeater pollution via the assinination of
English and zero wpm code tests . . .

> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)

Brian w3rv/KLK1937

3419. Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 13:00:50 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <66rwa.3123$823.2861@news1.east.cox.net>
Source record: 118021

There is an article on eHam about "Drilling Holes" that makes this assertion:

"And keep in mind, a short antenna mounted on the roof just might be superior to a longer one mounted on the bumper, all else being equal."

This is exactly my dilemma. I have a short Yaesu ATAS 100 mounted at roof level using a trunk lip mount attached to the top of the door. The base of the antenna is about 6 feet high. It gets out but so does the proverbial wet noodle.

If I mount a longer more substantial screwdriver antenna to the rear bumper it will only be 2 feet off the ground and the lower section will only be inches from about two feet of body before it gets in the clear.

So, has anyone got scientific proof of the short/high vs. long/low antenna quandary? This is beyond my ability to model with EZNEC but maybe someone out there understands it better. I am not interested in anecdotal stories about DX worked - we've all had our share.
--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64

3420. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 13:10:14 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030514091014.01523.00000007@mb-m28.aol.com>
Source record: 118022

>VHFRadioBuff,
> Would I rather have, "inflections, accents and dialect's be
>the
>same?", I couldn't care less. Which is "destinated',
>inflection,
>accent, or dialect? I can tell we ain't playing in the same
>'ball-
>park'...
> 'Doc

It's called Slang. You might have heard of it once or twice. Don't be so
intollerant of people that are different than you. Others on this newsgroup
might start wondering about you.
=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3421. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 13:11:36 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030514091136.01523.00000008@mb-m28.aol.com>
Source record: 118023

>I first heard "destinated" on 27 Mhz and not when it was a ham band.
>Along with "good buddy", "skip shooting", "county mounties", "local
>yokels" and a flock of other CB colloquialisms which migrated into ham
>radio.

And we all know that when you hear something for the first time, it originated
where ever YOU heard it, right?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3422. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 13:24:06 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EC24360.7050707@tampabay.rr.com>
Source record: 118024

hey buck
i think what you where reading was intended for VHF/UHF mobile rather
than HF
what they where saying was mounting a 1/4 wave in the middle of the roof
would work as good or better than a 5/8th wave mounted on the trunk deck
or bumper mounter when you mount a 5/8th wave like that it gets
directional and also has the possiblity of a poor ground where as the
roof mounted 1/4 wave has a wonderful ground plane of the entire roof

the thing you have to watch for with any HF antenna mobile is grounding
those antennas require a very good ground and it is some times hard to
obtain
good luck

3423. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 13:35:39 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC245FB.3070606@attbi.com>
Source record: 118025

The ARRL Antenna Book, Chapter 16 in the 18th edition, goes into
significant practical detail on mobile antennas.

It presents the cases for center versus base loading, techniques for
grounding, matching systems, discussions on antenna location etc. In
addition, numerous calculations are presented to assist you in
determining YOUR PARTICULAR solution.

Deacon Dave, W1MCE
+ + +

Craig Buck wrote:
> There is an article on eHam about "Drilling Holes" that makes this
> assertion:
>
> "And keep in mind, a short antenna mounted on the roof just might be
> superior to a longer one mounted on the bumper, all else being equal."
>
> This is exactly my dilemma. I have a short Yaesu ATAS 100 mounted at roof
> level using a trunk lip mount attached to the top of the door. The base of
> the antenna is about 6 feet high. It gets out but so does the proverbial
> wet noodle.
>
> If I mount a longer more substantial screwdriver antenna to the rear bumper
> it will only be 2 feet off the ground and the lower section will only be
> inches from about two feet of body before it gets in the clear.
>
> So, has anyone got scientific proof of the short/high vs. long/low antenna
> quandary? This is beyond my ability to model with EZNEC but maybe someone
> out there understands it better. I am not interested in anecdotal stories
> about DX worked - we've all had our share.

3424. Re: 10 meter Sturba Curtain???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 14:13:32 UTC
From: richardharrison@webtv.net
Message-ID: <11429-3EC24F0C-10@storefull-2312.public.lawson.webtv.net>
Source record: 118027

Bill wrote:
"I am hell bent on the idea of building a Sterba curtain for 10 meters this spring."

I have built curtains, not Sterbas. See page 8-38 of the 19th edition of the ARRL Antenna Book for Sterbas.

The 8-(1/2-wave)-element example has a gain of 7 to 8 dB over a single element.

The bandwidth of an 8-element dipole array is limited. We had 3 different scales for shortwave broadcast coverage, 6-7 MHz, 9-11 MHz, and 15-17 MHz, due to limited bandwidth of a single model.

We used curtains for the small gain in efficiency over a rhombic. A ham would probably be better off with a rhombic which requires lower supports and is much more frequency tolerant.

Best regards, Richard Harrison, KB5WZI

3425. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 14:26:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC2520F.7040906@ieee.org>
Source record: 118026

Craig Buck wrote:
> So, has anyone got scientific proof of the short/high vs. long/low antenna
> quandary?

My screwdriver is bumper mounted on my pickup, but I use the 3
ft. RV extension on the bottom to make the bottom section six ft.
long. It works like a charm.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3426. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 14:56:28 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305140656.37f035ff@posting.google.com>
Source record: 118029

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC15194.9010009@ieee.org>...
> Roy Lewallen wrote:
> > If I use a 50 ohm parallel resistor and a current source as a model, I
> > simply use a short circuited half wave transmission line to illustrate
> > my point --
>
> Again, for any selected load, if you get different results using a
> Thevenin equivalent circuit than you do using a Norton equivalent,
> then there is something wrong.

Er...ahem, Cecil, I think you know better than that. Roy didn't say
there was anything different at the LOAD end for the two cases of
source, only that there was a difference at the SOURCE end. The
source equivalence stuff applies only to what happens at the load end.
It doesn't say anything about what goes on "inside" the source. One
can build a source which acts like a voltage source with a series
resistance, or like a current source with a shunt resistance, or like
neither of these alone, with respect to the dissipation inside the
source.

Cheers,
Tom

3427. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:04:30 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305140704.5b45643c@posting.google.com>
Source record: 118030

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vc2jrfja3qqn71@corp.supernews.com>...
> Reactance of a lossless stub (1/4 wave short) is a tangent function:
> It is very large either side of zero.
>
> For a parallel LC network:
>
> Xp = (-Xl*Xc)/(Xl - Xc)
> Where Xl is the L reactance and Xc the C reactance.
> This is large near resonance.

Sure, but so is the resistance. Ponder this: at the "half-power"
points away from resonance, what is the resistive component relative
to the resistance at resonance? What is the reactive component at the
same frequencies? Near resonance, between those "half-power" points,
how do the resistive and reactive parts compare? Now, what were the
readings you posted?

For the transmission line stub, all this is very easy to visualize
using a Smith chart. :-) But I realize there are those who don't
believe in using Smith charts. Numerical calculations or just
pondering the formulas works too.

Cheers,
Tom

3428. Re: Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:10:38 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <b9tm9eaor1@freenet9.carleton.ca>
Source record: 118032
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

"Roger Leone" (arleone.takethisout.@inreach.com) writes:
> Why can't RF transformers use plastic or air
> cores? (They would be much cheaper.)
>
> Jason:
>
> I seem to recall that the 0 (zero) mix toroids from Amidon have the same
> permeability as air and contain no ferrite or powdered iron. They are
> useful in the VHF region and otherwise have the same benefits as other
> toroids.
>
> Roger K6XQ
>
>
Of course, it's the toroid shape that gives the coil it's self-shielding,
not the core material. I didn't catch this until Doug DeMaw wrote
about it in the mid-seventies.

The core material is needed because the needed inductance is often large
enough that the core helps, or because one is building a broad-band device
and the permability of a ferrite core works in that favor.

By the time you get to inductances low enough that some sort of core
is unnecessary, you're usually talking of a few turns of wire, and why
waste money on a fancy core at that point, when you can just air wind it?
You're probably going to need shielding anyway at those higher frequencies,
so the self-shielding of the donut-shape may be far less important than
at lower frequencies.

I had not noticed that you could buy neutral toroid cores. Doug DeMaw
showed a few that he had made in that article, I think it was a "Hints &
Kinks", but I've not really stumbled on anything that looked suitable
to make into such cores.

Michael VE2BVW

3429. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:16:56 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC25DE8.3D43C5AE@cwis.net>
Source record: 118031

VHFRadioBuff,
Oooo, I'm worried now. Should I really lower
my expectations and standards so that I fit with
some of the 'other' people on (and off) this NG?
'Doc

3430. ? dipole ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:19:33 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3EC25E93.4050209@rochester.rr.com>
Source record: 118033

I'm in the process of putting up a dipole wire antenna 105' long. Using a 1:4 balun and a pre-selector (MFJ 956) One end of the antenna will be about 35' above ground level the other end about 10' the feed line will be coax rg-8x Is there a difference if I connect the center conductor of the coax vs the shielding to the higher half of the dipole?
How about grounding? I know the junction box is grounded through the house wiring should I take other measures for a ground (8' copper pipe driven into the ground?)
Thanks in advance for your answers

3431. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:51:19 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LZ2cnXGBc45n-F-jXTWcpA@comcast.com>
Source record: 118034

"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in message
news:79p2cvcp29vfoplpggdanelg5scl5tcrsq@4ax.com...
> Cebik has a nice article on a 20 meter wire dipole hung vertically
> from a tree, and fed with twin-lead to a tuner for 30-10 meter
> operation. I'm thinking of building that. I wonder if it would be less
> directional?
>
> Bob
> k5qwg

Bob,

I never tried a vertical dipole, but I think the bottom end is supposed to be at least 1/4 wavelength above ground. This would put the top at 3/4 wavelength - a really good height for a horizontal dipole. I would figure out some way to make it (the horizontal) rotatable, even if that means making it out of wire taped to molding, ant turning it woth heavy string.

Dipoles relly do work. I had a TA33JR triband beam for years, and once on a lark I put up a 20 m dipole, about 10 feet higher up. On paths over 3000 miles, the dipole beat out the "Junior" every time.

Tam/WB2TT

3432. Re: INTEFERENCE FROM TV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 15:57:29 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <99adnTiNv9bt-l-jXTWcqA@comcast.com>
Source record: 118035

The interference is quite possibly coming out the power cord of the TV. I would borrow the split ferrite that is on the VGA cable of your PC, and put it on the TV line cord temporarily; as close as possible to the TV. If that helps, but doesn't cure it, try an AC line filter, with the TV line cord looped up so that the filter is close to the TV. If you don't have a filter on your VGA cable, it is probably in the box the TV came in!

Tam/WB2TT
"LMHODNETT" <lmhodnett@aol.com> wrote in message
news:20030513192002.13815.00000381@mb-m28.aol.com...
> When listening to HF our tv causes severe shrill noises on many
frequencies.
> It becomes virtually impossbile to copy and station other than an
extremely
> strong one. I was told to try a high pass filter on the tv. This did not
> work. I then put it on my receiver. It did work, but it blocked all
ability
> to receive anything. Could someone suggest what I might do to correct
this
> problem, besides buy a new tv?? Please correspond to my e-mail address.
>
> Thnaks,
>
> Larry

3433. Re: ? dipole ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 16:02:11 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <b9tp9bcbs1@slb2.atl.mindspring.net>
Source record: 118036

"Wedgew" <wedgew@rochester.rr.com> wrote in message
news:3EC25E93.4050209@rochester.rr.com...
> I'm in the process of putting up a dipole wire antenna 105' long. Using
> a 1:4 balun and a pre-selector (MFJ 956) One end of the antenna will be
> about 35' above ground level the other end about 10' the feed line will
> be coax rg-8x Is there a difference if I connect the center conductor
> of the coax vs the shielding to the higher half of the dipole?
> How about grounding? I know the junction box is grounded through the
> house wiring should I take other measures for a ground (8' copper pipe
> driven into the ground?)
> Thanks in advance for your answers
>

With a 4 to 1 Balun and 105' just what band is it your trying to operate on?

468/FMHZ determines the length of the antenna. Assuming you want a 1/2
wave length that is.

It matter not which end you hook the center to. It is one big sine wave
anyway.

Just use a ground at the shack.

Dan/W4NTI

3434. Re: ? dipole ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 16:30:36 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3EC26F3A.8060404@rochester.rr.com>
Source record: 118037

for shor wave listening with icon r71A 105' is what the antenna kit
contains.
"Use a ground in the shack "
ground to the center (ground) connector in the wall socket? or rely on
the grounding (3 prong) plug. or drive the copper pipe into the ground.
and run a heavy wire to it and ground the radio?
Thanks for taking the time to answer my post.
I hesitate to post a question on the newsgroups because of all the
trolling and unfavorable signal/noise ratio. Often less than half the
posts have anything to do with radio.
Dan/W4NTI wrote:
> "Wedgew" <wedgew@rochester.rr.com> wrote in message
> news:3EC25E93.4050209@rochester.rr.com...
>
>>I'm in the process of putting up a dipole wire antenna 105' long. Using
>>a 1:4 balun and a pre-selector (MFJ 956) One end of the antenna will be
>>about 35' above ground level the other end about 10' the feed line will
>>be coax rg-8x Is there a difference if I connect the center conductor
>>of the coax vs the shielding to the higher half of the dipole?
>>How about grounding? I know the junction box is grounded through the
>>house wiring should I take other measures for a ground (8' copper pipe
>>driven into the ground?)
>>Thanks in advance for your answers
>>
>
>
> With a 4 to 1 Balun and 105' just what band is it your trying to operate on?
>
> 468/FMHZ determines the length of the antenna. Assuming you want a 1/2
> wave length that is.
>
> It matter not which end you hook the center to. It is one big sine wave
> anyway.
>
> Just use a ground at the shack.
>
> Dan/W4NTI
>
>

3435. antenna integrated with PIN diode!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 16:49:17 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305140849.2453efa7@posting.google.com>
Source record: 118038

Hi there,
I am doing thesis on reconfigurable antenna. This will be
hard to explain but i will try my best. I have to connect a post to
the ground plane of the antenna thru a capacitor and PIN diode like
this.

(post)0---PINdiode---||---GROUND.

Whenever i add PIN diode, its giving me loss however i am able to
switch. Kindly help me in as to which PIN diode to use. I am presently
using UPP1004 and i am working in the 3GHz range. I need your
expertise.

Thank you.

3436. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:11:18 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec278b6$1_2@news.vo.lu>
Source record: 118039

"Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> wrote in message
news:3ec12403$1_1@news.vo.lu...
> Hi,
>
> According rumor or facts - I don't really know - it seems that wire
antennas
> (i.e. dipole) have never been used to work in HF over the 20m band. All
hams
> install vertical (or beams, quad). Why ?

Hi,

What you have told me confirm what I thought at first sight. There are no reason of choosing a vertical from the 20m band and higher in place of dipoles, excepting for cumbersome reasons, rotation of the antenna, etc of course.

I suspect some of my friends to have too sharp opinions sometimes...

Glad that most of you are disagree with me, all such "rumors" are always hard to fight...

Thierry

> 73
> Thierry
> http://www.astrosurf.com/lombry
>
>
>
>

3437. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:15:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC279C1.2000508@ieee.org>
Source record: 118040

Tom Bruhns wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>
>>Roy Lewallen wrote:
>>>If I use a 50 ohm parallel resistor and a current source as a model, I
>>>simply use a short circuited half wave transmission line to illustrate
>>>my point --
>>
>>Again, for any selected load, if you get different results using a
>>Thevenin equivalent circuit than you do using a Norton equivalent,
>>then there is something wrong.
>
> Er...ahem, Cecil, I think you know better than that. Roy didn't say
> there was anything different at the LOAD end for the two cases of
> source, only that there was a difference at the SOURCE end.

Er...ahem, Tom, Roy *CHANGED THE LOAD*. Load number 1 was an open
circuited half wave transmission line. Load number 2 was a short
circuited half wave transmission line. The results at the LOAD end
could not possibly be identical with a changed load.

I repeat: For any unique load, if circuit conditions are different
for a Thevenin equivalent compared to a Norton equivalent, something
is wrong. For any unique load, the Thevenin equivalent results and
Norton equivalent results are supposed to be the same.
--
73, Cecil http://www.qsl.net/w5dxp

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3438. Re: vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:17:17 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec27a1d$1_2@news.vo.lu>
Source record: 118041

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:0eb2cvkhjfqk12d17i3tnegd7s756s6vg2@4ax.com...
> On Tue, 13 May 2003 18:38:04 +0200, "Thierry - ON1SKY"
> <lombrytNOSPAM@hotmail.com> wrote:
>
> >That sounds at first sight identical... Correct or not ?
> >Thank for advices.
> >Thierry
>
> Hi Thierry,
>
> You are expecting too much accuracy from too much variability. Any
> snip
>...
> characteristics?) The joke here is that the casual Ham will prefer
> the ground mounted easier match (with loss included) instead of the
> more efficient, hi-Q elevated cousin.

Hi,

As my English is not perfect to accurately translate your thinking, do you mean that I could get better result using rigid radials twice shorter (or as long if I measure their overall lenght, both sides of the mast) in place of my flexibles ones ?

NB. In all cases I can make some tests screwing small aluminum tubes well cut for each band to the mast.

Thierry

>
> 73's
> Richard Clark, KB7QHC

3439. Re: ? dipole ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:18:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC27A6E.30805@ieee.org>
Source record: 118042

Wedgew wrote:
> I'm in the process of putting up a dipole wire antenna 105' long. Using
> a 1:4 balun and a pre-selector (MFJ 956) One end of the antenna will be
> about 35' above ground level the other end about 10' the feed line will
> be coax rg-8x

Bad idea. The only band that will function well is 20m. Use ladder-line
instead if you want to work any bands except 20m.
--
73, Cecil http://www.qsl.net/w5dxp

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3440. Re: antenna integrated with PIN diode!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:22:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC27B3E.1050200@ieee.org>
Source record: 118043

anand wrote:
> Hi there,
> I am doing thesis on reconfigurable antenna. This will be
> hard to explain but i will try my best. I have to connect a post to
> the ground plane of the antenna thru a capacitor and PIN diode like
> this.
>
> (post)0---PINdiode---||---GROUND.
>
> Whenever i add PIN diode, its giving me loss ...

The PIN diode must be biased for low loss. You don't
show any bias voltage/current at all.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3441. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 17:48:49 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3EC28181.CD5460DF@crosslink.net>
Source record: 118028
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Russ wrote:
>
> So tell me, how are BMW NA, Toyota and Subaru going to tell if the
> damage was caused by RF or lightning?

All service managers hear "the voices". They say (ghostly voice) "It's the customers fault" or "RF or lightning? doesn't matter cuz both are excluded from warranty. Bwoooo"

(c: K3DWW

3442. longwire and QRM in electrical circuit ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 18:01:18 UTC
From: Thierry - ON1SKY <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec2846e$1_1@news.vo.lu>
Source record: 118044

Hi,

I use sometimes, for tests a longwire of about 100 m or so, the numbers of lambda for the 160 and 80m bands are not accurately defined. During my first tests one of the end was attached to the house at chimney level (about 6m high or so). From there I drawed a coax to the RTX.

Using this config, in one of my QTH I experimented severe QRM, noises, like some kind of resonance (huge trembling of low frequencies) that I suspect to be generated by HF waving in the longwire and the domestic electrical circuit... that transmits also voltage and current (other factor, the house is quite old, maybe over 50 years).
It seems also that my neighboors (living in another house) experimented this QRM so I had to stop this configuration as for one moment I thought that my house was exploding or that my plumbing had a severe problem !

Can these noises be generated by the high intensity of voltage waving in the antenna if i.e. the end attached to the house displaying at that time a high value of voltage rather than a node ? This voltage + the one of the house producing this huge QRM by resonance ?

Now I cut the dipole at about 20m from house where begin the coax to the house. Up to now the noise has disappeared. Therefore I think there is some kind of resonance with the domestic electrical circuit. Is this possible ?

Any information is welcome.

Thierry
http://www.astrosurf.com/lombry

3443. Re: vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 18:23:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nav4cvg0btgm984otn9f28g282ofkh1egk@4ax.com>
Source record: 118045

On Wed, 14 May 2003 19:17:17 +0200, "Thierry - ON1SKY"
<lombrytNOSPAM@hotmail.com> wrote:

>Hi,
>
>As my English is not perfect to accurately translate your thinking, do you
>mean that I could get better result using rigid radials twice shorter (or as
>long if I measure their overall lenght, both sides of the mast) in place of
>my flexibles ones ?
>
>NB. In all cases I can make some tests screwing small aluminum tubes well
>cut for each band to the mast.
>
>Thierry

Hi Thierry,

The simple answer: leave things alone. ...b,b,b,but that's no fun!
Read on, then.

As a note pertaining to English and your descriptions. I am presuming
that what you call "rigid" simply means radials (normally 3 or 4)
extending at 90ï¿½ to the radiator. I am also presuming that what you
call "flexible" means radials (normally 3 or 4) that have an angle of
135ï¿½ to the radiator. Flexible otherwise means that the angle can
change when force is applied (like wind) to any radial.

There may be some minor gain variation between the two styles, but it
is not enough to force a choice. As such, "getting a better result"
is not due to gain.

There are more than minor variations between the two styles when it
comes to matching. However, not really enough to force a choice.
Again, "getting a better result" is not due to matching.

If you did match comparisons across the band, then the drooping style
might have a slight advantage, if you are running without a tuner.
Here, "getting a better result" is not so much about better in
results as it is about better in operation. This makes it a judgement
call (personal, not technical, choice).

There is also the physical difference. The ground plane will be the
wider of the two, but also the shorter. The drooping radial will be
taller, but it will also be narrower. If your method of erecting
either of these two styles has geometrical restrictions, you are then
forced to follow the geometry. Thus, for this reason, "getting a
better result" is due to necessity and you cannot say that you made a

choice.

73's
Richard Clark, KB7QHC

3444. What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 18:23:47 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec289b4$1_2@news.vo.lu>
Source record: 118046

Hi,

Due to QRM I leave more and more often my QTH to work in the field in /P.
For a time I used a longwire, now a ground plane vert.6m high.

I would like to know what antenna are you using to work in portable in HF bands, the brand and model.
I have no idea at all of what kind of antenna are usually installed for portable (some hours in the field). I think that many hams work with a vertical -even longer than 8m) for its ease to erect but I suspect some others to use hex-beam or small dipoles.

Your experience interest me (an URL or pics are welcome too)

Thanks in advance

Thierry
http://www.astrosurf.com/lombry

3445. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 18:33:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6j25cv80cak4fgqlp4c45f04o8n0dm380o@4ax.com>
Source record: 118047

On Wed, 14 May 2003 12:15:45 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Er...ahem, Tom, Roy *CHANGED THE LOAD*.

Clearly what Roy changed, and was more interested in getting beyond:
> I declare this to be a "signal generator" and not a "Thevenin source".
Why you drag it back is clearly driven by rhetorical need.

Your never ending publication submission isn't under consideration by
the New York Times, is it?

73's
Richard Clark, KB7QHC

3446. SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 18:48:54 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305141048.6d91376c@posting.google.com>
Source record: 118048

I have a 17m vertical mounted on the rooftop which is giving me slight SWR problems, and I haven't been able to figure out why. I'm hoping someone might have an idea.

The vertical is real simple: 1" Al tubing, held up by polypropylene rope. Where it meets the roof (the roof is galvanized steel sheet) it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union to give it a rim to hold up the antenna.

On the lower part of the union, I placed a steel hose clamp from which 3 1/4 wave radials extend. From there, they run on top of the roof at the roof angle (15%).

What happens is this: no rain, the antenna adjusts to around 1.7 SWR. It works without any problems. Add a 5 or 10 minute drizzle, and the SWR goes up to 2.0, which basically makes the transmitter autoprotect.

At the present I have a couple of theories:

1. Water is getting into the coax. However it doesn't seem likely given that there's a "hood" (a cut off soda bottle) on top of the whole coax assembly, as well as the typical inverted-U configuration to keep water out via gravity.

2. The water is changing the "ground" conductivity beneath the antenna. However it doesn't seem likely that a wet steel roof will change very much with respect to a dry one. Besides that, on one occasion I went up and found that the SWR was reading 2.0 and the roof was visibly dry.

3. The pplene rope is becoming conductive. However, once again I checked and found no noticeable moisture on the rope, and the SWR was still reading 2.0

Aside from that the only thing that occurs to me is that the water is somehow partially shorting the vertical radiator to the radials. But once again, I'm not sure how much of a problem a film of water on top of the PVC along 1 or 2 cm length might represent.

Any ideas?

Mario - TI2DLL

3447. Re: Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:09:08 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <e155cv4lp5h69qa50vv367pnooairaaqna@4ax.com>
Source record: 118049

On Wed, 14 May 2003 10:16:56 -0500, 'Doc <w5lz@cwis.net> belch-spoke these words:

>
>
>VHFRadioBuff,
> Oooo, I'm worried now. Should I really lower
>my expectations and standards so that I fit with
>some of the 'other' people on (and off) this NG?
> 'Doc

No, just shut up and be a man instead of bitching like a little girl and flaming topics.

John

3448. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:14:38 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <l655cvk7750b8183ht0odnelr0pg9jopuv@4ax.com>
Source record: 118050

On Wed, 14 May 2003 07:53:37 GMT, Roger Halstead <rdhalste@tm.net> belch-spoke these words:

>On Tue, 13 May 2003 21:30:07 -0700, Dr. John <frellyou@privacy.net>
>wrote:
>
>>On Tue, 13 May 2003 03:38:30 -0500, 'Doc <w5lz@cwis.net> belch-spoke these words:
>>
>>>FWIW
>>>
>>> Where did this "rotator" stuff come from? The thingy
>>>that turns your antenna is a "rotor", the person doing
>>>the turning is the "rotator". My dictionary even says
>>>that. Guess it's sort of like "destinated", a word made
>>>up by stupid people?
>>> 'Doc
>>
>>Don't shoot the messenger. That's what RS calls it.
>>
>>And destinated is not a word made up by stupid people, unless you consider 90% of all
hams in San
>>Diego County stupid...
>
>Actually it originated with the CB crowd and has carried over.
>It was a common term from early on with that crowd, but only became
>well used by hams in recent years.
>
>Roger Halstead (K8RI EN73 & ARRL Life Member)
>www.rogerhalstead.com
>N833R World's oldest Debonair? (S# CD-2)
>>

Interesting. This whole thread brings up the technicality of non-words and when they were
made up.

If 'destinated' is not a word, as Doc says, then does that mean that every time somebody
says it,
they make it up?

John

3449. Re: vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:23:10 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec2979f$1_1@news.vo.lu>
Source record: 118051

No Richard, my radials are not these ones on the Fritzel GPA 404.
Currently my radials, as displayed here,
http://www.astrosurf.com/lombry/Radio/radials-fritzel-gpa404.jpg
are made of wires (flexible I call them, the 3 wires at left) not aluminum
tubes. They are lay on the lawn.
I would like remove them and screw thin tubes (some overall lenght) on the
mast to improve my Q.

By using rigid radials I mean... that does not bend... aluminum tube diam
10mm or so screwed in the mast tube (diam. 30mm), perpendicular to the mast.
Good idea or not ?

Still thanks for your comments.

Thierry

3450. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:31:55 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305141131.5e2e4c63@posting.google.com>
Source record: 118052

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC1CF39.5090208@ieee.org>...
> Dr. Slick wrote:
> > My point is that you don't need to know the forward and reflected
> > currents to find the SWR. You can do this with the min and maxes.
>
> How do you know the values of the min and maxes?
>

You could measure these.

> > 100w SGCL--------random-feedline-------+---1/4WL same feedline--short
> > equals
> > 100w SGCL--------random-feedline-------+open
> > for a lossless stub
>
> Those are not the same. In the second example, all of the reflections
> are happening at the open. In the first example, none of the reflections
> are happening at the open. In the first example, all of the reflections
> are happening at the short.

But since they are identical circuits if you look to the left of
the "+", you can consider that the top situation has reflections at
the "+" too.
In neither case, there is no current (ok, "net", fuck you.. :)
flowing through the "+".

Slick

3451. Antenna Config. Comparisons For Random L Wire ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:38:11 UTC
From: Robert Rose <rgsrose@tiac.net>
Message-ID: <b9vv26$7d0$1@slb1.atl.mindspring.net>
Source record: 118154

For listening only (below 30 MHz), have the following question regarding a random length wire running
around my attic.

For these 3 possibilities, which would be 'best," and what would be the salient differences:

Also, which would be omni or exhibit a preferred direction?

a. runs around the 4 walls, and is soldered back at the beginning, thus forming a loop.

b. runs around the 4 walls, but is not soldered back at the beginning.

c. just an "L", one long, and one short wall.

Thanks,
Bob

3452. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:42:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC29C23.7070005@ieee.org>
Source record: 118053

Thierry wrote:
> I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect ...

A well-performing vertical requires an extensive ground plane
that is not easy to "erect". It's a good guess that most hams
working portable use a dipole of some kind.
--
73, Cecil http://www.qsl.net/w5dxp

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3453. Re: vertical : replacing flexible with rigid radials ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:46:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lj65cv8nl1pi0rpdjh3u04k24vh7dcgvk9@4ax.com>
Source record: 118054

On Wed, 14 May 2003 21:23:10 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

>No Richard, my radials are not these ones on the Fritzel GPA 404.
>Currently my radials, as displayed here,
>http://www.astrosurf.com/lombry/Radio/radials-fritzel-gpa404.jpg
>are made of wires (flexible I call them, the 3 wires at left) not aluminum
>tubes. They are lay on the lawn.
>I would like remove them and screw thin tubes (some overall lenght) on the
>mast to improve my Q.
>
>By using rigid radials I mean... that does not bend... aluminum tube diam
>10mm or so screwed in the mast tube (diam. 30mm), perpendicular to the mast.
>Good idea or not ?
>
>Still thanks for your comments.
>
>Thierry
>
Hi Thierry,

OK, I see it now. I would tie down the wire radials so they don't
move (changing match) after tuning them. Other than that, the
original short answer still works: leave things alone.

Each radial acts as much like a radiator, as does a radiator. How it
acts is another matter. If you have more than 1 radial (for a band)
and each radial is balanced with respect to the other radial(s); then
all radiation from radials will cancel in the far field. This removes
the horizontal component from an otherwise vertical antenna. Balance
is largely identifiable through observation. If two radials, are they
180ï¿½ apart? If three, 120ï¿½? If four, 90ï¿½? And so on.

If you have only 1 radial (for a band); then this is not balanced, and
there is some horizontal component to your radiation. That is not
necessarily bad, it is just not what you might expect. Even here, the
simple answer could still serve.

73's
Richard Clark, KB7QHC

3454. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:46:52 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305141146.1fd3b6b8@posting.google.com>
Source record: 118055

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EC1CF81.90505@ieee.org>...
> Dr. Slick wrote:
> > What a ridiculous argument!
>
> I'm glad you agree. Most net arguments are ridiculous.

I mean YOUR analogy is very ridiculous:

Cecil wrote:
>
> How many cars use the Golden Gate Bridge in a day? You would say
> none since the Northbound cars and Southbound cars are equal in
> number. So we don't need the bridge at all since the *net* vehicle
> traffic flow approaches zero. Please contact the Golden Gate Bridge
> Authority and tell them they have been wasting their money all
> those years. :-)

The analogy to this situation would be two DC current carrying
wires, each moving current in opposite directions. Nowhere would the
current be zero in this case. You should think before you suggest an
analogy.

Cecil also wrote:
>I apologize for being a bad communicator. I hope you will not hold
that
>against me. I am in the upper 1/2 of 1% of intelligence and assume
that
>everyone else is there also, probably a bad assumption, eh? :-)

LOL! Number one, if you are in the upper 1/2 of %1 of
intelligence, how can you even consider that everyone else (the other
99.5%) is up there too? That is really stupid of you.

Number two, after your laughable cars-on-a-bridge analogy, I
think you may barely be above the 40% intelligence mark!

Admit it Cecil, you have difficultly admitting when you are
wrong. This is human nature, so don't feel bad.

Dr. Slick

3455. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 19:55:09 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC29F1D.1060601@ieee.org>
Source record: 118056

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>>How do you know the values of the min and maxes (currents)?
>>
> You could measure these.

Using coax, how would you do that? I cannot think of anything easier than simply using a directional wattmeter. It is pretty easy to measure these current quantities using ladder-line, but it is still not as easy as using a directional wattmeter.

> But since they are identical circuits if you look to the left of
> the "+", you can consider that the top situation has reflections at
> the "+" too.

I don't understand the admonition to put the blinders on when I'm trying to learn something. What possible function can blinders have except to hide the truth? Why would you not look to the right if you are really trying to understand exactly what is happening? Old Wives' Tales really die hard, don't they? Reflections happen at physical shorts and physical open circuits. Reflections do NOT happen at virtual shorts and virtual open circuits. Please take off your blinders and look at the entire situation in reality. That's what scientists do when they are trying to discover the truth. Religious fanatics tell their subjects not to look to the right for fear of what they might discover.
--
73, Cecil http://www.qsl.net/w5dxp

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3456. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 20:00:36 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC2A064.3030901@ieee.org>
Source record: 118057

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>>... probably a bad assumption, eh? :-)
>
> That is really stupid of you.

What's stupid is not knowing the meaning of :-). FYI, that
is how jokes are identified on this newsgroup.

> Admit it Cecil, you have difficultly admitting when you are
> wrong.

Nope, I don't. I was wrong about using the word "null" and
freely admitted it and apologized. Exactly what is it you
think I have been wrong about? You have wound up agreeing
with everything I have said so if I'm wrong, you're also
wrong.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3457. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 20:31:47 UTC
From: tdonaly@aol.com
Message-ID: <20030514163147.28633.00000027@mb-m21.aol.com>
Source record: 118058

Richard Clark wrote,
>
>On Wed, 14 May 2003 12:15:45 -0500, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>
>>Er...ahem, Tom, Roy *CHANGED THE LOAD*.
>
>Clearly what Roy changed, and was more interested in getting beyond:
>> I declare this to be a "signal generator" and not a "Thevenin source".
>Why you drag it back is clearly driven by rhetorical need.
>
>Your never ending publication submission isn't under consideration by
>the New York Times, is it?
>
>73's
>Richard Clark, KB7QHC
>
>

Hi Richard,
are any of the old science fiction magazines still being
published? "Fantasy" at one time might have been interested in
Cecil's theories.
73,
Tom Donaly, KA6RUH

3458. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:07:21 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <0qb5cvob354cn920h80p74j2u8p41ahjlk@4ax.com>
Source record: 118059

On 14 May 2003 11:48:54 -0700, mmelendez@celeridad.net (Q) wrote:

|I have a 17m vertical mounted on the rooftop which is giving me slight
|SWR problems, and I haven't been able to figure out why. I'm hoping
|someone might have an idea.
|
|The vertical is real simple: 1" Al tubing, held up by polypropylene
|rope. Where it meets the roof (the roof is galvanized steel sheet)
|it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union
|to give it a rim to hold up the antenna.
|
|On the lower part of the union, I placed a steel hose clamp from which
|3 1/4 wave radials extend. From there, they run on top of the roof at
|the roof angle (15%).
|
|What happens is this: no rain, the antenna adjusts to around 1.7 SWR.
|It works without any problems. Add a 5 or 10 minute drizzle, and the
|SWR goes up to 2.0, which basically makes the transmitter autoprotect.
|
|At the present I have a couple of theories:
|
|1. Water is getting into the coax. However it doesn't seem likely
|given that there's a "hood" (a cut off soda bottle) on top of the
|whole coax assembly, as well as the typical inverted-U configuration
|to keep water out via gravity.
|
|2. The water is changing the "ground" conductivity beneath the
|antenna. However it doesn't seem likely that a wet steel roof will
|change very much with respect to a dry one. Besides that, on one
|occasion I went up and found that the SWR was reading 2.0 and the roof
|was visibly dry.
|
|3. The pplene rope is becoming conductive. However, once again I
|checked and found no noticeable moisture on the rope, and the SWR was
|still reading 2.0
|
|Aside from that the only thing that occurs to me is that the water is
|somehow partially shorting the vertical radiator to the radials. But
|once again, I'm not sure how much of a problem a film of water on top
|of the PVC along 1 or 2 cm length might represent.
|
|Any ideas?

Is the PVC pipe filling up with water?

Why radials and not a direct connection to the roof?

Why is the SWR so high to start with?

3459. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:17:42 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC2B276.7070802@ieee.org>
Source record: 118060

Tdonaly wrote:
> are any of the old science fiction magazines still being
> published? "Fantasy" at one time might have been interested in
> Cecil's theories.

Tom, Please name me one specific item on which you disagree
with me.

Do you really believe that a virtual short or open can cause
reflections in the absence of a physical impedance discontinuity?

Do you really believe that a Thevenin equivalent source and a
Norton equivalent source can give different results in the external
circuit?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3460. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:29:26 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1052947832.714216@halkan.kabelfoon.nl>
Source record: 118061

```
l
"Thierry" <lombrytNOSPAM@hotmail.com> schreef in bericht
news:3ec289b4$1_2@news.vo.lu...
> Hi,
>
> Due to QRM I leave more and more often my QTH to work in the field in /P.
> For a time I used a longwire, now a ground plane vert.6m high.
>
> I would like to know what antenna are you using to work in portable in HF
> bands, the brand and model.
> I have no idea at all of what kind of antenna are usually installed for
> portable (some hours in the field). I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect but I suspect some
> others to use hex-beam or small dipoles.
>
> Your experience interest me (an URL or pics are welcome too)
>
> Thanks in advance
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>

Thierry,

I use a wire dipole fed trough a balanced feeder (chicken ladder). All home
made using standard electricity wire. I use a small antenna tuner. Read
about the results during my QRP operations in Finland last winter on my
homepage.

I write about it on my homepage under the link 'portable'. You can also find
a picture there.
--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.htm
```

3461. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:33:31 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1052948078.193763@halkan.kabelfoon.nl>
Source record: 118062

Here is my reply with the correct link to my homepage...
--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

Thierry,

I use a wire dipole fed trough a balanced feeder (chicken ladder). All home made using standard electricity wire. I use a small antenna tuner. Read about the results during my QRP operations in Finland last winter on my homepage.

I write about it on my homepage under the link 'portable'. You can also find a picture there.
--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

3462. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:40:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC2B7DE.7CE9A8F5@cwis.net>
Source record: 118063

"Dr. John",
In the words of a famous TV personality,
"Eat my shorts"...
'Doc

3463. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 21:42:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <osd5cvosafr3d06c7j7lbf9j3vnq5ib0ig@4ax.com>
Source record: 118064

On 14 May 2003 20:31:47 GMT, tdonaly@aol.com (Tdonaly) wrote:

>
>Hi Richard,
> are any of the old science fiction magazines still being
>published? "Fantasy" at one time might have been interested in
>Cecil's theories.
>73,
>Tom Donaly, KA6RUH
>

Hi Tom,

Well, lets just say that bad science drives out good science fiction.
At least the New York Times caught wind of their being suckered by a
lazy scribbler - unfortunately they seemed to have taken as long as
some of these threads to show the fellow the door.

73's
Richard Clark, KB7QHC

3464. Re: Correction of error in formula for Q

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 22:02:16 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vc5f7spfs86j54@corp.supernews.com>
Source record: 118065

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0305140704.5b45643c@posting.google.com...
> "H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vc2jrfja3qqn71@corp.supernews.com>...
> > Reactance of a lossless stub (1/4 wave short) is a tangent function:
> > It is very large either side of zero.
> >
> > For a parallel LC network:
> >
> > Xp = (-Xl*Xc)/(Xl - Xc)
> > Where Xl is the L reactance and Xc the C reactance.
> > This is large near resonance.
>
> Sure, but so is the resistance. Ponder this: at the "half-power"
> points away from resonance, what is the resistive component relative
> to the resistance at resonance? What is the reactive component at the
> same frequencies? Near resonance, between those "half-power" points,
> how do the resistive and reactive parts compare? Now, what were the
> readings you posted?
>

MHz R X
1.80 195 474
1.81 228 507
1.82 267 542
1.83 323 579
1.84 380 625
1.85 464 662
1.86 564 693
1.87 670 723
1.88 789 730
1.89 880 721
1.90 929 701
1.91 918 704
1.92 835 717
1.93 715 718
1.94 604 707
1.95 515 675
1.96 403 640
1.97 333 602
1.98 304 547
1.99 253 513
2 00 235 483

And I added: "Alas the MFJ can't tell + from -.";
hoping the reader would realize that the R peak was the resonance.
That's WHY I posted the R data.
Clearly the X data have peaks just either side of resonance; at 1.93 and
1.88 MHz..
Depending on your reactance conventions, one is negative, the other
positive.
Between these two peaks is an X = 0 crossing at resonance.

x
xx x
xxx x xxxxxx
x xx
x
R
R R
R R
R R
R R

I'm purposely taking these data with a toy.
This is amateur radio.
Few hams can afford even an MFJ analyzer.

> For the transmission line stub, all this is very easy to visualize
> using a Smith chart. :-) But I realize there are those who don't
> believe in using Smith charts. Numerical calculations or just
> pondering the formulas works too.
>
> Cheers,
> Tom

73 and a cold 807.
H.
NQ5H

(Isn't that like "cheers and beers" ?)

3465. MA5B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 22:03:09 UTC
From: Robert A Meyer <w8dq@earthlink.net>
Message-ID: <x2zwa.70694$ey1.6410919@newsread1.prod.itd.earthlink.net>
Source record: 118066

I am getting ready to install MA5B,I have it on ground doing final measurements and testing.I would like to hear from anyone who is using this beam.

Bob Meyer W8DQ
Lawrenceburg,IN

3466. Re: longwire and QRM in electrical circuit ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 22:04:46 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1052949959.187306@halkan.kabelfoon.nl>
Source record: 118067

"Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> schreef in bericht
news:3ec2846e$1_1@news.vo.lu...
> Hi,
>
> I use sometimes, for tests a longwire of about 100 m or so, the numbers of
> lambda for the 160 and 80m bands are not accurately defined. During my
first
> tests one of the end was attached to the house at chimney level (about 6m
> high or so). From there I drawed a coax to the RTX.
>
> Using this config, in one of my QTH I experimented severe QRM, noises,
like
> some kind of resonance (huge trembling of low frequencies) that I suspect
to
> be generated by HF waving in the longwire and the domestic electrical
> circuit... that transmits also voltage and current (other factor, the
house
> is quite old, maybe over 50 years).
> It seems also that my neighboors (living in another house) experimented
this
> QRM so I had to stop this configuration as for one moment I thought that
my
> house was exploding or that my plumbing had a severe problem !
>
> Can these noises be generated by the high intensity of voltage waving in
the
> antenna if i.e. the end attached to the house displaying at that time a
high
> value of voltage rather than a node ? This voltage + the one of the house
> producing this huge QRM by resonance ?
>
> Now I cut the dipole at about 20m from house where begin the coax to the
> house. Up to now the noise has disappeared. Therefore I think there is
some
> kind of resonance with the domestic electrical circuit. Is this possible ?
>
> Any information is welcome.
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>
Thierry

Longwire antenna's are very sensitive to electro-smog. When you use a really long wire of 100 m it's likely that you will collect a lot of it. Did you use any ground radials? You should use a huge amount of ground radials with a length of at least the length of the longwire. I doubt if you have an effective antenna, using 100 meters because you need to put the wire up at least half a wave length above the ground. If you don't, your wire will not pick up the strong HAM signals you want to hear but instead a lot of the unwanted electro-smog. By the way Thierry, are there any High Voltage electricity wires near your house?

A dipole is a balanced antenna that doesn't need ground radials to work effectively. It collects hardly any electro-smog. You should also put the dipole up half a wave length. But if you make it a inverted V dipole antenna, it will act more as a vertical antenna and that way the height over the groundlevel isn't that critical anymore. When you use coax, your dipole antenna will work fine on the resonant frequency. You can't tune it properly to other bands without huge losses (unless you use traps or loading coils). When you would feed the dipole antenna using a balanced feeding line and a balanced antenna tuner, you can tune the dipole into any frequency on HF higher than the resonant frequency of the dipole, without having too much loss of signal. Using an unbalanced tuner with 1:4 balun you can expect good results but there can be bands where there is too much loss in the balun and your system will not work so well there. Using a (rare) true balanced antenna tuner will avoid this problem. A well balanced feeder, properly used causes less losses during transportation of the signal than a coax cable.

Of course you can still get QRM caused by polluting electric equipments. The dipole will surely be less sensitive to it than the longwire.
--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

3467. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 22:09:52 UTC
From: "Gregory L. Dome" <gldome@livingston.net>
Message-ID: <vc5fla7jh7lk47@corp.supernews.com>
Source record: 118068

Metal Slinky@ supported by cup hooks and have RG6x hooked to the receiver;
could also be wrapped around antenna if no inputs available.
"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
news:3ec289b4$1_2@news.vo.lu...
> Hi,
>
> Due to QRM I leave more and more often my QTH to work in the field in /P.
> For a time I used a longwire, now a ground plane vert.6m high.
>
> I would like to know what antenna are you using to work in portable in HF
> bands, the brand and model.
> I have no idea at all of what kind of antenna are usually installed for
> portable (some hours in the field). I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect but I suspect some
> others to use hex-beam or small dipoles.
>
> Your experience interest me (an URL or pics are welcome too)
>
> Thanks in advance
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>

3468. Re: longwire and QRM in electrical circuit ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 22:17:15 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1052950702.986218@halkan.kabelfoon.nl>
Source record: 118119

By the way, the other way around (antenna wire to domestic electricity system) it's unlikely that just the long wire causes trouble. If that was the case one couldn't use long metal fences anymore or long ends of barbed wire around the fields. They could in that case cause the same effect as you mentioned. I don't believe they do.
You didn't mention if you were using a transmitter during your experiments. Did you use the wire for rx or tx?
--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

3469. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 23:08:31 UTC
From: kenfowler@attbi.com
Message-ID: <P%zwa.326533$Si4.275971@rwcrnsc51.ops.asp.att.net>
Source record: 118120

On 14-May-2003, Roger Halstead <rdhalste@tm.net> wrote:

> >And destinated is not a word made up by stupid people, unless you consider 90% of all hams in San
> >Diego County stupid...
>
> Actually it originated with the CB crowd and has carried over.
> It was a common term from early on with that crowd, but only became
> well used by hams in recent years.

Actually, "destinated" precedes CB by many years. It was in use by mobile stations here in the SF
Bay Area in the early 1950's.

3470. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 23:09:02 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305141509.730bb028@posting.google.com>
Source record: 118121

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote in message
news:<20030514091136.01523.00000008@mb-m28.aol.com>...
> >I first heard "destinated" on 27 Mhz and not when it was a ham band.
> >Along with "good buddy", "skip shooting", "county mounties", "local
> >yokels" and a flock of other CB colloquialisms which migrated into ham
> >radio.
>
> And we all know that when you hear something for the first time, it originated
> where ever YOU heard it, right?

. . . hate to bust yer bubble but I was on the ham bands for years
before CB and it's jargon "came along".

> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)

w3rv

3471. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 23:19:05 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305141519.12bf860d@posting.google.com>
Source record: 118122

Hey Cecil,

I noticed you conveniently "snipped" out my statement showing you
are incorrect. Here it is again:

> > Slick: I did disagree with your statement, "Stubs, with their near
> > infinite SWR are as lossy as they can possibly be."
> >
> > This is incorrect, as as infinite SWR requires a loss-less
> > situation.
>
> Cecil: There you go with another straw man. I did NOT say "infinite SWR".
> Infinite SWR's are impossible in reality. I said "near infinite SWR".
> The SWR in any stub is as near infinity as it can possibly get along
> with losses that are as high as they can possibly be.

Of course infinite SWRs are ideal. But even "near infinite SWR"
implies a pretty damn high number. Would you say 10,000 is close to
infinite? So stubs with a 10,000:1 SWR are "as lossy as they can
possibly be."?

Absolutely incorrect! They are as loss-LESS as can be!

Hit the books more, son.

Slick

3472. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-14 23:59:53 UTC
From: tdonaly@aol.com
Message-ID: <20030514195953.20147.00000019@mb-m04.aol.com>
Source record: 118123

Cecil wrote,
>Tdonaly wrote:
>> are any of the old science fiction magazines still being
>> published? "Fantasy" at one time might have been interested in
>> Cecil's theories.
>
>Tom, Please name me one specific item on which you disagree
>with me.
>
>Do you really believe that a virtual short or open can cause
>reflections in the absence of a physical impedance discontinuity?
>
>Do you really believe that a Thevenin equivalent source and a
>Norton equivalent source can give different results in the external
>circuit?
>--
>73, Cecil http://www.qsl.net/w5dxp
>

I don't know what a "physical impedance discontinuity" is Cecil. I looked
in all my old physics books and couldn't find that particular phrase. I also
looked up "virtual short" and "virtual open" and couldn't find anything about
them, either.
Most of the authors who write about transmission lines, that I have read, don't

use such colorful language, but have to rely on simple, easily definable
terms and mathematical equations, instead.
As for your second question, I don't remember writing anything about source
equivalents in network theory that would justify asking whether I believed
anything concerning them
or not.
73,
Tom Donaly, KA6RUH

3473. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 00:35:54 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC2E0C0.70502@attbi.com>
Source record: 118124

First, if it's a 1/4 wavelength vertical then a VSWR of 1.7:1 is
reasonable. The theoretical VSWR into 50 ohm cable is 1.35:1.

I suspect some water or water vapor is getting into the coax. Water will
'wick up' the coax braid. Use a good Coax-Seal [trade mark] made by
Universal Electronics or equivalent. The Coax-Seal is available from Ham
Radio Outlet, or AES, etc. for about $3.00.

Let the coax dry out then 'squish' on the seal :-)

Deacon Dave, W1MCE

BTW: A VSWR of 2:1 is not bad.
+ + +

Wes Stewart wrote:
> On 14 May 2003 11:48:54 -0700, mmelendez@celeridad.net (Q) wrote:
>
> |I have a 17m vertical mounted on the rooftop which is giving me slight
> |SWR problems, and I haven't been able to figure out why. I'm hoping
> |someone might have an idea.
> |
> |The vertical is real simple: 1" Al tubing, held up by polypropylene
> |rope. Where it meets the roof (the roof is galvanized steel sheet)
> |it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union
> |to give it a rim to hold up the antenna.
> |
> |On the lower part of the union, I placed a steel hose clamp from which
> |3 1/4 wave radials extend. From there, they run on top of the roof at
> |the roof angle (15%).
> |
> |What happens is this: no rain, the antenna adjusts to around 1.7 SWR.
> |It works without any problems. Add a 5 or 10 minute drizzle, and the
> |SWR goes up to 2.0, which basically makes the transmitter autoprotect.
> |
> |At the present I have a couple of theories:
> |
> |1. Water is getting into the coax. However it doesn't seem likely
> |given that there's a "hood" (a cut off soda bottle) on top of the
> |whole coax assembly, as well as the typical inverted-U configuration
> |to keep water out via gravity.
> |
> |2. The water is changing the "ground" conductivity beneath the
> |antenna. However it doesn't seem likely that a wet steel roof will
> |change very much with respect to a dry one. Besides that, on one
> |occasion I went up and found that the SWR was reading 2.0 and the roof

> |was visibly dry.
> |
> |3. The pplene rope is becoming conductive. However, once again I
> |checked and found no noticeable moisture on the rope, and the SWR was
> |still reading 2.0
> |
> |Aside from that the only thing that occurs to me is that the water is
> |somehow partially shorting the vertical radiator to the radials. But
> |once again, I'm not sure how much of a problem a film of water on top
> |of the PVC along 1 or 2 cm length might represent.
> |
> |Any ideas?
>
> Is the PVC pipe filling up with water?
>
> Why radials and not a direct connection to the roof?
>
> Why is the SWR so high to start with?
>

3474. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 00:47:18 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <7mm5cvc7fe2lvt1c8fftf413gmtmj7fumv@4ax.com>
Source record: 118125

On Wed, 14 May 2003 20:23:47 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

|Hi,
|
|Due to QRM I leave more and more often my QTH to work in the field in /P.
|For a time I used a longwire, now a ground plane vert.6m high.
|
|I would like to know what antenna are you using to work in portable in HF
|bands, the brand and model.
|I have no idea at all of what kind of antenna are usually installed for
|portable (some hours in the field). I think that many hams work with a
|vertical -even longer than 8m) for its ease to erect but I suspect some
|others to use hex-beam or small dipoles.
|
|Your experience interest me (an URL or pics are welcome too)

Three years ago my XYL and I did three months of traveling through the Mid-western United States in our travel trailer. Normally when we've done shorter trips, I never bothered with ham radio.

Since a dear fellow ham's wife was terminally ill we wanted to stay in touch so I took along my TS-870. I don't care to operate mobile, so this was strictly a setup after parked situation and antennas were an afterthought.

I made a vertical out of one half of the driven element of a Hygain TH6DXX beam. This is a trapped tri-band beam covering 10-15-20 meters. For a mount and ground plane I used a 2 foot (0.6 meter) square piece of aluminum plate with a bracket and hose clamps to support the element. I drilled and threaded 16 holes which I used to secure insulated, stranded wire radials with crimp lugs on the ends. The aluminum plate also had four 1/2 inch (1.3 cm) holes near the cormers. When placed on the ground I used four large spikes to "nail" it to the ground. It took about five minutes to uncoil the radials and spread them around and assemble the element.

When trees were available, I used a wire dipole for 20 meters. I was able to complete schedules from almost each location back to Tucson on 20 meters. I also operated the ARRL Field Day from Custer, SD, in the 5W battery power class and took second place in the section, even though I did not operate the full time.

We are thinking about another trip starting next month and I'm hooked on taking along radio. Since the propagation is much worse, I have to think about 40 and 80 meters. Also, I used the tubing from the TH6 to

build my 20 meter beams, so something has to change.

I don't know what to do in crowded campgrounds but if there aren't any people and there are trees, then I will use a trapped wire dipole. If there aren't any trees, I've acquired two 40' (12 meter) telescoping fiberglass poles for supports. These collapse to 5' (1.5 m) for transportation. If I only have room to erect one, I will use half of the dipole as a vertical with the old ground plane.

Needless to say, the brand of all my antennas is "Home Brew."

3475. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 01:03:32 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <b9up17$ncq9q$1@ID-134747.news.dfncis.de>
Source record: 118126

I use a dipole. Four of them in fact. Interlaced
on a 65" wire beam. Can't put the antenna in the
air except at Field Day location.

--
73 es cul

wb3fup
a Salty Bear

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in
message news:3EC29C23.7070005@ieee.org...
> Thierry wrote:
> > I think that many hams work with a
> > vertical -even longer than 8m) for its ease to
erect ...
>
> A well-performing vertical requires an extensive
ground plane
> that is not easy to "erect". It's a good guess
that most hams
> working portable use a dipole of some kind.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored
Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup
Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different
Servers! =-----

3476. Dipoles & Bandwidth - Again?.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 01:15:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <b9upmm$5fq$1@hercules.btinternet.com>
Source record: 118127

> Seriously though, what gives this arrangement such a wide bandwidth? Is
> it just that it's a folded dipole?
>
> There's also the variation of the folded dipole with open-circuit bits
> sticking out at the ends, viz:
>
>
> ----|---|----
> ---|-------------------; ;--------------------|---
>
>
> Does THIS do anything to extend bandwidth?
> Ian.
==========

Let's clear up the matter of the simple folded dipole which is calculable.

An example -

Overall length = 20 metres.
Resonant frequency = 7.27 MHz.
==========
Simple dipole -
One wire, diameter = 1.4mm.
Feedpoint Rin = 73 ohms.
Bandwidth between SWR = 1.5 points is 0.217 MHz.
==========
Folded dipole -
Two wires same diameter = 1.4mm.
Wires spaced 100mm = 3.9" apart.
Feedpoint Rin = 292 ohms. (Exactly 4 times greater).
Bandwidth between SWR = 1.5 points is 0.278 MHz.
==========

Making the impossible assumption of a perfect impedance match between line
and antenna, and between the other end of the line and the transmitter, the
difference in bandwidth between the two antennas is in practice undetectable
by the operator when he changes frequency. Furthermore, the lower loss in
the higher impedance line will have the tendency to DECREASE the bandwidth
of the system as a whole as perceived by the operator. Summing up, when one
considers the many uncertainties in the system it's pointless trying to
significantly increase bandwidth by folding an HF dipole.

Folding a dipole has precisely the same effect on bandwidth as greatly
increasing the diameter of the single conductor which of course carries the

penalty of a much greater weight. The controlling factor is the ratio of conductor diameter to dipole length, or what amounts to the same thing, to wavelength. You can really go places only at VHF and UHF!

The big but only advantage of folding is the 4-times increase in feedpoint resistance. If 3 wires are used in parallel then the feedpoint impedance is increased by exactly 9 times. 9 times 73 is 657 ohms - a beautiful, open-wire, 6" spaced, exceedingly low loss line provides an excellent match. Such as used by the old-timers and matched to the transmitter by a swinging link adjacent to the tank coil of a 6L6G running at 50 watts on CW.

On the other hand, the newcomer who has read in the oft-repeated articles in magazines, annuals, compendiums and newsgroups, of "such a wide bandwidth" (your words) attainable by folding his very first dipole, can obtain much quiet satisfaction as he gazes upwards at it, microphone in hand, through the shack window. Then, he curses under his breath as he is dragged back to Earth with a bump by a screech from the XYL "Your bloody dinner's getting cold again".

PS: Download small program DIPCAGE2 to study bandwidth of 1/2-wave dipoles versus number of wires from 1 to N.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

3477. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 01:21:14 UTC
From: John Harper AE5X <ae5x@qsl.net>
Message-ID: <eYBwa.6018$6L5.2633975@news4.srv.hcvlny.cv.net>
Source record: 118128

Hi Thierry,

I'd recommend either an inverted V or a half-wave vertical (end fed wire)
with at least one 1/4-wave radial. I've worked a fair amount of DX on 20m
QRP with each of these. For reliable communications out to 300 miles, the
easiest antenna in a "no feedline" dipole strung along bushes/tree branches
6 feet above ground.

For more details, take a look at my web site (link below).
73,
--
John Harper AE5X
Outdoor QRP & 80-Meter DXing: http://www.ae5x.com

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
news:3ec289b4$1_2@news.vo.lu...
> Hi,
>
> Due to QRM I leave more and more often my QTH to work in the field in /P.
> For a time I used a longwire, now a ground plane vert.6m high.
>
> I would like to know what antenna are you using to work in portable in HF
> bands, the brand and model.
> I have no idea at all of what kind of antenna are usually installed for
> portable (some hours in the field). I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect but I suspect some
> others to use hex-beam or small dipoles.
>
> Your experience interest me (an URL or pics are welcome too)
>
> Thanks in advance
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>

3478. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 01:28:29 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <_5icnZLVeYHtcF-jXTWcqQ@comcast.com>
Source record: 118129

You might try putting an insulator between the rope and the antenna. Use scraps of polystyrene at least two inches long. Or - even better - replace the rope with heavy monofilament. There's some voltage at the point where the rope meets the antenna. Moisture and pollutants, whether visible or not, will have an effect.

Tom, N3IJ

"Q" <mmelendez@celeridad.net> wrote in message news:6298a68d.0305141048.6d91376c@posting.google.com...
> I have a 17m vertical mounted on the rooftop which is giving me slight
> SWR problems, and I haven't been able to figure out why. I'm hoping
> someone might have an idea.
>
> The vertical is real simple: 1" Al tubing, held up by polypropylene
> rope. Where it meets the roof (the roof is galvanized steel sheet)
> it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union
> to give it a rim to hold up the antenna.
>
> On the lower part of the union, I placed a steel hose clamp from which
> 3 1/4 wave radials extend. From there, they run on top of the roof at
> the roof angle (15%).
>
> What happens is this: no rain, the antenna adjusts to around 1.7 SWR.
> It works without any problems. Add a 5 or 10 minute drizzle, and the
> SWR goes up to 2.0, which basically makes the transmitter autoprotect.
>
> At the present I have a couple of theories:
>
> 1. Water is getting into the coax. However it doesn't seem likely
> given that there's a "hood" (a cut off soda bottle) on top of the
> whole coax assembly, as well as the typical inverted-U configuration
> to keep water out via gravity.
>
> 2. The water is changing the "ground" conductivity beneath the
> antenna. However it doesn't seem likely that a wet steel roof will
> change very much with respect to a dry one. Besides that, on one
> occasion I went up and found that the SWR was reading 2.0 and the roof
> was visibly dry.
>
> 3. The pplene rope is becoming conductive. However, once again I
> checked and found no noticeable moisture on the rope, and the SWR was
> still reading 2.0
>
> Aside from that the only thing that occurs to me is that the water is

> somehow partially shorting the vertical radiator to the radials. But
> once again, I'm not sure how much of a problem a film of water on top
> of the PVC along 1 or 2 cm length might represent.
>
> Any ideas?
>
> ---
> Mario - TI2DLL

3479. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 01:54:29 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <40p5cvke40fd0thvbcottrkkh94t27oa8g@4ax.com>
Source record: 118130

On Thu, 15 May 2003 00:35:54 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

|First, if it's a 1/4 wavelength vertical then a VSWR of 1.7:1 is
|reasonable.

I don't think so.

|The theoretical VSWR into 50 ohm cable is 1.35:1.

Yes but... that's over perfect ground. Anything worse adds loss
resistance in series with radiation resistance to make it closer to 50
ohm.

If this is resonant, and the SWR is actually 1.7:1 then the feedpoint
can't be lower than 50 so it must be higher than 50, which indicates
real trouble.

3480. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 02:19:44 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns937BC4A03D25Apookster@129.250.170.84>
Source record: 118132

"Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> wrote in
news:3ec278b6$1_2@news.vo.lu:

> There are no
> reason of choosing a vertical from the 20m band and higher in place of
> dipoles, excepting for cumbersome reasons, rotation of the antenna,
> etc of course.
>

Verticals pick up more man-made noise than horizontals too. That alone is
enough to disqualify them, IMO. Verticals are better than horizontals
under only one condition that I'm aware of: When using ground wave
propagation. For sky wave, horizontal rules.

--
Bill, W7TI

3481. Re: DIY Airband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 02:27:55 UTC
From: VA3ATD <a.duffy@sympatico.ca>
Message-ID: <3EC2FB2B.7090903@sympatico.ca>
Source record: 118131

Better talk to your provider about this... Simpatico took less then 10 seconds to load it... ;-)

Nice pics though.
--
73, Tony
VA3ATD
London, Ontario

>
> You should see my back yard...which unfortunately is near the bottom
> of the page. The page is big, has lots of photos and takes about a
> minute and a half to load using DSL, so unless you have lots of time,
> forget it for dial ups.
>
> http://www.rogerhalstead.com/tower.htm
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
>
>>Jim
>>N8EE
>>
>>
>>
>

3482. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 02:29:41 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns937BC65064378pookster@129.250.170.84>
Source record: 118133

mmelendez@celeridad.net (Q) wrote in
news:6298a68d.0305141048.6d91376c@posting.google.com:

> I have a 17m vertical mounted on the rooftop which is giving me slight
> SWR problems, and I haven't been able to figure out why. I'm hoping
> someone might have an idea.
>

I'd suggest getting the SWR down to begin with. Use an L network at the base to match the impedances. The ARRL handbook or antenna book both have excellent sections about using an L network. If you don't have an MFJ-259 or equivalent SWR analyzer, buy or borrow one. They are invaluable for this kind of work

And secondly, if you think rain is still a problem, spray different areas with a garden hose and see what is most sensitive to moisture and take it from there.

--
Bill, W7TI

3483. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:11:47 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC30573.6080706@ieee.org>
Source record: 118135

Dr. Slick wrote:
> Would you say 10,000 is close to infinite?

100 is as close to infinity as 10,000. Hint: There are
the same amount of numbers between 100 and infinity as
there are between 10,000 and infinity.

When I said "near-infinite", I mean the SWR is as high
as it can possibly be. The SWR cannot be higher than
having a short-circuit or open-circuit stub. The losses
cannot be higher than having a short-circuit or open-
circuit stub. Why is that so difficult to understand?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3484. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:12:04 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC3054F.9040409@attbi.com>
Source record: 118134

Wes, the antenna is over a virtual ground plane [perfect ground]! A steel sheet surely makes an excellent counterpoise! IMO, very close to a perfect ground.

Wes Stewart wrote:
> On Thu, 15 May 2003 00:35:54 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
> |First, if it's a 1/4 wavelength vertical then a VSWR of 1.7:1 is
> |reasonable.
>
> I don't think so.

<snip> I run 30:1 on 80 meters and have a very efficient antenna. So, let's not go VSWR crazy. Remember a VSWR of 3:1 which produces a power loss of 25% is only a -1.25 dB loss of signal and is effectively non detectable in HF systems.

>
> |The theoretical VSWR into 50 ohm cable is 1.35:1.
>
> Yes but... that's over perfect ground. Anything worse adds loss
> resistance in series with radiation resistance to make it closer to 50
> ohm.
>
> If this is resonant, and the SWR is actually 1.7:1 then the feedpoint
> can't be lower than 50 so it must be higher than 50, which indicates
> real trouble.

I challange the 'real trouble' portion of this statement. Also, see above statement of 30:1 VSWR.

I have a resonant vertical on 40 meters with three 'poor' wire radials. The base is 10 feet above ground level and the radials are all over the place. My MFJ 259B analyzer reports 38 +j0 ohms at the cut frequency of 7.070 MHZ. It's quite easy to achieve reasonable 'ground'.

Deacon Dave, W1MCE
Manager, Textron Antenna Range, retired
Program Chief Engineer, S-118, RS/RV, retired

3485. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:22:13 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305141922.88bdb88@posting.google.com>
Source record: 118136

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC279C1.2000508@ieee.org>...
> Tom Bruhns wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
> >
> >>Roy Lewallen wrote:
> >>>If I use a 50 ohm parallel resistor and a current source as a model, I
> >>>simply use a short circuited half wave transmission line to illustrate
> >>>my point --
> >>
> >>Again, for any selected load, if you get different results using a
> >>Thevenin equivalent circuit than you do using a Norton equivalent,
> >>then there is something wrong.
> >
> > Er...ahem, Cecil, I think you know better than that. Roy didn't say
> > there was anything different at the LOAD end for the two cases of
> > source, only that there was a difference at the SOURCE end.
>
> Er...ahem, Tom, Roy *CHANGED THE LOAD*. Load number 1 was an open
> circuited half wave transmission line. Load number 2 was a short
> circuited half wave transmission line. The results at the LOAD end
> could not possibly be identical with a changed load.

Right. He used two different loads, each applied to two different
source configurations, and discussed how the SOURCE responds
differently depending on what type it is. At least, I got that
message loud and clear from it. Please excuse me if I misinterpreted
it. Could have been done it with one load; doing it once for one load
and again for a different load just further illustrates his point as
far as I can see.

Sigh. Time for the old bear to go back into hibernation.

Cheers,
Tom

3486. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:23:07 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305141923.47776726@posting.google.com>
Source record: 118137

"Craig Buck" <k4ia@cox.net> wrote in message
news:<66rwa.3123$823.2861@news1.east.cox.net>...
> There is an article on eHam about "Drilling Holes" that makes this
> assertion:
>
> "And keep in mind, a short antenna mounted on the roof just might be
> superior to a longer one mounted on the bumper, all else being equal."
>
> This is exactly my dilemma. I have a short Yaesu ATAS 100 mounted at roof
> level using a trunk lip mount attached to the top of the door. The base of
> the antenna is about 6 feet high. It gets out but so does the proverbial
> wet noodle.
>
> If I mount a longer more substantial screwdriver antenna to the rear bumper
> it will only be 2 feet off the ground and the lower section will only be
> inches from about two feet of body before it gets in the clear.
>
> So, has anyone got scientific proof of the short/high vs. long/low antenna
> quandary? This is beyond my ability to model with EZNEC but maybe someone
> out there understands it better. I am not interested in anecdotal stories
> about DX worked - we've all had our share.

On HF, it will be a compromise between extra ground loss from being
lower, and extra efficiency from using a longer mast in such a case.
IE: Cecils case is a good example.
Myself, I think the band used will be a factor also. On the higher
bands like 10m, it's quite likely for a roof mount to beat a bumper
mount. On the lower bands, it just depends. A program such as Reg's
vertload can be used to get a pretty good idea between antennas if you
can guestimate your appx ground loss per each location. I see varying
quotes on likely ground losses when mobile. For example, the ARRL
antenna handbook section on mobiles quotes anywhere from about 2 ohms
on a big car/truck, up to 6-8 ohms or more depending on the size of
the smaller car/truck, and the height from the ground. Some here on
this NG have posted claims that likely ground losses can be much
greater. A while back, I did a test using vertload to try to
guestimate this exact thing. I have my antenna mounted on top of the
bed rail, "about 4-5 ft off the ground", and I have wondered if I
would do better using a bumper mount, and a longer lower mast than I
use now. "Say an extra 3 ft".
As an example, if you compared a roof mounted 10 ft center loaded whip
that shows about 25% efficiency with a 2 ohm ground loss, to a bumper
mounted 13 ft whip, "8 ft below the coil" with a 6 ohm ground loss,
the efficiency is about the same . appx 25 %. If the bumper mount

ground losses were less than 6 ohms, of course, it would be slightly better. But to me, it's kind of tricky to calculate mobile ground losses. By theory, you could use an SWR meter to get an idea, but meters are horrible at that range of a large mismatch. You could park on top of, and connect to a known radial system, and do comparison FS tests against no radials, but this is not exactly easy to come by either for most hams. I need to find an easier way to measure this. Anyone have any ideas? Other than that, when it comes down to the brass tacks of telling which is best, the best comparison is FS tests comparing the two versions. But if you do happen to know the ground losses in each case, it's a piece of cake using a program such as vertload. It should work out fairly accurately. As far as the radiator itself, there is no question that on the low bands, the taller the mast below the coil , the better, up to about 75% of the total height. I do the same thing as Cecil. I often add a 3 ft lower solid mast to my normally 10 ft antenna. It raises the coil to 8 ft in my case. Efficiency jumps a good bit. And in my case, the antenna is still mounted 4-5 ft high on the vehicle. In my case, the jury is still out. I think I would need to do an actual comparison to really tell which is better in my case. It's hard for me to guess my ground loss differences on the different heights on the truck. MK

3487. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:25:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC3089D.1070504@ieee.org>
Source record: 118138

Tdonaly wrote:
> As for your second question, I don't remember writing anything about source
> equivalents in network theory that would justify asking whether I believed
> anything concerning them or not.

Oops, sorry, wrong Tom. However, I did ask you what you thought you and I
disagreed upon and you didn't answer. Why do you think we disagree?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3488. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:31:54 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305141931.5fee2007@posting.google.com>
Source record: 118139

mmelendez@celeridad.net (Q) wrote in message
news:<6298a68d.0305141048.6d91376c@posting.google.com>...
> I have a 17m vertical mounted on the rooftop which is giving me slight
> SWR problems, and I haven't been able to figure out why. I'm hoping
> someone might have an idea.
>
> The vertical is real simple: 1" Al tubing, held up by polypropylene
> rope. Where it meets the roof (the roof is galvanized steel sheet)
> it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union
> to give it a rim to hold up the antenna.
>
> On the lower part of the union, I placed a steel hose clamp from which
> 3 1/4 wave radials extend. From there, they run on top of the roof at
> the roof angle (15%).
>
> What happens is this: no rain, the antenna adjusts to around 1.7 SWR.
> It works without any problems. Add a 5 or 10 minute drizzle, and the
> SWR goes up to 2.0, which basically makes the transmitter autoprotect.
>
> At the present I have a couple of theories:
>
> 1. Water is getting into the coax. However it doesn't seem likely
> given that there's a "hood" (a cut off soda bottle) on top of the
> whole coax assembly, as well as the typical inverted-U configuration
> to keep water out via gravity.

Adding loss should decrease the SWR. Myself, I'd probably scratch this
one...
>
> 2. The water is changing the "ground" conductivity beneath the
> antenna. However it doesn't seem likely that a wet steel roof will
> change very much with respect to a dry one. Besides that, on one
> occasion I went up and found that the SWR was reading 2.0 and the roof
> was visibly dry.

Could still be damp though, and not really visible. I'm tending to
lean to this one.
>
> 3. The pplene rope is becoming conductive. However, once again I
> checked and found no noticeable moisture on the rope, and the SWR was
> still reading 2.0

Possible if the rope directly touches the radiator. Try adding
insulators as a test, or unhook them temporarily to see what happens.
>

> Aside from that the only thing that occurs to me is that the water is
> somehow partially shorting the vertical radiator to the radials. But
> once again, I'm not sure how much of a problem a film of water on top
> of the PVC along 1 or 2 cm length might represent.

I kind of doubt this one. MK

3489. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:40:26 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC30C2A.9060208@ieee.org>
Source record: 118140

Tom Bruhns wrote:
> Could have been done it with one load;

That's the point, Tom. It couldn't have been done with a constant load. The dissipation inside a Thevenin equivalent source and the dissipation inside a Norton equivalent source are completely different. That's why we are not supposed to even try to calculate the dissipation inside either one of those sources. The Thevenin/Norton theorems say that identical conditions will exist in the external circuit for both those models but nothing valid can be assumed from calculating the internal source dissipation.

I quoted the prohibition against calculating the dissipation inside a Thevenin equivalent source from Ramo and Whinnery a couple of days ago. The dissipation inside a Thevenin source doesn't prove a thing.

I would be interested in the results of bench testing. What will a real amp do with a vertical load line? Dissipate all its power internally? Burn itself up if not protected?
--
73, Cecil http://www.qsl.net/w5dxp

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3490. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:55:23 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030514235523.17653.00000048@mb-m15.aol.com>
Source record: 118141

>
>. . . hate to bust yer bubble but I was on the ham bands for years
>before CB and it's jargon "came along".

And what's that got to do with the price of tea in china?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3491. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 03:56:56 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030514235656.17653.00000049@mb-m15.aol.com>
Source record: 118142

>VHFRadioBuff,
> Oooo, I'm worried now. Should I really lower
>my expectations and standards so that I fit with
>some of the 'other' people on (and off) this NG?
> 'Doc

No, you should be more tollerant of people that conform to your standards. Gee, you're almost starting to sound like one of them "good 'ole boys" from down in Dixie. "If they're not like us, we don't like them."
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3492. Re: ? dipole ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 05:42:18 UTC
From: kenfowler@attbi.com
Message-ID: <_MFwa.847330$L1.246182@sccrnsc02>
Source record: 118143

On 14-May-2003, Wedgew <wedgew@rochester.rr.com> wrote:

> I'm in the process of putting up a dipole wire antenna 105' long. Using
> a 1:4 balun and a pre-selector (MFJ 956) One end of the antenna will be
> about 35' above ground level the other end about 10' the feed line will
> be coax rg-8x Is there a difference if I connect the center conductor
> of the coax vs the shielding to the higher half of the dipole?

I understand that you are using this antenna for shortwave listening. The balun is probably not
necessary and may be detremental on some frequencies. Your receiver probably has enough gain to
compensate for mismatches. Without the balun, some signals will be picked up by the shield of the
coax. For receiving, this is not a bad thing. 105' center-fed is a nice length for a receiving
antenna. The center conductor may be connected to either half of the wire, probably with no
observable difference. I would connect it to the higher half.

> How about grounding? I know the junction box is grounded through the
> house wiring should I take other measures for a ground (8' copper pipe
> driven into the ground?)

A ground connection from the radio chassis to the house wiring is only for safety and will protect
you from ground faults within the radio. The shield of the coax should connect to the radio ground
terminal which is usually internally connected to the metal cabinet and chassis. With a center-fed
antenna, there is usually no need for driven ground rods. Any ground rods connected to your radio
must, according to National Electric Code, be connected to the ground system of your house
electrical system.

> Thanks in advance for your answers

You're Welcome.
Ken

3493. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 06:31:14 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <gqb6cv4orgirgauusbklrdb8r2dcljsmnb@4ax.com>
Source record: 118144

On Thu, 15 May 2003 03:12:04 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

|Wes, the antenna is over a virtual ground plane [perfect ground]! A
|steel sheet surely makes an excellent counterpoise! IMO, very close to a
|perfect ground.
|
|Wes Stewart wrote:
|> On Thu, 15 May 2003 00:35:54 GMT, Dave Shrader
|> <david.shrader@attbi.com> wrote:
|>
|> |First, if it's a 1/4 wavelength vertical then a VSWR of 1.7:1 is
|> |reasonable.
|>
|> I don't think so.
|
|<snip> I run 30:1 on 80 meters and have a very efficient antenna. So,
|let's not go VSWR crazy. Remember a VSWR of 3:1 which produces a power
|loss of 25% is only a -1.25 dB loss of signal and is effectively non
|detectable in HF systems.

I'm not VSWR crazy. You miss the point. And I don't "remember" that
3:1 causes a loss of 25% either. That's mismatch loss and is not a
factor in normal ham operation. If it was, your 30:1 would lose 9 dB.
Sorry, you can't have it both ways.

|
|>
|> |The theoretical VSWR into 50 ohm cable is 1.35:1.
|>
|> Yes but... that's over perfect ground. Anything worse adds loss
|> resistance in series with radiation resistance to make it closer to 50
|> ohm.
|>
|> If this is resonant, and the SWR is actually 1.7:1 then the feedpoint
|> can't be lower than 50 so it must be higher than 50, which indicates
|> real trouble.
|
|I challange the 'real trouble' portion of this statement. Also, see
|above statement of 30:1 VSWR.

"Real trouble" indicates a problem with additional loss, IN THIS
PARTICULAR CASE, not the fact that high SWR is necessarily a bad
thing.
|

|I have a resonant vertical on 40 meters with three 'poor' wire radials.
|The base is 10 feet above ground level and the radials are all over the
|place. My MFJ 259B analyzer reports 38 +j0 ohms at the cut frequency of
|7.070 MHZ. It's quite easy to achieve reasonable 'ground'.

Especially when measuring with an MFJ. All those broadcast station
designers should be using one instead of plowing in those 120 radial
systems.

3494. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 06:34:17 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <35d6cv0se6f6v6aiumfh0ep92rh1m4phba@4ax.com>
Source record: 118145

On 15 May 2003 02:19:44 GMT, Bill Turner <noway@nohow.com> wrote:

|Verticals pick up more man-made noise than horizontals too.

Knock it off. The guy's new, don't mess him up with old wives.

3495. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 06:44:00 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EC33730.6090509@oda.com.au>
Source record: 118146

Q wrote:

> At the present I have a couple of theories:
>
> 1. Water is getting into the coax. However it doesn't seem likely
> given that there's a "hood" (a cut off soda bottle) on top of the
> whole coax assembly, as well as the typical inverted-U configuration
> to keep water out via gravity.
>
> 2. The water is changing the "ground" conductivity beneath the
> antenna. However it doesn't seem likely that a wet steel roof will
> change very much with respect to a dry one. Besides that, on one
> occasion I went up and found that the SWR was reading 2.0 and the roof
> was visibly dry.
>
> 3. The pplene rope is becoming conductive. However, once again I
> checked and found no noticeable moisture on the rope, and the SWR was
> still reading 2.0
>

Hmmm, looks like three theories (one more than a couple).

Limiting myself to the issue of the changed situation when wet:

Is water readily available? Could you selectively apply water to a dry antenna system and explore what needs to be wet for it to behave differently. Might help identify the element(s) that seem particularly water sensitive.

Owen

3496. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 07:16:44 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <dlf6cvgcd74hc63l0r9trsl064vjhem6u1@4ax.com>
Source record: 118147

On Wed, 14 May 2003 12:00:34 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>>>
>>>If you call a person who runs, a runner, and one who swims a swimmer,
>>>what do you call one who hoes beans?
>>>
>>>Roger Halstead (K8RI EN73 & ARRL Life Member)
>>
>>
>> A cultivator!
>>
>> Russ
>>
>NO! NO! NO! James Jones [Jonestown Jones] is a cultivator!!
>
>Try again! A beaner?? But I thought that was a baseball pitcher <grin>

Nah, a "beaner" is a threshing machine used for threshing beans.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Deacon Dave, W1MCE
>

3497. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 08:16:38 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC34CE6.94C41700@cwis.net>
Source record: 118148

Wes Stewart wrote:
>
----(clipped)----
>
> If this is resonant, and the SWR is actually 1.7:1 then the feedpoint
> can't be lower than 50 so it must be higher than 50, which indicates
> real trouble.

You've lost me, why does the impedance of a resonant 1/4 wave
antenna with an SWR of 1.7:1, have to be higher than 50 ohms?
'Doc

3498. FS Universal Aluminum Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 08:22:35 UTC
From: John & Vera <jlanza@cox.net>
Message-ID: <87Iwa.26482$fm4.236@fed1read06>
Source record: 118149

I have a 60 ft. Universal Aluminum Free standing tilt over tower in Good condition. It has the following sections: 26T, 22S, 22T, 18S, 18T and a 14 Top. This tower is the same as the model # 9-60 except the top two sections are larger. Sorry about the base section it's in 3.5 yards of cement (4'x4' x6' deep), if you want it you can have that also (you dig, you haul). This tower new cost $1,700 asking $900 tower weighs approx. 170 lbs., figure 200 lbs. shipping weight buyers must pickup or arrange for and pay shipping. I can deliver to the Tucson and Phoenix Areas. Call John (KC7IM) 1-520-458-7069 or email kc7im@cox.net

3499. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 08:35:26 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC3514E.D22A9C1@cwis.net>
Source record: 118150

Mario,
Obviously, something is changing. It seems that the
most likely 'guess' is #2, the water is changing the
ground system. The next most likely 'guess' is that
either the PVC pipe, or the rope insulators are not
insulating as they should.
If the radials you are using are insulated, I can
imagine that the rain could be causing them to make better
contact with the metal roof when they are wet (water under
the insulation). That would depend a lot on how 'dirty'
your rain is (smog, 'stuff', acid-rain?). The same thing
could be said for the PVC insulator.
I use nylon cord for insulating ropes. I've used some
that was a green color that caused an intermitant problem
such as you are having, because the 'dye' used became
conductive when wet. I have no idea if that may be the cause
of your problem, but it is something to keep in mind when
nothing else doesn't work.
'Doc

3500. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 08:37:31 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC351CB.9EA8D5A8@cwis.net>
Source record: 118151

VHFRadioBuff,
Thank you!
'Doc

3501. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 10:59:33 UTC
From: w8woj@wmconnect.com
Message-ID: <20030515065933.01379.00000048@mb-m28.wmconnect.com>
Source record: 118152

Go to your home supply center and purchase a tube of Dow Corning RTV silicone rubber sealant. It sets up without heat, is waterproof
and will not crack in cold weather or melt under high temperature. A GE product will work as well. 73 W8WOJ

3502. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 11:05:44 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <10t6cv8olj3bg953mbk5cink39hnek1qer@4ax.com>
Source record: 118153

On Thu, 15 May 2003 03:16:38 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Wes Stewart wrote:
>>
>----(clipped)----
>>
>> If this is resonant, and the SWR is actually 1.7:1 then the feedpoint
>> can't be lower than 50 so it must be higher than 50, which indicates
>> real trouble.
>
> You've lost me, why does the impedance of a resonant 1/4 wave
>antenna with an SWR of 1.7:1, have to be higher than 50 ohms?
> 'Doc

Because a resonate 1/4-wave monopole does not have a 30-Ohm impedance.

Danny, K6MHE

3503. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 11:57:34 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <OgLwa.9000$823.709@news1.east.cox.net>
Source record: 118155

A program such as Reg's
> vertload can be used to get a pretty good idea between antennas if you
> can guestimate your appx ground loss per each location.

Thanks! Vertload is the answer I was looking for.

I tired to guestimate the sizes to compare an ATAS 100 with a full size
screwdriver. I used the ATAS on the roof with a 2 ohm ground loss. The
full size I assumed to be down low and have an 8-10 ohm ground loss.

Amazingly (to me) the ATAS was within 1/2 an S unit on 40 and virtually even
on 20. Well, to look at it another way, the ATAS was 1/2 as efficient on 40
but that is only half an S unit. ATAS was 21% -1.1 S unit vs. full size
49% -.7 S unit.

The big assumption is the ground loss number.

Looks like I should stick with the ATAS and forget about the full size.
Does this jibe with other's experience?
--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64

3504. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 12:04:04 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC38234.ACAECDEF@cwis.net>
Source record: 118156

Dan,
What does it have?
'Doc

3505. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 12:18:00 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC38578.65A63EB2@cwis.net>
Source record: 118157

Oops! Where did this 1/4 wave monopole come from?
Thought we were talking about a 1/4 wave groundplane,
which can have a 30 ohm input impedance.
'Doc

3506. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 13:12:36 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec39315_2@news1.prserv.net>
Source record: 118158

Wayne:

There are 3 or more types of PVC pipe in the larger diameters. There is standard supply pipe, usually schedule 40 (pressure rating), DWV drain pipe, with little or no pressure rating, and electrical conduit. The electrical conduit is normally gray in color, but is otherwise schedule 40 pipe.

The elbows for supply piping are short right angle connections. The drain pipe uses larger radius, to reduce blockage problems, since there is no pressure forcing the contents onward, only gravity. The conduit elbows have a large radius curve to pull wires through them. The radius increases in the order I have described them.

--
Crazy George
Remove NO and SPAM from return address
"Wayne Watson" <mtnviews@earthlink.net> wrote in message
news:3EC1D7C4.C5B78E58@earthlink.net...
> OK, what's a sweep L?
>
> Roger Halstead wrote:
>
> > On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
> >
> > >
> > >
> > >Wayne,
> > > If you've solved your problem this is a little late,
> > >but still a good idea to keep in mind.
> > > When making entries like this, it's a good idea to
> > >'cap' the outer side with a 90 degree bend of PVC pipe,
> >
> > Use a "sweep L" instead of a standard 90. It's far, far easier to
> > pull (or push) cable through.
> >
> > All the *stuff* here goes through 3" ID PVC conduit. all 90s are
> > actually either a pair of 45s, or a sweep L.
> >
> > The "old" installation was 5" plastic sewer pipe with a water trap
> > about 3 feet outside the wall. The trap was a Y with one side down and
> > capped. The cap had several 1/8 th inch holes at the bottom to let
> > water drain into the back fill/sand/
> >
> > Both the old and new come through the basement wall about 2 feet below
> > the surface. The conduit (and the old pipe) used the yellow expansion

> > foam to seal it in the wall (inside and out)
> >
> > The pipe is sealed at the end where it comes into the basement.
> >
> > Where the "pipe" comes through a wall and has an opening "outside", I
> > prefer to seal it at the outside end. The reason being am inside seal
> > may keep critters out, but it also gives the, a real handy nesting
> > spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
> > crannies of the big satellite dish alone last summer. They built a
> > nest in the junction box on the tower (before I sealed it). The durn
> > things are also inside the mast at the top of the tower. That's the
> > mast from the rotor to the 144/440 arrays and that pipe is over 50
> > feet long.
> >
> > Working on the rotor at 80 feet with a bunch of *big* nasty tempered
> > Yellow Jackets buzzing around my head is not my idea of fun.
> > Course, I only got stung 4 times last Summer.
> >
> > >ot a 'dryer vent'. (Point the 90 degree adapter down to
> > >keep the rain out.) It also makes it easier to run more
> > >or different lines later. If a 1" hole will serve your
> > >purpose that's good, but bigger is better (more lines,
> > >easier to run them). 'Stop' the pipe with steel wool, or
> > >screening to keep critters out...
> >
> > I much prefer the soft (white, Dap) foam instead of the steel wool or
> > screening. It's much more efficient and easier to handle.
> >
> > It also keeps the draft out, or in, as the case may be.
> >
> > Roger Halstead (K8RI EN73 & ARRL Life Member)
> > www.rogerhalstead.com
> > N833R World's oldest Debonair? (S/N CD-2)
> > > 'Doc
>
> --
> Wayne T. Watson (121.015 Deg. W, 39.262 Deg. N, 2,701 feet), Nevada
City, CA
>
> "In the end, our society will be defined not only by what we
create,
> but by what we refuse to destroy." --John C. Sawhill, The Nature
Conservancy
>
> Web Page: <home.earthlink.net/~mtnviews>
> Imaginarium Museum:
<home.earthlink.net/~mtnviews/imaginarium.html>
>
>

3507. FS: Cushcraft 7 el. HF beam (X7)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 13:23:07 UTC
From: Derf Henderson <fahenderson@fedex.com>
Message-ID: <3EC394BB.BA6509D7@fedex.com>
Source record: 118001
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.swap

I have a Cushcraft X7 antenna which was installed for a year. It is in excellent shape except for some bird do-do. Original boxes and all hardware. $400 and prefer local pick-up in the Memphis, TN area, but will ship if you pay shipping.

thanks,
derf wk4dx
email: ke4ros@hotmail.com

3508. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 14:02:14 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EC39DE5.B495222A@nospam.com>
Source record: 118159

Good ideas, just like to add that the foam, latex dap needs to be painted
or it will break down
from sun and weather.

73 jimbo

Roger wrote:

> On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
>
> >
> >
> >Wayne,
> > If you've solved your problem this is a little late,
> >but still a good idea to keep in mind.
> > When making entries like this, it's a good idea to
> >'cap' the outer side with a 90 degree bend of PVC pipe,
>
> Use a "sweep L" instead of a standard 90. It's far, far easier to
> pull (or push) cable through.
>
> All the *stuff* here goes through 3" ID PVC conduit. all 90s are
> actually either a pair of 45s, or a sweep L.
>
> The "old" installation was 5" plastic sewer pipe with a water trap
> about 3 feet outside the wall. The trap was a Y with one side down and
> capped. The cap had several 1/8 th inch holes at the bottom to let
> water drain into the back fill/sand/
>
> Both the old and new come through the basement wall about 2 feet below
> the surface. The conduit (and the old pipe) used the yellow expansion
> foam to seal it in the wall (inside and out)
>
> The pipe is sealed at the end where it comes into the basement.
>
> Where the "pipe" comes through a wall and has an opening "outside", I
> prefer to seal it at the outside end. The reason being am inside seal
> may keep critters out, but it also gives the, a real handy nesting
> spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
> crannies of the big satellite dish alone last summer. They built a
> nest in the junction box on the tower (before I sealed it). The durn
> things are also inside the mast at the top of the tower. That's the
> mast from the rotor to the 144/440 arrays and that pipe is over 50
> feet long.
>

> Working on the rotor at 80 feet with a bunch of *big* nasty tempered
> Yellow Jackets buzzing around my head is not my idea of fun.
> Course, I only got stung 4 times last Summer.
>
> >ot a 'dryer vent'. (Point the 90 degree adapter down to
> >keep the rain out.) It also makes it easier to run more
> >or different lines later. If a 1" hole will serve your
> >purpose that's good, but bigger is better (more lines,
> >easier to run them). 'Stop' the pipe with steel wool, or
> >screening to keep critters out...
>
> I much prefer the soft (white, Dap) foam instead of the steel wool or
> screening. It's much more efficient and easier to handle.
>
> It also keeps the draft out, or in, as the case may be.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
> > 'Doc

3509. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 14:03:42 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EC39E3C.4948892@nospam.com>
Source record: 118160

hi

or if you are tight for space, try using a pvc LB
(box with screw cover and gasket, input one end output from side 90 out)

jm

Roger wrote:

> On Wed, 14 May 2003 05:44:18 GMT, Wayne Watson
> <mtnviews@earthlink.net> wrote:
>
> >OK, what's a sweep L?
>
> They are like a 90, except they make a "sweeping curve. A sweep L for
> 3" conduit would have about a foot to foot and a half radius.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)
> >
> >Roger Halstead wrote:
> >
> >> On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
> >>
> >> >
> >> >
> >> >Wayne,
> >> > If you've solved your problem this is a little late,
> >> >but still a good idea to keep in mind.
> >> > When making entries like this, it's a good idea to
> >> >'cap' the outer side with a 90 degree bend of PVC pipe,
> >>
> >> Use a "sweep L" instead of a standard 90. It's far, far easier to
> >> pull (or push) cable through.
> >>
> >> All the *stuff* here goes through 3" ID PVC conduit. all 90s are
> >> actually either a pair of 45s, or a sweep L.
> >>
> >> The "old" installation was 5" plastic sewer pipe with a water trap
> >> about 3 feet outside the wall. The trap was a Y with one side down and
> >> capped. The cap had several 1/8 th inch holes at the bottom to let
> >> water drain into the back fill/sand/
> >>
> >> Both the old and new come through the basement wall about 2 feet below

> >> the surface. The conduit (and the old pipe) used the yellow expansion
> >> foam to seal it in the wall (inside and out)
> >>
> >> The pipe is sealed at the end where it comes into the basement.
> >>
> >> Where the "pipe" comes through a wall and has an opening "outside", I
> >> prefer to seal it at the outside end. The reason being am inside seal
> >> may keep critters out, but it also gives the, a real handy nesting
> >> spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
> >> crannies of the big satellite dish alone last summer. They built a
> >> nest in the junction box on the tower (before I sealed it). The durn
> >> things are also inside the mast at the top of the tower. That's the
> >> mast from the rotor to the 144/440 arrays and that pipe is over 50
> >> feet long.
> >>
> >> Working on the rotor at 80 feet with a bunch of *big* nasty tempered
> >> Yellow Jackets buzzing around my head is not my idea of fun.
> >> Course, I only got stung 4 times last Summer.
> >>
> >> >ot a 'dryer vent'. (Point the 90 degree adapter down to
> >> >keep the rain out.) It also makes it easier to run more
> >> >or different lines later. If a 1" hole will serve your
> >> >purpose that's good, but bigger is better (more lines,
> >> >easier to run them). 'Stop' the pipe with steel wool, or
> >> >screening to keep critters out...
> >>
> >> I much prefer the soft (white, Dap) foam instead of the steel wool or
> >> screening. It's much more efficient and easier to handle.
> >>
> >> It also keeps the draft out, or in, as the case may be.
> >>
> >> Roger Halstead (K8RI EN73 & ARRL Life Member)
> >> www.rogerhalstead.com
> >> N833R World's oldest Debonair? (S# CD-2)
> >> > 'Doc

3510. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 14:42:14 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <aj77cvcs2ohaiikpto4ifb91ovrlbsg81u@4ax.com>
Source record: 118161

On Thu, 15 May 2003 07:18:00 -0500, 'Doc <w5lz@cwis.net> wrote:

| Oops! Where did this 1/4 wave monopole come from?
|Thought we were talking about a 1/4 wave groundplane,
|which can have a 30 ohm input impedance.
| 'Doc

You said:

"Wes, the antenna is over a virtual ground plane [perfect ground]! A steel sheet surely makes an excellent counterpoise! IMO, very close to a perfect ground."

This is different from a 1/4 vertical with resonant radials.

Mario said there were three radials that are (if I understand correctly) laying on the steel roof. I wondered why he didn't use a direct connection to the roof instead of using radials. This would remove some of the uncertainty we are worrying about.

Nevertheless, I submit that while the ground is finite and sloped slightly (15 deg) the antenna more closely approximates a monopole over infinite ground than it does an elevated vertical with resonant radials. (Here we seem to agree on the same assumption)

That said, the theoretical resonant impedance would be close to 36 ohm, but never below that figure. To bring this up to an SWR of 1.7:1 would require the equivalent of 50 ohm of loss resistance in series with the feedpoint. Which is why I questioned the 1.7 number in the first place.

3511. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 15:21:39 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec3b083$1_2@news.vo.lu>
Source record: 118162

Hi,
Many thanks for your comments.
I didn't imagine that home made dipoles where so often used for portable operations, but it is true that during the first months of my /p i worked using a longwire too.

What become special designs like hex-beam, buddipole, GP vertical (fritzel and others) ? Nobody is using them ?
Idem for mobile antenna. Nobody uses a Hi-Q for /p operations ?

Thierry

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:3ec289b4$1_2@news.vo.lu...
> Hi,
>
> Due to QRM I leave more and more often my QTH to work in the field in /P.
> For a time I used a longwire, now a ground plane vert.6m high.
>
> I would like to know what antenna are you using to work in portable in HF
> bands, the brand and model.
> I have no idea at all of what kind of antenna are usually installed for
> portable (some hours in the field). I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect but I suspect some
> others to use hex-beam or small dipoles.
>
> Your experience interest me (an URL or pics are welcome too)
>
> Thanks in advance
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>

3512. Re: longwire and QRM in electrical circuit ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 15:43:13 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec3b591_1@news.vo.lu>
Source record: 118163

"norbert" <pa7nrNOSPAMMM@hotmail.com> wrote in message
news:1052950702.986218@halkan.kabelfoon.nl...
> By the way, the other way around (antenna wire to domestic electricity
> system) it's unlikely that just the long wire causes trouble. If that was
> the case one couldn't use long metal fences anymore or long ends of barbed
> wire around the fields. They could in that case cause the same effect as
you
> mentioned. I don't believe they do.
> You didn't mention if you were using a transmitter during your
experiments.
> Did you use the wire for rx or tx?
> --

Hi,

OK for the QRM. I know the problem. But I have no much in my country. The best proof is that I have reached 250 DXCC in 9 months including dozen in pacific and Antarctic (see my website) without be connected to a cluster (no ADSL line or VHF TX available).
There is no power line near the house, only one low pressure street light. The first power line runs at about 500m away. All these device do no generate QRM (or if they do I do no really hear them).

The so-called "resonance" occured while emitting in CW on 80m.
My friend tried the new 100m longwire (made of steel cable cover with PVC) tied at about 10m high with a power a little bit over 80 W.
The stange noise appeared immediately in the house structure and (looked coming from) plumbing (maybe because electrical wire walk near it ?).
Now that the longwire is shorter and that a coax feed it to the house on a length of about 20m, all is OK.

The problem was also solved using a 20m long vertical (now that the sun is less active) erected 50m away from the house and using a GP vertical place 10m from the house in the lawn. All fed with RG58/U.

So the coindicence seems to strange to be the fact of chance (hasard) but I prefer to not repeat the test...

Thierry
http://www.astrosurf.com/lombry

> 73, norbert (pa7nr)
> homepage : http://www.qsl.net/pa7nr/index.html
>
>

3513. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 15:48:27 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC3B6CB.5040706@ieee.org>
Source record: 118164

'Doc wrote:
> Oops! Where did this 1/4 wave monopole come from?
> Thought we were talking about a 1/4 wave groundplane,
> which can have a 30 ohm input impedance.

The feedpoint impedance of a 1/4WL groundplane over perfect
ground cannot be lower than ~35 ohms. If the ground is not
perfect, the feedpoint impedance will be higher than 35 ohms.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3514. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 16:14:45 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <v6f7cvg1gfrm9aqmlluf0opo4th7vmp8ci@4ax.com>
Source record: 118165

On Thu, 15 May 2003 07:04:04 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Dan,
> What does it have?
> 'Doc

Around 36-Ohms

Danny

3515. Re: Antenna Config. Comparisons For Random L Wire ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 17:28:03 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <ba0im9$ci0$1@slb6.atl.mindspring.net>
Source record: 118166

In the attic you will probably pick up power-line noise, no matter what
antenna you use.

Just try them and see which works for you. As for patterns and 'gain'. Too
many variables to worry about it.

Dan/W4NTI

"Robert Rose" <rgsrose@tiac.net> wrote in message
news:b9vv26$7d0$1@slb1.atl.mindspring.net...
> For listening only (below 30 MHz), have the following question regarding a
> random length wire running
> around my attic.
>
> For these 3 possibilities, which would be 'best," and what would be the
> salient differences:
>
> Also, which would be omni or exhibit a preferred direction?
>
> a. runs around the 4 walls, and is soldered back at the beginning, thus
> forming a loop.
>
> b. runs around the 4 walls, but is not soldered back at the beginning.
>
> c. just an "L", one long, and one short wall.
>
> Thanks,
> Bob
>

3516. Re: antenna integrated with PIN diode!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 17:36:41 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305150936.39f40820@posting.google.com>
Source record: 118167

Of course, the PIN diode should be reverse biased when OFF by at least the peak of the RF voltage which will appear across it when it's off, and preferably by as much as you can so that the peak RF voltage plus the bias plus some margin doesn't exceed the rated reverse voltage of the diode. And it should be forward biased with enough DC current when ON so that it has low RF resistance and has enough stored charge that it won't be taken out of conduction by the RF. But with this diode, according to http://www.microsemi.com/catalog/part.asp?id=22943, you aren't likely to see that at 3GHz. Note that the recommended operating range of the diode is 50 to 1500MHz. At least look for something with a carrier lifetime in the tens to hundreds of nanoseconds, and low capacitance.

But beyond that, there are too many things left unknown by your posting to be much help. What power level are you wanting to handle? What characteristics do you desire in the diode (ON resistance; OFF resistance and capacitance; package parasitics)? Do you observe the "loss" when the diode is forward biased, or when it's reverse biased, or both? Exactly how are you defining and measuring "loss" -- do you, for example, note that the diode is dissipating 1 watt when you feed 2 watts to the antenna, or are you noting a decrease in field strength at some particular location, or are you seeing a lowering of the total integrated power radiated, or what? That is, is there a real resitive (heating) loss, or are you simply changing the antenna pattern or feedpoint impedance? What happens to the reflection coefficient on the antenna feed, or the to the antenna feedpoint impedance?

Have you modeled what you expect to happen if you were to put the equivalent circuit (R in parallel with C when OFF and R in series with L when ON, as a minimalist model) of the diode at that point on the antenna? Does it match what you see?

Cheers,
Tom

anandnavaneeth@hotmail.com (anand) wrote in message
news:<bc6bd131.0305140849.2453efa7@posting.google.com>...
> Hi there,
> I am doing thesis on reconfigurable antenna. This will be
> hard to explain but i will try my best. I have to connect a post to
> the ground plane of the antenna thru a capacitor and PIN diode like
> this.
>
>
> (post)0---PINdiode---||---GROUND.

>
> Whenever i add PIN diode, its giving me loss however i am able to
> switch. Kindly help me in as to which PIN diode to use. I am presently
> using UPP1004 and i am working in the 3GHz range. I need your
> expertise.
>
> Thank you.

3517. HF Help.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 17:53:24 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <ba0k6i$o43f5$1@ID-155271.news.dfncis.de>
Source record: 118168

Hi,
I'm yet to operate on HF but am in the proccess of setting up my station.
I have an Icom 706IIG and an MFJ949D Versa Tuner II.
I would be interested to know what antenna set up would be best for my tiny garden.
Garden is about 12m long by 6m wide, shack is located upstairs and at the front (garden is at the rear).
I really want to set up a simple single antenna that I can use from 40 on all bands through to 10, 80 would be nice too, along with a satisfactory ground/counterpoise system. No I can't put up a tower.

Help !!!!!!!!!!

3518. Thanks!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 18:19:14 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305151019.4a10d73e@posting.google.com>
Source record: 117969

Hi Moore,
Thanks for ur help. The diode i am using(UPP1004) has
0.75ohms at 100MHz 10mA. But i am using this at 1-3GHz, will this be a
problem. Waiting for ur reply.

Thank you.

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC27B3E.1050200@ieee.org>...
> anand wrote:
> > Hi there,
> > I am doing thesis on reconfigurable antenna. This will be
> > hard to explain but i will try my best. I have to connect a post to
> > the ground plane of the antenna thru a capacitor and PIN diode like
> > this.
> >
> > (post)0---PINdiode---||---GROUND.
> >
> > Whenever i add PIN diode, its giving me loss ...
>
> The PIN diode must be biased for low loss. You don't
> show any bias voltage/current at all.

3519. Unadilla KW80 trap info needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:07:31 UTC
From: "Rudy Marcelletti, K8SWD" <rudym@net-link.net>
Message-ID: <vc7ss4s0b7034d@corp.supernews.com>
Source record: 117970

I have a pair of Unadilla KW80 traps and need to know the suggested lengths
of wire to use between center insulator and trap and trap to end insulator
for 160 operation. Also, is it advisable to put any type of choke or balun
in the middle--I intend on feeding with 450 line. Thanks.

--
Rudy Marcelletti, K8SWD

3520. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:20:12 UTC
From: "Rudy Marcelletti, K8SWD" <rudym@net-link.net>
Message-ID: <vc7tjs8euljb0c@corp.supernews.com>
Source record: 117971

Check out the W3FF Buddipole at www.buddipole.com It covers 40 through 2 meters and will handle any 100 watt rig. Budd even has a portable mast and tripod to go with this system. Very efficient and travels well.

--
Rudy Marcelletti, K8SWD
"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:3ec289b4$1_2@news.vo.lu...
> Hi,
>
> Due to QRM I leave more and more often my QTH to work in the field in /P.
> For a time I used a longwire, now a ground plane vert.6m high.
>
> I would like to know what antenna are you using to work in portable in HF
> bands, the brand and model.
> I have no idea at all of what kind of antenna are usually installed for
> portable (some hours in the field). I think that many hams work with a
> vertical -even longer than 8m) for its ease to erect but I suspect some
> others to use hex-beam or small dipoles.
>
> Your experience interest me (an URL or pics are welcome too)
>
> Thanks in advance
>
> Thierry
> http://www.astrosurf.com/lombry
>
>
>

3521. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:45:58 UTC
From: richardharrison@webtv.net
Message-ID: <29611-3EC3FC86-194@storefull-2317.public.lawson.webtv.net>
Source record: 117977

CAM, W5DXP wrote:
"Old Wives Tales really die hard, don`t they?"

Why are all my U.S. government publications consistent in saying reflected opens and shorts produced by stubs are effective as switches? Cecil says they act as extensions of a transmission line and have infinite SWR.

Infinite SWR is meaningless. It can result from 1 watt or 1000 watts.

My NAVPERS 93400A-6 has "duplexers" on page 80. The radar receiver is stubbed into the transmitter to antenna transmission line at any convenient place. The receiver connecting stub is 1/2-wavelength and has a TR switch right at its mid-point. That means that when the TR switch fires on a transmit pulse the stub is curtailed and becomes a 1/4-wave short circuit stub. The stub thus reflects an open circuit at its attachment point on the radar feedline and takes no significant energy from the transmitted pulse, nor does it overload the receiver with excess energy.

There is a second 1/2-wave stub attached 1/4-wave closer to the radar transmitter than the stub connecting the receiver with the antenna feedline. This second stub is called the anti-TR or "ATR" stub. It is terminated with a short-circuit at its far end. The ATR stub is also equipped with a TR-switch, called the ATR-switch, squarely in its middle, just like the TR-switch in the receiver stub line.

A transmitter pulse fires both arc-gap switches, TR and ATR. The ATR switch makes the ATR-stub 1/4-wave long when fired. This ATR-line is thus shorted at its 1/4-wavelength and presents a very high impedance at its attachment point during the transmitter pulse and takes insignificant energy from the pulse. But, when the ionization fades away following the pulse, the ATR stub becomes a shorted 1/2-wave stub. This places a short between the receiver attachment point on the antenna line and the transmitter. As this short is effectively 1/4-wave (actually 3/4-wave) from the receiver line tap, it presents a very high impedance which prevents the radar transmitter circuitry from robbing the radar receiver of any significant signal.

All these U.S. government texts were produced by what were believed to be the best experts available. They may not have lived up to expectations, but from what I`ve seen they all agreed!

Best regards, Richard Harrison, KB5WZI

3522. Re: MA5B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:46:36 UTC
From: charles@nospam.com
Message-ID: <charles-1505031547430001@192.168.0.2>
Source record: 117972

I have one & have contacted 2756 of the 3077 counties in the US with it.

Charles

In article <x2zwa.70694$ey1.6410919@newsread1.prod.itd.earthlink.net>,
"Robert A Meyer" <w8dq@earthlink.net> wrote:

> I am getting ready to install MA5B,I have it on ground doing final
> measurements and testing.I would like to hear from anyone who is using this
> beam.
>
> Bob Meyer W8DQ
> Lawrenceburg,IN

3523. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:48:19 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec3fd1b$1_2@news.vo.lu>
Source record: 117973

"Rudy Marcelletti, K8SWD" <rudym@net-link.net> wrote in message
news:vc7tjs8euljb0c@corp.supernews.com...
> Check out the W3FF Buddipole at www.buddipole.com It covers 40 through 2
> meters and will handle any 100 watt rig. Budd even has a portable mast
and
> tripod to go with this system. Very efficient and travels well.

Hi,

It is already listed on my dedicated page,
http://www.astrosurf.com/lombry/qsl-portable.htm
There must be other designs or brands on the place...

Thanks.
Thierry
>
> --
> Rudy Marcelletti, K8SWD
> "Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
> news:3ec289b4$1_2@news.vo.lu...
> > Hi,
> >
> > Due to QRM I leave more and more often my QTH to work in the field in
/P.
> > For a time I used a longwire, now a ground plane vert.6m high.
> >
> > I would like to know what antenna are you using to work in portable in
HF
> > bands, the brand and model.
> > I have no idea at all of what kind of antenna are usually installed for
> > portable (some hours in the field). I think that many hams work with a
> > vertical -even longer than 8m) for its ease to erect but I suspect some
> > others to use hex-beam or small dipoles.
> >
> > Your experience interest me (an URL or pics are welcome too)
> >
> > Thanks in advance
> >
> > Thierry
> > http://www.astrosurf.com/lombry
> >
> >
> >
>
>

3524. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:51:14 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec3fdca_1@news.vo.lu>
Source record: 117974

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns937BC4A03D25Apookster@129.250.170.84...
> "Thierry - ON1SKY" <lombrytNOSPAM@hotmail.com> wrote in
> news:3ec278b6$1_2@news.vo.lu:
>
> > There are no
> > reason of choosing a vertical from the 20m band and higher in place of
> > dipoles, excepting for cumbersome reasons, rotation of the antenna,
> > etc of course.
> >
>
> Verticals pick up more man-made noise than horizontals too. That alone is
> enough to disqualify them, IMO.

Hi,

Your opinion is too scharp... I have examples where dipoles, longwires,
windom and even some quad using wires capture much QRM. That depends of your
environment and designs too.

Thierry

> Verticals are better than horizontals
> under only one condition that I'm aware of: When using ground wave
> propagation. For sky wave, horizontal rules.
>
> --
> Bill, W7TI

3525. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:55:07 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec3feb3_1@news.vo.lu>
Source record: 117975

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:35d6cv0se6f6v6aiumfh0ep92rh1m4phba@4ax.com...
> On 15 May 2003 02:19:44 GMT, Bill Turner <noway@nohow.com> wrote:
>
> |Verticals pick up more man-made noise than horizontals too.
>
> Knock it off. The guy's new, don't mess him up with old wives.

New ? ;-)
Not really. See my webpage http://www.astrosurf.com/lombry/menu-qsl.htm
New for some specific subjects where many others share the same...
incompetence (or lack of know-how) due to rumors, non-experience, etc.
For vertical I had some experience of R7 (with couterpoise) and GP (with
unbalanced radials) too, and wire like logwire, G5RV 100m, windom...
Not really a novice even my questions looks like, affair to improve some
"details" of importance.

Thierry

3526. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 20:59:33 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC3FFB5.BEDE73D@cwis.net>
Source record: 117976

Cecil,
Now we are 'assuming' Mario has a 'perfect ground'.
I sure wish someone would 'assume' me a raise on my
check...
'Doc

3527. Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:18:18 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305151318.261c5b9e@posting.google.com>
Source record: 117978

What is the velocity factor of the usual types of insulated wire used for HF antennas? And/or what is the insulated wire version of 468/F?? I normally use standard "hardware store" #14 stranded type THHN copper utility wire which is only around $15 for a 500 foot spool vs. the more exotic "ham antenna wire" types. I've put up a number of dipoles made of the stuff and they've worked fine. I've also had to tweak them to length with a 259B and side cutters to get them the right lengths. But I never bothered to record the lengths vs. freqs. to develop my own version of 468/F which I'd like to have now. Does anybody have that info??

Tnx -

Brian w3rv

3528. Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:26:11 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EC4050A.67CB2204@shaw.ca>
Source record: 117979

I have an MFJ loop that goes down to about 10mhz. I am considering
parallelling the variable cap with a fixed value to bring it into the
7mhz region (40 meters). The MFJ is made of aluminum tubing and the
capacitor is aluminum and bonded by an aluminum weld. Has anyone
any ideas on what would be the best way to attach the parallel cap
(other than by aluminum weld). As well, if I were to attach it by
mechanical means, considering the need for very low resistance in
the LC loop, has anyone any ideas on what the effect would be on the
overall radiation resistance?

Thanks in advance for any suggestions.
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

3529. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:27:48 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <s818cvk7tjp8ma101625jk8n8n7toverv7@4ax.com>
Source record: 117980

On Thu, 15 May 2003 22:55:07 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

|
|"Wes Stewart" <n7ws@#arrl.net> wrote in message
|news:35d6cv0se6f6v6aiumfh0ep92rh1m4phba@4ax.com...
|> On 15 May 2003 02:19:44 GMT, Bill Turner <noway@nohow.com> wrote:
|>
|> |Verticals pick up more man-made noise than horizontals too.
|>
|> Knock it off. The guy's new, don't mess him up with old wives.
|
|New ? ;-)
|Not really.

Yes really. You are just recently licensed and your questions prove
your inexperience.

Your web site is full of old wives.

3530. OT: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:30:06 UTC
From: Robert Rose <rgsrose@tiac.net>
Message-ID: <ba10sm$8iv$1@slb1.atl.mindspring.net>
Source record: 117981

Hi,

OT, but I figured this is the place to go with this.

Have some interior wiring to do from TV to its wall spigot, about 25 feet or so.

Have loads of spare RG 6.

Would this be O.K. to use ?

Thanks,
Bob

3531. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:34:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <he18cvonspigc06huo00e79u9vcicu2edb@4ax.com>
Source record: 117982

On Thu, 15 May 2003 15:45:58 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>CAM, W5DXP wrote:
>"Old Wives Tales really die hard, don`t they?"
>
>Why are all my U.S. government publications consistent in saying
>reflected opens and shorts produced by stubs are effectiveï¿½as
>switches? Cecil says they act as extensions of a transmission line and
>have infinite SWR.
...
>My NAVPERS 93400A-6
...
>All these U.S. government texts were produced by what were believed to
>be the best experts available. They may not have lived up to
>expectations, but from what I`ve seen they all agreed!

Hi Richard,

The Navy had a vested interest in training useful Electronics
Technicians - there was no radio shack store to pull into, at sea.
When I was an instructor at T.I. we had a "double E" fail the course.
Didn't even qualify as a tube-jocky.

Richard, you need to find the ET First Class & Chief Petty Officer
rating manual (if that is not already what you are quoting).

73's
Richard Clark, KB7QHC, ET1

3532. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:35:02 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ec4080e_2@news.vo.lu>
Source record: 117983

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:s818cvk7tjp8ma101625jk8n8n7toverv7@4ax.com...
> On Thu, 15 May 2003 22:55:07 +0200, "Thierry"
> <lombrytNOSPAM@hotmail.com> wrote:
>
> |
> |"Wes Stewart" <n7ws@#arrl.net> wrote in message
> |news:35d6cv0se6f6v6aiumfh0ep92rh1m4phba@4ax.com...
> |> On 15 May 2003 02:19:44 GMT, Bill Turner <noway@nohow.com> wrote:
> |>
> |> |Verticals pick up more man-made noise than horizontals too.
> |>
> |> Knock it off. The guy's new, don't mess him up with old wives.
> |
> |New ? ;-)
> |Not really.
>
> Yes really. You are just recently licensed and your questions prove
> your inexperience.
>
> Your web site is full of old wives.
>

Hopefully not everybody share your opinion.

TL
>
>

3533. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:38:18 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <sr18cvkut362j6oi4k19d6v93rnq66rdfl@4ax.com>
Source record: 117984

On Thu, 15 May 2003 07:42:14 -0700, Wes Stewart <n7ws@#arrl.net>
wrote:

|On Thu, 15 May 2003 07:18:00 -0500, 'Doc <w5lz@cwis.net> wrote:
|
|| Oops! Where did this 1/4 wave monopole come from?
||Thought we were talking about a 1/4 wave groundplane,
||which can have a 30 ohm input impedance.
|| 'Doc
|
|

Uh Oh.

|You said:
|
|"Wes, the antenna is over a virtual ground plane [perfect ground]! A
|steel sheet surely makes an excellent counterpoise! IMO, very close to
|a perfect ground."

My apologies Doc, I mixed up "Deacons" and "Docs" "Deacon Dave" said
the above.

|
|This is different from a 1/4 vertical with resonant radials.
|
|Mario said there were three radials that are (if I understand
|correctly) laying on the steel roof. I wondered why he didn't use a
|direct connection to the roof instead of using radials. This would
|remove some of the uncertainty we are worrying about.
|
|Nevertheless, I submit that while the ground is finite and sloped
|slightly (15 deg) the antenna more closely approximates a monopole
|over infinite ground than it does an elevated vertical with resonant
|radials. (Here we seem to agree on the same assumption)
|
|That said, the theoretical resonant impedance would be close to 36
|ohm, but never below that figure. To bring this up to an SWR of 1.7:1
|would require the equivalent of 50 ohm of loss resistance in series
|with the feedpoint. Which is why I questioned the 1.7 number in the
|first place.

3534. Re: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 21:41:10 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec40afd_3@news1.prserv.net>
Source record: 117985

You'll possibly be dissatisfied because RG-6 is single shielded, and the cable will tend to pick up noise and stray signals more than the foil shielded stuff designed for CATV does. Computer noise, direct off air TV signals, and the like. Now, RG-13 or 216, that's another matter.

--
Crazy George
Remove NO and SPAM from return address
"Robert Rose" <rgsrose@tiac.net> wrote in message
news:ba10sm$8iv$1@slb1.atl.mindspring.net...
> Hi,
>
> OT, but I figured this is the place to go with this.
>
> Have some interior wiring to do from TV to its wall spigot, about 25 feet
or
> so.
>
> Have loads of spare RG 6.
>
> Would this be O.K. to use ?
>
> Thanks,
> Bob
>

3535. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 22:11:14 UTC
From: richardharrison@webtv.net
Message-ID: <21692-3EC41082-115@storefull-2314.public.lawson.webtv.net>
Source record: 117987

CAM, W5DXP wrote:
"If the ground is not perfect, the feedpoint impedance will be higher
than 35 ohms."

Yes, and if the radiator is too short, the radiation resistance can be
less than 35 ohms.

Why not make the radiator a little too long and bring the radiation
resistance up to 50 ohms, then tune out the excess inductance with a
relatively lossless series capacitance?

Best regards, Richard Harrison, KB5WZI

3536. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 22:17:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC411EB.4B1DD2E6@uci.edu>
Source record: 117988

Richard Harrison wrote:
>
> CAM, W5DXP wrote:
> "Old Wives Tales really die hard, don`t they?"
>
> Why are all my U.S. government publications consistent in saying
> reflected opens and shorts produced by stubs are effective as
> switches? Cecil says they act as extensions of a transmission line and
> have infinite SWR.

Cecil said the SWR >as measured within the stub< would be nearly infinite since the reverse VI product nearly equals the fwd VI product. The TR switch moves the actual point of reflection. I think he would maintain that the reflection point is either the short at the end of the coax, or at the TR switch. The length of the stub determines the relative phase of the incident and the reflected waves, and thus determines the reflected impedance at the stub connection to the transmission line.

I don't see where this 'theory' provides any inconsistencies with common practice.

jk

> Infinite SWR is meaningless. It can result from 1 watt or 1000 watts.
>
> My NAVPERS 93400A-6 has "duplexers" on page 80. The radar receiver is
> stubbed into the transmitter to antenna transmission line at any
> convenient place. The receiver connecting stub is 1/2-wavelength and has
> a TR switch right at its mid-point. That means that when the TR switch
> fires on a transmit pulse the stub is curtailed and becomes a 1/4-wave
> short circuit stub. The stub thus reflects an open circuit at its
> attachment point on the radar feedline and takes no significant energy
> from the transmitted pulse, nor does it overload the receiver with
> excess energy.
>
> There is a second 1/2-wave stub attached 1/4-wave closer to the radar
> transmitter than the stub connecting the receiver with the antenna
> feedline. This second stub is called the anti-TR or "ATR" stub. It is
> terminated with a short-circuit at its far end. The ATR stub is also
> equipped with a TR-switch, called the ATR-switch, squarely in its
> middle, just like the TR-switch in the receiver stub line.
>
> A transmitter pulse fires both arc-gap switches, TR and ATR. The ATR
> switch makes the ATR-stub 1/4-wave long when fired. This ATR-line is

> thus shorted at its 1/4-wavelength and presents a very high impedance at
> its attachment point during the transmitter pulse and takes
> insignificant energy from the pulse. But, when the ionization fades away
> following the pulse, the ATR stub becomes a shorted 1/2-wave stub. This
> places a short between the receiver attachment point on the antenna line
> and the transmitter. As this short is effectively 1/4-wave (actually
> 3/4-wave) from the receiver line tap, it presents a very high impedance
> which prevents the radar transmitter circuitry from robbing the radar
> receiver of any significant signal.
>
> All these U.S. government texts were produced by what were believed to
> be the best experts available. They may not have lived up to
> expectations, but from what I`ve seen they all agreed!
>
> Best regards, Richard Harrison, KB5WZI

3537. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 22:39:54 UTC
From: richardharrison@webtv.net
Message-ID: <21691-3EC4173A-345@storefull-2314.public.lawson.webtv.net>
Source record: 117986

Richard Clark wrote:
"---you need to find the ET First Class & Chief Petty Officer rating manual (if that is not already what you are quoting)."

No, those are higher powered than the texts I happened to come by. Higher than my rating too. I was a MoMM 3rd class, a diesel engine mechanic. I`d had the NRI Radiotrician course in civilian life and there were no ET`s on our ship. So, when the radio, radar, fire-control computer, or most important of all, the movie projector needed repair, I was suddenly very important.

Best regards, Richard Harrison, KB5WZI

3538. Re: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-15 23:29:25 UTC
From: dplatt@radagast.org
Message-ID: <vc88mlktod4n8e@corp.supernews.com>
Source record: 117989

In article <3ec40afd_3@news1.prserv.net>,
Crazy George <munschNO@attglobal.net.SPAM> wrote:

>> OT, but I figured this is the place to go with this.
>>
>> Have some interior wiring to do from TV to its wall spigot, about 25 feet
>or
>> so.
>>
>> Have loads of spare RG 6.

>You'll possibly be dissatisfied because RG-6 is single shielded, and the
>cable will tend to pick up noise and stray signals more than the foil
>shielded stuff designed for CATV does. Computer noise, direct off air TV
>signals, and the like. Now, RG-13 or 216, that's another matter.

That's an oversimplification, I believe. There's quite a bit of RG6
cable intended for CATV or (even better) DBS applications, which is
low-loss and multiply-shielded. "Quad-shield" RG6 is quite common in
the market these days. Ferexample, Belden 7916A is a quad-shield RG6
(two braid, two foil).

I'd tend to avoid RG59 for anything except short runs, as I've never
seen RG59 with anything other than a single shield.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3539. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 00:22:23 UTC
From: jder8745@aol.com
Message-ID: <20030515202223.15281.00000072@mb-m06.aol.com>
Source record: 117990

Howdy,

Don't confuse man made noise with QRM.

73 de k9cun

3540. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 00:28:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s5a8cv4fs1jbbjau63kotm66qh2jp9a9cl@4ax.com>
Source record: 117991

On Thu, 15 May 2003 15:17:15 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Cecil said the SWR >as measured within the stub< would be nearly
>infinite since the reverse VI product nearly equals the fwd VI product.

Hi Jim,

This, again, goes back to Richard's earlier reference to Terman in
figure 4-17 that exhibits nearly ANY SWR, from 1:1 to 20:1, linearly
along the length of the stub. The stub itself is a discontinuity at
its attachment and only by virtue of reflections is it brought into a
circuit or removed from one. The application of TR and ATR switches
are wavelength related and not simply an ad-hoc addition.

Some might want to mull over this wonderful nonsense about lost
reflected power and other power that exists simple because you jimmy
enough +'s and -'s to get the same value, and thus those jimmied
values must exist too. How is this non-sense revealed? Richard's
AT/ATR tubes reject power going to the receiver that is by no means
indestructible.

The usual pulse width for the common navigational radar ran from 0.5,
1.0, to 1.5 ï¿½S wide. This means you couldn't resolve targets within
600 yards. However, out beyond that, the receiver gain was so high
that variable AGC desensed it for the first few miles to reduce "sea
return" or reflection from waves.

I've spent many an hour looking at "sea return" in the hopes of
finding a boat, or ship to end an otherwise tedious mid-watch
traveling outside of the usual shipping lanes. I suffered the same
fate of Richard's striking, we had no Radarmen, ST's, or FT's. The
calibration lab's mission statement described us as being responsible
for every electronic/electric device aboard ship - and apparently
their jobs were our jobs too. I made the mistake of showing the Old
Man that we could navigate by my Cesium Beam Standard, and he had me
give him position data every hour which our bonehead XO would discard
anyway:
Capt. XO, where are we?
XO (spreads compass wide and plants the foot
on a chart to make a circle)
Somewhere in here.
Capt. Then why do I see buildings out there?
Off our beam over the horizon stood the huge space port of Cape
Kennedy. We were off the coast of Florida, and the XO was navigating
by depth sounder. If it ran off the scale, we had gone out beyond the

continental shelf, time to pull back in and pick it up again. We zig-zagged along the edge to find our way. In a sense, this is how we also found our way along deck at night (darkened ship). You scrubbed your toe along the deck plates until you found a seam, and then followed the seam.

73's
Richard Clark, KB7QHC

3541. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 00:29:15 UTC
From: lousherry <lousherry@lanset.com>
Message-ID: <3EC430DB.3060503@lanset.com>
Source record: 117992

Agree. I use a 2 1/2 inch and can run all the coax I want.
Lou
KB6FFT

Ken wrote:

> On Sun, 11 May 2003 21:55:38 GMT, Wayne Watson
> <mtnviews@earthlink.net> wrote:
>
>>I drilled a 1" hole in an outside wall into a room through drywall to push 3-4 coax cables. What's a
>>good way to close up the hole from both inside and outside. I would prefer not to remove the cable.
>>
>
> A good approach is to make a hole to accommodate a PVC pipe and 90
> degree elbow large enough to pass a PL-259 with a few coax cables
> already in there. You seal around the pipe with silicone and stuff
> glass insulation up the elbow (opening down!) around the wires to keep
> out the elements and the critters.
>
> Ken KC2JDY
>
>
> Ken
> (to reply via email
> remove "zz" from address)
>

3542. Re: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 00:50:05 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305151650.7340442a@posting.google.com>
Source record: 117993

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:<3ec40afd_3@news1.prserv.net>...
> You'll possibly be dissatisfied because RG-6 is single shielded, and the
> cable will tend to pick up noise and stray signals more than the foil
> shielded stuff designed for CATV does. Computer noise, direct off air TV
> signals, and the like. Now, RG-13 or 216, that's another matter.
>
AFAIK (from the lists I have) the "official" RG-6/U is double-braid
shielded. All the stuff called "RG-6" that I have is at least foil
plus braid, and some is quad-shielded. In any event, it's unlikely to
matter for a home distribution system...RG-6 type is quite commonly
used for that. (See some of W8JI's postings from long ago on coax
coupling...)

Cheers,
Tom

3543. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 01:08:05 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC439F5.F5F15840@cwis.net>
Source record: 117994

Wes,
No problem. By the way, I'm the one that's short,
fat, with a Harley hat and hair all over my head...
'Doc

3544. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 01:22:58 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305151722.40cbd58@posting.google.com>
Source record: 117995

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC30573.6080706@ieee.org>...
> Dr. Slick wrote:
> > Would you say 10,000 is close to infinite?
>
> 100 is as close to infinity as 10,000. Hint: There are
> the same amount of numbers between 100 and infinity as
> there are between 10,000 and infinity.
>

No shit. Hint: I'm not a dip shi**.

> When I said "near-infinite", I mean the SWR is as high
> as it can possibly be. The SWR cannot be higher than
> having a short-circuit or open-circuit stub. The losses
> cannot be higher than having a short-circuit or open-
> circuit stub. Why is that so difficult to understand?

BZZZTT!! Wrong again! Hint: An SWR as high as it
can be will be as LOSSLESS as can be, which would be the
case with an ideal lossless short or open.

That's why you can also express the SWR as the "Return Loss",
as an expression of the ratio of the incident and reflected powers, in
decibels. That's why sometimes when people want to know the losses
in a transmission line, they will terminate the line in a short or open,
measure the S11 expressed in return loss (-db), and will divide this by
two to find the losses in the line.

Why can't you get this concept? Think about it more.

Slick

3545. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 01:29:51 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305151729.646c833d@posting.google.com>
Source record: 117996

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC2A064.3030901@ieee.org>...

>
> What's stupid is not knowing the meaning of :-). FYI, that
> is how jokes are identified on this newsgroup.
>

The real joke is you claiming to be in the upper %1 of
intelligence. BWAAHA!

> > Admit it Cecil, you have difficultly admitting when you are
> > wrong.
>
> Nope, I don't. I was wrong about using the word "null" and
> freely admitted it and apologized. Exactly what is it you
> think I have been wrong about? You have wound up agreeing
> with everything I have said so if I'm wrong, you're also
> wrong.

I have absolutely NOT agreed with everything you have said,
please stop making that bullshit claim!
You bridge analogy was wrong, and your other quote about
"lossy and they can be" near-infinite VSWR shorts and opens (see other
thread) is totally incorrect.

Where did you admit to wrongly using the word "null"?

Slick

3546. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 01:36:05 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305151736.110c2f55@posting.google.com>
Source record: 117997

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC29F1D.1060601@ieee.org>...

>
> Using coax, how would you do that? I cannot think of anything easier than
> simply using a directional wattmeter. It is pretty easy to measure these
> current quantities using ladder-line, but it is still not as easy as using
> a directional wattmeter.
>

That's how you normaly measure it, but for the purposes of an argument,
you can also get the SWR from the Max and Min currents or voltages.

> > But since they are identical circuits if you look to the left of
> > the "+", you can consider that the top situation has reflections at
> > the "+" too.
>
> I don't understand the admonition to put the blinders on when I'm trying
> to learn something. What possible function can blinders have except to
> hide the truth? Why would you not look to the right if you are really
> trying to understand exactly what is happening? Old Wives' Tales really
> die hard, don't they? Reflections happen at physical shorts and physical
> open circuits. Reflections do NOT happen at virtual shorts and virtual
> open circuits.

But to the signal generating circuit, they appear to be the same!

Slick

3547. Re: Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 02:23:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <ba1i2l$4um$1@sparta.btinternet.com>
Source record: 117998

"Irv Finkleman" wrote
> I have an MFJ loop that goes down to about 10mhz. I am considering
> parallelling the variable cap with a fixed value to bring it into the
> 7mhz region (40 meters). The MFJ is made of aluminum tubing and the
> capacitor is aluminum and bonded by an aluminum weld. Has anyone
> any ideas on what would be the best way to attach the parallel cap
> (other than by aluminum weld). As well, if I were to attach it by
> mechanical means, considering the need for very low resistance in
> the LC loop, has anyone any ideas on what the effect would be on the
> overall radiation resistance?
>
> Thanks in advance for any suggestions.
==========
==========

Irv, no problem.

Just estimate by eye the new loop diameter from the modified route taken by the current and insert it in program MAGLOOP4.

Take into account the proportion of total current which flows through the additional capacitor.

The program will also provide the value of the additional capacitor.

If the additional capacitor is mounted outside the main loop then radiation resistance will increase with diameter - and vice-versa. If it is mounted to one side of the main loop then the effective diameter will remain unchanged regardless of how the total current is proportioned between the old and new capacitors.

You must also consider the fact that for the same transmitter power the peak voltage across the existing capacitor will greatly increase. The program will calculate this.

For a good match to line it may be necessary to change the diameter of the internal coupling loop at 7 MHz. This will degrade the impedance match at the existing higher frequencies. The problem with two spaced-apart capacitors is that the effective loop diameter will change with frequency - and so should the diameter of the coupling loop. The program will provide guidance.

The change in effective conductor diameter in the vicinity of the additional capacitor can be ignored.

The overall result of turning down Tx power, plus the appreciably lower frequency and the consequential decrease in radiation resistance will be a

much lower radiating efficiency. At a guess it could amount to 10 dB or more loss at 7 MHz than at 10 MHz.

Forget about introduction of copper into the loop and the method of joining. Clamps will be electrically satisfactory. Clamps rather than welding will also permit the new attachment to be removed if it should become necessary.

Program MAGLOOP4 will assist in deciding whether to proceed.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

3548. Re: HF Help.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 02:39:02 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <gkj8cvsf1j6d0dndtms1i7de0qsn3f6o7s@4ax.com>
Source record: 117999

On Thu, 15 May 2003 18:53:24 +0100, "M3***" <happyraveruk@yahoo.com>
wrote:

>Hi,
> I'm yet to operate on HF but am in the proccess of setting up my station.
>I have an Icom 706IIG and an MFJ949D Versa Tuner II.
>I would be interested to know what antenna set up would be best for my tiny
>garden.
>Garden is about 12m long by 6m wide, shack is located upstairs and at the
>front (garden is at the rear).
>I really want to set up a simple single antenna that I can use from 40 on
>all bands through to 10, 80 would be nice too, along with a satisfactory
>ground/counterpoise system. No I can't put up a tower.
>
>Help !!!!!!!!!!

Got 2 supports for a wire dipole, or one support for an inverted V
dipole? Feed it with ladder line, and use your tuner to make it a
multi-bander. No antenna ground needed, which is good, since you're on
the second floor.

Bob
k5qwg

>
>
>
>
>
>
>

3549. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 03:27:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC45A98.8010102@ieee.org>
Source record: 118000

Richard Clark wrote:
> This, again, goes back to Richard's earlier reference to Terman in
> figure 4-17 that exhibits nearly ANY SWR, from 1:1 to 20:1, linearly
> along the length of the stub.

Care to explain how an unterminated 1/4WL stub can exhibit an SWR
of 1:1?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3550. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 04:00:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC46248.9010601@ieee.org>
Source record: 118002

Dr. Slick wrote:
> BZZZTT!! Wrong again! Hint: An SWR as high as it
> can be will be as LOSSLESS as can be, which would be the
> case with an ideal lossless short or open.

How can you say I'm wrong when I don't disagree with your statement?
In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
possibly be. The stub *IS* as lossless as it can possibly be. What
is possible is dictated by reality, not by you. The highest possible
SWR may be relatively low, as shown in the example below.

****
The SWR is as high as it can possibly be when 100% of the incident
energy is reflected at the short or open end of a 1/4WL stub, no
matter what are the losses in the stub material.
****

For instance, the highest SWR possible with 400 ft of open-circuit
RG-58 on 70cm is less than 2:1 at the transmitter. Less than 2:1 *IS*
as high as the SWR can possibly be. It is not possible for it to be
any higher. It is what it is. Why are you having so much trouble with
that simple concept? Are you saying that an SWR can be higher than
it can possibly be?

I repeat: In a shorted or open 1/4WL stub, the SWR will be as high
as it can possibly be. The laws of physics say the SWR can't go any
higher than what it is and it can't go any lower than what it is.
The SWR is what it is and it is a high as it can possibly be. That
high-as-possible value may be 1.5:1 under certain conditions.
--
73, Cecil http://www.qsl.net/w5dxp

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3551. Re: FS: Cushcraft 7 el. HF beam (X7)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 04:03:17 UTC
From: gg <gg@net.com>
Message-ID: <3EC46304.446686B4@net.com>
Source record: 118004
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.swap

Would you consider selling the bird do-do separately?
If so... how much. Paypal acceptable?

Derf Henderson wrote:

> I have a Cushcraft X7 antenna which was installed for a year. It is in
> excellent shape except for some bird do-do. Original boxes and all
> hardware. $400 and prefer local pick-up in the Memphis, TN area, but
> will ship if you pay shipping.
>
> thanks,
> derf wk4dx
> email: ke4ros@hotmail.com

3552. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 04:12:40 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC46538.10508@ieee.org>
Source record: 118003

Dr. Slick wrote:
> I have absolutely NOT agreed with everything you have said,

Not yet, but you will. You invariably do. You grudgingly admitted
I was right about forward and reflected energy flowing unopposed
into and out of a stub.

> ... your other quote about
> "lossy and they can be" near-infinite VSWR shorts and opens (see other
> thread) is totally incorrect.

Please see my other response and then set about proving your silly concept
that the SWR can be higher than the SWR can possibly be. "Near-infinite"
simply means as high as possible. Hint: An SWR of 10:1 is just as near
to infinity as an SWR of 1000:1.

> Where did you admit to wrongly using the word "null"?

I said I didn't use the word "null" all year and Richard C. dug up some
postings where I had used it. I apologized.
--
73, Cecil http://www.qsl.net/w5dxp

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3553. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 04:19:23 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC466CB.3000502@ieee.org>
Source record: 118005

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>>Using coax, how would you do that? I cannot think of anything easier than
>>simply using a directional wattmeter. It is pretty easy to measure these
>>current quantities using ladder-line, but it is still not as easy as using
>>a directional wattmeter.
>>
> That's how you normaly measure it, but for the purposes of an argument,
> you can also get the SWR from the Max and Min currents or voltages.

Again, you agree with me and I don't disagree with you. The easiest way to determine the forward and reflected currents is NOT to chop into the coax trying to locate the Imin and Imax points so you can measure them.

> But to the signal generating circuit, they appear to be the same!

Who cares about the friggin' signal generator? We are trying to ascertain what happens inside a stub!!! We cannot ascertain what happens inside a stub by ignoring the existence of the stub. Which Ham Radio Commandment says we can't look inside a stub to ascertain what is going on?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3554. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 04:49:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <ba1qkufra1@sparta.btinternet.com>
Source record: 118006

The VELOCITY FACTOR of a long antenna wire of diameter d, with an insulating covering up to a diameter of D, at a height H above ground, the insulant having a dielectric constant K, is accurately given by -

A = K * Ln(4 * H / d)

B = Ln((D / d)

Velocity factor = Sqrt(A / (A + B))

EXAMPLE :

Wire diameter = 1 mm

Diameter over insulation = 2 mm

Height above ground = 10,000 mm

Permittivity of insulant (pvc ?) = 4

Velocity factor = 0.992

This reduction in velocity of 0.80 percent relative to the velocity of light, due to an insulation covering of twice wire diameter, amounts to an excess length of 6 inches on the favourite american 40m dipole which can be forgotten about in comparison with the amount of pruning needed for a variety of other reasons.

If anyone should ask for a reference document to check the validity of the above formula then I'm sorry I'm unable to provide one.

I do hope I havn't made my usual arithmetic error. [smiley]

Reg, G4FGQ

3555. Re: FS: Cushcraft 7 el. HF beam (X7)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 05:38:10 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <ba1rgj$k9h$1@news1.kornet.net>
Source record: 118007
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.swap

ROTFLMAO!!! Best laugh I've had in months.. :)

"gg" <gg@net.com> wrote in message news:3EC46304.446686B4@net.com...
> Would you consider selling the bird do-do separately?
> If so... how much. Paypal acceptable?
>
>
>
> Derf Henderson wrote:
>
> > I have a Cushcraft X7 antenna which was installed for a year. It is in
> > excellent shape except for some bird do-do. Original boxes and all
> > hardware. $400 and prefer local pick-up in the Memphis, TN area, but
> > will ship if you pay shipping.
> >
> > thanks,
> > derf wk4dx
> > email: ke4ros@hotmail.com
>

3556. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:12:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <n409cvgmv5qhkbeco08v2lvm9rn8emm4bj@4ax.com>
Source record: 118008

On Thu, 15 May 2003 22:27:20 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> This, again, goes back to Richard's earlier reference to Terman in
>> figure 4-17 that exhibits nearly ANY SWR, from 1:1 to 20:1, linearly
>> along the length of the stub.
>
>Care to explain how an unterminated 1/4WL stub can exhibit an SWR
>of 1:1?

Cecil,

At the risk of belaboring the obvious, consult the reference.

73's
Richard Clark, KB7QHC

3557. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:25:07 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305152225.63597c6e@posting.google.com>
Source record: 118009

richardharrison@webtv.net (Richard Harrison) wrote in message
>
> Why not make the radiator a little too long and bring the radiation
> resistance up to 50 ohms, then tune out the excess inductance with a
> relatively lossless series capacitance?

Pretty common antenna for 160m and other bands. IE: 3/8 wave, 3/8 wave inv L's, etc. Also raises the current maximum up the antenna from the base a bit, which can help reduce ground losses. I used an L , 190 ft long on 160m for this purpose at one time. For most paths, it did outdo the 1/4 wave L. But I didn't use too many radials. MK

3558. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:25:36 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <to09cv4jokve2ponm6gc9ovdu9nit5p3l5@4ax.com>
Source record: 118010

On Thu, 15 May 2003 14:02:14 GMT, James <jimbo@nospam.com> wrote:

>Good ideas, just like to add that the foam, latex dap needs to be painted
>or it will break down
>from sun and weather.

I've had the white soft foam (DAP) out unprotected for at least 3 or 4
years with no noticeable deterioration. OTOH, the yellow foam starts
breaking down in just a month or two, BUT I've had some of that stuff
(Yellow foam)out there for years. The surface turns brown and erodes
a bit, but at the rate of deterioration I think it'd take 20 years
before it no longer sealed the hole.

Yes, it's a good idea to hit it with a can of spray paint, or slop on
a bit of house paint, but I've had good luck just leaving it alone.
>

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>73 jimbo
>
>Roger wrote:
>
>> On Sun, 11 May 2003 22:51:24 -0500, 'Doc <w5lz@cwis.net> wrote:
>>
>> >
>> >
>> >Wayne,
>> > If you've solved your problem this is a little late,
>> >but still a good idea to keep in mind.
>> > When making entries like this, it's a good idea to
>> >'cap' the outer side with a 90 degree bend of PVC pipe,
>>
>> Use a "sweep L" instead of a standard 90. It's far, far easier to
>> pull (or push) cable through.
>>
>> All the *stuff* here goes through 3" ID PVC conduit. all 90s are
>> actually either a pair of 45s, or a sweep L.
>>
>> The "old" installation was 5" plastic sewer pipe with a water trap
>> about 3 feet outside the wall. The trap was a Y with one side down and
>> capped. The cap had several 1/8 th inch holes at the bottom to let
>> water drain into the back fill/sand/
>>

>> Both the old and new come through the basement wall about 2 feet below
>> the surface. The conduit (and the old pipe) used the yellow expansion
>> foam to seal it in the wall (inside and out)
>>
>> The pipe is sealed at the end where it comes into the basement.
>>
>> Where the "pipe" comes through a wall and has an opening "outside", I
>> prefer to seal it at the outside end. The reason being am inside seal
>> may keep critters out, but it also gives the, a real handy nesting
>> spot. I removed nearly *40* "Yellow Jacket" nests from the nooks and
>> crannies of the big satellite dish alone last summer. They built a
>> nest in the junction box on the tower (before I sealed it). The durn
>> things are also inside the mast at the top of the tower. That's the
>> mast from the rotor to the 144/440 arrays and that pipe is over 50
>> feet long.
>>
>> Working on the rotor at 80 feet with a bunch of *big* nasty tempered
>> Yellow Jackets buzzing around my head is not my idea of fun.
>> Course, I only got stung 4 times last Summer.
>>
>> >ot a 'dryer vent'. (Point the 90 degree adapter down to
>> >keep the rain out.) It also makes it easier to run more
>> >or different lines later. If a 1" hole will serve your
>> >purpose that's good, but bigger is better (more lines,
>> >easier to run them). 'Stop' the pipe with steel wool, or
>> >screening to keep critters out...
>>
>> I much prefer the soft (white, Dap) foam instead of the steel wool or
>> screening. It's much more efficient and easier to handle.
>>
>> It also keeps the draft out, or in, as the case may be.
>>
>> Roger Halstead (K8RI EN73 & ARRL Life Member)
>> www.rogerhalstead.com
>> N833R World's oldest Debonair? (S/N CD-2)
>> > 'Doc

3559. Re: Filling a Hole in the Wall for Coax

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:26:56 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <o219cvkfep26aae6bin5q0dtp09ldk20r1@4ax.com>
Source record: 118011

On 15 May 2003 10:59:33 GMT, w8woj@wmconnect.com (W8woj) wrote:

>Go to your home supply center and purchase a tube of Dow Corning RTV silicone
>rubber sealant. It sets up without heat, is waterproof
>and will not crack in cold weather or melt under high temperature. A GE product
>will work as well. 73 W8WOJ

Yah, but if you use very much of it, the coax will never come out of
the conduit <:-))

Hi Don. What you doin? 20 must be dead and you're down here slummin'?

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3560. One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:41:24 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <a619cvcmtbpcf2b9oq2sp49o9ebik0fp6s@4ax.com>
Source record: 118012

Well, I had a chance to find out how tough the Big Boy rotors are.

When I put the antennas up, I tried a Tail twister. It lasted a few hours. Then I tried a Hygain HDR 200. It lasted till the first good wind. I went to move the antennas and the instant I released the brake the whole system spun around past the stops. OK, past the micro switches. The HDR 200 didn't have any stops.

So, I had a spare. It took the gears out of that in less than a week. Sooo...I had the old Tail twister. I put it in place and left the brake set while waiting for the mid size Big Boy rotor to be delivered.

That rotor has been up there several years and through 79 MPH winds. Unfortunately we had 70 MPH plus winds again two week ends back.

I noticed that antennas were not pointing the same as the indicator of the rotor box, I did notice that the thrust bearing above the rotor wasn't moving, but the antennas were swinging as much as 20 degrees.

The support mast consists of 42 feet of inch and a half steel tube and a 21 foot length of 2 inch steel tube. Both have quarter inch walls.

The 2 inch tube goes through a thrust bearing at the top of the tower and extends 15 feet above there. The inch and a half tube is two pieces which telescope inside the two inch. They are pinned in place with 7/16ths inch SS bolts.

Once the wind had died down I made an inspection climb. I found the bottom 7/16ths inch bolt had completely sheared off leaving the upper mast free to rotate. The only thing keeping the thing from becoming a wind sock is a bundle of five LMR 400 flex cables around the top of the tower.

So, when I go back up, I'll pin the thing with two, half inch SS bolts at 90 degrees to each other with a foot of vertical separation.

BTW The rotor is still working just fine.
http://www.rogerhalstead.com/tower.htm

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3561. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 06:52:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305152252.350886d4@posting.google.com>
Source record: 118013

nm5k@wt.net (Mark Keith) wrote in message
> > On the lower part of the union, I placed a steel hose clamp from which
> > 3 1/4 wave radials extend. From there, they run on top of the roof at
> > the roof angle (15%).

As one mentioned, if the radials are actually laying on the metal
roof, I would think the radials are quite effected by the roof, and
detuned in comparison to having them elevated over the roof a bit.
Changes in the quality of the roof connections would probably be
noticable in your case because of the strong coupling to the roof. It
would be better to get them off the roof a bit, unless you are trying
to include the roof as the ground system. And in that case, the
radials are really unneeded unless the roof is smaller than the
radials used.
Using the roof as the ground system would require all sheets to make
good connection. I've had many times where I had trouble with just
aluminum antennas in themselves making bad connections after a long
time outdoors. They would intermit as one section would lose
connection. Sometimes I could fire up my amp and give it a blip of
high power and "weld" it together for a short time...But it always
comes back...You end up having to clean it, and relube with conductive
grease. Common problem with beams also..
> >

> > 2. The water is changing the "ground" conductivity beneath the
> > antenna. However it doesn't seem likely that a wet steel roof will
> > change very much with respect to a dry one. Besides that, on one
> > occasion I went up and found that the SWR was reading 2.0 and the roof
> > was visibly dry.
>
> Could still be damp though, and not really visible. I'm tending to
> lean to this one.

Whoa...I goofed up here. I was thinking you had regular shingles for
some reason. Water on the surface of the steel roof should have no
real effect.
It may be possible water is changing the quality of the connections of
any connecting sheets under the antenna though. But seems to me, it
would need to rain a long time, and have a high humidity, being that
normally water shouldn't be running underneath the sheets. "I'm
assuming sheets of some kind are used."
I think I'd quickly rule out the ropes with a quick test unhooking or
insulating them. If it still happens, I'd be thinking roof. It might
just be the ropes...Also as one said, I'd improve the match to give a
wider usable bandwidth and avoid the shutdown problem even with the

small change. MK

3562. current v voltage baluns

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 07:09:58 UTC
From: Art <a@b.c>
Message-ID: <ba22s5$n9g$1@titan.btinternet.com>
Source record: 118014

Reading the adverts suggest that current baluns are best for tx dipoles. Radioworks http://www.radioworks.com/PDFCat2002/10.pdf make a big song and dance about them and say that there one can be used to match a G5RV wheras others say not.

Any ideas and how does a current balun differ in construction from a voltage one?

Martin

M0MGM
--

--

3563. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 07:20:00 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305152320.1570d6d4@posting.google.com>
Source record: 118015

"Craig Buck" <k4ia@cox.net> wrote in message
news:<OgLwa.9000$823.709@news1.east.cox.net>...

>
> Looks like I should stick with the ATAS and forget about the full size.
> Does this jibe with other's experience?

For 20-10 use, I'd probably agree. On 160, 80, 40, any bugcatcher or good screwdriver should eat the ATAS for lunch, even if bumper mounted. I guess it depends what bands you want to work, and how well you want to do. If you can be heard, that is good enough. But when the summer static starts to sizzle on 80m at night, the long lower masted bugcatcher antenna will mangle the ATAS or any other similar type deal. It will be the difference in solid copy, and having to repeat every other word because you are in the noise. I once compared my old plastic bugcatcher "8 ft tall" to a hustler setup, side by side on 75m. I had my antenna on the trunk deck of my car. The hustler was on the back of a suburban. We were both out in the country in the open talking all sky wave mainly within the state. My antenna mangled the hustler. I was solid copy. They could hardly hear the hustler through the noise. And I'd have to say, a hustler would probably beat an ATAS setup on 80 and 40m being it's normally taller with a longer mast under the coil. But thats just a guess...I really haven't looked at the ATAS antennas too much. On the bright side for me, :), my newer version of "plastic bugcatcher" is even better than my old one. It's two feet taller overall, and the coil is nearly 3 ft higher and also larger dia. than the old one. It's now about 3 inches dia. Used to be about 2.25-2.5 inches or so. The antenna is still *very* light and flexible on the upper end. I don't even need to use a spring, or a heavy duty mount. Much easier to deal with than a "metal bugcatcher" which weighs in like an anchor for a shrimp boat. MK

3564. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 10:32:10 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC4BE2A.3020903@ieee.org>
Source record: 118016

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Care to explain how an unterminated 1/4WL stub can exhibit an SWR
>>of 1:1?

> At the risk of belaboring the obvious, consult the reference.

I don't have access to the reference, Richard, but I suspect something
is obviously amiss in the interpretation of the data. Except for
losses, SWR doesn't change up and down a stub.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3565. Re: current v voltage baluns

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 10:44:02 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC4C0F2.4090302@ieee.org>
Source record: 118017

Art wrote:
> Any ideas and how does a current balun differ in construction from a voltage
> one?

A current balun (choke) balances the currents. A voltage balun balances
the voltages. Feedlines radiate less when the currents are balanced.
"Baluns: What they do and how they do it", ARRL Antenna Compendium, V1
"Some aspects of the balun problem", _Reflections II_, Chapter 21
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3566. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 12:20:49 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EC4D78D.1040106@tampabay.rr.com>
Source record: 118018

what the hell you turning an EME array of 4 11 ele yagis for 6 meters
or what

3567. Problem connecting antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 12:34:57 UTC
From: normanseifert@webtv.net
Message-ID: <465-3EC4DAF1-401@storefull-2311.public.lawson.webtv.net>
Source record: 117920

I want to connect an outside/external FM antenna to a Radio Shack AM/FM/SW radio. The radio has a built-in attached telescopic FM antenna, but no connections for an external FM antenna. The cable from the outside antenna is 75 ohms. Solder won't stick to the built-in antenna on the radio and an alligator clamp doesn't make a strong/permanent enough connection. Thanks,

Norman Seifert
Swannanoa, N.C., U.S.A.

3568. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 12:38:51 UTC
From: richardharrison@webtv.net
Message-ID: <22499-3EC4DBDB-391@storefull-2313.public.lawson.webtv.net>
Source record: 117919

Richard Clark wrote:
"At the risk of belaboring the obvious, consult the reference."

The reference is"Electronic and Radio Engineering" by F.E. Terman, fourth edition, 1955, pages 108 and 109.

Terman places a short-circuited stub of length (a) at a distance (b) back from a load to get a match in the line between the generator and the stub attachment point.

The purpose of the stub is to produce a reflected wave equal in magnitude and opposite in phase from the load-reflected wave. This makes a match to Zo at the stub attachment point as a result of "cancellation" of the two waves.

The Fig. is 4-17.

Best regards, Richard Harrison, KB5WZI

3569. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 13:45:32 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030516094532.01415.00000210@mb-m28.aol.com>
Source record: 117921

>Howdy,
>
>Don't confuse man made noise with QRM.
>
>73 de k9cun

Hmm.. let's see:

QRM - "I am being interfered with. (Man-made interference)"
QRN - "I am experincing static (Atmospheric interference)"

Am I missing something here?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3570. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 14:15:57 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC4F29D.3050500@ieee.org>
Source record: 117922

Richard Harrison wrote:
> Richard Clark wrote:
> "At the risk of belaboring the obvious, consult the reference."
>
> The reference is"Electronic and Radio Engineering" by F.E. Terman,
> fourth edition, 1955, pages 108 and 109.
>
> Terman places a short-circuited stub of length (a) at a distance (b)
> back from a load to get a match in the line between the generator and
> the stub attachment point.
>
> The purpose of the stub is to produce a reflected wave equal in
> magnitude and opposite in phase from the load-reflected wave. This makes
> a match to Zo at the stub attachment point as a result of
> "cancellation" of the two waves.
>
> The Fig. is 4-17.

Is the SWR measured inside the stub as someone has tried to imply?
Where is the SWR measured? I suspect it is between the generator
and the stub, not inside the stub. And of course, a stub can provide
an SWR of 1:1 between the generator and the stub. That's what stubs
do. But the SWR inside the stub is still as high as it can possibly
be. Reflected energy can't get any higher than at a short or open.
--
73, Cecil, W5DXP

3571. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 14:20:08 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns937D4A9F362E9pookster@129.250.170.96>
Source record: 117926

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in
news:3ec3fdca_1@news.vo.lu:

> Your opinion is too scharp... I have examples where dipoles,
> longwires, windom and even some quad using wires capture much QRM.
> That depends of your environment and designs too.
>

Did you mean QRN?

Yes, it depends on the local environment, but man made noise is mostly vertically polarized by the time it reaches your antenna due to the horizontal component being attenuated by the earth. This is only true for locally-generated noise which travels to your antenna via ground wave, not for sky-wave noise which is generally caused by lightning.

--
Bill, W7TI

3572. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 14:22:38 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns937D4B0BA43AApookster@129.250.170.96>
Source record: 117925

Wes Stewart <n7ws@#arrl.net> wrote in
news:s818cvk7tjp8ma101625jk8n8n7toverv7@4ax.com:

> Your web site is full of old wives.
>

That's "Old Wive's Tales", Wes.

--
Bill, W7TI

3573. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 14:40:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC4F866.3020609@ieee.org>
Source record: 117923

Dr. Slick wrote:
> BZZZTT!! Wrong again! Hint: An SWR as high as it
> can be will be as LOSSLESS as can be, which would be the
> case with an ideal lossless short or open.

Please tell me exactly where you disagree with me in my
following assertions.

1. The reflection coefficient at a short or open, existing
at the end of a 1/4WL stub, is 1.0, i.e. reflected power equals
forward power at the end of the stub.

2. At the short or open, SWR = (1+rho)/(1-rho) = (1+1)/(1-1),
i.e. at the short or open, SWR equals infinity by definition.

3. SWR losses inside the stub are a function of the matched
line loss specification for the stub material. If the matched
line loss spec is high, the losses due to high SWR will also
be high.

4. The losses in the stub have nothing to do with the SWR at
the open or short.

5. Given that the SWR in the stub is as high as it can possibly
be (infinity at the short or open), the losses in the stub will
be as high as they can possibly be.
--
73, Cecil, W5DXP

3574. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 14:44:39 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC4F8EC.9080007@attbi.com>
Source record: 117924

'Doc wrote:
>
> Wes,
> No problem. By the way, I'm the one that's short,
> fat, with a Harley hat and hair all over my head...
> 'Doc

Me too!! 5'8" short, 250 #, and Santa Claus' beard and hair!! But NO HARLEY. I haven't developed that passion yet!

Deacon Dave, W1MCE

3575. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 15:02:58 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <6IScnU5xPpY5YFmjXTWcow@comcast.com>
Source record: 117927

I was guessing an 80 m beam. Do tell us Roger.

Tam/WB2TT
"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3EC4D78D.1040106@tampabay.rr.com...
> what the hell you turning an EME array of 4 11 ele yagis for 6 meters
> or what
>

3576. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 15:10:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC4FF53.9040508@ieee.org>
Source record: 117928

Bill Turner wrote:
> Wes Stewart <n7ws@#arrl.net> wrote:
>>Your web site is full of old wives.
>
> That's "Old Wive's Tales", Wes.

Bill, isn't it "Old Wives' Tales"?
"Wive" is a verb. :-)
--
73, Cecil, W5DXP

3577. Shorted/open antenna leads

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 15:14:32 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <avv9cvg4e70j8ce94dcskn83qis9ltj5bn@4ax.com>
Source record: 117929

Is there any way to protect against damage to an XCVR caused by
transmitting at high power on FM into and open or shorted antenna
circuit?

I am in particular interested in the FT-817.

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

3578. Spin Waves

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 15:50:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC508B0.3080708@ieee.org>
Source record: 117930

Here's an interesting web site:

http://www.vasantcorporation.com/

Click on "standing waves" in the second paragraph and
read all about standing waves which are caused by two
waves moving in opposite directions.
--
73, Cecil, W5DXP

3579. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 15:50:42 UTC
From: richardharrison@webtv.net
Message-ID: <465-3EC508D2-411@storefull-2311.public.lawson.webtv.net>
Source record: 117934

CAM, W5DXP wrote:
"Where is the SWR measured?"

The point is that the magnitude of the stub reflection must exactly equal that of the mismatched load (let`s assume the load isn`t a short, an open, or a pure reactance). No more, and no less from the stub than from the load. The difference is that the reflection from the stub must be exactly out-of-phase with that from the load in the direction of the transmitter.

Best regards, Richard Harrison, KB5WZI

3580. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:02:22 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <sg2acvgjjn0arcc70mv563v0oqinbd3shb@4ax.com>
Source record: 117931

On Fri, 16 May 2003 12:20:49 GMT, Dennis Kaylor
<k4oxg@tampabay.rr.com> wrote:

>what the hell you turning an EME array of 4 11 ele yagis for 6 meters
>or what

Ohhhh...nothing that small. <:-)) Actually it isn't quite that big.
http://www.rogerhalstead.com/tower.htm It's a big page but the
overall views are at the bottom.

The rotor is turning a TH-5 (soon to be log periodic) at 100 feet, a
50-7 C3i (28'8" boom) at 115 feet, and stacked 12s on 144 and stacked
11s for 440 on the same 14 foot cross boom (vertical polarization) at
130 feet. The mast alone weighs about 240#, plus the 6 antennas.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3581. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:07:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lu1acvou5lpnh5il0pdph3ujcqbeu9o68r@4ax.com>
Source record: 117932

On Fri, 16 May 2003 05:32:10 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>I don't have access to the reference, Richard

Hi Cecil,

Can't muster up $25 (average) to pursue one of 5 texts I found in 20
seconds on the net - hmm? One copy marked at $15. Poverty is a
shallow defense.
http://www.bookfinder.com/search/?ac=sl&st=sl&qi=oC2dDpFhS2ZDrScQbgzeCmsaGQQ_8540587866_1:
4:5

Can't even vet this text in the same vaults as those vaunted volumes
you vacuously vapor over? Lack of interest is no defense.

It seems many here spend a lot of time hand holding you through the
tough spots, spoon feeding you answers to questions you should know,
and following your fruitless ruminations that wander the rhetorical
landscape. You really need weaning.

73's
Richard Clark, KB7QHC

3582. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:16:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <993acvg2b2bfb5k325qdg7grbomie3upqo@4ax.com>
Source record: 117933

On Fri, 16 May 2003 05:32:10 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>SWR doesn't change up and down a stub.

On Fri, 16 May 2003 07:15:57 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Where is the SWR measured? I suspect it is between the generator
>and the stub, not inside the stub.

So Cecil,

In rejoin you offer that SWR could not possibly change within the
confines of the stub, but that it could only occur between the stub
and the source?

Could you offer us a work-up on how this observation of yours is
supported by respectable authors and editors? Don't mistake this for
an appeal for more of your itinerant ramblings. 500 posts don't
qualify for more than guff.

73's
Richard Clark, KB7QHC

3583. for Moore!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:18:25 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305160818.2099b6e4@posting.google.com>
Source record: 117935

Hi Moore,
Thanks for ur help. The diode i am using(UPP1004) has
0.75ohms at 100MHz 10mA. But i am using this at 1-3GHz, will this be a
problem. Waiting for ur reply.

Thank you.

3584. Re: Problem connecting antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:24:39 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <ba33c9$ouchi$1@ID-134747.news.dfncis.de>
Source record: 117936

Radio Shack sells a Short-wave Listening Antenna
on a reel. You do not need the antenna. but part
of the kit is a clip to connect the antenna to a
telescoping rod antenna. That adapter, and a "F
to 1/8"" adapter will solve your connection
problems.

73 es cul

wb3fup
a Salty Bear

"Norman Seifert" <normanseifert@webtv.net> wrote
in message
news:465-3EC4DAF1-401@storefull-2311.public.lawson.webtv.net...
> I want to connect an outside/external FM antenna
to a Radio Shack
> AM/FM/SW radio. The radio has a built-in
attached telescopic FM
> antenna, but no connections for an external FM
antenna. The cable from
> the outside antenna is 75 ohms. Solder won't
stick to the built-in
> antenna on the radio and an alligator clamp
doesn't make a
> strong/permanent enough connection. Thanks,
>
> Norman Seifert
> Swannanoa, N.C., U.S.A.
>

3585. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:32:27 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3EC5129B.E18F4C9C@sympatico.ca>
Source record: 117939

VHFRadioBuff wrote:

>
> Hmm.. let's see:
>
> QRM - "I am being interfered with. (Man-made interference)"
> QRN - "I am experincing static (Atmospheric interference)"
>
> Am I missing something here?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

No, you are correct:

qrM for Man made
qrN for Natural

Dave

3586. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:33:10 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec51388_3@news1.prserv.net>
Source record: 117937

I use a HyGain R-3503. Recommend it highly, but I don't think it is in production any more. Present tower system, rotator and antenna is identical to the one pictured on the cover of the June 2002 World Radio magazine. If it wasn't for the background, I would think they photographed my installation.

--
Crazy George
Remove NO and SPAM from return address
"Roger Halstead" <rdhalste@tm.net> wrote in message news:sg2acvgjjn0arcc70mv563v0oqinbd3shb@4ax.com...
> On Fri, 16 May 2003 12:20:49 GMT, Dennis Kaylor
> <k4oxg@tampabay.rr.com> wrote:
>
> >what the hell you turning an EME array of 4 11 ele yagis for 6 meters
> >or what
>
> Ohhhh...nothing that small. <:-)) Actually it isn't quite that big.
> http://www.rogerhalstead.com/tower.htm It's a big page but the
> overall views are at the bottom.
>
> The rotor is turning a TH-5 (soon to be log periodic) at 100 feet, a
> 50-7 C3i (28'8" boom) at 115 feet, and stacked 12s on 144 and stacked
> 11s for 440 on the same 14 foot cross boom (vertical polarization) at
> 130 feet. The mast alone weighs about 240#, plus the 6 antennas.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)

3587. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:36:16 UTC
From: tdonaly@aol.com
Message-ID: <20030516123616.20039.00000115@mb-m04.aol.com>
Source record: 117938

Cecil wrote,
>
>Bill Turner wrote:
>> Wes Stewart <n7ws@#arrl.net> wrote:
>>>Your web site is full of old wives.
>>
>> That's "Old Wive's Tales", Wes.
>
>Bill, isn't it "Old Wives' Tales"?
>"Wive" is a verb. :-)
>--
>73, Cecil, W5DXP
>
Yes, some of us have been wived more than once.
73,
Tom Donaly, KA6RUH

3588. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:45:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <685acvo05rltv8r43ip0n38l8fdla3dcf8@4ax.com>
Source record: 117940

On 16 May 2003 16:36:16 GMT, tdonaly@aol.com (Tdonaly) wrote:

>Yes, some of us have been wived more than once.
>73,
>Tom Donaly, KA6RUH

Hi Tom,

Is this like Galileo having gotten Poped once?

Reminds me of a "Fawlty Towers" episode where our hero complains of
his wife's sarcastic threat:
"You'll have to sew it back on before you can do that again."

73's
Richard Clark, KB7QHC

3589. Re: Spin Waves

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 16:57:02 UTC
From: tdonaly@aol.com
Message-ID: <20030516125702.20039.00000116@mb-m04.aol.com>
Source record: 117941

Cecil wrote,
>
>Here's an interesting web site:
>
>http://www.vasantcorporation.com/
>
>Click on "standing waves" in the second paragraph and
>read all about standing waves which are caused by two
>waves moving in opposite directions.
>--
>73, Cecil, W5DXP
>

Hi Cecil,
any old physics book will give you more information
than those guys. They certainly do have some imaginative
theories about particle physics, though. When are they going
to come out with a new, improved crackpot antenna? The CFA
is getting long in the tooth, and I think we might be in danger of running out
of
things to argue about.
73,
Tom Donaly

3590. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 17:08:31 UTC
From: richardharrison@webtv.net
Message-ID: <11428-3EC51B0F-383@storefull-2312.public.lawson.webtv.net>
Source record: 117942

Cecil, W5DXP wrote:
"The losses in the stub have nothing to do with the SWR at the open or short."

Cecil seems determined that all wave interaction occurs at a discontinuity. I tend to agree but think it is useful to work with results not the causes in many instances.

A hybrid ring as used with VHF repeaters is an example of how it is only necessary to add phase differences to understand how it works.

In one configuration, (2) 3/4-wavelengths of cable are used to connect a transmitter and an antenna. The cables come together at one end in the transmitter port and at the other end in the antenna port.

As the phase delays are equal in the two cables, the phases where they come together are the same and the signals add.

Tap one if the cables with a tee, 1/4-wave back from the antenna port.

From the transmitter port to the tap via the short path is 180 degrees. Via the long path is 360-degrees. Obviously the two transmitter signals are 180-degrees out-of-phase at the tap point. They add to zero signal from the transmitter at this point. Adjust the system for exactly zero transmitter signal at this point and it makes a good place to connect a receiver because if you check the long and short of the signals from the antenna port to the line tap, they add in-phasee.

Often another tap is added in the tapped line. This second tap is placed 1/4-wavelength from the transmitter port. That means it is also 1/4-wavelengtth from the first tap. This second tap has various uses but is not needed to make my simple case.

I used a simple hybrid ring to parallel two transmitters for double power output without interaction between the transmitters. They were 50 KW broadcast transmitters, not in the U.S.A. It worked like a charm.

Point is, I saw no need to consider shorts, opens, or anything but phase in understanding what adds and what subtracts,

Best regards, Ridhard Harrison, KB5WZI

3591. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 17:17:13 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030516131713.01796.00000209@mb-m14.aol.com>
Source record: 117943

>I normally use standard "hardware store" #14 stranded type THHN copper
>utility wire which is only around $15 for a 500 foot spool vs. the
>more exotic "ham antenna wire" types.

It is about 5% - you need to shorten the antenna.
This is not calculated by discovered experimentally on 10m quad loops.
I used # 12 and 10 electrical wire (red :-)

Yuri

3592. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 17:43:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <en8acvksm1hjoen420cp4i4u52jq1lih7d@4ax.com>
Source record: 117944

On Fri, 16 May 2003 12:08:31 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>Point is, I saw no need to consider shorts, opens, or anything but phase
>in understanding what adds and what subtracts,
>
>Best regards, Ridhard Harrison, KB5WZI

Hi Richard,

Your experience and a similar treatment from Optics:
> I = 2 * I1 * (1 + cos(phi2 - phi1 - delta))
> ave(I) = 2*I1 for an integral number of waves
> where:
> I: The intensity over the variation in phase (delta)
> I1: The intensity of each, coherent source (being equal)
> phi2: source2 phase (fixed over interval of delta)
> phi1: source1 phase (fixed over interval of delta)
> delta: vary phase to observe full 360ï¿½ interference pattern
converge in their simplicity.

73's
Richard Clark, KB7QHC

3593. What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 17:56:09 UTC
From: Gilbert Baron <gbaron@myrealbox.com>
Message-ID: <lh9acv4b10romo55qh3o3g1vht1kv2mar8@4ax.com>
Source record: 117945

I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc over in the traps , at least I think that is what did it?

In any case I need advice on anew antenna.

I am looking at the CUSHCRAFT R8
The Gap Titan DX
The MFJ 1798
The Hy Gain AV-640

I ms ut say the Cushcraft scares me. It uses traps and I have had rotten luck with 2 previous Cushcraft verticals, they blow out easily. The new one claims to be able to take it..

So far I am leaning toward the Hy Gain. I have always had good luck with Hy Gain in the past. I really want to cover ALL the bands 80-10 so maybe that rules out the Cushcraft in any case.

What say all?

3594. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:25:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vraacv4tbb9k3igf8uqf4upc22at9iuncm@4ax.com>
Source record: 117946

On Fri, 16 May 2003 12:56:09 -0500, Gilbert Baron
<gbaron@myrealbox.com> wrote:

>I really want to cover ALL the bands 80-10
>so maybe that rules out the Cushcraft in any case.

Hi Gilbert,

Actually that rules out nearly every antenna (not just those on your list). Invariably, the "all banders" (or some subset of bands) generally show dismal results for the bottom one or two bands. The why of that is another matter and could be highly correlated to mechanic error.

73's
Richard Clark, KB7QHC

3595. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:33:21 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcabomnk6nrn0b@corp.supernews.com>
Source record: 117947

Check out FluidMotion at www.steppir.com .
I have the BiggIR vertical. I like it. A lot.
Do you have a metal roof?
Gap owners with whom I have had QSO's were pleased with their antennas.
I used a Hy Gain 14AVQ in the Virgin Islands in 1970; Good antenna.
No experience with MFJ antennas.
I have an R8 and an older R7, I think it was. Sort of a 10 meter antenna
with resonant dummy loads at the top.
Full size on 20, the R8 is really big and difficult to handle; It broke
apart below the 20 meter trap when I dropped it.
They were both always noticably inferior to a simple dipole no matter what
band.
A nice source of Al tubing and toroids, them R antennas.
73
YMMV
H.
NQ5H

"Gilbert Baron" <gbaron@myrealbox.com> wrote in message
news:lh9acv4b10romo55qh3o3g1vht1kv2mar8@4ax.com...
> I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc
> over in the traps , at least I think that is what did it?
>
> In any case I need advice on anew antenna.
>
> I am looking at the CUSHCRAFT R8
> The Gap Titan DX
> The MFJ 1798
> The Hy Gain AV-640
>
>
> I ms ut say the Cushcraft scares me. It uses traps and I have had
> rotten luck with 2 previous Cushcraft verticals, they blow out easily.
> The new one claims to be able to take it..
>
> So far I am leaning toward the Hy Gain. I have always had good luck
> with Hy Gain in the past. I really want to cover ALL the bands 80-10
> so maybe that rules out the Cushcraft in any case.
>
>
> What say all?
>

3596. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:34:06 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <yaaxa.36967$Lm2.2465519@twister.southeast.rr.com>
Source record: 117948

SWR is too high even for dry weather indicating that something is wrong from start. I would start over verifying that everything is good, connections, length of antenna, coax. I would get rid of the PVC. I personally dont like this stuff for iinsulators. It contaminates easily and weathers poorly.. In the past I have run antennas like this and found "long neck" bottles work great as insulators. Since you have a metal roof I would just use the roof as a counterpoise. The slight change in SWR during rain is fairly typical but since you are on the edge of what your transciever can handle it is causing a problem. My bet would be that your radiator is the wrong length. I am assuming that the antenna is mounted on the peak of the roof. If so the SWR should probably be in the 1.1-1.2:1 range. If it is mounted on the slope of the roof the antenna could have a lower feedpoint impedance accounting for the higher than expected SWR IF the latter is the case either move the antenna to the peak or install a 1/4 wl section of 70 ohm cable at the antenna. This should improve the match between radio and antenna. The 1/4 wl section should only be used after every other possibility is eliminated and you have determined your antenna is operating at resonance and all connections and componets are good.

"Q" <mmelendez@celeridad.net> wrote in message
news:6298a68d.0305141048.6d91376c@posting.google.com...
> I have a 17m vertical mounted on the rooftop which is giving me slight
> SWR problems, and I haven't been able to figure out why. I'm hoping
> someone might have an idea.
>
> The vertical is real simple: 1" Al tubing, held up by polypropylene
> rope. Where it meets the roof (the roof is galvanized steel sheet)
> it's electrically insulated via a 1/2" PVC pipe with a 1/2" PVC union
> to give it a rim to hold up the antenna.
>
> On the lower part of the union, I placed a steel hose clamp from which
> 3 1/4 wave radials extend. From there, they run on top of the roof at
> the roof angle (15%).
>
> What happens is this: no rain, the antenna adjusts to around 1.7 SWR.
> It works without any problems. Add a 5 or 10 minute drizzle, and the
> SWR goes up to 2.0, which basically makes the transmitter autoprotect.
>
> At the present I have a couple of theories:
>
> 1. Water is getting into the coax. However it doesn't seem likely
> given that there's a "hood" (a cut off soda bottle) on top of the
> whole coax assembly, as well as the typical inverted-U configuration
> to keep water out via gravity.

>
> 2. The water is changing the "ground" conductivity beneath the
> antenna. However it doesn't seem likely that a wet steel roof will
> change very much with respect to a dry one. Besides that, on one
> occasion I went up and found that the SWR was reading 2.0 and the roof
> was visibly dry.
>
> 3. The pplene rope is becoming conductive. However, once again I
> checked and found no noticeable moisture on the rope, and the SWR was
> still reading 2.0
>
> Aside from that the only thing that occurs to me is that the water is
> somehow partially shorting the vertical radiator to the radials. But
> once again, I'm not sure how much of a problem a film of water on top
> of the PVC along 1 or 2 cm length might represent.
>
> Any ideas?
>
> ---
> Mario - TI2DLL

3597. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:34:37 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC52F3D.4010708@ieee.org>
Source record: 117949

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "Where is the SWR measured?"
>
> The point is that the magnitude of the stub reflection must exactly
> equal that of the mismatched load (let`s assume the load isn`t a short,
> an open, or a pure reactance). No more, and no less from the stub than
> from the load. The difference is that the reflection from the stub must
> be exactly out-of-phase with that from the load in the direction of the
> transmitter.

I agree with the above but that is not the point. I don't think that
SWR is measured inside the stub as implied by another poster. Where
is the SWR measured?

The SWR at the open or shorted end of a stub is infinite, by definition.
--
73, Cecil, W5DXP

3598. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:36:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC52FAF.8010606@ieee.org>
Source record: 117950

Richard Clark wrote:
> It seems many here spend a lot of time hand holding you through the
> tough spots, ...

Isn't that one of the purposes of netnews groups?
--
73, Cecil, W5DXP

3599. Re: Shorted/open antenna leads

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:37:45 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <apudnUKKMtqcrVijXTWcog@crocker.com>
Source record: 117951

test on low power first???

i don't know the ft-817, but most modern radios cut back the output power if
the swr is too high.

"Ken" <cprstn54zz@att.net> wrote in message
news:avv9cvg4e70j8ce94dcskn83qis9ltj5bn@4ax.com...
> Is there any way to protect against damage to an XCVR caused by
> transmitting at high power on FM into and open or shorted antenna
> circuit?
>
> I am in particular interested in the FT-817.
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

3600. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:38:52 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <0faxa.36982$Lm2.2465911@twister.southeast.rr.com>
Source record: 117952

He may have his antenna mounted on the slope of the roof. If so his impedance could be around 25 0hms. We are only assuming it is mounted on the peak

"Richard Harrison" <richardharrison@webtv.net> wrote in message news:21692-3EC41082-115@storefull-2314.public.lawson.webtv.net...
> CAM, W5DXP wrote:
> "If the ground is not perfect, the feedpoint impedance will be higher
> than 35 ohms."
>
> Yes, and if the radiator is too short, the radiation resistance can be
> less than 35 ohms.
>
> Why not make the radiator a little too long and bring the radiation
> resistance up to 50 ohms, then tune out the excess inductance with a
> relatively lossless series capacitance?
>
> Best regards, Richard Harrison, KB5WZI
>

3601. Top Loaded Vertical using spiral coils

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:39:16 UTC
From: wings@dakotacom.net
Message-ID: <3ec52d6c.11113397@news.dakotacom.net>
Source record: 117953

I"m considering building a top loaded antenna for my 1.7 mhz part 15 am radio station using a 3 meter vertical #12 wire with about 140 feet of additional #12 wound spirally on a crossed form of 1 1/2 in. PVC tubing that is 10 feet in diameter located perpendicularly at the top. I will use an elevated radial system.

I've found several references to this type of antenna on the www, but am confused on the length of wire to use in the coil. One author says the spiral coils need to be 1/4 wave wire lengths, and this is confirmed by data I've found on specific antennas.

http://www.alan.melia.btinternet.co.uk/spiraltop.htm

This site shows such an antenna using 169 feet of wire on shorter spokes, and it resonantes at 1.741 MHz with 98.8 ohms impedance. At the frequency where the length of the spiral is 1/4 wave (1.4 mhz) the antenna has 56 Ohms impedance. Does this concur with the idea of the length of the spiral needing to be 1/4 wave, or is it still more complicated? Assume a perfect ground for this discussion.

Regards,

Gene A. Townsend

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3602. Re: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:40:38 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <VNycnTpzr4c1rVijXTWcoA@comcast.com>
Source record: 117954

I don't see any problems with the RG6 provided the connectors are crimped on correctly. Only problems I have had with RG6 were when the puppy chewed through the shield, the cable guy didn't crimp the connector, and I had used push on - instead of screw on F connectors. I run 1200W on HF, 400 on 6, and 160 on 2 meters and have no RF getting into the cable. On the other hand, I don't go looking for trouble either; so, the TV cables are kept away from the ham cables.

Tam/WB2TT
"Robert Rose" <rgsrose@tiac.net> wrote in message
news:ba10sm$8iv$1@slb1.atl.mindspring.net...
> Hi,
>
> OT, but I figured this is the place to go with this.
>
> Have some interior wiring to do from TV to its wall spigot, about 25 feet
or
> so.
>
> Have loads of spare RG 6.
>
> Would this be O.K. to use ?
>
> Thanks,
> Bob
>

3603. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:42:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC5310D.8040005@ieee.org>
Source record: 117955

Richard Clark wrote:
> In rejoin you offer that SWR could not possibly change within the
> confines of the stub, but that it could only occur between the stub
> and the source?

In a lossless piece of transmission line, the SWR cannot change
while the Z0 remains constant. That applies to stubs. A matching
stub with an infinite SWR at the open or shorted end of the stub
can cause an SWR of 1:1 between the generator and the stub. That's
what matching stubs do. But all open or shorted ends of stubs will
carry an infinite SWR, by definition. That's what opens and shorts
do.
--
73, Cecil, W5DXP

3604. Re: for Moore!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:44:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC53193.8090605@ieee.org>
Source record: 117956

anand wrote:
> The diode i am using(UPP1004) has
> 0.75ohms at 100MHz 10mA. But i am using this at 1-3GHz, will this be a
> problem. Waiting for ur reply.

I'm sorry, I'm retired. Perhaps someone with access to that data
sheet can answer the question.
--
73, Cecil, W5DXP

3605. Re: Spin Waves

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:47:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC5324F.7030604@ieee.org>
Source record: 117957

Tdonaly wrote:
> any old physics book will give you more information
> than those guys.

Well, my 1950's college physics book doesn't even
mention "spin waves". :-)
--
73, Cecil, W5DXP

3606. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:51:00 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC53314.5080109@ieee.org>
Source record: 117959

Richard Harrison wrote:
> Point is, I saw no need to consider shorts, opens, or anything but phase
> in understanding what adds and what subtracts,

What caused the quantities that add and subtract?
That's what I am after. Where is the out of phase
signal coming from if not from the reflected energy
caused by the short or open end of the stub?
--
73, Cecil, W5DXP

3607. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:51:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bmcacvsmei8785m55j3od7lmimf0icqa5m@4ax.com>
Source record: 117958

On Fri, 16 May 2003 11:36:31 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Richard Clark wrote:
>> It seems many here spend a lot of time hand holding you through the
>> tough spots, ...
>
>Isn't that one of the purposes of netnews groups?
The one whose hand is being held generally thanks those who support
them. Your manners exhibit the conjugate of that expectation.

73's
Richard Clark, KB7QHC

3608. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:54:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fqcacvoufn5onmnaqqg8k52phk179rp361@4ax.com>
Source record: 117960

On Fri, 16 May 2003 11:42:21 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>On Fri, 16 May 2003 05:32:10 -0500, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>
>>SWR doesn't change up and down a stub.
>
>On Fri, 16 May 2003 07:15:57 -0700, OC_CAM's Razor
><Cecil.A.Moore@ieee.org> wrote:
>
>>Where is the SWR measured? I suspect it is between the generator
>>and the stub, not inside the stub.

>Richard Clark wrote:
>> In rejoin you offer that SWR could not possibly change within the
>> confines of the stub, but that it could only occur between the stub
>> and the source?
>
lack of actual response to query or offer of reference snipped.

73's
Richard Clark, KB7QHC

3609. REQUEST ASSISTANCE PLEASE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:57:28 UTC
From: drbob92031@aol.com
Message-ID: <20030516145728.15246.00000158@mb-m18.aol.com>
Source record: 117961

I am in an area the frowns upon antennas So far I have been happy with my 20M ground mounted vert. (HB)
My question is; can I place a director or reflectror, also in the vert. position to act as an enhancer to the output. I realize there will be a change in input impedence which I can adjust for with a "hair pin" addition at the feed point. Radials are no problem.
I just want to know how or if this is workable.
Please e-mail direct as I do not get to read my newsgroups frequently enough.
E-mail to; <drbob92031@aol.com>
Thanks in advance for any responses
Bob; WA2EAW

3610. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 18:59:50 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC53526.8080402@ieee.org>
Source record: 117962

Richard Clark wrote:
> The one whose hand is being held generally thanks those who support
> them. Your manners exhibit the conjugate of that expectation.

If I have ever forgotten to thank anyone for their valid contribution
to my learning process, I apologize and thank him/her herewith.
--
73, Cecil, W5DXP

3611. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:02:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4cdacv8hmcp2g0g7ofqni5132tjt76j2a2@4ax.com>
Source record: 117963

On Fri, 16 May 2003 11:51:00 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Where is the out of phase
>signal coming from if not from the reflected energy
>caused by the short or open end of the stub?

What does it matter?

3612. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:02:50 UTC
From: Gilbert Baron <gbaron@myrealbox.com>
Message-ID: <cddacvk9h0b7lt2a31r715s9bvc3rjfrvn@4ax.com>
Source record: 117964

On Fri, 16 May 2003 13:33:21 -0500, "H. Adam Stevens"
<solo@totalaccess.net> wrote:

>Check out FluidMotion at www.steppir.com .
>I have the BiggIR vertical. I like it. A lot.
>Do you have a metal roof?

Not a metal roof.

>Gap owners with whom I have had QSO's were pleased with their antennas.
>I used a Hy Gain 14AVQ in the Virgin Islands in 1970; Good antenna.
>No experience with MFJ antennas.
>I have an R8 and an older R7, I think it was. Sort of a 10 meter antenna
>with resonant dummy loads at the top.
>Full size on 20, the R8 is really big and difficult to handle; It broke
>apart below the 20 meter trap when I dropped it.
>They were both always noticably inferior to a simple dipole no matter what
>band.
>A nice source of Al tubing and toroids, them R antennas.
>73

Yes, I agree here.

>YMMV
>H.
>NQ5H
>
>"Gilbert Baron" <gbaron@myrealbox.com> wrote in message
>news:lh9acv4b10romo55qh3o3g1vht1kv2mar8@4ax.com...
>> I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc
>> over in the traps , at least I think that is what did it?
>>
>> In any case I need advice on anew antenna.
>>
>> I am looking at the CUSHCRAFT R8
>> The Gap Titan DX
>> The MFJ 1798
>> The Hy Gain AV-640
>>
>>
>> I ms ut say the Cushcraft scares me. It uses traps and I have had
>> rotten luck with 2 previous Cushcraft verticals, they blow out easily.
>> The new one claims to be able to take it..
>>
>> So far I am leaning toward the Hy Gain. I have always had good luck
>> with Hy Gain in the past. I really want to cover ALL the bands 80-10

>> so maybe that rules out the Cushcraft in any case.
>>
>>
>> What say all?
>>
>

3613. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:04:18 UTC
From: Gilbert Baron <gbaron@myrealbox.com>
Message-ID: <ffdacvcotds56lgtkegov33br4c8b12u14@4ax.com>
Source record: 117965

On Fri, 16 May 2003 18:25:00 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Fri, 16 May 2003 12:56:09 -0500, Gilbert Baron
><gbaron@myrealbox.com> wrote:
>
>>I really want to cover ALL the bands 80-10
>>so maybe that rules out the Cushcraft in any case.
>
>Hi Gilbert,
>
>Actually that rules out nearly every antenna (not just those on your
>list). Invariably, the "all banders" (or some subset of bands)
>generally show dismal results for the bottom one or two bands. The
>why of that is another matter and could be highly correlated to
>mechanic error.

I can accept marginal performance on 80 so not a big problem. 20-10
are the most important, good bandwidth is also a plus.

>
>73's
>Richard Clark, KB7QHC

3614. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:06:19 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC536AB.7060804@ieee.org>
Source record: 117966

Richard Clark wrote:
> lack of actual response to query or offer of reference snipped.

Richard, do you really need a reference for the SWR being constant
all up and down a lossless transmission line?
--
73, Cecil, W5DXP

3615. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:08:33 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC53731.8030104@ieee.org>
Source record: 117967

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Where is the out of phase
>>signal coming from if not from the reflected energy
>>caused by the short or open end of the stub?
>
> What does it matter?

What does knowledge matter???????? Some of us are
simply curious.
--
73, Cecil, W5DXP

3616. LATTON multiband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:08:56 UTC
From: drbob92031@aol.com
Message-ID: <20030516150856.15246.00000159@mb-m18.aol.com>
Source record: 117968

Does any one have any experience with the Laton antenna?
Pse respond via e-mail to <drbvob92031@aol.com>
THanks for any responses
Bob WA2EAW

3617. FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:10:00 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305161110.6a9ff50@posting.google.com>
Source record: 117819

Greetings,
I am currently looking to install an omnidirectional TV/FM antenna in my attic (unfortunately I don't have space for a directional one with a rotator).

Ideally, I would like to have a single antenna feeding the single coax cable run throughout the house (a condo), fulfilling the needs of both my TV set and FM stereo system.

I found on the web a few such antennas offered by Winegard and Radio Shack. However, all of them have a FIXED FM trap. That is, even if I wanted to switch it off, I couldn't.

My first question is: Why? Why isn't anyone making an omnidirectional antenna WITHOUT an FM trap? Is there an inherent problem in omnidirectional antennas that mandates an FM trap?

My second question is: If I combine the RF signals (using a coupler similar to the Winegard CA-8800 in http://www.winegard.com/products/accessories/acc_ant_seperator_joiner.html) from two omnidirectional antennas (one FM, one VHF/UHF), in order to feed the combined signal through the single coax run - will I essentially re-introduce the very same problem that the FM trap in the VHF/UHF antenna was trying to solve? Is this solution better or worse than having a single VHF/UFH antenna that does not have an FM trap? (assuming I can actually find one...)

Please reply directly to this newsgroup (my email address is bogus, to prevent spam).

Many thanks in advance,
Daniel

3618. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:16:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <n8eacvceve3qikk3clf35uvro2ltgm2feb@4ax.com>
Source record: 117820

On Fri, 16 May 2003 12:06:19 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> lack of actual response to query or offer of reference snipped.
>
op. cit.

3619. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:18:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <h9eacvk851bo43ou0qtn9a649ubqqvva2n@4ax.com>
Source record: 117821

On Fri, 16 May 2003 12:08:33 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>>>Where is the out of phase
>>>signal coming from if not from the reflected energy
>>>caused by the short or open end of the stub?
>> What does it matter?
>Some of us are simply curious.

You speaking for that mouse in your pocket again?

3620. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:20:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1deacvcskkb8i2b95j4meqid7k99jm5eov@4ax.com>
Source record: 117822

On Fri, 16 May 2003 14:04:18 -0500, Gilbert Baron
<gbaron@myrealbox.com> wrote:
>I can accept marginal performance on 80 so not a big problem. 20-10
>are the most important, good bandwidth is also a plus.

Then go for the Gap Eagle. Elevate it per instructions.

73's
Richard Clark, KB7QHC

3621. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:27:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mjeacvg32t1ep0bgt554rckhjhvjuilqju@4ax.com>
Source record: 117823

On 16 May 2003 12:10:00 -0700, danibe@my-deja.com (Daniel) wrote:

>
>I found on the web a few such antennas offered by Winegard and Radio
>Shack. However, all of them have a FIXED FM trap. That is, even if I
>wanted to switch it off, I couldn't.

Hi Daniel,

You don't need to. The "switching" comes free and is only noticeable
at the receiver (working correctly for the correct one). That is the
point of traps.
>
>My first question is: Why? Why isn't anyone making an omnidirectional
>antenna WITHOUT an FM trap? Is there an inherent problem in
>omnidirectional antennas that mandates an FM trap?
No
>
>My second question is: If I combine the RF signals ... - will I
>essentially re-introduce the very same problem that the FM trap in the
>VHF/UHF antenna was trying to solve?
It isn't a problem in the first place - but you can turn it into a
problem.

Start with the simplest solution first, and THEN add complexity.

73's
Richard Clark, KB7QHC

3622. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 19:37:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f7facvc0miudv1mmrn14ees0mdi9ehq7lf@4ax.com>
Source record: 117824

On Fri, 16 May 2003 11:59:50 -0700, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> The one whose hand is being held generally thanks those who support
>> them. Your manners exhibit the conjugate of that expectation.
>
>If I have ever forgotten to thank anyone for their valid contribution
>to my learning process, I apologize and thank him/her herewith.

Apparently you've forgotten names and subjects too....

Really, your quality of response is only suitable for political rags.
You show every talent in that regard, but that doesn't take much. It
about equals the support the current administration shows for our
troops.

73's
Richard Clark, KB7QHC

3623. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 20:17:47 UTC
From: JCM <menardjc@wanadoo.fr>
Message-ID: <ba3h30$pf0$1@news-reader12.wanadoo.fr>
Source record: 117825

I use a G4ZU "Jungle beam" (ARRL Antenna Compendium nb 2) on 20 m.
It's also a wire beam, it seems to have slightly more gain than a Moxon
square and is easier to build.
Shape is like a drawn bow :
- the bow is made of 2 fiber glass telescoping fishing poles joined back to
back with a piece of plastic tubing and the radiator is a half wave copper
wire inside the poles, center fed with a 50 Ohms coax.
- the arrow, another fishing pole 4 m long, is the boom.
- the string, made of copper wire attached to the extremities of the bow
with two short lengths of nylon rope, is the V shaped reflector .

Wide band: 14.35=SWR 1.2, 14.2=1.1, 14.00=1.4
Extremely light: about 7 pounds.
Good F/B ratio.
Noticeable gain: 1(sometimes more depending on signal path) "S" point
v/dipole.
Wide beamwidth.

A V shaped wire director can be added, it seems to increase the gain but
it's a feeling not a measurement.

Has somebody experimented this antenna ?

JCM - F8ND

"KAZeringue" <kazeringue@aol.com> a crit dans le message de news:
3EC0546D.4060402@aol.com...
> I've been wanting to try a moxon rectangle on 40 meters Field Day for
> the past couple of years. I tried moxons on 15 and 10 meters during the
> sunspot peak, and they have a bit of gain, a fairly wide 3db beamwidth,
> and excellent f/b ratio. They suited my need then(attenuate US QRM so I
> could work Europeans), although I didn't keep them up long.
>
> Our QTH here is near the coast, so the Moxon's big fat lobe in mostly
> one direction should be great for Field day from near the coasts.
>
> Maybe this year, if I get motivated to twist one up.
>
> (Hey, if anybody has tried one for 40 meters at Field day, what luck?)
>
> You can see W4RNL's web site, www.cebik.com, for everything about
> moxons you might need.
>
> Keith, W4KAZ.
>

3624. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 20:18:23 UTC
From: richardharrison@webtv.net
Message-ID: <1131-3EC5478F-382@storefull-2318.public.lawson.webtv.net>
Source record: 117826

Cecil, W5DXP wrote:
"The SWR at the open or shorted end of a stub is infinite by definition."

SWR is the ratio of voltage at the maxima to the voltage at the minima. Across a short the voltage is zero. !/4-wave back from the short volts are maximum.

So, we have a ratio in which the denominator as it goes toward zero produces a ratio with its numerator which goes to infinity. I`ll accept an infinite SWR for practical purposes.

The point should be that a shorted 1/4-wave stub produces an inverted voltage that when delayed 180-degrees by the round-trip in the stub, opposes the imposed voltage. As Richard Clark noted, it`s like reaction from a step-up or step-down transformer primary.

Best regards, Richard Harrison, KB5WZI

3625. Help with RF problem on IR Remote extender

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 21:08:52 UTC
From: google@grider.org
Message-ID: <42876950.0305161308.22cf27ec@posting.google.com>
Source record: 117827

I'm not very knowledgeable about radio or RF interference, and I'm looking for some advice.

I bought a Radio Shack universal remote control which has an RF feature - the handset broadcasts commands in RF and IR, and there is a base station that picks up the RF broadcast and converts it into IR and rebroadcasts it. This allows me to use the remote anywere within RF range to control my IR devices (tv and stereo).

The problem is that the RF/IR base station is picking up a lot of interference which causes it to emit IR noise whenever it is plugged in. It does this regardless of where I move it or how I orient it's antenna (which is a single-rod telescoping type). The IR noise interferes with my equipment, jamming the normal use of the IR remote.

This is where I'd like some advice - I don't want to buy more equipment (like a wired IR repeater) if I can make this one work. I also only need to use the remote via RF in one place in my apartment. My idea was to create some kind of RF shield for the base station, with a hole in it that only allows directional RF to come in. If I aim this hole at my bedroom where I want to use the remote, it may end up working. Another idea was to put in some kind of filter on the base station's antenna circuit or to lower the sensitivity of the base station antenna.

Any ideas? If the RF shield idea sounds good, what would be a good material to construct it with? I don't know what frequency it operates on (not in the manual) - the RS part number is 15-2117 and the base station is labeled as UL listed E-186763.

3626. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 21:10:23 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030516171023.27324.00000132@mb-m24.aol.com>
Source record: 117828

I've researched HF verticals, doing lots of comparisions and reading reviews because I may put one up one day. One that has rated pretty good is the Sommer T-25/S antenna. You can find out more at
http://www.sommerantennas.com/t25s.html
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

3627. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 21:30:33 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC55879.40803@ieee.org>
Source record: 117829

Richard Harrison wrote:
> The point should be that a shorted 1/4-wave stub produces an inverted
> voltage that when delayed 180-degrees by the round-trip in the stub,
> opposes the imposed voltage. As Richard Clark noted, it`s like reaction
> from a step-up or step-down transformer primary.

That's true. And the point is that the only thing that can possibly
happen at the shorted or open end of a stub is 100% reflection. Any
time 100% reflection occurs, the SWR is infinite because the reflected
power is equal to the incident power. The SWR is infinite at *ALL*
physical short-circuits and open-circuits exposed to RF.

rho = SQRT(Pref/Pfor) = SQRT 1 = 1.0 when Pref=Pfor

SWR = (1+rho)/(1-rho) = infinity, by definition, when Pref=Pfor

> I`ll accept an infinite SWR for practical purposes.

Great, but Richard, don't you know you are going against one of
Ham Radio's sacred cows when you say that?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3628. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 21:42:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cpmacv0a1ld36vgpp3jrvffdos83h3evhe@4ax.com>
Source record: 117830

>Great, but Richard, don't you know you are going against one of
>Ham Radio's sacred cows when you say that?
Pray, let us all in on this. Does it curdle your milk?

3629. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 22:23:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <ba3oc6$5jf$1@hercules.btinternet.com>
Source record: 117831

"Yuri Blanarovich" wrote > It is about 5% - you need to shorten the antenna.

==========

In your particular back yard construction circumstances may I suggest a reduction in length of about 5 percent would have needed even if bare copper wire of the same diameter had been used.

Apart from calculating, the only way of determining the effect of an additional layer of insulation is first of all to construct an antenna with bare wire and then construct EXACTLY the same length antenna with the same gauge of plastic insulated wire.

Has anyone ever done it ?

If so by what necessarily extremely accurate means were the measurements made.

Reg

3630. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 22:52:46 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305161452.6fdec6cd@posting.google.com>
Source record: 117832

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EC46538.10508@ieee.org>...
> Dr. Slick wrote:
> > I have absolutely NOT agreed with everything you have said,
>
> Not yet, but you will. You invariably do. You grudgingly admitted
> I was right about forward and reflected energy flowing unopposed
> into and out of a stub.
>

You invariably make ridiculous statements. I never said you were
wrong on that term, please show me where i disagreed with you on that.
But i still do insist that the "Net" current flowing into it is zero.
You have grudgingly admitted that this is correct.

> > ... your other quote about
> > "lossy and they can be" near-infinite VSWR shorts and opens (see other
> > thread) is totally incorrect.
>
> Please see my other response and then set about proving your silly concept
> that the SWR can be higher than the SWR can possibly be. "Near-infinite"
> simply means as high as possible. Hint: An SWR of 10:1 is just as near
> to infinity as an SWR of 1000:1.
>

Hint: You don't have to state the obvious, again and again.

Your desperate attempt to SAVE-FACE with your incorrect statement
is futile to me. Admit that you are wrong on this one and i will have
more respect for you.

Slick

3631. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:17:54 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305161517.4edcdf24@posting.google.com>
Source record: 117833

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
> Dr. Slick wrote:
> > BZZZTT!! Wrong again! Hint: An SWR as high as it
> > can be will be as LOSSLESS as can be, which would be the
> > case with an ideal lossless short or open.
>
> How can you say I'm wrong when I don't disagree with your statement?
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be. What
> is possible is dictated by reality, not by you. The highest possible
> SWR may be relatively low, as shown in the example below.
>

What an obvious switch you have just made Cecil! I'm glad you are
coming to your senses and agreeing with me!

Because you did say, "The SWR in any stub is as near infinity as
it can possibly get along with losses that are as high as they can
possibly be. There is nothing in the world that will cause more
reflected energy than a short or open."

You are contadicting yourself to avoid admitting that you were
wrong!

Haha, you are hilarious, Cecil!

> **********
> The SWR is as high as it can possibly be when 100% of the incident
> energy is reflected at the short or open end of a 1/4WL stub, no
> matter what are the losses in the stub material.
> **********
>

This is an incorrect statement too, because 100% of the incident
will not
be reflected if there are ANY losses in the stub material.

Keep on typing, Cecil, to give me ammunition!

(I snipped off your other senseless babble designed to throw me
off)

Slick

3632. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:25:34 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305161525.603bfc09@posting.google.com>
Source record: 117834

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC4F866.3020609@ieee.org>...
>
> Please tell me exactly where you disagree with me in my
> following assertions.
>
> 1. The reflection coefficient at a short or open, existing
> at the end of a 1/4WL stub, is 1.0, i.e. reflected power equals
> forward power at the end of the stub.
>
> 2. At the short or open, SWR = (1+rho)/(1-rho) = (1+1)/(1-1),
> i.e. at the short or open, SWR equals infinity by definition.
>
> 3. SWR losses inside the stub are a function of the matched
> line loss specification for the stub material. If the matched
> line loss spec is high, the losses due to high SWR will also
> be high.
>
> 4. The losses in the stub have nothing to do with the SWR at
> the open or short.
>
> 5. Given that the SWR in the stub is as high as it can possibly
> be (infinity at the short or open), the losses in the stub will
> be as high as they can possibly be.

First off, we are talking about the SWR looking into the 1/4 wave
matching stub, so even if the short or open is lossless, the 1/4 wave
transmission line will always have some loss.

Once again, we are talking about the return loss looking into the
stub, which would include the losses of the coax (for example) as
well.

But they will also include the dielectric loss of the open, and
the losses of the short itself, which are never zero unless you are
talking about superconducting materials.

Slick

3633. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:28:45 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC573AF.5020206@attbi.com>
Source record: 117835

> The SWR at the open or shorted end of a stub is infinite, by definition.
> --
> 73, Cecil, W5DXP
>
VSWR = Zo/0 ohms = infinity for the shorted stub, and
VSWR = infinity/Zo = infinity for the open stub!!

There's no problem, only misunderstanding.

Deacon Dave, W1MCE

3634. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:35:49 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC57558.60807@attbi.com>
Source record: 117836

>
> What caused the quantities that add and subtract?
> That's what I am after. Where is the out of phase
> signal coming from if not from the reflected energy
> caused by the short or open end of the stub?
> --
> 73, Cecil, W5DXP
>
>
1) The length of the stub
2) Distance from the load
3) These have nothing to do with the VSWR in the stub

W1MCE

3635. Re: Help with RF problem on IR Remote extender

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:36:14 UTC
From: "Randy (from Mikes Computer)" <rwallaceballs@vci.net>
Message-ID: <d6OcnUeQcr1t6FijXTWcrg@vci.net>
Source record: 117837

I have a similar problem with my RS remote extender, the ir activity
indicator light will be lit unless it reoriented. Yuo can ptting some
exposed film over the receiver led.
"Epson Barnett" <google@grider.org> wrote in message
news:42876950.0305161308.22cf27ec@posting.google.com...
> I'm not very knowledgeable about radio or RF interference, and I'm
> looking for some advice.
>
> I bought a Radio Shack universal remote control which has an RF
> feature - the handset broadcasts commands in RF and IR, and there is a
> base station that picks up the RF broadcast and converts it into IR
> and rebroadcasts it. This allows me to use the remote anywere within
> RF range to control my IR devices (tv and stereo).
>
> The problem is that the RF/IR base station is picking up a lot of
> interference which causes it to emit IR noise whenever it is plugged
> in. It does this regardless of where I move it or how I orient it's
> antenna (which is a single-rod telescoping type). The IR noise
> interferes with my equipment, jamming the normal use of the IR remote.
>
> This is where I'd like some advice - I don't want to buy more
> equipment (like a wired IR repeater) if I can make this one work. I
> also only need to use the remote via RF in one place in my apartment.
> My idea was to create some kind of RF shield for the base station,
> with a hole in it that only allows directional RF to come in. If I aim
> this hole at my bedroom where I want to use the remote, it may end up
> working. Another idea was to put in some kind of filter on the base
> station's antenna circuit or to lower the sensitivity of the base
> station antenna.
>
> Any ideas? If the RF shield idea sounds good, what would be a good
> material to construct it with? I don't know what frequency it operates
> on (not in the manual) - the RS part number is 15-2117 and the base
> station is labeled as UL listed E-186763.

3636. Re: LATTON multiband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:45:57 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EC57742.E9208BF6@shaw.ca>
Source record: 117838

Drbob92031 wrote:
>
> Does any one have any experience with the Laton antenna?
> Pse respond via e-mail to <drbvob92031@aol.com>
> THanks for any responses
> Bob WA2EAW

Do you mean the Lattin antenna? Try a search on Google and you
should get a few good returns with everything you want to know.
They work!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

3637. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-16 23:53:33 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <4YidnbcwIIKd51ijXTWcrg@comcast.com>
Source record: 117839

From what you are running into, I believe you are looking at amplified indoor antennas. The FM trap is there , supposedly, to keep a strong FM station from overloading your TV front end. Probably, it is there to keep from overloading the the amp in the antenna. Havent't looked at the Wineguard, but the RS is an amplified rabbit ear. You are better off putting the biggest outdoor TV antenna that will fit in your attic up there. Generally, they don't have FM traps. Remember though, the more gain, the more directional the antenna will be. FM gain will be low on any of them.

Normally, you can combine a TV antenna and FM antenna on to one coax with the proper filter (not 2 way coupler), but that may not work with the amplified antenna because it sends DC up the coax. For the price of the filters, you could just buy the extra coax and keep the antenna separate. This will also have less signal loss.

If you really need the amplified antenna, and single coax, make sure the combiner will work with that antenna. Don't assume you can also use an amplified FM antenna. Buy the stuff as a package, and have the salesman reassure you that it will all work together.

Tam/WB2TT
"Daniel" <danibe@my-deja.com> wrote in message
news:b73f7787.0305161110.6a9ff50@posting.google.com...
> Greetings,
> I am currently looking to install an omnidirectional TV/FM antenna in
> my attic (unfortunately I don't have space for a directional one with
> a rotator).
>
> Ideally, I would like to have a single antenna feeding the single coax
> cable run throughout the house (a condo), fulfilling the needs of both
> my TV set and FM stereo system.
>
> I found on the web a few such antennas offered by Winegard and Radio
> Shack. However, all of them have a FIXED FM trap. That is, even if I
> wanted to switch it off, I couldn't.
>
> My first question is: Why? Why isn't anyone making an omnidirectional
> antenna WITHOUT an FM trap? Is there an inherent problem in
> omnidirectional antennas that mandates an FM trap?
>
> My second question is: If I combine the RF signals (using a coupler
> similar to the Winegard CA-8800 in
>
http://www.winegard.com/products/accessories/acc_ant_seperator_joiner.html)
> from two omnidirectional antennas (one FM, one VHF/UHF), in order to

> feed the combined signal through the single coax run - will I
> essentially re-introduce the very same problem that the FM trap in the
> VHF/UHF antenna was trying to solve? Is this solution better or worse
> than having a single VHF/UFH antenna that does not have an FM trap?
> (assuming I can actually find one...)
>
> Please reply directly to this newsgroup (my email address is bogus, to
> prevent spam).
>
> Many thanks in advance,
> Daniel

3638. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 00:18:19 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305161618.6728e0aa@posting.google.com>
Source record: 117840

Wes Stewart <n7ws@#arrl.net> wrote in message If I only have room to erect one, I will use half of
> the dipole as a vertical with the old ground plane.

You could also run an inv vee and tie the ends off to ground using mono leaders as insulators. Tent stakes can be used to tie off the ends. The losses doing that aren't too bad, being the ends are the high voltage points. But you do have to watch out so people can't touch them. I use insulated wire, and that might help a bit, although I expect you could still get an rf burn if you grabbed an end. I can use a drive on mast support, holding a single mast, if no trees are around.

>
> Needless to say, the brand of all my antennas is "Home Brew."

Mine are too for the most part, and I'm not afraid to just use my mobile antenna if I'm feeling lazy. It will do just fine most of the time. But I do have a short crankup/tilt tower and cushcraft A4 beam I've been taking to field day the last couple of years. Will bring it again this year, unless something comes up and I can't make it. I got the beam free a few years ago for helping take down a tower. So I didn't actually cough up any money for it. :/ MK

3639. Re: Is RG6 O.K. For TV Hookup ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 00:25:46 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305161625.42055724@posting.google.com>
Source record: 117841

dplatt@radagast.org (Dave Platt) wrote in message
news:<vc88mlktod4n8e@corp.supernews.com>...
> In article <3ec40afd_3@news1.prserv.net>,
> Crazy George <munschNO@attglobal.net.SPAM> wrote:
>
> >> OT, but I figured this is the place to go with this.
> >>
> >> Have some interior wiring to do from TV to its wall spigot, about 25 feet
> or
> >> so.
> >>
> >> Have loads of spare RG 6.
>
> >You'll possibly be dissatisfied because RG-6 is single shielded, and the
> >cable will tend to pick up noise and stray signals more than the foil
> >shielded stuff designed for CATV does. Computer noise, direct off air TV
> >signals, and the like. Now, RG-13 or 216, that's another matter.
>
> That's an oversimplification, I believe. There's quite a bit of RG6
> cable intended for CATV or (even better) DBS applications, which is
> low-loss and multiply-shielded. "Quad-shield" RG6 is quite common in
> the market these days. Ferexample, Belden 7916A is a quad-shield RG6
> (two braid, two foil).

RG-6 is whats used by the cable company here. You can tell the good
stuff as it also has a single grounding wire that is imbedded in the
jacket along the side of the cable. And they are multi-shielded, and
fairly low loss from what I can tell here. They used to use beldon
"duo-shield", which is good, but replaced it with the RG-6 about 3
years ago. MK

3640. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 00:46:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC58679.7010704@ieee.org>
Source record: 117842

Dr. Slick wrote:
> But i still do insist that the "Net" current flowing into it is zero.
> You have grudgingly admitted that this is correct.

Straw man alert! I never disagreed with you on that one.

> Hint: You don't have to state the obvious, again and again.

Apparently, for you, I do. You have argued, over and over, with a lot
of obvious things that I have said. You always wind up having to
crawfish your way back out of it.
--
73, Cecil http://www.qsl.net/w5dxp

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3641. Re: Help with RF problem on IR Remote extender

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 00:54:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <PPqdnWVq0bfIFVijXTWcpw@comcast.com>
Source record: 117843

Epson,

Have you considered that you may have a defective unit? I don't think that reducing the RF sensitivity will help; more likely it would make it worse. Unless you live in static heaven, sounds like something akin to a mis adjusted squelch. Talk to the RS guy. They are pretty good about refunds and exchanges.

Tam/WB2TT
"Epson Barnett" <google@grider.org> wrote in message news:42876950.0305161308.22cf27ec@posting.google.com...
> I'm not very knowledgeable about radio or RF interference, and I'm
> looking for some advice.
>
> I bought a Radio Shack universal remote control which has an RF
> feature -

3642. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:04:55 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <ba41rq$ov0gn$1@ID-134747.news.dfncis.de>
Source record: 117844

Radio Shack sells a omnidirectional outdoor
antenna (15-2164) that sells for less than $20.
It is two "folded dipoles" stacked at right angles
to each other, separated by 3 - 5 inches. Each of
the dipoles is about 5 feet long, and should mount
easily in your attic. The antenna's nominal
feedpoint impedance is 300 ohms, so you will need
a balun (15-1230) to match to coax. If you need
further amplification there are a number of
distribution amplifiers available. However I
would try the antenna barefoot first, just split
the output 4 ways at the antenna and see what kind
of reception you have.

73 es cul

wb3fup
a Salty Bear

"Tarmo Tammaru" <t-tammaru@home.com> wrote in
message news:4YidnbcwIIKd51ijXTWcrg@comcast.com...
> From what you are running into, I believe you
are looking at amplified
> indoor antennas. The FM trap is there ,
supposedly, to keep a strong FM
> station from overloading your TV front end.
Probably, it is there to keep
> from overloading the the amp in the antenna.
Havent't looked at the
> Wineguard, but the RS is an amplified rabbit
ear. You are better off putting
> the biggest outdoor TV antenna that will fit in
your attic up there.
> Generally, they don't have FM traps. Remember
though, the more gain, the
> more directional the antenna will be. FM gain
will be low on any of them.
>
> Normally, you can combine a TV antenna and FM
antenna on to one coax with
> the proper filter (not 2 way coupler), but that
may not work with the
> amplified antenna because it sends DC up the
coax. For the price of the
> filters, you could just buy the extra coax and

keep the antenna separate.
> This will also have less signal loss.
>
> If you really need the amplified antenna, and
single coax, make sure the
> combiner will work with that antenna. Don't
assume you can also use an
> amplified FM antenna. Buy the stuff as a
package, and have the salesman
> reassure you that it will all work together.
>
> Tam/WB2TT
> "Daniel" <danibe@my-deja.com> wrote in message
>
news:b73f7787.0305161110.6a9ff50@posting.google.com...
> > Greetings,
> > I am currently looking to install an
omnidirectional TV/FM antenna in
> > my attic (unfortunately I don't have space for
a directional one with
> > a rotator).
> >
> > Ideally, I would like to have a single antenna
feeding the single coax
> > cable run throughout the house (a condo),
fulfilling the needs of both
> > my TV set and FM stereo system.
> >
> > I found on the web a few such antennas offered
by Winegard and Radio
> > Shack. However, all of them have a FIXED FM
trap. That is, even if I
> > wanted to switch it off, I couldn't.
> >
> > My first question is: Why? Why isn't anyone
making an omnidirectional
> > antenna WITHOUT an FM trap? Is there an
inherent problem in
> > omnidirectional antennas that mandates an FM
trap?
> >
> > My second question is: If I combine the RF
signals (using a coupler
> > similar to the Winegard CA-8800 in
> >
>
http://www.winegard.com/products/accessories/acc_ant_seperator_joiner.html)
> > from two omnidirectional antennas (one FM, one
VHF/UHF), in order to
> > feed the combined signal through the single

coax run - will I
> > essentially re-introduce the very same problem
that the FM trap in the
> > VHF/UHF antenna was trying to solve? Is this
solution better or worse
> > than having a single VHF/UFH antenna that does
not have an FM trap?
> > (assuming I can actually find one...)
> >
> > Please reply directly to this newsgroup (my
email address is bogus, to
> > prevent spam).
> >
> > Many thanks in advance,
> > Daniel
>
>

3643. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:06:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC58B11.9010900@ieee.org>
Source record: 117845

Dr. Slick wrote:

Please cease and desist with the straw men and lies about what I said.
Let's concentrate on our points of disagreement. You have come around
to my point of view on everything except a couple of points.

You first said no current flows into a stub. You later admitted that
forward current flows in and reflected current flows out unopposed.

Right now you are trying to save face by claiming that the shorted
(or open) end of the stub doesn't have a reflection coefficient of
1.0. After this posting, you will change your mind or be laughed at.

>>**********
>>The SWR is as high as it can possibly be when 100% of the incident
>>energy is reflected at the short or open end of a 1/4WL stub, no
>>matter what are the losses in the stub material.
>>**********

> This is an incorrect statement too, because 100% of the incident
> will not be reflected if there are ANY losses in the stub material.

Read it again. 100% of the energy incident upon the shorted (or open)
end of a 1/4WL stub is reflected. There is simply no place else for it
to go. It surely cannot squirt out the end of the stub. Once you agree
with me that the reflection coefficient at the shorted (or open) end
of a stub is 1.0, all the rest of the math will fall out from that fact.

To summarize: Forward power flows into a stub unopposed. Reflected
power flows out of the stub unopposed. All the forward power incident
upon the shorted (or open) end of the stub is 100% reflected. The
difference between the forward power flowing into the stub and the
reflected power flowing out of the stub is equal to the losses in
the stub. The SWR at the shorted (or open) end of an active stub
calculates out to be infinite in *ALL* cases.
--
73, Cecil http://www.qsl.net/w5dxp

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3644. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:10:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC58BFC.5050404@ieee.org>
Source record: 117846

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC4F866.3020609@ieee.org>...
>
>>Please tell me exactly where you disagree with me in my
>>following assertions.
>>
>>1. The reflection coefficient at a short or open, existing
>>at the end of a 1/4WL stub, is 1.0, i.e. reflected power equals
>>forward power at the end of the stub.
>>
>>2. At the short or open, SWR = (1+rho)/(1-rho) = (1+1)/(1-1),
>>i.e. at the short or open, SWR equals infinity by definition.
>>
>>3. SWR losses inside the stub are a function of the matched
>>line loss specification for the stub material. If the matched
>>line loss spec is high, the losses due to high SWR will also
>>be high.
>>
>>4. The losses in the stub have nothing to do with the SWR at
>>the open or short.
>>
>>5. Given that the SWR in the stub is as high as it can possibly
>>be (infinity at the short or open), the losses in the stub will
>>be as high as they can possibly be.

> First off, we are talking about the SWR looking into the 1/4 wave
> matching stub, so even if the short or open is lossless, the 1/4 wave
> transmission line will always have some loss.

Well, that's your first point of confusion. I'm talking about the SWR
at the shorted (or open) end of the stub. Your statements are wrong
for the point about which I am talking.

> Once again, we are talking about the return loss looking into the
> stub, which would include the losses of the coax (for example) as
> well.

That's your second point of confusion. I'm talking about the return loss
from the shorted (or open) end of the stub. Your statements are wrong.

> But they will also include the dielectric loss of the open, and
> the losses of the short itself, which are never zero unless you are
> talking about superconducting materials.

The losses in the stub do NOT affect the SWR at the shorted (or open) end
of the stub. The SWR at the shorted (or open) end of the stub always
calculates out to be infinite because the reflection coefficient is 1.0.
Your statements are wrong.
--
73, Cecil http://www.qsl.net/w5dxp

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3645. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:11:46 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC58C52.1050404@ieee.org>
Source record: 117847

Dave Shrader wrote:
>> The SWR at the open or shorted end of a stub is infinite, by definition.
>>
> VSWR = Zo/0 ohms = infinity for the shorted stub, and
> VSWR = infinity/Zo = infinity for the open stub!!
>
> There's no problem, only misunderstanding.

Dr Slick says that is not true. I'm waiting for him to offer some
proof.
--
73, Cecil http://www.qsl.net/w5dxp

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3646. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:17:08 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC58D94.1090009@ieee.org>
Source record: 117849

Dave Shrader wrote:
>
> W5DXP wrote:
>> What caused the quantities that add and subtract?
>> That's what I am after. Where is the out of phase
>> signal coming from if not from the reflected energy
>> caused by the short or open end of the stub?
>>
> 1) The length of the stub
> 2) Distance from the load
> 3) These have nothing to do with the VSWR in the stub

Lower the VSWR in the stub to 1:1 and see if it still works.
The stub simply doesn't work correctly unless the SWR in the
stub is infinite at the shorted (or open) end of the stub.
The proper functioning of the stub has everything to do with
the VSWR in the stub. One of the waves that cancel depends
upon reflections from the shorted (or open) end of the stub.
With a VSWR = 1:1, the stub will absolutely not function.
--
73, Cecil http://www.qsl.net/w5dxp

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3647. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 01:18:26 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <g4-cnX_JS8NKEFijXTWcqw@comcast.com>
Source record: 117848

There's an article in the QST that arrived yesterday about adapting two of them for EME and satellite work. The author says that RS rotors are easily obtainable at hamfests for a fraction of the new price because the controls are unsuitable for ham use. He describes the design and construction detail of an azimuth indicator (built around an inexpensive digital voltmeter module) that reads in degrees.

Perhaps someone with direct experience can comment on this.

Tom, N3IJ

"Dr. John" <frellyou@privacy.net> wrote in message news:r83ubvoac03r61k99uvbnp6o29i4r1am34@4ax.com...
> Who knew Radio Shack has a antenna rotor for $70+ $15 control cable?
>
> If it weren't for the complex nature of setting one up and the fact that I have nowhere to put it at
> the moment (apartment), I would buy the darn thing. No way I'm getting a $600 unit from the candy
> store.
>
> John

3648. Re: What HF antenna are u using for portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 02:08:06 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <556bcv0attn73e3c7g4s1ufflemg6ld49o@4ax.com>
Source record: 117850

On 16 May 2003 17:18:19 -0700, nm5k@wt.net (Mark Keith) wrote:

[snip]

|> Needless to say, the brand of all my antennas is "Home Brew."
|
|Mine are too for the most part, and I'm not afraid to just use my
|mobile antenna if I'm feeling lazy.

In my case, it's like this. When I bought my Camaro SS I said it was "my Camaro." My wife wanted a truck so when we bought the 3/4 ton Chevy 4X4, it became "her truck."

She says, I'm not putting a radio gear in "her truck."

Just as well, when I'm towing the 5th wheel trailer, I have enough on my hands without trying to play radio too.

3649. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 02:57:57 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <pt8bcvkkkljt4vc19nk1i4mm1apdb8q4hi@4ax.com>
Source record: 117851

On Fri, 16 May 2003 12:56:09 -0500, Gilbert Baron
<gbaron@myrealbox.com> wrote:

>I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc
>over in the traps , at least I think that is what did it?
>
>In any case I need advice on anew antenna.
>
>I am looking at the CUSHCRAFT R8
>The Gap Titan DX
>The MFJ 1798
>The Hy Gain AV-640

If you'd like to homebrew a wire vertical that will probably
outperform all of the antennas you've listed, see
http://www.cebik.com/v20.html

If you HAVE to go with a commercial antenna, go to the bencher.com web
site and read some of the papers about Butternut verticals.

Also, if you can find the web site for Champion Radio, they have a
little booklet comparing many of the popular verticals.

Have fun...

Bob
k5qwg

>
>
>I ms ut say the Cushcraft scares me. It uses traps and I have had
>rotten luck with 2 previous Cushcraft verticals, they blow out easily.
>The new one claims to be able to take it..
>
>So far I am leaning toward the Hy Gain. I have always had good luck
>with Hy Gain in the past. I really want to cover ALL the bands 80-10
>so maybe that rules out the Cushcraft in any case.
>
>
>What say all?

3650. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 03:19:58 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcbahk3qkur16e@corp.supernews.com>
Source record: 117852

Roger, my neighbor, tell us about the log periodic that is coming to
your house....

Sure does make changing frequency easy.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:sg2acvgjjn0arcc70mv563v0oqinbd3shb@4ax.com...
>>
<snip>
> The rotor is turning a TH-5 (soon to be log periodic) at 100 feet, a
> 50-7 C3i (28'8" boom) at 115 feet, and stacked 12s on 144 and stacked
> 11s for 440 on the same 14 foot cross boom (vertical polarization) at
> 130 feet. The mast alone weighs about 240#, plus the 6 antennas.
>
> Roger Halstead

3651. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 03:20:35 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <scabcvsj97vvhoju9b05d6oour1f2g75dv@4ax.com>
Source record: 117853

On Fri, 16 May 2003 11:33:10 -0500, "Crazy George"
<munschNO@attglobal.net.SPAM> wrote:

>I use a HyGain R-3503. Recommend it highly, but I don't think it is in
>production any more. Present tower system, rotator and antenna is identical
>to the one pictured on the cover of the June 2002 World Radio magazine. If
>it wasn't for the background, I would think they photographed my
>installation.

Any one remember the cover back in either 83, or 84 (think it was
September) of WD8RXPs tower in Ithica Mi? That was one huge system.
It was visible from something like 10 miles south on US27.

It actually ended up on e-bay after John passed away. (no takers)

I have a whole series of photos from the construction, including the
one that was on the cover. Maybe I can put them together on a page. I
just gotta find them. (there somewhere on at least one of these
computers)

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3652. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 03:32:51 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec5aeb1_1@news1.prserv.net>
Source record: 117854

Daniel:
This was discussed here in some detail several months ago. To summarize, FM stations tend to be nearer homes, and thus produce higher field strengths. Simply due to the signal structures and receiver designs, FM interferes with TV channels about 100X as often as TV interferes with FM. Thus, the traps you have encountered. If you had access to a good spectrum analyzer, you would see that even with the traps, the FM band output from the antenna is plenty high enough to distribute to several FM receivers. On one leg of my home CATV system (distant channel 2), I have 3 FM traps in different locations, but electrically they end up being in series, and there is still enough FM signal from that leg to provide full quieting signals from locals on any tuner I have connected.

So, a suggestion. Install the TV antenna and check the FM signal levels. If they aren't strong enough, add the FM antenna through the coupler. The only way to get omnidirectional gain is at the expense of a physically taller structure, or by amplification. But, a couple of strong FM signals may overload the amplifier and cause herringbone interference on one or more TV channels.

--
Crazy George
Remove NO and SPAM from return address

3653. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 03:43:15 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030516234315.23020.00000111@mb-m29.aol.com>
Source record: 117855

>
>In your particular back yard construction circumstances may I suggest a
>reduction in length of about 5 percent would have needed even if bare copper
>wire of the same diameter had been used.
>
>Apart from calculating, the only way of determining the effect of an
>additional layer of insulation is first of all to construct an antenna with
>bare wire and then construct EXACTLY the same length antenna with the same
>gauge of plastic insulated wire.
>
>Has anyone ever done it ?
>
>If so by what necessarily extremely accurate means were the measurements
>made.
>---
>Reg
>
>
>

That is exactly how it was done, 3 el. quad for 10m was built according to calculated dimensions and using insulated #12 house wire it ended up smack in the CB band. Recalculating the "drift" and adjusting the length of wire produced 5% shortening factor. Verified by the measuring tape calibrated to NBS stadard. When using bare #12 wire, it landed where was supposed to, according to scientwiphic calculations, modeling and including the weather factor and sunspot numbers (plus SWR and reflections from rusty spots on the copper and fungus on the fiberglass spreaders :-)
I don't know what was the chemical composition of the insulation, it was what I had in the junkbox.

Yuri

3654. Re: Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 06:41:23 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1053153761.185026@halkan.kabelfoon.nl>
Source record: 117856

"Irv Finkleman" <finkirv@shaw.ca> schreef in bericht
news:3EC4050A.67CB2204@shaw.ca...
> I have an MFJ loop that goes down to about 10mhz. I am considering
> parallelling the variable cap with a fixed value to bring it into the
> 7mhz region (40 meters). The MFJ is made of aluminum tubing and the
> capacitor is aluminum and bonded by an aluminum weld. Has anyone
> any ideas on what would be the best way to attach the parallel cap
> (other than by aluminum weld). As well, if I were to attach it by
> mechanical means, considering the need for very low resistance in
> the LC loop, has anyone any ideas on what the effect would be on the
> overall radiation resistance?
>
> Thanks in advance for any suggestions.

> --------------------
> Irv Finkleman,
> Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> Calgary, Alberta, Canada

There is no better way to connect the extra capacitor than to weld it. Of course you can fix it with screws into the aluminum. Or fix them to the bolt so of the capacitor. It's easy but not perfect. As a matter of fact there is not much space there to fit large capacitors. I own as well the MFJ 1786 and the MFJ 1788. The MFJ 1788 looks very similar from the inside and the techniques. The pick-up loop looks the same. The plate distance of the capacitor looks the same in both antenna's. The big difference is a large number of plates extra for the MFJ 1788's capacitor.

You can easily experiment by adding a simple variable capacitor to the loop's own capacitor and check on RX how much capacity you will need to make it go down to 7 MHz. Just fix it. It's not perfect but for experimenting it will do. Don't use TX during this experiment. You will find out that the capacity of the variable capacitor is very critical. You need a much wider range of capacity adjustment on 7 MHz than on 14 MHz. I tried it in experiments and didn't manage to get satisfying results. A variable capacitor for 10-30 MHz is about 60 pF. The capacitor needed for the 3' loop for 7-15 MHz is about 210 pF. You can use the software as recommended here in an other posting for exact details.

Now I own a MFJ 1788 for 7 MHz and it works very fine. No problem receiving and transmitting. Very quiet reception of the 40 meter band where there is usually a lot of QRM. Here in Europe we have the broadcast band starting at 7.100 MHz so the MFJ 1788 is a very good preselector. I have information and pictures about the setup of my station on my homepage.
--

73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

3655. Wire antennas with gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 11:21:11 UTC
From: JCM <menardjc@wanadoo.fr>
Message-ID: <ba560s$l42$1@news-reader11.wanadoo.fr>
Source record: 117857

I use a G4ZU "Jungle beam" (ARRL Antenna Compendium nb 2) on 20 m.
It's a wire beam, it seems to have slightly more gain than a Moxon square
and is easier to build.
Shape is like a drawn bow :
- the bow is made of 2 fiber glass telescoping fishing poles joined back to
back with a piece of plastic tubing and the radiator is a half wave copper
wire inside the poles, center fed with a 50 Ohms coax.
- the arrow, another fishing pole 4 m long, is the boom.
- the string, made of copper wire attached to the extremities of the bow
with two short lengths of nylon rope, is the V shaped reflector .

Wide band: 14.35=SWR 1.2, 14.2=1.1, 14.00=1.4
Extremely light: about 7 pounds.
Good F/B ratio.
Noticeable gain: 1(sometimes more depending on signal path) "S" point
v/dipole.
Wide beamwidth.

A V shaped wire director can easily be added, it seems to increase the gain
but
it's a feeling not a measurement.

Has somebody experimented this antenna ?

JCM - F8ND

3656. Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 12:45:07 UTC
From: Simon THOMPSON <st599@ecs.soton.ac.uk>
Message-ID: <ba5ark$b5t$1@aspen.sucs.soton.ac.uk>
Source record: 117860
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Hi

Could anyone suggest a QRP ATU Kit available in the UK, or by mail order. I would like cheap and portable if possible. Alternatively could anyone suggest a portable antenna design with a low SWR over 14.15 - 14.35 MHz

Also, where in the UK sells parts, e.g. Baluns and Insulators, for making antennas?

73 de

Simon M3CYT

PS Working with a 10W 20m SSB transceiver what sort of countries could one expect to work with practice? The Dipole will have main lobes oriented E-W

3657. Re: Unadilla KW80 trap info needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 12:56:19 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <Tjqxa.866816$3D1.493179@sccrnsc01>
Source record: 117858

Rudy -

http://www.unadilla.com/unadilla/bigsig.htm
Telephone (978) 475-7831

I have the old Unadilla/Reyco Antenna Trap Wiring Booklet in front of me.
As you may remember, there are actually 2 different traps for 75 / 80 meters

KW-80F (3.875 center freq) and KW-80CW (3.675 center freq)

The original list of parts for the "Big Signal" kit

2 - W2VS Reyco KW traps
1 - W2AU Big Signal Balun 1:1
2 - W2AU shatterproof insulators
125 feet of # 14-7 stranded copper wire
Instructions

"The wire lengths must finalized by test.
First adjust the inboard legs and work outward
(from highest to lowest frequency)
---
75 / 160 Lengths
For 75 meter Phone trap (KW-80F)

W2AU Center Insulator
60 feet and 4 inches
KW-80F trap
45 feet and 10 inches
End Insulator
---
80 / 160 Lengths
For 80 meter CW trap (KW-80CW)

W2AU Center Insulator
63 feet and 8 inches
KW-80F trap
42 feet and 1 inch
End Insulator
---

73 de Greg
w9gb
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Rudy Marcelletti, K8SWD" <rudym@net-link.net> wrote in message
news:vc7ss4s0b7034d@corp.supernews.com...
> I have a pair of Unadilla KW80 traps and need to know the suggested
lengths
> of wire to use between center insulator and trap and trap to end insulator
> for 160 operation. Also, is it advisable to put any type of choke or
balun
> in the middle--I intend on feeding with 450 line. Thanks.
>
> --
> Rudy Marcelletti, K8SWD
>
>

3658. Re: Unadilla for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 12:58:21 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <NIqxa.628135$Zo.135175@sccrnsc03>
Source record: 117859

Believe it or not!

Various product lines of Unadilla Antennas and James Millen Manufacturing Co. are now available for sale. The owners of Unadilla Antennas and James Millen Co. are looking to retire in the near future.

In the interest of continuing these product line for many years to come, the owners are now accepting inquiries from interested parties. If you have an interest in either of these companies product lines - please drop them a line or contact them directly.
The businesses/inventory available for sale include:

Unadilla Antennas
Unadilla manufactures radio communication, antenna, and accessories. Generations of HAM, Government, Communication Organizations around the globe have and continue to use this equipment. Product lines are broken into TRAPS, BALUNS, ACCESSORIES, COAXIAL SWITCHES, including all raw material, work in-progress, and completed inventory. All trademarks and manufacturing rights, molds, technical specs and prints are included with the sale as well as existing and prior distributors. Production equipment and machinery is available separately.

Unadilla Antenna Manufacturing Co.
Box 4215
Andover, MA 01810-0814
(978) 975-2711 Technical Information (9am - 3pm EST)
(978) 474-8949 24 Hour FAX
or Email us at:
info@unadilla.com

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Rudy Marcelletti, K8SWD" <rudym@net-link.net> wrote in message news:vc7ss4s0b7034d@corp.supernews.com...
> I have a pair of Unadilla KW80 traps and need to know the suggested lengths
> of wire to use between center insulator and trap and trap to end insulator
> for 160 operation. Also, is it advisable to put any type of choke or balun
> in the middle--I intend on feeding with 450 line. Thanks.
>
> --
> Rudy Marcelletti, K8SWD
>

>

3659. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 13:07:22 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <GVedndT4z-GeqVujXTWcow@crocker.com>
Source record: 117861
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

either a dipole or a 1/4 wave vertical would be portable and should work
fine without an atu.

"Simon THOMPSON" <st599@ecs.soton.ac.uk> wrote in message
news:ba5ark$b5t$1@aspen.sucs.soton.ac.uk...
> Hi
>
> Could anyone suggest a QRP ATU Kit available in the UK, or by mail order.
I
> would like cheap and portable if possible. Alternatively could anyone
> suggest a portable antenna design with a low SWR over 14.15 - 14.35 MHz
>
> Also, where in the UK sells parts, e.g. Baluns and Insulators, for making
> antennas?
>
> 73 de
>
> Simon M3CYT
>
> PS Working with a 10W 20m SSB transceiver what sort of countries could one
> expect to work with practice? The Dipole will have main lobes oriented E-W
>
>

3660. Re: MA5B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 13:07:44 UTC
From: andy JACKSON <andyjackson@twoeoneklp.freeserve.co.uk>
Message-ID: <ba5c79$13f$1@news7.svr.pol.co.uk>
Source record: 117862

hi i have just got my beam up in the air a very good beam,i have tuned the beam up in the middle of the 20 mtr band,you will get plenty of calls with it.mine is at aprox 50ft in the air
"Robert A Meyer" <w8dq@earthlink.net> wrote in message news:x2zwa.70694$ey1.6410919@newsread1.prod.itd.earthlink.net...
> I am getting ready to install MA5B,I have it on ground doing final
> measurements and testing.I would like to hear from anyone who is using this
> beam.
>
> Bob Meyer W8DQ
> Lawrenceburg,IN
>
>

3661. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 13:46:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <ba5eer$a82$1@titan.btinternet.com>
Source record: 117863

Hi Yuri,

If, in effect, you did nothing except remove the wire insulation, not even touching the tuner or changing line length, and the resonant frequency of the system shifted upwards by 5 percent then I accept what you found. But it is not at all safe to conclude that it was due entirely to a change in velocity factor along the wires.

The resonant behaviours of a 1/2-wave dipole at a height of 30 feet and a 3-element quad can be expected to differ greatly. The quad consists of three closely coupled resonant circuits. A change in frequency or a change in some, but by no means all dimensions results in a change in all circuit values including L, C and mutual L and C. Mutual coupling between tuned circuits produces magnified peculiar effects.

Doubt is also cast on the conclusion of all being due to a change in velocity factor of 5 percent by the fact that this corresponds to a change in wire capacitance of 10 percent. Which is hardly true, to be non-scientific, just by looking at the wire in space.

On the other hand, your info on the unexpected large amount of pruning likely to be needed on multi-element insulated wire antennas is a useful warning to anybody about to embark on a similar project.

Reg, G4FGQ

3662. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 14:11:09 UTC
From: AMHAM <amham@connectnet.net>
Message-ID: <1qrxa.13896$Pc5.3433@fed1read01>
Source record: 117864

Gil -- your R-7000 may be suffering from a common R-7000 problem -- dirty connections and loose screws as was mine -- three times now.

Fix is to clean the trap coil wires and outer case of the traps and then replace the screws with larger and slightly longer screws...also use a star washer under the screw.

All this is because the self tapping screws that come with the antenna easily strip their threads in the
plastic coil forms when one tries to tighten them or the wind vibration loosens them up.

See URL:
http://www.eham.net/reviews/detail/298?page=2

--

"Gilbert Baron" <gbaron@myrealbox.com> wrote in message
news:lh9acv4b10romo55qh3o3g1vht1kv2mar8@4ax.com...
> I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc
> over in the traps , at least I think that is what did it?
>
> In any case I need advice on anew antenna.
>
> I am looking at the CUSHCRAFT R8
> The Gap Titan DX
> The MFJ 1798
> The Hy Gain AV-640
>
>
> I ms ut say the Cushcraft scares me. It uses traps and I have had
> rotten luck with 2 previous Cushcraft verticals, they blow out easily.
> The new one claims to be able to take it..
>
> So far I am leaning toward the Hy Gain. I have always had good luck
> with Hy Gain in the past. I really want to cover ALL the bands 80-10
> so maybe that rules out the Cushcraft in any case.
>
>
> What say all?
>

3663. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 14:38:29 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030517103829.24038.00000179@mb-m19.aol.com>
Source record: 117865

>
>If, in effect, you did nothing except remove the wire insulation, not even
>touching the tuner or changing line length, and the resonant frequency of
>the system shifted upwards by 5 percent then I accept what you found. But it
>is not at all safe to conclude that it was due entirely to a change in
>velocity factor along the wires.
>

I hate tuners, matching circuits on monoband antennas. My 3 el. quad is wide spaced and has 50 ohm impedance, no matching, no nothing. Coax is the same. Element spacing was kept constant, just loops were shortened to achieve resonance where originally calculated.

>The resonant behaviours of a 1/2-wave dipole at a height of 30 feet and a
>3-element quad can be expected to differ greatly. The quad consists of three
>closely coupled resonant circuits. A change in frequency or a change in
>some, but by no means all dimensions results in a change in all circuit
>values including L, C and mutual L and C. Mutual coupling between tuned
>circuits produces magnified peculiar effects.
>

I think you are picking lint here. Theoretically and for the purpose of lengthy learned debates here, maybe. Practically - negligible, unimportant.

>Doubt is also cast on the conclusion of all being due to a change in
>velocity factor of 5 percent by the fact that this corresponds to a change
>in wire capacitance of 10 percent. Which is hardly true, to be
>non-scientific, just by looking at the wire in space.
>

Wide open field for learned heads to speculate, research, devise formulas and include them in antenna modeling software. I would really appreciate that in EZNEC etc.

>On the other hand, your info on the unexpected large amount of pruning
>likely to be needed on multi-element insulated wire antennas is a useful
>warning to anybody about to embark on a similar project.
>---
>Reg, G4FGQ
>

Well, anybody who models the antenna in (cheap, not NEC4) EZNEC and builds it using insulated wire will get smacked right between the eyes by having it resonate below the design frequency (Unwin "director"? :-). If you take the delta frequency and correct the dimensions, you will be right where you wanted to be. Takes few minutes, no need to argue about the effect of color of

insulation on reflected waves during the equinox for weeks :-)

BTW there is interesting thread and argument going on at TopBand reflector
http://lists.contesting.com/_topband/2003-May/thread.html
between W9UCW and W8JI about the current magnitude/distribution in the loading coil in mobile antenna.
(Any dummy with neon bulb can see the difference in the voltage at the ends of the coil and corresponding current variation, we are looking at part of radiating antenna and not just LC circuit.)
Barry did some research and MEASUREMENTS and presented interesting facts, while "everright guru" Tom, W8JI argues (again) that it can't be so. You will notice that he will deny the truth, twist the theory to "prove" his "right", will not admit being wrong, everyone else sees that he is wrong, then he goes quiet on the subject for a while and then emerges as a guru, writes an article about it and will be worshiped by his Rauchian crowd of followers. Been there, done it about 3x. He has not learned and is not a man enough to admit that he might be off.

Yuri, K3BU

3664. HHH information

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 14:44:31 UTC
From: Issac Newman <someone@micro$oft.com>
Message-ID: <jVrxa.9525$dP1.17185@newsc.telia.net>
Source record: 117866

Hi all,

It's been a while since I last posted any form of information about Harry's Homebrew Homepages at http://w1.859.telia.com/~u85920178/index.htm I now have over 200 projects related to radio, antennas, audio and electronics in general. Most of the projects are supported with Printed Circuit Board (PCB) copper foil patterns in BMP format complete with component overlay.

Recent projects have included a magnetic pickup phono pre-amp and an AF level meter. The level meter is also supported with photographs, as are about 50% of the projects on the homepages, even the FM broadcast transmitter projects.

A couple of months ago I added some generic information about the design of broadband HF Power Amplifier design, but mono-band VHF PA design is on the list. At the moment I am building a TV camera so I can include more instructional "how to" films.

BR from Harry - SM0VPO
harryvpo@hotmail.com
(Tel: +46 736295002)

3665. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 15:03:59 UTC
From: richardharrison@webtv.net
Message-ID: <11429-3EC64F5F-213@storefull-2312.public.lawson.webtv.net>
Source record: 117868

Jimmy wrote:
"We are only assuming it is mounted on the peak."

Environment affects antenna impedance. Mario has several problems, including SWR.

Often the user has tuned out the reactance of his vertical antenna and asks why it doesn`t now match his coax. Simple. The antenna now looks like a resistor but that resistor does not match Zo.

See Fig 2 on page 2-3 of the 19th edition of the ARRL Antenna Book. This figure is the impedance of a dipole, R&X, versus frequency, but a monopole versus length works the same way, just different numbers, not different curve shape.

Making the antenna slightly too long makes it inductive and also raises its radiation resistance. The radiatiation resistance can be adjusted by the excess length to match Zo. Then when the excess inductive reactance is tuned out with a series capacitance, the antenna matches Zo.

Rain may affect the influence of the nearby roof. If so, this is solved by adjusting the roof, moving the antenna away from the roof, or adding enough radials to hide the roof from the antenna.

Best regards, Richard Harrison, KB5WZI

3666. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 15:16:16 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ec6511d.10794724@news1.eircom.net>
Source record: 117867
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Sat, 17 May 2003 13:45:07 +0100, "Simon THOMPSON"
<st599@ecs.soton.ac.uk> wrote:

>PS Working with a 10W 20m SSB transceiver what sort of countries could one
>expect to work with practice? The Dipole will have main lobes oriented E-W

according to several M3's on this newsgroup
they have worked the world on 10Watts.

theres a bloke on here that sells 6.7 metre long fibre-glass poles
that might be handy for you.
strap a few pieces of wire to a few of them
(pre-tuned at home for 20m) and off you go into the fields ???

someone like to publish the www... for him ???

3667. Re: HHH information

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 15:49:38 UTC
From: js35 <28@47219.com>
Message-ID: <fSsxa.3889$7y6.1044@newsfep1-gui.server.ntli.net>
Source record: 117874

Hello,

Good pages, but no one uses valves now! For HF you should be looking at
MOSFET designs that will operate from 13.8v.

"Issac Newman" <someone@micro$oft.com> wrote in message
news:jVrxa.9525$dP1.17185@newsc.telia.net...
> Hi all,
>
> It's been a while since I last posted any form of information about
Harry's
> Homebrew Homepages at http://w1.859.telia.com/~u85920178/index.htm I now
> have over 200 projects related to radio, antennas, audio and electronics
in
> general. Most of the projects are supported with Printed Circuit Board
(PCB)
> copper foil patterns in BMP format complete with component overlay.
>
> Recent projects have included a magnetic pickup phono pre-amp and an AF
> level meter. The level meter is also supported with photographs, as are
> about 50% of the projects on the homepages, even the FM broadcast
> transmitter projects.
>
> A couple of months ago I added some generic information about the design
of
> broadband HF Power Amplifier design, but mono-band VHF PA design is on the
> list. At the moment I am building a TV camera so I can include more
> instructional "how to" films.
>
> BR from Harry - SM0VPO
> harryvpo@hotmail.com
> (Tel: +46 736295002)
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.478 / Virus Database: 275 - Release Date: 07/05/2003

3668. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 16:08:49 UTC
From: tez <terry.acars@virgin.net>
Message-ID: <x8txa.6608$sJ4.4857@newsfep4-winn.server.ntli.net>
Source record: 117869
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"zpk" <dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net> wrote in message
news:3ec6511d.10794724@news1.eircom.net...
> On Sat, 17 May 2003 13:45:07 +0100, "Simon THOMPSON"
> <st599@ecs.soton.ac.uk> wrote:
>
> >PS Working with a 10W 20m SSB transceiver what sort of countries could
one
> >expect to work with practice? The Dipole will have main lobes oriented
E-W
>
> according to several M3's on this newsgroup
> they have worked the world on 10Watts.
>
>
> theres a bloke on here that sells 6.7 metre long fibre-glass poles
> that might be handy for you.
> strap a few pieces of wire to a few of them
> (pre-tuned at home for 20m) and off you go into the fields ???
>
> someone like to publish the www... for him ???

Richards Callsign is G3CWI,you may like to do a search for the Callsign.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.476 / Virus Database: 273 - Release Date: 24/04/03

3669. Re: Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 16:12:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oqnccv8lgn0qmagtv5vuq1hj4icn3anac9@4ax.com>
Source record: 117870

On Sat, 17 May 2003 08:41:23 +0200, "norbert"
<pa7nrNOSPAMMM@hotmail.com> wrote:

>I have information and
>pictures about the setup of my station on my homepage.
>--
>73, norbert (pa7nr)
>homepage : http://www.qsl.net/pa7nr/index.html
>

Hi Norbert,

You have a nice page.

73's
Richard Clark, KB7QHC

3670. Re: Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 16:27:12 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EC661EB.E1920EE8@shaw.ca>
Source record: 117871

norbert wrote:
>
> "Irv Finkleman" <finkirv@shaw.ca> schreef in bericht
> news:3EC4050A.67CB2204@shaw.ca...
> > I have an MFJ loop that goes down to about 10mhz. I am considering
> > parallelling the variable cap with a fixed value to bring it into the
> > 7mhz region (40 meters). The MFJ is made of aluminum tubing and the
> > capacitor is aluminum and bonded by an aluminum weld. Has anyone
> > any ideas on what would be the best way to attach the parallel cap
> > (other than by aluminum weld). As well, if I were to attach it by
> > mechanical means, considering the need for very low resistance in
> > the LC loop, has anyone any ideas on what the effect would be on the
> > overall radiation resistance?
> >
> > Thanks in advance for any suggestions.
>
> > --------------------
> > Irv Finkleman,
> > Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> > Calgary, Alberta, Canada
>
> There is no better way to connect the extra capacitor than to weld it. Of
> course you can fix it with screws into the aluminum. Or fix them to the bolt
> so of the capacitor. It's easy but not perfect. As a matter of fact there is
> not much space there to fit large capacitors. I own as well the MFJ 1786 and
> the MFJ 1788. The MFJ 1788 looks very similar from the inside and the
> techniques. The pick-up loop looks the same. The plate distance of the
> capacitor looks the same in both antenna's. The big difference is a large
> number of plates extra for the MFJ 1788's capacitor.
>
> You can easily experiment by adding a simple variable capacitor to the
> loop's own capacitor and check on RX how much capacity you will need to make
> it go down to 7 MHz. Just fix it. It's not perfect but for experimenting it
> will do. Don't use TX during this experiment. You will find out that the
> capacity of the variable capacitor is very critical. You need a much wider
> range of capacity adjustment on 7 MHz than on 14 MHz. I tried it in
> experiments and didn't manage to get satisfying results. A variable
> capacitor for 10-30 MHz is about 60 pF. The capacitor needed for the 3' loop
> for 7-15 MHz is about 210 pF. You can use the software as recommended here
> in an other posting for exact details.
>
> Now I own a MFJ 1788 for 7 MHz and it works very fine. No problem receiving
> and transmitting. Very quiet reception of the 40 meter band where there is
> usually a lot of QRM. Here in Europe we have the broadcast band starting at

> 7.100 MHz so the MFJ 1788 is a very good preselector. I have information and
> pictures about the setup of my station on my homepage.
> --
> 73, norbert (pa7nr)
> homepage : http://www.qsl.net/pa7nr/index.html

Thanks Norbert. I know how much capacity is required (did it by receive
test as you suggest). I was more concerned about how to affix the new
capacitor. I have found a place that will do aluminim welding, so I
think that will solve my problem once I find a suitable capacitor.
I might just homebrew it using the 'trombone' design -- copper
tube sliding within another copper tube with insulation between.

Thanks to you and Reg for inputs.

--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

3671. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 16:41:47 UTC
From: Ernie G4YYB <g4yyb.ernie@ntlworld.com>
Message-ID: <2Dtxa.4118$7y6.2441@newsfep1-gui.server.ntli.net>
Source record: 117873
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Hi

Richards web site is at http://www.qsl.net/g3cwi/homepage.htm

hope that helps

Ernie

3672. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 17:28:30 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <2juxa.38673$Lm2.2607957@twister.southeast.rr.com>
Source record: 117872

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:11429-3EC64F5F-213@storefull-2312.public.lawson.webtv.net...
> Jimmy wrote:
> "We are only assuming it is mounted on the peak."
>
> Environment affects antenna impedance. Mario has several problems,
> including SWR.
>
SWR isnt a problem, just an indication that there are problems.

3673. Re: Extending Magnetic Loop to Lower Frequency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 18:53:20 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1053197681.89226@halkan.kabelfoon.nl>
Source record: 117875

"Richard Clark" <kb7qhc@attbi.com> schreef in bericht
news:oqnccv8lgn0qmagtv5vuq1hj4icn3anac9@4ax.com...
> On Sat, 17 May 2003 08:41:23 +0200, "norbert"
> <pa7nrNOSPAMMM@hotmail.com> wrote:
>
> >I have information and
> >pictures about the setup of my station on my homepage.
> >--
> >73, norbert (pa7nr)
> >homepage : http://www.qsl.net/pa7nr/index.html
> >
>
> Hi Norbert,
>
> You have a nice page.
>
> 73's
> Richard Clark, KB7QHC

Thank you Richard. I'm glad you like my homepage.

--
73, norbert (pa7nr)
homepage : http://www.qsl.net/pa7nr/index.html

3674. FOR TOM BURHN!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 19:17:29 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0305171117.429b2dc6@posting.google.com>
Source record: 117876

Hi there,
This is the same content as i send it to u in the personal mail. I was thinking u will see atleast one of them.First of all thanks for ur reply(for antenna with PIN diode). I will give u a complete picture to the best of my ability.I was looking for diode with low resistance at ON state and high capacitance in OFF state. My antenna has to switch back and forth between 0.9GHz and 1.8GHz. In the OFF state diode is working perfect but in the ON state its switching only to 1.2GHz with a 1000pF capacitor in series. Later i found that capacitor i am using is having a great effect in the circuit and reduced the capacitance to 5pF and it switched to 1.83GHz with a return loss of -3.5dB. Then i removed the diode and connected the capacitor directly to the shorting post. That was giving me -15dB return loss at 1.9GHz. So i concluded that the diode(UPP1004) is giving me loss (since its increasing the return loss) and also reducing the resonant freq from 1.9 to 1.8. I am kinda stuck at this point as to change the capacitor or diode .Hope i am not bothering u with this lengthy mail. I am so desperate to find a solution as i am dwindling with this for atleast two weeks. Expecting ur reply.

3675. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 19:21:11 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC68B11.10504@attbi.com>
Source record: 117877

OC_CAM's Razor wrote:
> Dave Shrader wrote:
>
>>> The SWR at the open or shorted end of a stub is infinite, by definition.
>>>
>> VSWR = Zo/0 ohms = infinity for the shorted stub, and
>> VSWR = infinity/Zo = infinity for the open stub!!
>>
>> There's no problem, only misunderstanding.
>
>
> Dr Slick says that is not true. I'm waiting for him to offer some
> proof.

Dr. Slick can claim anything he wants. That does not make it correct.

The discussion of Vmax/Vmin and Imax/Imin are ways to measure the
results of the Zo/0 or infinity/Zo not the cause. A reflection [VSWR]
is caused any time there is an impedance discontinuity [bump] in any
transmission line system.

Deacon Dave, W1MCE

3676. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 19:27:58 UTC
From: nordland37@yahoo.fr
Message-ID: <3ec68cf8.4501947@news.cis.dfn.de>
Source record: 117878
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Sat, 17 May 2003 13:07:22 -0000, "David Robbins" <k1ttt@arrl.net>,
a Top-Poster, wrote:

>"Simon THOMPSON" <st599@ecs.soton.ac.uk> wrote in message
>news:ba5ark$b5t$1@aspen.sucs.soton.ac.uk...
>> Hi
>>
>> Could anyone suggest a QRP ATU Kit available in the UK, or by mail order.
>I
>> would like cheap and portable if possible. Alternatively could anyone
>> suggest a portable antenna design with a low SWR over 14.15 - 14.35 MHz
>>
>> Also, where in the UK sells parts, e.g. Baluns and Insulators, for making
>> antennas?
>>
>> 73 de
>>
>> Simon M3CYT
>>
>> PS Working with a 10W 20m SSB transceiver what sort of countries could one
>> expect to work with practice? The Dipole will have main lobes oriented E-W

>either a dipole or a 1/4 wave vertical would be portable and should work
>fine without an atu.

Yes, but unless it's very high above ground, you can forget about
the lobes!

--

_____
__
\/ o\ West Bank, Tweekesburg
/__/ am Severn.

3677. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 19:57:19 UTC
From: tdonaly@aol.com
Message-ID: <20030517155719.04137.00000215@mb-m01.aol.com>
Source record: 117879

Deacon Dave wrote,
>
>Dr. Slick can claim anything he wants. That does not make it correct.
>
>The discussion of Vmax/Vmin and Imax/Imin are ways to measure the
>results of the Zo/0 or infinity/Zo not the cause. A reflection [VSWR]
>is caused any time there is an impedance discontinuity [bump] in any
>transmission line system.
>
>
>
>Deacon Dave, W1MCE
>

Zo/0 isn't infinity. If it were, 0 times infinity would always equal
Zo, no matter what the value of Zo was. The popular habit of
stating that any number divided by zero is infinity should be
stamped out.
73,
Tom Donaly, KA6RUH

3678. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 20:02:18 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC69516.60004@attbi.com>
Source record: 117880

OC_CAM's Razor wrote:

<SNIP>

>
> Lower the VSWR in the stub to 1:1 and see if it still works.
> The stub simply doesn't work correctly unless the SWR in the
> stub is infinite at the shorted (or open) end of the stub.
> The proper functioning of the stub has everything to do with
> the VSWR in the stub. One of the waves that cancel depends
> upon reflections from the shorted (or open) end of the stub.
> With a VSWR = 1:1, the stub will absolutely not function.

If you mean the stub MUST be terminated in either an open or a short thereby producing an 'infinite' VSWR I'll agree

If the stub is terminated in it's characteristic impedance [1:1] it NO LONGER IS A STUB [by definition]. A stub is a length of transmission line terminated in either a short or an open circuit. It must be so that the stub produces 'pure' reactance at the frequency of interest. Any resistive component in a stub termination causes a complex impedance at the match point. That is the effective load at the stubbed point is now a R +/- jX versus a pure +/- jX.

For lengths that are multiples of 1/4 wavelength the stub is purely resistive, theoretically either zero or infinite; at all other lengths the stub is reactive. Restated: at all stub lengths that are multiples of 90 degrees, 90, 180, 270, 360 etc. the stub presents a resistive input impedance; at all other stub lengths it presents a 'pure' reactance.

The proper functioning of the stub is not based on the VSWR in the stub!! It is based on the magnitude of the effective reactance of the stub and the location of the stub with respect to the actual load. Refer all who doubt to Chapter 28 of the ARRL Antenna Book [18th edition]; or Kraus, Antennas, McGraw-Hill, 1950, Section 14-24, page 438; or Terman, Electronic and Radio Engineering, McGraw-Hill, 1955, section 4-11, pages 108-109.

Deacon Dave, W1MCE

PS: I designed 'S' bands stubs for a USAF missile radar system redesign in 1997-2000 as Systems Chief Engineer.

3679. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 21:05:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gm8dcvs8ksd99fi705jagel39im7j5ebs1@4ax.com>
Source record: 117881

On Sat, 17 May 2003 20:02:18 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>Terman,
>Electronic and Radio Engineering, McGraw-Hill, 1955, section 4-11, pages
>108-109.
>
>Deacon Dave, W1MCE

Hi Dave,

Two for the record:
1. Cecil has stated he has no access to this, as such, he cannot carry
the discussion;
2. Would you care to give us a reading for figure 4-17 on page 109?

73's
Richard Clark, KB7QHC

3680. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 21:10:04 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <Myxxa.2633$lo.243978@newsread2.prod.itd.earthlink.net>
Source record: 117882

Hi -

If you or Gilbert would like to hear a few words about
how a T-25 (slightly different than T-25/S) works out
in practice, just drop me an email. Make the obvious
edit in my email address before Sending.

73, Ed W6LOL

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030516171023.27324.00000132@mb-m24.aol.com...
> I've researched HF verticals, doing lots of comparisions and reading
reviews
> because I may put one up one day. One that has rated pretty good is the
Sommer
> T-25/S antenna. You can find out more at
> http://www.sommerantennas.com/t25s.html
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

3681. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 22:11:14 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6B382.6010301@ieee.org>
Source record: 117883

Dave Shrader wrote:
> If you mean the stub MUST be terminated in either an open or a short
> thereby producing an 'infinite' VSWR I'll agree

Yep, that's exactly what I mean. Dr. Slick says the SWR in a stub
is NOT near-infinite.

> The proper functioning of the stub is not based on the VSWR in the
> stub!! It is based on the magnitude of the effective reactance of the
> stub and the location of the stub with respect to the actual load.

The stub has no real resistance. It only has a virtual resistance which
is the ratio of (Vfor-Vref)/(Ifor-Iref) at the mouth of the stub. The
ratio of the voltage to current at the mouth of the stub certainly
depends on the SWR at that point. The higher the SWR at the mouth of
the stub, the lower the losses in the stub, and the closer to perfection
is the operation of that stub. LMR1700 stubs are closer to perfect than
are RG-174 stubs.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3682. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 22:30:35 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6B80B.9080008@ieee.org>
Source record: 117884

Tdonaly wrote:
> You're the one who said, without any proof, that the only way a standing wave
> can exist on a transmission line is if it is the resultant of two opposing
> waves. Perhaps you'd like to explain why you think it is the "only" way.

Because I'm fairly well educated and I have never heard of any other way.
If there is another way, please feel free to present it. I would love to
learn something new. To the best of my knowledge, waves moving in the same
direction superpose without forming fixed nodes.

From _Antenna_Theory_ by Balanis: "The reflected waves from the
(mismatched) interface create, along with the traveling waves from
the source toward the antenna, constructive and destructive interference
patterns, referred to as *standing waves*, inside the transmission line
..." Balanis doesn't mention any other possibility.

From: _Transmission_Lines_and_Networks_, by Johnson: "However, when the
load reflects part of the incident energy, it is found that the rms
voltage and current vary almost periodically along the line. This effect
is caused by the interference between the incident and reflected waves,
and the resultant variation is called a *standing wave*." Johnson doesn't
mention any other possibility.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3683. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 22:38:11 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6B9D3.807@ieee.org>
Source record: 117885

Tdonaly wrote:
> You claim that
> two "currents," one coming out of and the other going into a shorted quarter
> wave stub have a physical existence, even though the resultant current is zero.
> If charge carriers can't move in two directions at the same time, will you tell
> me just what the hell is moving?

Electromagnetic energy is moving in opposite directions, Tom. Each wave has its own voltage and current component or its own electric and magnetic field if you prefer. Haven't you ever seen the reflected TDR pulse flow right through the forward TDR pulse?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3684. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 23:19:54 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305171519.38cc6c81@posting.google.com>
Source record: 117886

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC58BFC.5050404@ieee.org>...
>
> > First off, we are talking about the SWR looking into the 1/4 wave
> > matching stub, so even if the short or open is lossless, the 1/4 wave
> > transmission line will always have some loss.
>
> Well, that's your first point of confusion. I'm talking about the SWR
> at the shorted (or open) end of the stub. Your statements are wrong
> for the point about which I am talking.
>

You are the confused one. Why the fuck would anyone care about
the SWR at the short or open itself?

I wanted to clarify this, because i knew you wanted to use this
point of confusion for arguments sake.

> > Once again, we are talking about the return loss looking into the
> > stub, which would include the losses of the coax (for example) as
> > well.
>
> That's your second point of confusion. I'm talking about the return loss
> from the shorted (or open) end of the stub. Your statements are wrong.
>

No, we just haven't agree on a point to measure the SWR. The SWR
at the short or open will not be the same as when measuring at the
input of the 1/4 wave transmission line.

> > But they will also include the dielectric loss of the open, and
> > the losses of the short itself, which are never zero unless you are
> > talking about superconducting materials.
>
> The losses in the stub do NOT affect the SWR at the shorted (or open) end
> of the stub. The SWR at the shorted (or open) end of the stub always
> calculates out to be infinite because the reflection coefficient is 1.0.
> Your statements are wrong.

BZZZTT!! WRONG AGAIN! The reflection coefficient could never
be exactly 1.0 unless you have superconduction materials.

Why is this so difficult for you to understand?

Slick

3685. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 23:31:57 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305171531.77940652@posting.google.com>
Source record: 117887

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC58B11.9010900@ieee.org>...
>
> Please cease and desist with the straw men and lies about what I said.
> Let's concentrate on our points of disagreement. You have come around
> to my point of view on everything except a couple of points.
>

YOU, are the one with the lies! You keep typing that i have
agreed with you when i haven't on several points! And then when i do
the same bullshit trick to you, you get all upset! haha!

> You first said no current flows into a stub. You later admitted that
> forward current flows in and reflected current flows out unopposed.
>

Ok, these statements are BOTH correct, depending on how you look
at the situation. I never disagreed with you on this point.

> Right now you are trying to save face by claiming that the shorted
> (or open) end of the stub doesn't have a reflection coefficient of
> 1.0. After this posting, you will change your mind or be laughed at.
>

ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES.

> >>**
> >>The SWR is as high as it can possibly be when 100% of the incident
> >>energy is reflected at the short or open end of a 1/4WL stub, no
> >>matter what are the losses in the stub material.
> >>**
>
> > This is an incorrect statement too, because 100% of the incident
> > will not be reflected if there are ANY losses in the stub material.
>
> Read it again. 100% of the energy incident upon the shorted (or open)
> end of a 1/4WL stub is reflected. There is simply no place else for it
> to go. It surely cannot squirt out the end of the stub. Once you agree
> with me that the reflection coefficient at the shorted (or open) end
> of a stub is 1.0, all the rest of the math will fall out from that fact.
>

ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES.

> To summarize: Forward power flows into a stub unopposed. Reflected
> power flows out of the stub unopposed. All the forward power incident
> upon the shorted (or open) end of the stub is 100% reflected. The

> difference between the forward power flowing into the stub and the
> reflected power flowing out of the stub is equal to the losses in
> the stub. The SWR at the shorted (or open) end of an active stub
> calculates out to be infinite in *ALL* cases.

ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES.

SLICK

3686. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 23:34:56 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305171534.5e2e57a0@posting.google.com>
Source record: 117888

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC58B11.9010900@ieee.org>...
>
> Please cease and desist with the straw men and lies about what I said.

I have quoted you directly:

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
> Dr. Slick wrote:
> > BZZZTT!! Wrong again! Hint: An SWR as high as it
> > can be will be as LOSSLESS as can be, which would be the
> > case with an ideal lossless short or open.
>
> How can you say I'm wrong when I don't disagree with your statement?
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be. What
> is possible is dictated by reality, not by you. The highest possible
> SWR may be relatively low, as shown in the example below.
>

What an obvious switch you have just made Cecil! I'm glad you are
coming to your senses and agreeing with me!

Because you did say, "The SWR in any stub is as near infinity as
it can possibly get along with losses that are as high as they can
possibly be. There is nothing in the world that will cause more
reflected energy than a short or open."

You are contadicting yourself to avoid admitting that you were
wrong!

Haha, you are hilarious, Cecil!

Slick

3687. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-17 23:37:10 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305171537.14942fd8@posting.google.com>
Source record: 117889

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC58679.7010704@ieee.org>...
> Dr. Slick wrote:
> > But i still do insist that the "Net" current flowing into it is zero.
> > You have grudgingly admitted that this is correct.
>
> Straw man alert! I never disagreed with you on that one.
>

Coming from the master of the straw man, this is funny!

slick

3688. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 00:40:02 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC6D629.4050801@attbi.com>
Source record: 117890

You are correct mathematically. Any value divided by zero is technically 'undefined'. Practically, in transmission line systems, any value divided by 0.00000000000000000000000000000001 can be considered close to infinity!! So Zo/0.00000000000000000000000000000001 is getting close <g>. It will provide the necessary reactance in the stub.

Deacon Dave, W1MCE
+ + +

Tdonaly wrote:
> Deacon Dave wrote,
>
>>Dr. Slick can claim anything he wants. That does not make it correct.
>>
>>The discussion of Vmax/Vmin and Imax/Imin are ways to measure the
>>results of the Zo/0 or infinity/Zo not the cause. A reflection [VSWR]
>>is caused any time there is an impedance discontinuity [bump] in any
>>transmission line system.
>>
>>
>>
>>Deacon Dave, W1MCE
>>
>
>
> Zo/0 isn't infinity. If it were, 0 times infinity would always equal
> Zo, no matter what the value of Zo was. The popular habit of
> stating that any number divided by zero is infinity should be
> stamped out.
> 73,
> Tom Donaly, KA6RUH
>
>

3689. Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 00:49:07 UTC
From: EarlK <"earlk livenet.net">
Message-ID: <vcdmf8glfsmi49@corp.supernews.com>
Source record: 117892

Hi folks,

This isn't exactly a ham radio question, but the theory would apply just as well, and you folks would know.

We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm transmission line. About 8 inches ahead of the T is another T from which an 8 inch (approx) stub (open circuited) is attached. It's supposed to give us 50 Ohms nonreactive at that point. But we see a VSWR of around 3 back at the transmitter. The antenna bays and all cables are 50 Ohm, including the stub.

Are we doing something wrong?

Thanks

EarlK

3690. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 00:51:57 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC6D8F4.3030606@attbi.com>
Source record: 117891

Richard Clark wrote:
> On Sat, 17 May 2003 20:02:18 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
>
>>Terman,
>>Electronic and Radio Engineering, McGraw-Hill, 1955, section 4-11, pages
>>108-109.
>>
>>Deacon Dave, W1MCE
>
>
> Hi Dave,
>
> Two for the record:
> 1. Cecil has stated he has no access to this, as such, he cannot carry
> the discussion;
> 2. Would you care to give us a reading for figure 4-17 on page 109?
>
> 73's
> Richard Clark, KB7QHC

Let me quote the text for that figure:

"The practical design of a stub-line system of this type can be readily carried out with the aid of Figure 4-17, which gives the length a of the stub and its position b with respect to a voltage minimum of the standing-wave pattern EXISTING IN THE ABSENCE OF THE STUB."

Emphasis added to clearly identify that it is the VSWR in the unstubed section that is under discussion not the VSWR in the stub.

So, back to my original assertion:

1) Length of the stub
2) Location of the stub with respect to the load [VSWR generator].

Deacon Dave, W1MCE

3691. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 00:55:01 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6D9E5.6050308@ieee.org>
Source record: 117893

Dr. Slick wrote:
> Why the fuck would anyone care about the SWR at the short or open itself?

Duuuuuhhhhhhh - That *IS* and has been the topic of this discussion. I have been very careful to say *IN* the stub for all my statements. That's how I started off this part of the thread - talking about what happens *INSIDE* a stub. This entire discussion is and has been about what happens *INSIDE* a stub. Go back and check for yourself. I started this entire discussion by presenting my ideas of what happens *INSIDE* stubs.

> No, we just haven't agree on a point to measure the SWR. The SWR
> at the short or open will not be the same as when measuring at the
> input of the 1/4 wave transmission line.

Duuuuuhhhhhhhh - of course not. But you said the SWR was NOT near infinite *INSIDE* the stub. You were wrong. It *IS* near infinite at the short (or open).

> BZZZTT!! WRONG AGAIN! The reflection coefficient could never
> be exactly 1.0 unless you have superconduction materials.

The reflection coefficient for a dead short or open circuit is close enough to 1.0 that I'm surprised you would bother to quibble. Actually, that's why I said "near infinite" instead of "infinite". The math calculations indicate that it is infinite assuming a dead short is zero ohms and an open circuit is infinite ohms. Someone else also calculated that SWR to be infinity.

Instead of arguing over who said what, let me just repeat what I have been saying for weeks and see exactly where you disagree with me. Here's the earlier example I presented to start this discussion off using a signal generator with a perfect circulator+load (SGCL). All feedline is 50 ohms.

100W SGCL------------feedline-----------------+----1/4WL-----short

My assertions:
All of the reflections are taking place at the short and the SWR at the short is as high as it can possibly be. There are no reflections at '+'. Forward energy flows into the stub and reflected energy flows out of the stub unopposed. The actual SWR at '+' (and up and down the feedline) depends upon the losses in the stub (and feedline). Given the existing boundary conditions, the losses in the stub are as high as they can possibly be. Except for losses, all the reflected power is dissipated in the circulator load resistor.

So exactly where do you disagree with me?
--
73, Cecil http://www.qsl.net/w5dxp

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3692. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 00:57:18 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6DA6E.10503@ieee.org>
Source record: 117894

Dr. Slick wrote:
>>Read it again. 100% of the energy incident upon the shorted (or open)
>>end of a 1/4WL stub is reflected. There is simply no place else for it
>>to go. It surely cannot squirt out the end of the stub. Once you agree
>>with me that the reflection coefficient at the shorted (or open) end
>>of a stub is 1.0, all the rest of the math will fall out from that fact.
>>
> ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES.

Grasping at straws, are we? Thanks for the chuckle.
--
73, Cecil http://www.qsl.net/w5dxp

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3693. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 01:18:52 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6DF7C.6050207@ieee.org>
Source record: 117895

Dr. Slick wrote:
> What an obvious switch you have just made Cecil! I'm glad you are
> coming to your senses and agreeing with me!

Old trick, won't work! There's no switch and no contradiction as can
be proven by my challenge for you, below.

> Because you did say, "The SWR in any stub is as near infinity as
> it can possibly get along with losses that are as high as they can
> possibly be. There is nothing in the world that will cause more
> reflected energy than a short or open."

That's a true statement. That you don't grok the meaning is pretty funny.

Assuming a short is 0.01 ohms, for a shorted 50 ohm stub the reflection
coefficient is |(0.01-50)/(0.01+50)| = 0.9996

The SWR is 1.9996/0.0004 = 5000:1. Given the boundary conditions,
****THAT'S AS NEAR INFINITY AS THAT STUB CAN GET.****

So here is my challenge for you.

1. Please show us an example where the SWR is higher (or lower) than it
can possibly be.

2. Please show us an example where the losses are higher (or lower) than
they can possibly be.

3. Please show us an example of something that reflects more energy than a
short or open.
--
73, Cecil http://www.qsl.net/w5dxp

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3694. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 01:22:16 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6E048.6080201@ieee.org>
Source record: 117896

Dave Shrader wrote:
> Emphasis added to clearly identify that it is the VSWR in the unstubed
> section that is under discussion not the VSWR in the stub.

Any rational person would have realized that.
--
73, Cecil http://www.qsl.net/w5dxp

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3695. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 01:31:21 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC6E230.5040401@attbi.com>
Source record: 117897

OC_CAM's Razor wrote:

<SNIP>

> The stub has no real resistance.

<SNIP>

WRONG! If a stub has loss it has resistance!

The transmission line used for the stub has a propagation constant =
exp-(alpha + jbeta) AKA [e^-(a + jB)].

The alpha [a] term is loss and has the units of Nepers/wavelength. We
all know that reactance has no loss. We also know that loss,
dissipation, occurs in real and radiation resistance. Since the stub is
not radiating it must exhibit a resistive component in the calculations.
In stubs that are less than 1/2 wavelength it is generally ignored by
engineers but it is there!

<UNSNIP>

It only has a virtual resistance

<SNIP> It's not a virtual resistance! It's very real! Proof: Put your
hand on the exterior of a 2 meter repeater's cavities after 1 hour of
continuous operation at 100 watts. A bit warm Eh?

<UNSNIP>

> which is the ratio of (Vfor-Vref)/(Ifor-Iref) at the mouth of the stub. The
> ratio of the voltage to current at the mouth of the stub certainly
> depends on the SWR at that point.

<SNIP>

NO! The ratio of V/I in the forward wave at the junction to the stub
depends ONLY on the Zo of the transmission line between the source and
the junction point of the stub. The (Vfor-Vref)/(Ifor-Iref) [AKA VSWR]
ratio between the junction point of the stub and the load depends SOLELY
on the characteristic impedance and the magnitude of the load. Achieving
a VSWR of 1:1 by stub/reactance tuning depends only on the VSWR at the
load, value of reactance [length of stub and stub Zo], and the location
of the stub/reactance with respect to the load.

In this discussion it is vitally important to remember a principle of
stub-tuned lines. We can replace the stub with a finite reactance, a
real inductor or capacitor, with a value that matches the reactance
generated in the stub. A REAL INDUCTOR/CAPACITOR HAS NO VSWR ASSOCIATED

WITH IT! Conclusion, the magnitude of the VSWR in the stub is a red herring to the discussion as long as it produces the required value of reactance!!

<UNSNIP>

> the stub, the lower the losses in the stub, and the closer to perfection
> is the operation of that stub. LMR1700 stubs are closer to perfect than
> are RG-174 stubs.

Deacon Dave, W1MCE

3696. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 02:35:41 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC6F141.3010007@attbi.com>
Source record: 117898

The two antenna bays at 50 ohms each provide a 50 ohm load from the bay
to the Tee. At the Tee the parallel load is 25 ohms. This is a VSWR of 2:1.

You do not state the type of coax cable being used. The wavelength of
88.5 MHZ is 63.45 inches. The 8 inch stubs are approximately 1/8
wavelength at a Unity Velocity factor. Two such lengths are 1/4 wavelength.

Based on a Unity velocity factor the following can guessed at.

The approximate 8 inch length between the Tees converts this to a
normalized 0.8 + j0.7 on a Smith Chart.

The approximate 8 inch from the Tee to the open stub produces a -j0.7.

Based on the info given and the "approximate" lengths of the two stubs
the VSWR from the second Tee to the generator should be in the range of
1.25:1.

Conclusion: The design looks basically correct.

First point to consider in the implementation of the design is the
Velocity Factor of your coax lines used for the two stubs.

Solid Poly cables typically have a Vf of approximately 0.67.
Foam coax cables typically have a Vf of approximately 0.85.

So, my first guess is that the Vf was omitted in calculating the 8 inch
length[s].

If your lines are Poly based the 8 inch lengths should be approximately
5.36 inches.
If your lines are foam based the 8 inch lengths should be approximately
6.8 inches.

Hope this helps.

Deacon Dave, W1MCE
+++

EarlK wrote:
> Hi folks,
>
> This isn't exactly a ham radio question, but the theory would apply just as
> well, and you folks would know.
>
> We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
> transmission line. About 8 inches ahead of the T is another T
> from which an 8 inch (approx) stub (open circuited) is attached. It's

> supposed to give us 50 Ohms nonreactive at that point. But
> we see a VSWR of around 3 back at the transmitter. The antenna bays and all
> cables are 50 Ohm, including the stub.
>
> Are we doing something wrong?
>
> Thanks
>
> EarlK
> --
>
>
>

3697. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 02:45:32 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC6F391.9030400@attbi.com>
Source record: 117899

Second comment for Vf = 1 cable[s].

If you are using air or nitrogen dielectric etc. coax, the Vf is close
to 1. Then I would look for:

a) defective connector at the backshell to cable joint

b) nearby objects coupling to the antenna bays [measure antenna RL if
possible in situ].

c) crimped, bent or damaged conduit cable

Deacon Dave, W1MCE
+++

c)
EarlK wrote:
> Hi folks,
>
> This isn't exactly a ham radio question, but the theory would apply just as
> well, and you folks would know.
>
> We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
> transmission line. About 8 inches ahead of the T is another T
> from which an 8 inch (approx) stub (open circuited) is attached. It's
> supposed to give us 50 Ohms nonreactive at that point. But
> we see a VSWR of around 3 back at the transmitter. The antenna bays and all
> cables are 50 Ohm, including the stub.
>
> Are we doing something wrong?
>
> Thanks
>
> EarlK
> --
>
>
>

3698. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:06:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6F8CB.8020607@ieee.org>
Source record: 117900

Dave Shrader wrote:
>
> OC_CAM's Razor wrote:
>> The stub has no real resistance.
>
> WRONG! If a stub has loss it has resistance!

You misunderstood what I meant. The stub is designed for an impedance.
That impedance is virtual, being simply the ratio of net voltage to
net current. Losses in the stub have absolutely nothing to do with my
statement above. I know the stub has losses. I was not talking about
that resistance. I was talking about the virtual resistance.

> It only has a virtual resistance
>
> <SNIP> It's not a virtual resistance! It's very real! Proof: Put your
> hand on the exterior of a 2 meter repeater's cavities after 1 hour of
> continuous operation at 100 watts. A bit warm Eh?

We are not talking about the same impedance. I am talking about the
virtual impedance for which the stub is designed, not the losses in
the stub. You completely misunderstood. Please do a reset. I am
talking about the outer circle on a Smith Chart.
--
73, Cecil http://www.qsl.net/w5dxp

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3699. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:29:24 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC6FE14.8000609@ieee.org>
Source record: 117902

Dave Shrader wrote:
>
> OC_CAM's Razor wrote:
>> The stub has no real resistance.
>
> WRONG! If a stub has loss it has resistance!

I'm sorry I wasn't clear. Let me explain what I meant by that statement
and it has nothing to do with I^2*R losses in the stub. Let's say we have
a shorted 1/4WL stub that at a certain frequency presents a 10,000 ohm
resistance to whatever circuit it is in. That 10,000 ohms is a *virtual*
resistance, not a real physical resistance. It is simply the ratio of
(Vfor-Vref)/(Ifor-Iref) at the mouth of the stub. The net voltage
and net current at the mouth of the stub is the cause of the 10,000
ohms. The 10,000 ohms is just an effect, a calculated value, not a
real physical resistance.
--
73, Cecil http://www.qsl.net/w5dxp

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3700. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:30:50 UTC
From: Gilbert Baron <gbaron@myrealbox.com>
Message-ID: <vhvdcv8bgikaqufssuu8bit2v78ldje2ql@4ax.com>
Source record: 117901

This antenna needs a tuner and does not cover 40 meters. Not
acceptable but a neat idea.

On Fri, 16 May 2003 21:57:57 -0500, Bob Miller
<bxmiller@texas.netNOSPAM> wrote:

>On Fri, 16 May 2003 12:56:09 -0500, Gilbert Baron
><gbaron@myrealbox.com> wrote:
>
>>I need a new antenna. My old Cushcraft R7000 ha been destroyed by arc
>>over in the traps , at least I think that is what did it?
>>
>>In any case I need advice on anew antenna.
>>
>>I am looking at the CUSHCRAFT R8
>>The Gap Titan DX
>>The MFJ 1798
>>The Hy Gain AV-640
>
>If you'd like to homebrew a wire vertical that will probably
>outperform all of the antennas you've listed, see
>http://www.cebik.com/v20.html
>
>If you HAVE to go with a commercial antenna, go to the bencher.com web
>site and read some of the papers about Butternut verticals.
>
>Also, if you can find the web site for Champion Radio, they have a
>little booklet comparing many of the popular verticals.
>
>Have fun...
>
>Bob
>k5qwg
>
>
>>
>>
>>I ms ut say the Cushcraft scares me. It uses traps and I have had
>>rotten luck with 2 previous Cushcraft verticals, they blow out easily.
>>The new one claims to be able to take it..
>>
>>So far I am leaning toward the Hy Gain. I have always had good luck
>>with Hy Gain in the past. I really want to cover ALL the bands 80-10
>>so maybe that rules out the Cushcraft in any case.
>>

>>
>>What say all?

3701. I'm a "putterer" and a "pouter"!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:41:06 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <jgDxa.10320$Bv4.10139@fe07.atl2.webusenet.com>
Source record: 117903

I don't know about you guys, but I am just as content puttering about in my shop as I am yakking on the air. I had been seeing those CB-type large coil antennas popular with truckers, and decided to make one (just to see if I could). I don't really if they are "better" than a regular whip, but it just seemed like fun to make one. I wound about 7 turns of 1/4" copper tubing on a 3" piece of pipe
and made a center support out of 1/2" PVC. Two brass bushing that happen to be 3/8" X 24" TPI
(available at the local home supply store) are then inserted in this 7" center support and fastened
with JB Weld and rivets. I made mine a center load, but I assume that one would work with the
coil on the bottom. For a bottom support mast, I had some whip stubs that I had cut for screw-driver antennas. They had the bottom threaded collet still attached, so I just installed another
collet on the other end (like you see in those red/blue parts bins at hamfests). I had a left-over
mag mount from a scanner antenna, so I just screwed the whole assembly together and used
standard 3/8" studs to affix the coil at the top and bottom, and put on a 40-ish" whip. Then
I set it up for 28.610 (one of our local favorites), and tried it out on the top of my S-10 pickup.
I got reports from some of my friends out to about 45 miles with S-6. There are probably better
antennas (I haven't tried to compare it with anything). But it works fine, and it is more fun than
just picking up an antenna at the local ham/CB shop. I think "rolling your own" is one of the basics
of Amateur Radio. How about you?

73

Jerry
K4KWH

3702. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:53:46 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <KkWdndToOLifmVqjXTWcqw@comcast.com>
Source record: 117905

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EC6F141.3010007@attbi.com...
> The two antenna bays at 50 ohms each provide a 50 ohm load from the bay
> to the Tee. At the Tee the parallel load is 25 ohms. This is a VSWR of
2:1.
>
> You do not state the type of coax cable being used. The wavelength of
> 88.5 MHZ is 63.45 inches. The 8 inch stubs are approximately 1/8
> wavelength at a Unity Velocity factor. Two such lengths are 1/4
wavelength.
.....

Dave,

How do you get that? 300/88.5 = 3.39 meters = 133.46 inches. When I do the Smith chart thing, I get the stub and spacing both off by about a factor of 2. Also, is an open ended coax (Heliax?) stub good engineering practice? Wouldn't it be better to make it long enough to have a shorted stub.

BTW, I presume this is a campus/educational FM station. Must be low power, or the stub would be arcing. I wonder if whatever graduate student came up with this considered making phasing lines out of 75 ohm Heliax, and ditching the stub altogether.

Tam/WB2TT

3703. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 03:53:48 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vce0v487kfotb0@corp.supernews.com>
Source record: 117904

If it heats the stub, it is R.
"Virtual resistance" never made anything hot.

except me, this is pathetic

It's just an RLC tank circuit.

R, L, C,
There are no other components available.

No "virtual resistance" (THAT DID IT),

&&&&&
next Cecil will invoke "virtual heat"
&&&&&

"superposition of current": the electrons at the current nodes are
motionless in a "lossless" line.
It's not 50 to the left and 50 to the right, they are still, current is
zero.

****
First we get "superposition of current", which is bullshit. Period.
Now we get virtual resistance, which just goes beyond all rational thought.

A shorted 1/4 wave transmission line is an RLC tank.

An open half wave of transmission line is an RLC tank.
String em together and you have

TA DA!!
Transmission line!!!!!!!!

nite
NQ5H

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC6FE14.8000609@ieee.org...
> Dave Shrader wrote:
> >
> > OC_CAM's Razor wrote:
> >> The stub has no real resistance.
> >
> > WRONG! If a stub has loss it has resistance!
>
> I'm sorry I wasn't clear. Let me explain what I meant by that statement
> and it has nothing to do with I^2*R losses in the stub. Let's say we have

> a shorted 1/4WL stub that at a certain frequency presents a 10,000 ohm
> resistance to whatever circuit it is in. That 10,000 ohms is a *virtual*
> resistance, not a real physical resistance. It is simply the ratio of
> (Vfor-Vref)/(Ifor-Iref) at the mouth of the stub. The net voltage
> and net current at the mouth of the stub is the cause of the 10,000
> ohms. The 10,000 ohms is just an effect, a calculated value, not a
> real physical resistance.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3704. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:03:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u48ecvscupm6pc873juuogtnoduc59vds0@4ax.com>
Source record: 117906

On Sun, 18 May 2003 00:40:02 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>You are correct mathematically. Any value divided by zero is technically
>'undefined'. Practically, in transmission line systems, any value
>divided by 0.00000000000000000000000000000001 can be considered close
>to infinity!! So Zo/0.00000000000000000000000000000001 is getting
>close <g>. It will provide the necessary reactance in the stub.

Hi All,

This discussion of division by zero and infinity marks another example
of the amateur level of discussion. The mathematicians consider this
one a rather trivial value that is vastly eclipsed by other
infinities. If it serves as fodder for a rather tedious repetition of
the obvious, well, that speaks only of the poverty of discussion all
around.

73's
Richard Clark, KB7QHC

3705. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:05:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <li8ecvcier6dmcq1uedu97v57lcfiehr44@4ax.com>
Source record: 117907

>Grasping at straws, are we? Thanks for the chuckle.
You say he got you by the short straws? You should chuckle, the Pope
got there first.

3706. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:14:34 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <419ecvk50o9ipn9qsuhm0u1iskma6r87v7@4ax.com>
Source record: 117908

On Fri, 16 May 2003 23:19:58 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:

>Roger, my neighbor, tell us about the log periodic that is coming to
>your house....

Well, I dun been lookin' at that HyGain log for 20 through 10, but
then again, I'd like to have one of the *big* 40 through 10 multi band
yagis.

The stock market has to recover one of these days.<sigh>, but then the
income will probably end up in the panel of the G-III, or in the
engine compartment.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S/N CD-2)
>
>Sure does make changing frequency easy.
> 73 Mac N8TT

3707. Re: Help with RF problem on IR Remote extender

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:17:25 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <e89ecvgfc3hjbthjqn4ee849im0ijjq6pd@4ax.com>
Source record: 117909

On Fri, 16 May 2003 20:54:42 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Epson,
>
>Have you considered that you may have a defective unit? I don't think that
>reducing the RF sensitivity will help; more likely it would make it worse.
>Unless you live in static heaven, sounds like something akin to a mis
>adjusted squelch. Talk to the RS guy. They are pretty good about refunds and
>exchanges.

Many of those darn things operate right in the 440 ham band. I wonder
if that might be the problem.

There is a lot of stuff that operates on 440. Particularly TV remotes,
thermometers and weather stations.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>Tam/WB2TT
>"Epson Barnett" <google@grider.org> wrote in message
>news:42876950.0305161308.22cf27ec@posting.google.com...
>> I'm not very knowledgeable about radio or RF interference, and I'm
>> looking for some advice.
>>
>> I bought a Radio Shack universal remote control which has an RF
>> feature -
>

3708. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:21:52 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <mg9ecvgn2957nmkprose0vtbsh3hdujlmp@4ax.com>
Source record: 117910

On 16 May 2003 12:10:00 -0700, danibe@my-deja.com (Daniel) wrote:

>Greetings,
>I am currently looking to install an omnidirectional TV/FM antenna in
>my attic (unfortunately I don't have space for a directional one with
>a rotator).
<snip>

Be careful with amplified antennas. The Wineguards have been causing
interference although they may have cleared that up by now.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3709. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:33:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1n8ecvctcj46mfuape2n6v4su8kj5j8ep8@4ax.com>
Source record: 117911

On Sat, 17 May 2003 20:18:52 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Assuming a short is 0.01 ohms
...
>1. Please show us an example where the SWR is higher (or lower) than it
>can possibly be.

R <> 0.01Ohm

>
>2. Please show us an example where the losses are higher (or lower) than
>they can possibly be.

R <> 0.01Ohm

>
>3. Please show us an example of something that reflects more energy than a
>short or open.

R < 0.01Ohm

Given ANY value, other better answers follow naturally. Your value
for a short, R = 0.01Ohm is neither particularly spectacular (nor
poor), competing with the quality of the challenge as merely lame.

It's a hoot to describe the boundary of 0.01Ohm in the face of
possibly greater loss in the power getting TO the short. Cecil
characteristically underqualifies the more important issues to highly
qualify what can be tangentially argued (like a vote recount in
Florida). Further, Cecil cannot deal with the concept of dx wherein,
a very, very, very short distance from that reflection that we find a
vastly different SWR, that same point where anyone must necessarily
deal with the reality of the situation - but these practical realities
would spoil the fun of this pointless exercise in rhetorical dick
waving (where head to head with the Pope, Galileo came up, dare I say
it? Short).

73's
Richard Clark, KB7QHC

3710. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 06:35:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ubaecvs63akoevk0l6t33kbmq8jikv38dg@4ax.com>
Source record: 117912

>Any rational person would have realized that.

We'll let you know when one arrives.

73's
Richard Clark, KB7QHC

3711. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 08:39:38 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305180039.a199b98@posting.google.com>
Source record: 117913
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Simon THOMPSON" <st599@ecs.soton.ac.uk> wrote in message
news:<ba5ark$b5t$1@aspen.sucs.soton.ac.uk>...
> Hi
>
> Could anyone suggest a QRP ATU Kit available in the UK, or by mail order. I
> would like cheap and portable if possible.

One possibility is the U.S. produced LDG Electronics Z-11 ATU. It's
been thoroughly proven and I've used one. It works. Whether or not
it's "cheap" is another discussion.

http://www.ldgelectronics.com/

One U.K. distributor:

http://www.rf-kits.demon.co.uk/index.htm

> Alternatively could anyone
> suggest a portable antenna design with a low SWR over 14.15 - 14.35 MHz
>
> Also, where in the UK sells parts, e.g. Baluns and Insulators, for making
> antennas?
>
> 73 de
>
> Simon M3CYT
>
> PS Working with a 10W 20m SSB transceiver what sort of countries could one
> expect to work with practice? The Dipole will have main lobes oriented E-W

Given some skill, experience and patience the entire planet.

w3rv

3712. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 11:39:30 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC770C5.5050709@attbi.com>
Source record: 117914

OOOPPPSSS!!! Mea Culpa, Mea Culpa!!

Hold it guys and gals! This is in serious error!

My God!!! I've made a mistake!!! Mea Culpa.

Last night I was operating with a head cold that wouldn't let me sleep
and I was 3 hours beyond bed time. The initial wavelength calculation is
in error by 1/2 wavelength and all conclusions are W R O N G !!!

I'll get back after church!!

Deacon Dave, W1MCE
+ + +

Dave Shrader wrote:
> The two antenna bays at 50 ohms each provide a 50 ohm load from the bay
> to the Tee. At the Tee the parallel load is 25 ohms. This is a VSWR of 2:1.
>
> You do not state the type of coax cable being used. The wavelength of
> 88.5 MHZ is 63.45 inches. The 8 inch stubs are approximately 1/8
> wavelength at a Unity Velocity factor. Two such lengths are 1/4 wavelength.
>
> Based on a Unity velocity factor the following can guessed at.
>
> The approximate 8 inch length between the Tees converts this to a
> normalized 0.8 + j0.7 on a Smith Chart.
>
> The approximate 8 inch from the Tee to the open stub produces a -j0.7.
>
> Based on the info given and the "approximate" lengths of the two stubs
> the VSWR from the second Tee to the generator should be in the range of
> 1.25:1.
>
> Conclusion: The design looks basically correct.
>
> First point to consider in the implementation of the design is the
> Velocity Factor of your coax lines used for the two stubs.
>
> Solid Poly cables typically have a Vf of approximately 0.67.
> Foam coax cables typically have a Vf of approximately 0.85.
>
> So, my first guess is that the Vf was omitted in calculating the 8 inch
> length[s].
>
> If your lines are Poly based the 8 inch lengths should be approximately

> 5.36 inches.
> If your lines are foam based the 8 inch lengths should be approximately
> 6.8 inches.
>
> Hope this helps.
>
> Deacon Dave, W1MCE
> +++
>
> EarlK wrote:
>
>> Hi folks,
>>
>> This isn't exactly a ham radio question, but the theory would apply
>> just as
>> well, and you folks would know.
>>
>> We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
>> transmission line. About 8 inches ahead of the T is another T
>> from which an 8 inch (approx) stub (open circuited) is attached. It's
>> supposed to give us 50 Ohms nonreactive at that point. But
>> we see a VSWR of around 3 back at the transmitter. The antenna bays
>> and all
>> cables are 50 Ohm, including the stub.
>>
>> Are we doing something wrong?
>>
>> Thanks
>>
>> EarlK
>> --
>>
>>
>>
>

3713. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 11:41:26 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC77138.5010205@attbi.com>
Source record: 117915

I've recalibrated my fogged over brain. Bad head cold and lack of sleep
are cause of fog.

CUL, Deacon Dave

OC_CAM's Razor wrote:
> Dave Shrader wrote:
>
>>
>> OC_CAM's Razor wrote:
>>
>>> The stub has no real resistance.
>>
>>
>> WRONG! If a stub has loss it has resistance!
>
>
> You misunderstood what I meant. The stub is designed for an impedance.
> That impedance is virtual, being simply the ratio of net voltage to
> net current. Losses in the stub have absolutely nothing to do with my
> statement above. I know the stub has losses. I was not talking about
> that resistance. I was talking about the virtual resistance.
>
>> It only has a virtual resistance
>>
>> <SNIP> It's not a virtual resistance! It's very real! Proof: Put your
>> hand on the exterior of a 2 meter repeater's cavities after 1 hour of
>> continuous operation at 100 watts. A bit warm Eh?
>
>
> We are not talking about the same impedance. I am talking about the
> virtual impedance for which the stub is designed, not the losses in
> the stub. You completely misunderstood. Please do a reset. I am
> talking about the outer circle on a Smith Chart.

3714. Re: I'm a "putterer" and a "pouter"!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 12:04:05 UTC
From: Terry <ve1trb@hotmail.com>
Message-ID: <VEKxa.61045$cB3.456236@nnrp1.uunet.ca>
Source record: 117916

I'll bet that's how a good number of commercial antennas were originally designed, then if it looks "cool" then it will probably sell, especially if it's shiny. You might want to get out the brass polish and shine up the copper and brass parts, guarantee the signal will come off a lot smoother. In all honesty, I agree, it's a lot more fun to make your own that to buy one. You should see my totally cool ten element hand held quagi I made for my portable 440 rig. I made it out of 10 gauge solid copper for the elements, and the boom and mast out of 3/4 inch plastic water pipe, hot glued together. It was fun building it, and the neat thing about it was I loaned it to a guy that made a satellite contact with it, cool eh?

Terry VE1TRB

"Jerry Oxendine" <joxendi@bellsouth.net> wrote in message
news:jgDxa.10320$Bv4.10139@fe07.atl2.webusenet.com...
> I don't know about you guys, but I am just as content puttering about in
my
> shop as I am yakking on the air. I had been seeing those CB-type large
coil
> antennas popular with truckers, and decided to make one (just to see if I
> could). I don't really if they are "better" than a regular whip, but it
just
> seemed like fun to make one. I wound about 7 turns of 1/4" copper tubing
on
> a 3" piece of pipe
> and made a center support out of 1/2" PVC. Two brass bushing that happen
to
> be 3/8" X 24" TPI
> (available at the local home supply store) are then inserted in this 7"
> center support and fastened
> with JB Weld and rivets. I made mine a center load, but I assume that one
> would work with the
> coil on the bottom. For a bottom support mast, I had some whip stubs that
I
> had cut for screw-driver antennas. They had the bottom threaded collet
> still attached, so I just installed another
> collet on the other end (like you see in those red/blue parts bins at
> hamfests). I had a left-over
> mag mount from a scanner antenna, so I just screwed the whole assembly
> together and used
> standard 3/8" studs to affix the coil at the top and bottom, and put on a
> 40-ish" whip. Then
> I set it up for 28.610 (one of our local favorites), and tried it out on
the
> top of my S-10 pickup.

> I got reports from some of my friends out to about 45 miles with S-6.
There
> are probably better
> antennas (I haven't tried to compare it with anything). But it works
fine,
> and it is more fun than
> just picking up an antenna at the local ham/CB shop. I think "rolling
your
> own" is one of the basics
> of Amateur Radio. How about you?
>
>
> 73
>
> Jerry
> K4KWH
>
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.481 / Virus Database: 277 - Release Date: 5/13/2003

3715. Re: Wire Antennas with Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 12:32:56 UTC
From: <>
Message-ID: <20030518083256.21319.00000382@mb-m23.aol.com>
Source record: 117917

Hi:

Another wire single band antenna with gain is the HALF SQUARE. And it's a piece of cake to build. One wavelength of wire (extra added to loop around the insulators) cut and fed 1/4 wavelength from one end with that 1/4 wave piece hanging vertical, 1/2 wavelength horizontal, and the last 1/4 wavelength hanging down vertical. This can be fed directly with 52 coax, and has a beamwidth of about 50 degrees.

I've also had several people suggest the BOBTAIL CURTAIN. One wavelength of wire with three 1/4 wave wires hanging vertically from the ends and center, and voltage fed at the bottom of the middle wire. It has slightly more gain, and therefore narrower beamwidth, than the HALF SQUARE.

Bob--KD8WU

U of M
GO BLUE!!!

God, Guns, and Guts
Protect America

3716. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 12:39:52 UTC
From: richardharrison@webtv.net
Message-ID: <19195-3EC77F18-180@storefull-2316.public.lawson.webtv.net>
Source record: 117769

H. Adam Stevens wrote:
"A shorted 1/4 wave transmission line is an RLC tank."

H. is on to something.

A peculiarity of a 1/8-wavelength of transmission line is a reactance of a magnitude equal to Zo.

A shorted 1/8-wave line is an inductance with reactance equal to Zo.

An open 1/8-wave line is a capacitance with reactance equal to Zo.

Put the two line segments above together, and you have a shorted 1/4-wave stub which makes a parallel resonant circuit at its attachment points.

Best regards, Richard Harrison, KB5WZI

3717. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 12:58:57 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec78457_2@news1.prserv.net>
Source record: 117918

Not just the Winegards. That has become a generic design sold in the hundreds by RatShack, among many others. It has been fixed once, broke twice. There are so many in the distribution pipe that it is impossible to guess whether one bought somewhere today will be good, or noisy (spurious noisy). The FCC, FAA, Coast Guard, and Institute of Navigation all know the full story.

--
Crazy George
Remove NO and SPAM from return address
"Roger Halstead" <rdhalste@tm.net> wrote in message
news:mg9ecvgn2957nmkprose0vtbsh3hdujlmp@4ax.com...
> On 16 May 2003 12:10:00 -0700, danibe@my-deja.com (Daniel) wrote:
>
> >Greetings,
> >I am currently looking to install an omnidirectional TV/FM antenna in
> >my attic (unfortunately I don't have space for a directional one with
> >a rotator).
> <snip>
>
> Be careful with amplified antennas. The Wineguards have been causing
> interference although they may have cleared that up by now.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)

3718. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 13:25:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <ba81kc$ss3$1@titan.btinternet.com>
Source record: 117770

```
Xin = jRo*Tan(Pi/4) ohms.
```

3719. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 13:38:51 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <n31fcv4rut5ud4dgndr62m3lk2gscu7onk@4ax.com>
Source record: 117771

On Sat, 17 May 2003 20:49:07 -0400, "EarlK" <earlk livenet.net> wrote:

|Hi folks,
|
|This isn't exactly a ham radio question, but the theory would apply just as
|well, and you folks would know.
|
|We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
|transmission line. About 8 inches ahead of the T is another T
|from which an 8 inch (approx) stub (open circuited) is attached. It's
|supposed to give us 50 Ohms nonreactive at that point. But
|we see a VSWR of around 3 back at the transmitter. The antenna bays and all
|cables are 50 Ohm, including the stub.

I'll assume that by "ahead of the T" you mean it's on the transmitter side of the tee where the antennas are joined. If, and only if, both antennas are actually 50 non-reactive, then at the point where they are connected together you should have 25 ohm non-reactive.

To match 25 ohm to 50 ohm using nominal 50 cable and an open stub both lines need to be 35.3 degrees long. This is about 8.6" with cable with a velocity factor of 0.66. If your cable is different, then adjust for its Vp.

To troubleshoot this it would be best to be measuring at the antenna end of the transmision line rather than at the transmitter.

The first thing I would do is terminate the summing tee with two 50 ohm loads and measure that combination. If you don't see a reasonable match, then the problem is with the stub matching.

If this isn't the problem then I suggest that you measure each bay separately. Terminate the unused one with a 50 ohm load during this experiment. One or both have to be something other than 50 ohm.

3720. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 13:42:13 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <v76cncOwuMN5EFqjXTWcqg@comcast.com>
Source record: 117772

Dave,

Welcome to the group - I made exactly the same error: The stub is in parallel. So, I think we have to do this in the admittance domain. Y0 = 1/50 = .02 mhos, the load is 1/25 = .04 mhos. Enter this on the Smith chart and go towards generator until the admittance reads 1 + j??. I get this at .099 wavelength, where Y = 1 - j0.7. I get a stub length of .095 wavelength open, or .405 shorted. I am more of a computer engineer, so not positive I am doing this right.

I still think this is more of an academic rather than an engineering way of doing it.

Tam/WB2TT

3721. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:20:45 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC796BD.6030803@ieee.org>
Source record: 117773

H. Adam Stevens wrote:
> No "virtual resistance" (THAT DID IT),

Condition#1: Real physical resistor with a voltage applied.

cause is V/R, effect is I Example:

50 volts across a 50 ohm resistor.
Effect is: I=1 amp, P=50 watts dissipated at that point.

Condition#2: No real physical resistor, coherent in-phase
voltage and current exist at a point in a transmission line.

cause is V/I, effect is R Example:

50 volts at 1 amp in phase at a current maximum point in a
450 ohm piece of window line with an SWR of 9:1
Effect is: R=50 ohms, P=50 watts NOT dissipated at that point.

These two conditions are obviously not the same. The term
"virtual resistance" is used to distinguish condition#2 from
condition#1. Some use the term "dissipationless resistance".
--
73, Cecil http://www.qsl.net/w5dxp

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3722. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:25:13 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC797C9.6090000@ieee.org>
Source record: 117774

Richard Clark wrote:
>>Grasping at straws, are we? Thanks for the chuckle.
>
> You say he got you by the short straws? You should chuckle, the Pope
> got there first.

Why don't you tackle the questions, Richard? The technical
content of your postings is averaging 1%.

I say the SWR at the shorted end of a stub is as high as it can
possibly be. You seem to disagree so please demonstrate an SWR
that is higher than exists at the shorted end of a stub.
--
73, Cecil http://www.qsl.net/w5dxp

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3723. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:32:39 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC79987.3080003@ieee.org>
Source record: 117775

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Assuming a short is 0.01 ohms
>>1. Please show us an example where the SWR is higher (or lower) than it
>>can possibly be.
>
> R <> 0.01Ohm

Sorry, Richard. Your answer violates the assumed boundary
conditions. Please try again.

> It's a hoot to describe the boundary of 0.01Ohm in the face of
> possibly greater loss in the power getting TO the short.

Tsk, tsk, Richard. The SWR at the short doesn't depend upon the
amount of power getting to the short. Whatever power is getting
to the short is called the incident power. Whatever power is
reflected from the short is called the reflected power. Those
two values will be virtually identical so rho, the square root
of their ratios, will be very, very, very, very close to 1.0
and the calculated SWR will be as high as it can possibly be.
--
73, Cecil http://www.qsl.net/w5dxp

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3724. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:34:52 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <ce6fcvg7ilkoqba2ua2vg6k8qddhrg4fpk@4ax.com>
Source record: 117776

On Sun, 18 May 2003 07:58:57 -0500, "Crazy George"
<munschNO@attglobal.net.SPAM> wrote:

>Not just the Winegards. That has become a generic design sold in the
>hundreds by RatShack, among many others. It has been fixed once, broke
>twice. There are so many in the distribution pipe that it is impossible to
>guess whether one bought somewhere today will be good, or noisy (spurious
>noisy). The FCC, FAA, Coast Guard, and Institute of Navigation all know the
>full story.

Yup.
Like the FCC action against the RV owner telling them to quit using
the antenna , "or else".

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3725. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:35:28 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC79A30.6070508@ieee.org>
Source record: 117777

Dave Shrader wrote:
> I've recalibrated my fogged over brain. Bad head cold and lack of sleep
> are cause of fog.

Darn Dave, you're not supposed to have a summer cold. I hope
you are feeling better today. If sunshine and 90 degree weather
would help, come on down.
--
73, Cecil http://www.qsl.net/w5dxp

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3726. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:42:12 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <8u3fcvc5ht91aagnveosmcig1i7bcnlsl2@4ax.com>
Source record: 117778

On Sun, 18 May 2003 09:42:13 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

|Dave,
|
|Welcome to the group - I made exactly the same error: The stub is in
|parallel.

Yes but the line between the tees is in series. So you need to stay
in the impedance mode and rotate the 25 ohm until it hits the constant
conductance circle at Y = 0.02 - j 0.014. (You can visualize constant
admittance circles in your head, can't you? <g>)

Now you need to find the length of an open line with Y = 0 + j 0.014.
Starting with the load Y = 0 + j0, rotate toward the generator until
you reach this value (~0.098 lambda or 35.3 deg.)

|So, I think we have to do this in the admittance domain. Y0 = 1/50
|= .02 mhos, the load is 1/25 = .04 mhos. Enter this on the Smith chart and
|go towards generator until the admittance reads 1 + j??. I get this at .099
|wavelength, where Y = 1 - j0.7. I get a stub length of .095 wavelength open,
|or .405 shorted. I am more of a computer engineer, so not positive I am
|doing this right.

You lucked onto approximately the correct open (but not shorted) stub
length but I'm not sure how, given your rational.

3727. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:50:20 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC79DAC.2000608@ieee.org>
Source record: 117779

Richard Harrison wrote:
> A shorted 1/8-wave line is an inductance with reactance equal to Zo.

Not arguing with you - just pointing out that a shorted 1/8WL stub
is a condition where (Vfor-Vref) at the mouth of the stub leads
(Ifor-Iref) by 90 degrees, i.e. the inductive *effect* is *caused*
by superposition of forward and reflected waves.

> An open 1/8-wave line is a capacitance with reactance equal to Zo.

Again not arguing with you - an open 1/8WL stub is a condition where
(Vfor-Vref) at the mouth of the stub lags (Ifor-Iref) by 90 degrees,
i.e. the capacitive *effect* is *caused* by superposition of forward
and reflected waves.
--
73, Cecil http://www.qsl.net/w5dxp

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3728. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 14:55:43 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC79EEF.5020205@ieee.org>
Source record: 117780

Richard Harrison wrote:
> CAM, W5DXP wrote:
> "If the ground is not perfect, the feedpoint impedance will be higher
> than 35 ohms."
>
> Yes, and if the radiator is too short, the radiation resistance can be
> less than 35 ohms.

True, but the stated assumed boundary conditions for the discussion
was that the vertical was physically 1/4WL long.

> Why not make the radiator a little too long and bring the radiation
> resistance up to 50 ohms, then tune out the excess inductance with a
> relatively lossless series capacitance?

Good suggestion and it works really well. That is, as well as a
vertical ever works. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3729. LHC or RHC polarisation for Inmarsat Helix

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 15:06:01 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <4fNxa.13910$pK2.19183@news.indigo.ie>
Source record: 117781

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
I'm building a helix antenna to receive Inmarsat.
The Inmarsat down-link is Left Hand Circular Polarisation.

Do I have to wind my helix in Right Hand Circular Polarisation? The reason I
ask is that there is a ground plane at the back of my helix antenna. Does
the signal from the satellite reflect off the ground plane and invert to
RHC??

Cheers,
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPsehVyGakPXr24F/EQKjkACg1BjW577/HaxVvo0iYwR1x+QK4lwAn3Jh
g+nnfeGgoq643n2Em8LTC82f
=N8ra
-----END PGP SIGNATURE-----
```

3730. Re: Flexweave antenna wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 15:43:15 UTC
From: Jim <elusive@quicksilver.co.uk>
Message-ID: <3ec91f7b_1@mk-nntp-2.news.uk.tiscali.com>
Source record: 117765

Very many thanks guys - for all the suggestions - M0Jim

> Need to modify / lengthen existing dipole.
> Can anyone suggest a method of removing atmospheric pollution /
oxidisation
> from present flexweave conductor which will clean it up enough to enable a
> satisfactory solder joint ??

3731. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 15:44:02 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <iWednbtN0ewRN1qjXTWcpg@comcast.com>
Source record: 117782

"Wes Stewart" <n7ws@#arrl.net> wrote in message
news:8u3fcvc5ht91aagnveosmcig1i7bcnlsl2@4ax.com...
> ....
> You lucked onto approximately the correct open (but not shorted) stub
> length but I'm not sure how, given your rational.

Wes,

I said I was a computer engineer. However, what I think they should do is:

1. Measure the impedance, or at least the SWR of each antenna, to make sure they are identical.

2. Measure the impedance at the T closest to the antennas to get the actual impedance. Cable to the meter should be either 0 (T probably has a female connector on one port), or 1/2 electrical wavelength long.

3. Recalculate stub length and spacing based on actual impedance.

4. Might be worthwhile to calculate the stub length based on using a ~10 PF variable capacitor rather than an open or short at the end of the stub.

BTW, I once stacked a pair of 2 m beams using 3/4 WL 75 Ohm phasing lines. Worked a whole lot better than what these people are seeing.

Tam/WB2TT
>

3732. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 16:07:55 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EC7AFAC.1000001@attbi.com>
Source record: 117783

Just before my homily this morning I was inspired to ask the following question, not of the Almighty but, of the original post. Are the antennas coupled by being collocated so that a mutual impedance exists??

Restated: are the antennas mounted at the same height, can they see one another, are they close [closer than 3 wavelengths [~ 30 feet]]?

If so, they do not present a 50 ohm load. The mutual impedance will reduce the load impedance.

Deacon Dave

Dave Shrader wrote:
> OOOPPPSSS!!! Mea Culpa, Mea Culpa!!
>
> Hold it guys and gals! This is in serious error!
>
> My God!!! I've made a mistake!!! Mea Culpa.
>
> Last night I was operating with a head cold that wouldn't let me sleep
> and I was 3 hours beyond bed time. The initial wavelength calculation is
> in error by 1/2 wavelength and all conclusions are W R O N G !!!
>
> I'll get back after church!!
>
> Deacon Dave, W1MCE
> + + +
>
> Dave Shrader wrote:
>
>> The two antenna bays at 50 ohms each provide a 50 ohm load from the
>> bay to the Tee. At the Tee the parallel load is 25 ohms. This is a
>> VSWR of 2:1.
>>
>> You do not state the type of coax cable being used. The wavelength of
>> 88.5 MHZ is 63.45 inches. The 8 inch stubs are approximately 1/8
>> wavelength at a Unity Velocity factor. Two such lengths are 1/4
>> wavelength.
>>
>> Based on a Unity velocity factor the following can guessed at.
>>
>> The approximate 8 inch length between the Tees converts this to a
>> normalized 0.8 + j0.7 on a Smith Chart.
>>
>> The approximate 8 inch from the Tee to the open stub produces a -j0.7.

>>
>> Based on the info given and the "approximate" lengths of the two stubs
>> the VSWR from the second Tee to the generator should be in the range
>> of 1.25:1.
>>
>> Conclusion: The design looks basically correct.
>>
>> First point to consider in the implementation of the design is the
>> Velocity Factor of your coax lines used for the two stubs.
>>
>> Solid Poly cables typically have a Vf of approximately 0.67.
>> Foam coax cables typically have a Vf of approximately 0.85.
>>
>> So, my first guess is that the Vf was omitted in calculating the 8
>> inch length[s].
>>
>> If your lines are Poly based the 8 inch lengths should be
>> approximately 5.36 inches.
>> If your lines are foam based the 8 inch lengths should be
>> approximately 6.8 inches.
>>
>> Hope this helps.
>>
>> Deacon Dave, W1MCE
>> +++
>>
>> EarlK wrote:
>>
>>> Hi folks,
>>>
>>> This isn't exactly a ham radio question, but the theory would apply
>>> just as
>>> well, and you folks would know.
>>>
>>> We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
>>> transmission line. About 8 inches ahead of the T is another T
>>> from which an 8 inch (approx) stub (open circuited) is attached. It's
>>> supposed to give us 50 Ohms nonreactive at that point. But
>>> we see a VSWR of around 3 back at the transmitter. The antenna bays
>>> and all
>>> cables are 50 Ohm, including the stub.
>>>
>>> Are we doing something wrong?
>>>
>>> Thanks
>>>
>>> EarlK
>>> --
>>>
>>>

>>>
>>
>

3733. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 16:18:41 UTC
From: tdonaly@aol.com
Message-ID: <20030518121841.28698.00000385@mb-m02.aol.com>
Source record: 117784

Richard Clark wrote,
>
>On Sun, 18 May 2003 00:40:02 GMT, Dave Shrader
><david.shrader@attbi.com> wrote:
>
>>You are correct mathematically. Any value divided by zero is technically
>>'undefined'. Practically, in transmission line systems, any value
>>divided by 0.00000000000000000000000000000001 can be considered close
>>to infinity!! So Zo/0.00000000000000000000000000000001 is getting
>>close <g>. It will provide the necessary reactance in the stub.
>
>Hi All,
>
>This discussion of division by zero and infinity marks another example
>of the amateur level of discussion. The mathematicians consider this
>one a rather trivial value that is vastly eclipsed by other
>infinities. If it serves as fodder for a rather tedious repetition of
>the obvious, well, that speaks only of the poverty of discussion all
>around.
>
>73's
>Richard Clark, KB7QHC
>

Hi Richard,
I suppose you're right to be dismissive. Many people -- and
my
HP calculator -- consider infinity to be a "real big number." Zero can then
be "a real small number." Unfortunately, even in the real world, micro-ohms
can give supervisors fits in critical circumstances, and create much work for
the technoid peons of this world.
73,
Tom Donaly, KA6RUH

3734. Re: LHC or RHC polarisation for Inmarsat Helix

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 16:35:38 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <rDOxa.70$Sq2.50783@news20.bellglobal.com>
Source record: 117785

"Xanax"
> Does the signal from the satellite reflect off the ground plane
> and invert... ?

Short answer - no.

Long answer - if you were using a reflector (such as a parabolic dish), then you would get a reversal from the reflection and you would have to feed the dish with the opposite circularity. Ground planes don't count as reflectors in this context. (I wonder if that last statement will generate some controversy?)

3735. Re: LHC or RHC polarisation for Inmarsat Helix

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 16:55:40 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <hFSdnduMM4axJlqjXTWcpA@ctc.net>
Source record: 117786

> I'm building a helix antenna to receive Inmarsat.
> The Inmarsat down-link is Left Hand Circular Polarisation.
>
> Do I have to wind my helix in Right Hand Circular Polarisation? The reason
I
> ask is that there is a ground plane at the back of my helix antenna. Does
> the signal from the satellite reflect off the ground plane and invert to
> RHC??

YOu wind it for left hand. If you use a small helix and point it to a dish
, the dish will reglect it back the opposit way. It does not reflect off
the normal ground plane at the back of a helix.

3736. how close is too close?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 17:04:28 UTC
From: tad danley <tdanley@nospamatearthlink.net>
Message-ID: <3EC7BCF9.D8100011@earthlink.net>
Source record: 117787

I am installing two antennas on the roof of my Grand Cherokee. One for an FT-100D that will be used primarily on 6 and 10 meters, and one for a 2/440 dual band rig. Is there a way to determine how far apart the antennas need to be in order to ensure I don't damage a receiver by transmitting on the other rig?

Thanks in advance and 73,

--
Tad Danley, K3TD

* Anti-spam return address in use *

3737. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 17:40:28 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <d2hfcv872nvdbsvdtgs7idik0fkkrhub6h@4ax.com>
Source record: 117788

On Sun, 18 May 2003 11:44:02 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

|
|"Wes Stewart" <n7ws@#arrl.net> wrote in message
|news:8u3fcvc5ht91aagnveosmcig1i7bcnlsl2@4ax.com...
|> ....
|> You lucked onto approximately the correct open (but not shorted) stub
|> length but I'm not sure how, given your rational.
|
|Wes,
|
|I said I was a computer engineer. However, what I think they should do is:
|
|1. Measure the impedance, or at least the SWR of each antenna, to make sure
|they are identical.

I could have sworn that in an earlier post I said,

"If this isn't the problem then I suggest that you measure each bay
separately. Terminate the unused one with a 50 ohm load during this
experiment. One or both have to be something other than 50 ohm."
|
|2. Measure the impedance at the T closest to the antennas to get the actual
|impedance. Cable to the meter should be either 0 (T probably has a female
|connector on one port), or 1/2 electrical wavelength long.

I believe I said,

"To troubleshoot this it would be best to be measuring at the antenna
end of the transmision line rather than at the transmitter. "

|
|3. Recalculate stub length and spacing based on actual impedance.

If all they can measure is SWR, they won't know the impedance.

|
|4. Might be worthwhile to calculate the stub length based on using a ~10 PF
|variable capacitor rather than an open or short at the end of the stub.

Might need a big capacitor if they're running 10KW.

|
|BTW, I once stacked a pair of 2 m beams using 3/4 WL 75 Ohm phasing lines.

Me too. I believe it was in 1962.

3738. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 17:45:08 UTC
From: Brian <g0ukb@ivarc.nospam.org.uk>
Message-ID: <MPG.1931d6ea9e1fc41698968e@news.dsl.pipex.com>
Source record: 117789
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Simon
if you have the additional cash (I know -poor student) also take a look at the DK9SQ 10m fibreglass pole - Robin at Sycom http://www.sycomcomp.co.uk/ does them - not cheap at 62 quid including postage but very good.

If you really are only going to be mono-band then a dipole is a good starting antenna and won't need an ATU. If you do want to experiment with antennas and are looking for an ATU the LDG is a good automatic ATU but if you are planning to get a K2 then you'll probably buy the K2's internal tuner anyway so may not want to spend so much now. Sheldon Hands (http://www.rf-kits.demon.co.uk/) does the LDG QRP auto ATU for 150 quid. Lake electronics do a couple of manual ATUs more modestly priced at 44 quid for a 20W model and 68 for an 80 version. It might be almost as cheap to pick up a 2nd hand MFJ at a rally (if you are lucky - I got one for 20 quid- front panel is very tatty and needs reprinting but works OK))

As for DX - furthest I've got on 10W SSB is South Cook Island which is pretty much the antipodes - that's with a 102' dipole fed by ladder line to a balun and a short coax feed into the shack. I put up a random length dipole (probably about 20m - needed a tuner) on the 10m mast and worked Japan on 10W portable from a car park in the New Forest along with a couple of E Coast US stations. I just have a thick rubber band which I attach to the bottom of the top segment of the mast to hold the dipole centre in place and then attach string to the end of the dipole legs and use the string as guys giving a nice inverted V. Quick, easy and effective.

If you need to play around tuning the antennas then I recommend joing Itchen Valley ARC (contact Sheila) - yeah it'll cost you 14 quid but as a member you can borrow the club's MFJ antenna analyzer which makes life easy.

Be careful though, only using 10W and all this home brew - you're in danger of giving M3's a good name :-)

Brian G0UKB

3739. Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 18:06:06 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7CB8E.9040602@ieee.org>
Source record: 117790

I just received my own copy of _Optics_, 4th edition, by Hecht
and have a question about a statement in section 7.1.4, "Standing
Waves".

"It is the electric field that triggers the photochemical process."

"... the electric field is referred to as the *optic disturbance*
or *light field*."

Does the above mean that if all the available energy is contained
in the B-field and none contained in the E-field, that the wave
becomes invisible at that point even though the total energy level
has not changed? If so, does that mean that dark interference rings
contain just as much invisible energy as light interference rings
contain visible energy?

Thanks in advance for any helpful information.
--
73, Cecil http://www.qsl.net/w5dxp

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3740. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 18:32:13 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <WfidnYbQZKVQTFqjXTWcpQ@crocker.com>
Source record: 117791

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC7CB8E.9040602@ieee.org...
> I just received my own copy of _Optics_, 4th edition, by Hecht
> and have a question about a statement in section 7.1.4, "Standing
> Waves".
>
> "It is the electric field that triggers the photochemical process."
>
> "... the electric field is referred to as the *optic disturbance*
> or *light field*."

since chemical bonds are due to electric field interactions between atoms it would make sense that the electric field part of the wave would be important in triggering chemical reaction.

>
> Does the above mean that if all the available energy is contained
> in the B-field and none contained in the E-field, that the wave
> becomes invisible at that point even though the total energy level
> has not changed? If so, does that mean that dark interference rings
> contain just as much invisible energy as light interference rings
> contain visible energy?
>

well, i wouldn't say it becomes invisible because as the wave travels on the energy switches between the E and B fields every 1/2 wavelength. now if you are talking about standing waves then you have a slightly different problem as there will be periodic maximums and minimums for each field along the line. this is a case where the old methods of sensing line voltage and current along an open wire line become interesting.... at the maximum point for the E field you can measure the voltage peak which is of course where you would get corona and electrical/chemical breakdown of the insulation if the field is high enough. at the B peak you would have a minimum of voltage but you could still 'see' the B field with the appropriate instrument (a coil of wire and a bulb maybe)... but you would probably not get electrical breakdown of the insulation or corona, though you could get heating of the conductor due to high currents. so i wouldn't say that it dissapears, you just need different tools to 'see' it.

in the case of dark interference rings i believe there is less energy in them due to the cancelation of the waves at that point, the energy should show up in the constructive interference of the bright rings.

3741. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 19:27:56 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7DEBC.2080103@ieee.org>
Source record: 117792

David Robbins wrote:
> "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote:
> since chemical bonds are due to electric field interactions between atoms it
> would make sense that the electric field part of the wave would be important
> in triggering chemical reaction.

Thanks very much, David, for a clear technical response.

Our eyes are a chemical reaction so do they only respond to the electric field in light? I realize that normally the electric field and magnetic fields in free space are related by the characteristic impedance of free space.

Think the unthinkable time: If I were in a free space with a Z0 of 100 ohms, would light seem dimmer to me? If I were in a free space with a Z0 of 1000 ohms, would light seem brighter to me?

> ... now if you
> are talking about standing waves then you have a slightly different problem
> as there will be periodic maximums and minimums for each field along the
> line.

Yes, the quotes from _Optics_ came from the standing wave section.

> in the case of dark interference rings i believe there is less energy in
> them due to the cancelation of the waves at that point, the energy should
> show up in the constructive interference of the bright rings.

Well, light waves don't normally cancel - they just superpose. Wave cancellation is a somewhat special event involving coherent waves traveling in the identical direction and path with their amplitudes equal and their phases differing by 180 degrees. They cancel for all space and time. I would guess it takes man's interference (pun intended) to cause EM wave cancellation. It certainly happens in a Z0-matched transmission line system with reflections but I doubt that it ever happens naturally, i.e. without man's deliberate interference.

In a transmission line of Z0 characteristic impedance, because of standing waves, the ratio of voltage to current can vary far away from Z0. Can the ratio of the E-field to the B-field vary far away from the characteristic impedance of free space when standing waves occur in free space?
--
Thanks again & 73, Cecil http://www.qsl.net/w5dxp

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3742. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 19:54:58 UTC
From: Wes Stewart <n7ws@#arrl.net>
Message-ID: <7jhfcv4r6v27j0cffchk7vlsotbjou2fdq@4ax.com>
Source record: 117793

On Sun, 18 May 2003 16:07:55 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

|Just before my homily this morning I was inspired to ask the following
|question, not of the Almighty but, of the original post. Are the
|antennas coupled by being collocated so that a mutual impedance exists??
|
|Restated: are the antennas mounted at the same height, can they see one
|another, are they close [closer than 3 wavelengths [~ 30 feet]]?
|
|If so, they do not present a 50 ohm load. The mutual impedance will
|reduce the load impedance.

You don't know this. For all we know the individual antennas were
optimized in the array with the mutuals accounted for.

3743. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 20:17:55 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <GfOdnTgyps_yd1qjXTWcoA@crocker.com>
Source record: 117794

"OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC7DEBC.2080103@ieee.org...
> David Robbins wrote:
> > "OC_CAM's Razor" <Cecil.A.Moore@ieee.org> wrote:
> > since chemical bonds are due to electric field interactions between
atoms it
> > would make sense that the electric field part of the wave would be
important
> > in triggering chemical reaction.
>
> Thanks very much, David, for a clear technical response.
>
> Our eyes are a chemical reaction so do they only respond to the electric
> field in light? I realize that normally the electric field and magnetic
> fields in free space are related by the characteristic impedance of free
> space.
>
> Think the unthinkable time: If I were in a free space with a Z0 of 100
> ohms, would light seem dimmer to me? If I were in a free space with
> a Z0 of 1000 ohms, would light seem brighter to me?

maybe, but since that would be the 'normal' you wouldn't know the
difference.

>
> > ... now if you
> > are talking about standing waves then you have a slightly different
problem
> > as there will be periodic maximums and minimums for each field along the
> > line.
>
> Yes, the quotes from _Optics_ came from the standing wave section.
>
> > in the case of dark interference rings i believe there is less energy in
> > them due to the cancelation of the waves at that point, the energy
should
> > show up in the constructive interference of the bright rings.
>
> Well, light waves don't normally cancel - they just superpose. Wave
cancellation
> is a somewhat special event involving coherent waves traveling in the
identical
> direction and path with their amplitudes equal and their phases differing
by 180
> degrees. They cancel for all space and time. I would guess it takes man's

interference
> (pun intended) to cause EM wave cancellation. It certainly happens in a
Z0-matched
> transmission line system with reflections but I doubt that it ever happens
naturally,
> i.e. without man's deliberate interference.
>
> In a transmission line of Z0 characteristic impedance, because of standing
waves,
> the ratio of voltage to current can vary far away from Z0. Can the ratio
of the
> E-field to the B-field vary far away from the characteristic impedance of
free
> space when standing waves occur in free space?

sure, why not? the superposition of currents and voltages in a transmission line is analogous to E and B fields in wave guides and waves in free space... however you would of course need something to 'reflect' off of or launch an interfering wave, so maybe it couldn't really be called 'free space'.

3744. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 20:57:49 UTC
From: tdonaly@aol.com
Message-ID: <20030518165749.19960.00000274@mb-m27.aol.com>
Source record: 117795

Cecil wrote,
>
>I just received my own copy of _Optics_, 4th edition, by Hecht
>and have a question about a statement in section 7.1.4, "Standing
>Waves".
>
>"It is the electric field that triggers the photochemical process."
>
>"... the electric field is referred to as the *optic disturbance*
>or *light field*."
>
>Does the above mean that if all the available energy is contained
>in the B-field and none contained in the E-field, that the wave
>becomes invisible at that point even though the total energy level
>has not changed? If so, does that mean that dark interference rings
>contain just as much invisible energy as light interference rings
>contain visible energy?
>
>Thanks in advance for any helpful information.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Hi Cecil,
you might want to ask the same question of the
sci.physics.electromag newsgroup. Those guys are supposed
to know everything electromagnetic.
73,
Tom Donaly, KA6RUH

3745. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:04:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <crrfcvop3n9o9m4ada8d5esihe04elkdrb@4ax.com>
Source record: 117796

On Sun, 18 May 2003 09:25:13 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Why don't you tackle the questions, Richard? The technical
>content of your postings is averaging 1%.

Hi Cecil,

That question is not a technical one - if I have any hope of boosting
that average.

Have you run out of ground acolyte? :-)

Now here's a request:
Name two individuals that you stipulate could faithfully
describe your most cherished technical notion without
your prompting.

OK, OK, just name one then.

OK, OK, you can prompt.

Just the initials then?

OK, is it a him or her?

Have they/he/her been alive for any part of the last century?

73's
Richard Clark, KB7QHC

3746. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:08:22 UTC
From: EarlK <"earlk livenet.net">
Message-ID: <vcftvkig6bdqe7@corp.supernews.com>
Source record: 117799

Dave,

Thanks so much for your input. I'm, as is obvious, not directly involved in this effort. I'm the studio technician, and just help out with this antenna stuff. I wanted to get some input from folks like you guys (and really appreciate it, too).

You've remarked about the bay-to-bay proximity. I'll describe the situation here.

This is an educational station. 1200 ERP in one direction, and 300 in the other. In this new location with two bays, we'll be running 570 TPO. We're using a 1/2-inch hard line that's about 70 feet long. I say 1/2-inch, because the corrugated solid metal shield is about that diameter, and the center conductor is about 1/8 inch solid conductor. I don't know its exact type.

The two bays are attached to a 20-foot (approx) vertical pole, which is attached via brackets to a Rohn-55 30-foot tower, on top of a building. The bay-to-bay spacing is around 10 feet. Four extra reflectors are attached to that pole, above and below each bay, 8 total. In our old location, there were three of these 2-bay assemblies vertically on a Rohn-25 tower -- 6 bays total. We stole one pair for the new location, and the remaining 4 bays are doing fine at the old location right now -- the transmitter there indicates just a few percent reflected power. The new two-bay arrangement has the blessing of the antenna manufacturer, I'm told. I hope.

There's a vertical pole of the same height as the tower about 10 feet in back of the antenna. Can't be moved.

The matching stub network was made with coax cable. I don't know the exact cable type, but am waiting for the exact type to pass on to you. Some of the folks in this thread have voiced concerns about using an open stub, because of arcing. I guess there will be a good bit of voltage at that unterminated end. There will be just over 500 Watts at that end of the hard line. This stuff is all hooked up with N connectors.

We can measure the impedance and VSWR of each bay up on the tower (and will). With the meter attached directly to a bay, I believe you're saying the other bay should be terminated with 50 Ohms. Keeps it from reflecting, re-radiating, and other undesirable things, I guess. Then I believe if we connect both bays to that second tee, then disconnect and measure at the input to that tee we should see 25 Ohms, nonreactive, if all is well with the two bays working together. If all that works out OK, we'll attach the matching network (stub thing), and measure at the input to the network (the first tee, where the stub is). And hope for 50 Ohms and only 1.25 VSWR or

so. That leaves Mr. hard line as the culprit, though a rudimentary TDR with an oscilloscope showed no reflections until the out-of-phase dead short reflection at about 200 ns, as would be expected.

Would really appreciate any more comments on any of this, and I'll pass it along to the antenna guys. Better'n just standing around pulling on ropes and stuff. Thanks again, very much.

EarlK

"Dave Shrader" <david.shrader@attbi.com> wrote in message news:3EC7AFAC.1000001@attbi.com...
> Just before my homily this morning I was inspired to ask the following
> question, not of the Almighty but, of the original post. Are the
> antennas coupled by being collocated so that a mutual impedance exists??
>
> Restated: are the antennas mounted at the same height, can they see one
> another, are they close [closer than 3 wavelengths [~ 30 feet]]?
>
> If so, they do not present a 50 ohm load. The mutual impedance will
> reduce the load impedance.
>
> Deacon Dave
>
> Dave Shrader wrote:
> > OOOPPPSSS!!! Mea Culpa, Mea Culpa!!
> >
> > Hold it guys and gals! This is in serious error!
> >
> > My God!!! I've made a mistake!!! Mea Culpa.
> >
> > Last night I was operating with a head cold that wouldn't let me sleep
> > and I was 3 hours beyond bed time. The initial wavelength calculation is
> > in error by 1/2 wavelength and all conclusions are W R O N G !!!
> >
> > I'll get back after church!!
> >
> > Deacon Dave, W1MCE
> > + + +
> >
> > Dave Shrader wrote:
> >
> >> The two antenna bays at 50 ohms each provide a 50 ohm load from the
> >> bay to the Tee. At the Tee the parallel load is 25 ohms. This is a
> >> VSWR of 2:1.
> >>
> >> You do not state the type of coax cable being used. The wavelength of
> >> 88.5 MHZ is 63.45 inches. The 8 inch stubs are approximately 1/8
> >> wavelength at a Unity Velocity factor. Two such lengths are 1/4
> >> wavelength.

> >>
> >> Based on a Unity velocity factor the following can guessed at.
> >>
> >> The approximate 8 inch length between the Tees converts this to a
> >> normalized 0.8 + j0.7 on a Smith Chart.
> >>
> >> The approximate 8 inch from the Tee to the open stub produces a -j0.7.
> >>
> >> Based on the info given and the "approximate" lengths of the two stubs
> >> the VSWR from the second Tee to the generator should be in the range
> >> of 1.25:1.
> >>
> >> Conclusion: The design looks basically correct.
> >>
> >> First point to consider in the implementation of the design is the
> >> Velocity Factor of your coax lines used for the two stubs.
> >>
> >> Solid Poly cables typically have a Vf of approximately 0.67.
> >> Foam coax cables typically have a Vf of approximately 0.85.
> >>
> >> So, my first guess is that the Vf was omitted in calculating the 8
> >> inch length[s].
> >>
> >> If your lines are Poly based the 8 inch lengths should be
> >> approximately 5.36 inches.
> >> If your lines are foam based the 8 inch lengths should be
> >> approximately 6.8 inches.
> >>
> >> Hope this helps.
> >>
> >> Deacon Dave, W1MCE
> >> +++
> >>
> >> EarlK wrote:
> >>
> >>> Hi folks,
> >>>
> >>> This isn't exactly a ham radio question, but the theory would apply
> >>> just as
> >>> well, and you folks would know.
> >>>
> >>> We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
> >>> transmission line. About 8 inches ahead of the T is another T
> >>> from which an 8 inch (approx) stub (open circuited) is attached. It's
> >>> supposed to give us 50 Ohms nonreactive at that point. But
> >>> we see a VSWR of around 3 back at the transmitter. The antenna bays
> >>> and all
> >>> cables are 50 Ohm, including the stub.
> >>>
> >>> Are we doing something wrong?

> >>>
> >>> Thanks
> >>>
> >>> EarlK
> >>> --
> >>>
> >>>
> >>>
> >>
> >
>

3747. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:12:25 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7F739.1050007@ieee.org>
Source record: 117798

Tdonaly wrote:
> you might want to ask the same question of the
> sci.physics.electromag newsgroup. Those guys are supposed
> to know everything electromagnetic.

Thanks very much, Tom. (Just what I need, another time sink. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3748. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:13:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dbtfcvs9i5af6lvl5g1b0478aoqv4r28cp@4ax.com>
Source record: 117797

On Sun, 18 May 2003 09:32:39 -0500, OC_CAM's Razor
>> It's a hoot to describe the boundary of 0.01Ohm in the face of
>> possibly greater loss in the power getting TO the short.
>
>Tsk, tsk, Richard. The SWR at the short doesn't depend upon the
>amount of power getting to the short.

Odd you might think it would in response to a marginally related comment; but it does underscore the hoot which is now a mere guffaw.

Are you SURE that SWR doesn't depend on a lot of other things too? We could hold your hand as we calm your fears to explain SWR does not depend on the tides, nor phase of the moon (more related than your reach), nor the complexity of existentialism.

You might find it therapeutic to make a list of all the things "SWR is not dependant upon" to chase out your demons. ;-)

73's
Richard Clark, KB7QHC

3749. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:17:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7F87D.3060208@ieee.org>
Source record: 117801

Richard Clark wrote:
> Now here's a request:
> Name two individuals that you stipulate could faithfully
> describe your most cherished technical notion without
> your prompting.
>
> Just the initials then?

"RL" He's a peaceful guy, so I'll let him decide whether to
expose himself to your abuse or not.
--
73, Cecil http://www.qsl.net/w5dxp

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3750. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:18:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b4ufcvkbdo6c392pj4vp7psjh9an0cq71e@4ax.com>
Source record: 117800

On Sun, 18 May 2003 14:27:56 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Think the unthinkable time: If I were in a free space with a Z0 of 100
>ohms, would light seem dimmer to me? If I were in a free space with
>a Z0 of 1000 ohms, would light seem brighter to me?

Definitely dimmer.... you would be dead.

3751. Re: Would Someone Please ~KILL~ The Person Who Invented WebTV? __ zOULCQzT

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:21:16 UTC
From: Alan Young <aayoung@sonic.net>
Message-ID: <180520031421255102%aayoung@sonic.net>
Source record: 117802
Cross-posted to: rec.arts.prose,rec.music.makers.marketplace,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc

In article <81EE9506.0C08AF30@peggytos.mi.us>, <
AL-Zawahiri@peggytos.mi.us> wrote:

> Second only to SPAM, WebTV is the worst thing to ever happen to Usenet!!!

Okay, if you want the death penalty for the *second* worst thing, what
punishment do we give you for spamming?

3752. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:21:32 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec7fcef_2@news1.prserv.net>
Source record: 117808

That was just for interfering with ham radio reception. Can you imagine
what was said to the group in the RV park at the airport where the pilots
"using" GPS reported problems in the landing approach? I keep forgetting to
find out exactly where that was. You being a pilot may know, was that
reported in the AOPA magazine?

--
Crazy George
Remove NO and SPAM from return address
"Roger Halstead" <rdhalste@tm.net> wrote in message
news:ce6fcvg7ilkoqba2ua2vg6k8qddhrg4fpk@4ax.com...
> On Sun, 18 May 2003 07:58:57 -0500, "Crazy George"
> <munschNO@attglobal.net.SPAM> wrote:
>
> >Not just the Winegards. That has become a generic design sold in the
> >hundreds by RatShack, among many others. It has been fixed once, broke
> >twice. There are so many in the distribution pipe that it is impossible
to
> >guess whether one bought somewhere today will be good, or noisy (spurious
> >noisy). The FCC, FAA, Coast Guard, and Institute of Navigation all know
the
> >full story.
>
> Yup.
> Like the FCC action against the RV owner telling them to quit using
> the antenna , "or else".
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)

3753. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:26:51 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7FA9B.50608@ieee.org>
Source record: 117804

Richard Clark wrote:
> Are you SURE that SWR doesn't depend on a lot of other things too? We
> could hold your hand as we calm your fears to explain SWR does not
> depend on the tides, nor phase of the moon (more related than your
> reach), nor the complexity of existentialism.

I'm really surprised that you are ignorant of what SWR depends upon.
When ZL is less than Z0, the SWR is Z0/ZL. When ZL is a dead short,
as it is in a shorted stub, the SWR is as close to infinity as it
can possibly get. Since it is a ratio of two fixed impedances, the
incident power has no effect on the magnitude of the SWR.

My Autek SWR meter reads infinity when I connect it to a stub.
--
73, Cecil http://www.qsl.net/w5dxp

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3754. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:27:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8dufcvkdiej9tgahtjlqvfrlh3gmac38r4@4ax.com>
Source record: 117803

On Sun, 18 May 2003 16:17:49 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Now here's a request:
>> Name two individuals that you stipulate could faithfully
>> describe your most cherished technical notion without
>> your prompting.
> >
>> Just the initials then?
>
>"RL" He's a peaceful guy, so I'll let him decide whether to
>expose himself to your abuse or not.

His fear is probably more of the acolyte grinder if he uttered an
unscripted syllable.

OK, just one. And after 5 years too!

Could we all hope the hope of all hopes that he is also an editor?

OK, another 5 years or so....

73's
Richard Clark, KB7QHC

3755. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:31:21 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7FBA9.5080505@ieee.org>
Source record: 117806

Richard Clark wrote:

> <Cecil.A.Moore@ieee.org> wrote:
>>Think the unthinkable time: If I were in a free space with a Z0 of 100
>>ohms, would light seem dimmer to me? If I were in a free space with
>>a Z0 of 1000 ohms, would light seem brighter to me?
>
> Definitely dimmer.... you would be dead.

Nope, I would just have evolved under different conditions. Did you
know that water bears can probably survive on Mars and Europa?
--
73, Cecil http://www.qsl.net/w5dxp

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3756. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:32:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9qufcvc4ummhif7odhduegt3bel9ionjgq@4ax.com>
Source record: 117805

On Sun, 18 May 2003 16:26:51 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>My Autek SWR meter reads infinity when I connect it to a stub.

Can it read couplets when connected to a Shakespeare?

3757. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:33:31 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC7FC2B.50207@ieee.org>
Source record: 117809

Richard Clark wrote:
> Could we all hope the hope of all hopes that he is also an editor?

He is now. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3758. Re: LHC or RHC polarisation for Inmarsat Helix

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:39:42 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <90Txa.13983$pK2.19409@news.indigo.ie>
Source record: 117807

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thanks for that guys!
"Ralph Mowery" <rmowery@ctc.net> wrote in message
news:hFSdnduMM4axJlqjXTWcpA@ctc.net...
> > I'm building a helix antenna to receive Inmarsat.
> > The Inmarsat down-link is Left Hand Circular Polarisation.
> >
> > Do I have to wind my helix in Right Hand Circular Polarisation? The
reason
> I
> > ask is that there is a ground plane at the back of my helix antenna.
Does
> > the signal from the satellite reflect off the ground plane and invert to
> > RHC??
>
> YOu wind it for left hand. If you use a small helix and point it to a
dish
> , the dish will reglect it back the opposit way. It does not reflect off
> the normal ground plane at the back of a helix.
>
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPsf9nCGakPXr24F/EQKkGgCfVsNg7g1G3uTHHTlpzOq/kpKtRyoAoKuL
wtOK1+PQ/+Y/4Jb4u8GzEm9V
=qDq7
-----END PGP SIGNATURE-----
```

3759. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:55:21 UTC
From: EarlK <"earlk livenet.net">
Message-ID: <vcg0m3timmu554@corp.supernews.com>
Source record: 117812

Wes,

Thanks much for your advice. Looks as though someone's going to have to climb up there and unglop all that stuff and start measuring.

I posted a response to one of Dave Shrader's posts where I describe the situation a little more thoroughly. If you'd care to look it over, I'd like to have any comments.

EarlK

"Wes Stewart" <n7ws@#arrl.net> wrote in message news:n31fcv4rut5ud4dgndr62m3lk2gscu7onk@4ax.com...
> On Sat, 17 May 2003 20:49:07 -0400, "EarlK" <earlk livenet.net> wrote:
>
> |Hi folks,
> |
> |This isn't exactly a ham radio question, but the theory would apply just as
> |well, and you folks would know.
> |
> |We have two antenna bays, 88.5 MHz, driven from a T in the 50-Ohm
> |transmission line. About 8 inches ahead of the T is another T
> |from which an 8 inch (approx) stub (open circuited) is attached. It's
> |supposed to give us 50 Ohms nonreactive at that point. But
> |we see a VSWR of around 3 back at the transmitter. The antenna bays and all
> |cables are 50 Ohm, including the stub.
>
>
> I'll assume that by "ahead of the T" you mean it's on the transmitter
> side of the tee where the antennas are joined. If, and only if, both
> antennas are actually 50 non-reactive, then at the point where they
> are connected together you should have 25 ohm non-reactive.
>
> To match 25 ohm to 50 ohm using nominal 50 cable and an open stub both
> lines need to be 35.3 degrees long. This is about 8.6" with cable with
> a velocity factor of 0.66. If your cable is different, then adjust
> for its Vp.
>
> To troubleshoot this it would be best to be measuring at the antenna
> end of the transmision line rather than at the transmitter.
>
> The first thing I would do is terminate the summing tee with two 50

> ohm loads and measure that combination. If you don't see a reasonable
> match, then the problem is with the stub matching.
>
> If this isn't the problem then I suggest that you measure each bay
> separately. Terminate the unused one with a 50 ohm load during this
> experiment. One or both have to be something other than 50 ohm.
>
>
>

3760. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:55:24 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181355.4c3bd02f@posting.google.com>
Source record: 117810

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC466CB.3000502@ieee.org>...
>
> > But to the signal generating circuit, they appear to be the same!
>
> Who cares about the friggin' signal generator? We are trying to ascertain
> what happens inside a stub!!! We cannot ascertain what happens inside a
> stub by ignoring the existence of the stub. Which Ham Radio Commandment
> says we can't look inside a stub to ascertain what is going on?

But the point "+" in the previous diagrams WILL look like an open,
as Richard has stated. Therefore, we don't care what happens in the
stub, as long as we get our open at "+".

Slick

3761. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 21:59:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s6vfcv823iv0c6lq237v5a5bbp01iik5bb@4ax.com>
Source record: 117811

On Sun, 18 May 2003 13:06:06 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>"It is the electric field that triggers the photochemical process."
>
>Does the above mean that if all the available energy is contained
>in the B-field and none contained in the E-field, that the wave
>becomes invisible at that point

There is no single point of perception, or as described above, that organ of electro/chemical energy translation (rod/cone) is many, many wavelengths in size. This same organ of perception has 50% quantum efficiency, easily double that of the best of technology: a bandwidth restricted detector (PMT or APD). By-the-by, their process of detection is not photochemical.

> even though the total energy level
>has not changed?

You violate the conservation of energy which demands a balance across one wavelength of interaction. A point is dimensionless.

>If so, does that mean that dark interference rings
>contain just as much invisible energy as light interference rings
>contain visible energy?

You can't have interference without the presence of two phase shifted components. Another issue: dark is not black, and light is not bright. The conservation of energy demands the summation across both over an interval of 1 wavelength.

73's
Richard Clark, KB7QHC

3762. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:03:16 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181403.5b48c420@posting.google.com>
Source record: 117813

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC79987.3080003@ieee.org>...
> Richard Clark wrote:
>
> > <Cecil.A.Moore@ieee.org> wrote:
> >>Assuming a short is 0.01 ohms
> >>1. Please show us an example where the SWR is higher (or lower) than it
> >>can possibly be.
> >
> > R <> 0.01Ohm
>
> Sorry, Richard. Your answer violates the assumed boundary
> conditions. Please try again.
>

Richard is correct once again, showing Cecil's silliness for all the
world to read. Thanks Richard.

Slick

3763. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:08:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tt0gcv422qic64j1nsm8als7rt2hba6s14@4ax.com>
Source record: 117814

On Sun, 18 May 2003 16:31:21 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Think the unthinkable time: If I were in a free space with a Z0 of 100
>>>ohms, would light seem dimmer to me? If I were in a free space with
>>>a Z0 of 1000 ohms, would light seem brighter to me?
>>
>> Definitely dimmer.... you would be dead.
>
>Nope, I would just have evolved under different conditions. Did you
>know that water bears can probably survive on Mars and Europa?

Ah! I get it:
>Think the unthinkable
You could probably see it dimmer and brighter at the same time and
still be dead. This must be an eden where it takes less than a
thousand monkeys to typewrite a journal piece - think what they could
do with a word processor.

3764. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:10:41 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181410.6b59f70@posting.google.com>
Source record: 117815

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC6D9E5.6050308@ieee.org>...
> Dr. Slick wrote:
> > Why the fuck would anyone care about the SWR at the short or open itself?
>
> Duuuuuhhhhhhh - That *IS* and has been the topic of this discussion. I have
> been very careful to say *IN* the stub for all my statements. That's how I
> started off this part of the thread - talking about what happens *INSIDE*
> a stub. This entire discussion is and has been about what happens *INSIDE*
> a stub. Go back and check for yourself. I started this entire discussion by
> presenting my ideas of what happens *INSIDE* stubs.
>

Excellent! I have gotten you pissed off enough to come down to my
own admittedly childish NG manners! That means i'm getting under your
skin, which i could only do by beating you at your own silly game!

Hey Dipshit, I addressed this earlier: I was talking about the SWR
looking into the 1/4 wave shorted stub, NOT the SWR at the short
itself.

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
> Dr. Slick wrote:
> > BZZZTT!! Wrong again! Hint: An SWR as high as it
> > can be will be as LOSSLESS as can be, which would be the
> > case with an ideal lossless short or open.
>
> How can you say I'm wrong when I don't disagree with your statement?
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be. What
> is possible is dictated by reality, not by you. The highest possible
> SWR may be relatively low, as shown in the example below.
>

What an obvious switch you have just made Cecil! I'm glad you are
coming to your senses and agreeing with me!

Because you did say, "The SWR in any stub is as near infinity as
it can possibly get along with losses that are as high as they can
possibly be. There is nothing in the world that will cause more
reflected energy than a short or open."

You are contadicting yourself to avoid admitting that you were
wrong!

Haha, you are hilarious, Cecil!

Slick

3765. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:13:00 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181413.6b3856ab@posting.google.com>
Source record: 117816

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message news:<3EC6DA6E.10503@ieee.org>...
> Dr. Slick wrote:
> >>Read it again. 100% of the energy incident upon the shorted (or open)
> >>end of a 1/4WL stub is reflected. There is simply no place else for it
> >>to go. It surely cannot squirt out the end of the stub. Once you agree
> >>with me that the reflection coefficient at the shorted (or open) end
> >>of a stub is 1.0, all the rest of the math will fall out from that fact.
> >>
> > ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES.
>
> Grasping at straws, are we? Thanks for the chuckle.

Are you going to argue that this isn't correct?

ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES, would you
have 100% energy reflected (absolutely no dissipated power).

Slick

3766. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:15:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <551gcvsqrgus2paatbp9t6tcjvln4g870v@4ax.com>
Source record: 117817

On Sun, 18 May 2003 16:33:31 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Could we all hope the hope of all hopes that he is also an editor?
>
>He is now. :-)

Imagine how many issues he will hide under his bed for fear of my
reading them. According to you, I could single-handedly bring down
the first amendment in your neck of the woods - if the Republican
Guard don't get there first.

Got initials "RL", got "He" and now for the 64 bit question:
Was "He" alive in the last century?

73's
Richard Clark, KB7QHC

3767. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:19:23 UTC
From: Brian Oakley <brianoakley@ispwest.com>
Message-ID: <ba916r01he8@enews3.newsguy.com>
Source record: 117724
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

Cingular is up and running with 911 service, no special phone needed. It is not as accurate as gps but is within government requirements. IMHO, it is not as good as it needs to be but much better than none.

--
Brian Oakley

"Jesus invited us not to a picnic, but to a pilgrimage; not to a frolic, but to a fight. He offered us, not an excursion, but an execution. Our Savior said that we would have to be ready to die to self, sin, and the orld." -Billy Graham

"Marc Sindell" <marcus153@yahoo.com> wrote in message news:b6rvpf$8cclh$1@ID-167069.news.dfncis.de...
>
> "Dennis McMillan" <cocokiwi@attbi.com> wrote in message
> news:7weja.322298$L1.92235@sccrnsc02...
> > And this! I just got a CDM 9500 and it has GPS inbuilt,if you dial 911 it
> > sends the info from the gps reciever to the 911 telling them where you are
> > within 3 ft!(grin)
>
> Most 911 systems are not operable with this yet, but should be soon. Vermont
> has been up (with Verizon) for a while. My Audiovox 9155 has E911 GPS, and
> that's one of the main reasons I decided to get it. The 9500 was not
> available yet, when I signed up last November.
>
>

3768. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:19:49 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC80705.6070401@ieee.org>
Source record: 117818

Dr. Slick wrote:
> But the point "+" in the previous diagrams WILL look like an open,
> as Richard has stated. Therefore, we don't care what happens in the
> stub, as long as we get our open at "+".

Uhhhhhh Slick, this discussion is about what happens *INSIDE* a stub.
That's why I originated this discussion - to ascertain exactly what happens
INSIDE a stub. If you're not interested in what happens inside a stub,
nobody is forcing you to read or post to this thread. I am interested in
what happens *INSIDE* a stub and you are not going to discourage my quest
for knowledge.

Are you going to address my questions to you or not?

How can the SWR possibly be any higher than at the shorted end
of a stub?

How can losses possibly be any higher than in a stub with a
near infinite SWR at the shorted end?
--
73, Cecil http://www.qsl.net/w5dxp

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3769. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:23:15 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181423.2726695@posting.google.com>
Source record: 117719

Cecil, I have quoted you directly:

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
>
> How can you say I'm wrong when I don't disagree with your statement?
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be. What
> is possible is dictated by reality, not by you. The highest possible
> SWR may be relatively low, as shown in the example below.
>

However, earlier Cecil wrote:

> The SWR in any stub is as near infinity as
> it can possibly get along with losses that are as high as they can
> possibly be. There is nothing in the world that will cause more
> reflected energy than a short or open."

It's obvious you can't decide if the stubs with near-infinity SWR
are as lossy or as loss-less as they can be. But you will switch your
position if you are losing an argument, as i have seen you do.

You are contadicting yourself to avoid admitting that you were
wrong!

Haha, you are hilarious, Cecil!

Slick

3770. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:27:38 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC808DA.1010606@ieee.org>
Source record: 117720

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:

>>><Cecil.A.Moore@ieee.org> wrote:
>>>>Assuming a short is 0.01 ohms
>>>>1. Please show us an example where the SWR is higher (or lower) than it
>>>>can possibly be.
>>>
>>>R <> 0.01Ohm
>>
>>Sorry, Richard. Your answer violates the assumed boundary
>>conditions. Please try again.
>>
> Richard is correct once again, showing Cecil's silliness for all the
> world to read. Thanks Richard.

You guys take the cake. A boundary condition is contained in the statement: "Assuming a short is 0.01 ohms ..." You and Richard are NOT free to turn around and violate that assumption. To attempt such is unethical. Richard violated the boundary conditions and I'm not the least bit surprised that you support that violation.

When your college professor said, "Assume a resistor of 1000 ohms, ...", did you tell him "No way!"?
--
73, Cecil http://www.qsl.net/w5dxp

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3771. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:31:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC809B5.7090101@ieee.org>
Source record: 117721

Dr. Slick wrote:
> Hey Dipshit, I addressed this earlier: I was talking about the SWR
> looking into the 1/4 wave shorted stub, NOT the SWR at the short
> itself.

You were off topic so who cares? If you want to discuss that topic, start
your own thread. This thread has always been about what happens *INSIDE*
a stub. It is obvious that you are afraid to take a look inside a stub.
One can only wonder why. You are also obviously afraid to answer my questions
about a stub. Getting too close to your sacred cows?
--
73, Cecil http://www.qsl.net/w5dxp

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3772. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:35:47 UTC
From: tdonaly@aol.com
Message-ID: <20030518183547.04339.00000264@mb-m20.aol.com>
Source record: 117722

Cecil wrote,
>
>Tdonaly wrote:
>> you might want to ask the same question of the
>> sci.physics.electromag newsgroup. Those guys are supposed
>> to know everything electromagnetic.
>
>Thanks very much, Tom. (Just what I need, another time sink. :-)
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>
>

I better warn you, Cecil, those guys play rough. One of them
called another a "trolling obscurantist."
73,
Tom Donaly, KA6RUH

3773. FREE Primestar Dish

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:36:03 UTC
From: Amateur Radio Station W5CIA <w5cia@nospam.arrl.net>
Message-ID: <ba91td$k51$1@news.datasync.com>
Source record: 117723
Cross-posted to: alt.ham-radio.marketplace,rec.radio.amateur.antenna,rec.radio.swap

Some of you microwave guys that can make use of this, come and get it. WILL NOT SHIP. Price? FREE, just come get it. I'm 50 miles north of New Orleans easily accessible from I-10, 12, 55 and 59. Dish diameter about 42".

--
Thanks
Steve
W5CIA
remove nospam to email
w5cia@nospam.arrl.net

3774. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 22:52:54 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC80EC6.1080207@ieee.org>
Source record: 117725

Dr. Slick wrote:
> Are you going to argue that this isn't correct?

I was born at night, Slick, but it wasn't last night. Maybe you can
sucker someone else into biting on your straw man.

> ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES, would you
> have 100% energy reflected (absolutely no dissipated power).

The SWR at the shorted end of a stub is nearly infinite. You have
offered absolutely no proof otherwise. Your present argument is
pitifully laughable.

Just to make you happy, what is the dissipation in 0.1 inch of #14 wire
assuming two amps of current through it? My RDRE says the resistance is
about 0.0002 ohms. With one amp of forward current, the forward power
in a 50 ohm stub would be 50 watts. The dissipation in the short would
be 0.0008 watts. The reflected power would be 49.9992 watts. Are you
sure you want to stake your reputation on 0.0008 watts of loss in a
short circuit just to prove that 49.9992 watts is not 100% of 50 watts?
The calculated SWR is 125,000. I submit to you that my statement is true.
That SWR *is* as close to infinity as it can possibly be. If it's not
close enough for you, use a bigger gauge wire for the short.
--
73, Cecil http://www.qsl.net/w5dxp

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3775. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:00:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <su3gcvc0d6li5mbms6u99nqoo1vv6cdhvr@4ax.com>
Source record: 117726

On Sun, 18 May 2003 17:19:49 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>Uhhhhhh Slick, this discussion is about what happens *INSIDE* a stub.
and then nailed himself to:
>How can the SWR possibly be any higher than at the shorted end
>of a stub?
>
>How can losses possibly be any higher than in a stub with a
>near infinite SWR at the shorted end?

300 postings and not even one dl closer to the *INSIDE* ;-)

Well, at least you bought one book after 5 years.

73's
Richard Clark, KB7QHC

3776. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:03:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7a4gcvs0bggls0s9d4huvbitr226c97ugg@4ax.com>
Source record: 117727

On Sun, 18 May 2003 17:31:17 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Getting too close to your sacred cows?
Are you the fatted calf?

3777. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:21:55 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC81593.4000609@ieee.org>
Source record: 117728

Dr. Slick wrote:
> You are contadicting yourself to avoid admitting that you were
> wrong!

Given a certain set of boundary conditions, the losses are what they are. They cannot be any higher or lower. They are exactly as high as they can possibly be and exactly as lossless as they can possibly be. There is no contradiction. Both statements are true. Why is that so difficult for you to comprehend?

To prove your point, please furnish an example where the losses in a stub are higher than they can possibly be.

To prove your point, please furnish an example where a stub is more lossless than it can possibly be.
--
73, Cecil http://www.qsl.net/w5dxp

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3778. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:24:17 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC81621.1010304@ieee.org>
Source record: 117729

Tdonaly wrote:
> I better warn you, Cecil, those guys play rough. One of them
> called another a "trolling obscurantist."

I don't mind people calling me names I don't recognize. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3779. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:34:30 UTC
From: OC_CAM's Razor <Cecil.A.Moore@ieee.org>
Message-ID: <3EC81886.1030304@ieee.org>
Source record: 117730

Richard Clark wrote:
> Well, at least you bought one book after 5 years.

Actually two. I picked up _Antennas_ by Kraus & Marhefka
It's new, but has a lot of things taped over and cut out.
Could it be a foreign version?
--
73, Cecil http://www.qsl.net/w5dxp

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3780. Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:39:37 UTC
From: k9sqg@aol.com
Message-ID: <20030518193937.09428.00000265@mb-m13.aol.com>
Source record: 117731

None of my antenna books address the issue of spacing between insulators for open wire line. I'm looking for people's experiences, especially with 2" spreaders.

Thanks,

Evan

3781. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-18 23:50:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <307gcv87n7fd42sbg1u249ut65m07hdp88@4ax.com>
Source record: 117732

On Sun, 18 May 2003 18:34:30 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>Richard Clark wrote:
>> Well, at least you bought one book after 5 years.
>
>Actually two. I picked up _Antennas_ by Kraus & Marhefka
>It's new, but has a lot of things taped over and cut out.
>Could it be a foreign version?

Perhaps if the pages aren't cut either.

3782. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 00:47:32 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <j1agcvkh7351vmdm05s1md6dhn2ps7m0un@4ax.com>
Source record: 117733

On 18 May 2003 23:39:37 GMT, k9sqg@aol.com (K9SQG) wrote:

>None of my antenna books address the issue of spacing between insulators for
>open wire line. I'm looking for people's experiences, especially with 2"
>spreaders.
>
>Thanks,
>
>Evan

For "air-insulated transmission lines" the ARRL Antenna Book
recommends #12 or #14 wire, spaced 2" to 6" apart. The closer spacing
will keep the line from radiating at higher frequencies (28 mhz).

Bob
k5qwg

3783. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 01:11:29 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcgbqlhpaioh12@corp.supernews.com>
Source record: 117734

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:tt0gcv422qic64j1nsm8als7rt2hba6s14@4ax.com...
snip

> "This must be an eden where it takes less than a
> thousand monkeys to typewrite a journal piece - think what they could
> do with a word processor."

snip

This was done recently, I believe I read about it on the BBC web site;
The critters (baboons?) shat on the keyboard and threw things at the
display.

73
H.
NQ5H

PS
The photoelectric effect refers to the energy of a photon imparting kinetic
energy to a charged particle.
Einstein already got the Nobel prize for this notion, in 1905 I think it
was.
One can discuss electric and magnetic fields separately only at DC;
They are coupled through their time derivatives.

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:tt0gcv422qic64j1nsm8als7rt2hba6s14@4ax.com...
> On Sun, 18 May 2003 16:31:21 -0500, OC_CAM's Razor
> <Cecil.A.Moore@ieee.org> wrote:
>
> >Richard Clark wrote:
> >
> >> <Cecil.A.Moore@ieee.org> wrote:
> >>>Think the unthinkable time: If I were in a free space with a Z0 of 100
> >>>ohms, would light seem dimmer to me? If I were in a free space with
> >>>a Z0 of 1000 ohms, would light seem brighter to me?
> >>
> >> Definitely dimmer.... you would be dead.
> >
> >Nope, I would just have evolved under different conditions. Did you
> >know that water bears can probably survive on Mars and Europa?
>
> Ah! I get it:
> >Think the unthinkable
> You could probably see it dimmer and brighter at the same time and

> still be dead. This must be an eden where it takes less than a
> thousand monkeys to typewrite a journal piece - think what they could
> do with a word processor.

3784. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 02:54:32 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181854.28d5a4c8@posting.google.com>
Source record: 117735

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC80EC6.1080207@ieee.org>...
> Dr. Slick wrote:
> > Are you going to argue that this isn't correct?
>
> I was born at night, Slick, but it wasn't last night. Maybe you can
> sucker someone else into biting on your straw man.
>
> > ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC LOSSES, would you
> > have 100% energy reflected (absolutely no dissipated power).
>
> The SWR at the shorted end of a stub is nearly infinite. You have
> offered absolutely no proof otherwise. Your present argument is
> pitifully laughable.
>

Did i disagree with this? Ever? No!

Once again, ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC
LOSSES, would you have 100% energy reflected (absolutely no dissipated
power).

slick

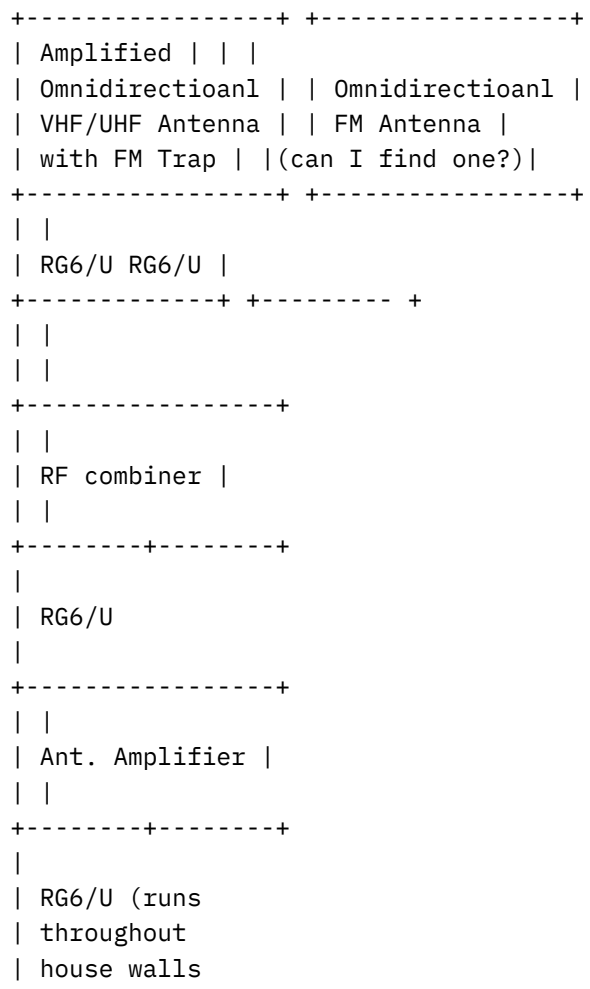
3785. Re: FM Trap layman question

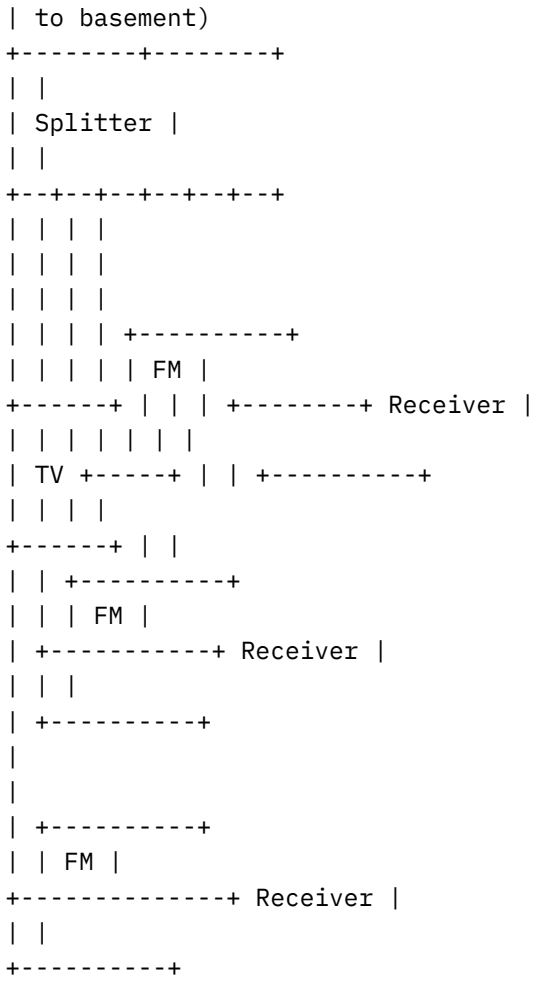
Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:00:08 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305181900.7d575078@posting.google.com>
Source record: 117736

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:<3ec5aeb1_1@news1.prserv.net>...
> So, a suggestion. Install the TV antenna and check the FM signal levels.
> If they aren't strong enough, add the FM antenna through the coupler. The
> only way to get omnidirectional gain is at the expense of a physically
> taller structure, or by amplification. But, a couple of strong FM signals
> may overload the amplifier and cause herringbone interference on one or more
> TV channels.

George, thank you for your answer (and thanks to all other who
replied). I do have a pretty strong FM radio station near my house
(can be heard over my ordinary (non-wireless) phone...) and I would
like to filter it out as closer to the antenna as possible. Do you
know where I can purchase such single-frequency (98.9 MHz) filters?

The idea that I had in mind for my antenna installation was this:





However, I saw your other posting that suggested that the amplified omnidirectional VHF/UFH antenna may be causing some interference. (one would think that after learning about the problem, Winegard would fix the problem and recall all its faulty antennas...)

I did manage to find a non-amplified version of the MS-2000, called MS-1000 at: http://www.winegard.com/products/vhfuhf_tv_products/general_antennas.html

Do yo think this would be a better solution for me? It seems that it might save me from investing in another antenna and a combiner. I already have a 26dB antenna amplifier in my attic (radio-shack #15-1108).

Thank you so much for your advice!
Daniel

3786. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:00:46 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305181900.a1bfe1a@posting.google.com>
Source record: 117737

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC809B5.7090101@ieee.org>...
> Dr. Slick wrote:
> > Hey Dipshit, I addressed this earlier: I was talking about the SWR
> > looking into the 1/4 wave shorted stub, NOT the SWR at the short
> > itself.
>
> You were off topic so who cares? If you want to discuss that topic, start
> your own thread. This thread has always been about what happens *INSIDE*
> a stub. It is obvious that you are afraid to take a look inside a stub.
> One can only wonder why. You are also obviously afraid to answer my questions
> about a stub. Getting too close to your sacred cows?

No, I'm not stupid enough to let you change the subject!

How does it feel when someone "snips" off chunks of your message?
You do it a lot!

You still haven't addressed your conflicting statements:

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
>
> How can you say I'm wrong when I don't disagree with your statement?
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be. What
> is possible is dictated by reality, not by you. The highest possible
> SWR may be relatively low, as shown in the example below.
>

However, earlier Cecil wrote:

> The SWR in any stub is as near infinity as
> it can possibly get along with losses that are as high as they can
> possibly be. There is nothing in the world that will cause more
> reflected energy than a short or open."

It's obvious you can't decide if the stubs with near-infinity SWR
are as lossy or as loss-less as they can be. But you will switch your
position if you are losing an argument, as i have seen you do.

You are contadicting yourself to avoid admitting that you were
wrong!

Haha, you are hilarious, Cecil!

Slick

3787. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:03:49 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <pQXxa.634590$OV.598077@rwcrnsc54>
Source record: 117738

"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in message
news:j1agcvkh7351vmdm05s1md6dhn2ps7m0un@4ax.com...
> On 18 May 2003 23:39:37 GMT, k9sqg@aol.com (K9SQG) wrote:
>
> >None of my antenna books address the issue of spacing between insulators
for
> >open wire line. I'm looking for people's experiences, especially with 2"
> >spreaders.
> >
> >Thanks,
> >
> >Evan
>
> For "air-insulated transmission lines" the ARRL Antenna Book
> recommends #12 or #14 wire, spaced 2" to 6" apart. The closer spacing
> will keep the line from radiating at higher frequencies (28 mhz).
>
> Bob
> k5qwg

No, you misread the question. He's talking about spacing between
INSULATORS,
not between WIRES.

Laport's antenna book says a spacing of 1/7 wavelength or less between
insulators.
will prevent any frequency dependent characteristic impedance effects.
There is
also the mechanical issue of keeping the wires from flopping around. This
is
very application dependent, and there is no rule of thumb. On my 450 ohm
line,
I get away with one insulator every 50 feet on 5 foot support poles. OTOH,
if
your line is flopping around connected to the center of a dipole, you may
need
insulators a few inches apart.

Rick N6RK

3788. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:04:16 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305181904.32caa078@posting.google.com>
Source record: 117739

Oops... to best view the text-based diagram in my last posting, you'll need a fixed-size font (courier or similar).

3789. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:07:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC84A60.2030608@ieee.org>
Source record: 117741

Dr. Slick wrote:
> OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
>>The SWR at the shorted end of a stub is nearly infinite. You have
>>offered absolutely no proof otherwise. Your present argument is
>>pitifully laughable.
>>
> Did i disagree with this? Ever? No!

Of course you did. You disagreed loud and long. You said over and over that the SWR inside a stub is *NOT* nearly infinite and I was wrong for saying so. Would you like for me to dig up those past postings?

> Once again, ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC
> LOSSES, would you have 100% energy reflected (absolutely no dissipated
> power).

You throw in something that is trivial and irrelevant to the discussion just so you can be right about a single trivial thing? :-) OK, you're trivially correct about that and nobody has ever claimed otherwise. But for most rational engineers, 99.9999% reflected energy is close enough to 100% to round it off and say rho=1.0.

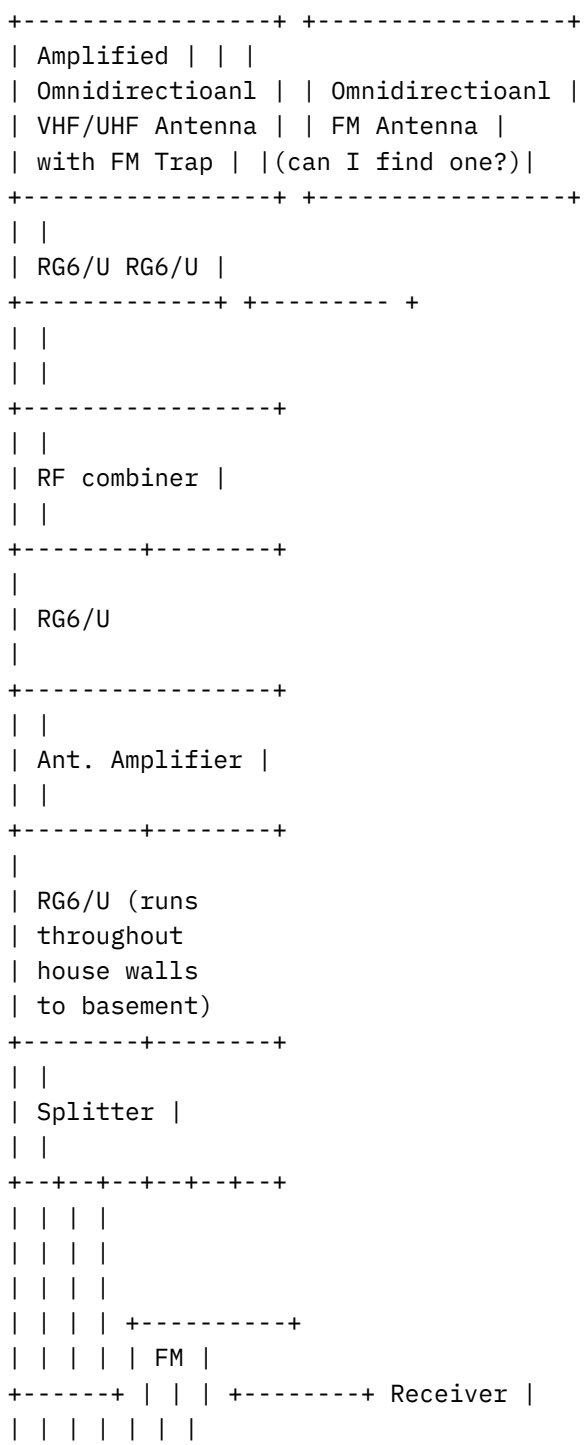
"You strain out a gnat but swallow a camel."
--
73, Cecil http://www.qsl.net/w5dxp

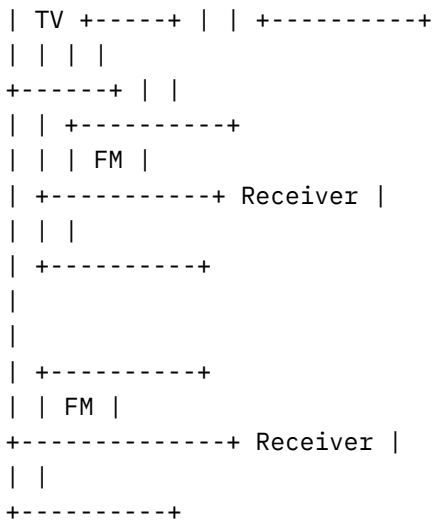
-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3790. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:08:31 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305181908.399edc4b@posting.google.com>
Source record: 117740

Oops again... Here is a better version of the diagram (sorry about the multiple posting):




TV
FM
Receiver
FM
Receiver

3791. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:16:57 UTC
From: "Joe S." <maxleonard@hotmail.com>
Message-ID: <ba9ice02djf@enews2.newsguy.com>
Source record: 117742

"Rick Karlquist N6RK" <richard@karlquist.removethis.com> wrote in message
news:pQXxa.634590$OV.598077@rwcrnsc54...
> "Bob Miller" <bxmiller@texas.netNOSPAM> wrote in message
> news:j1agcvkh7351vmdm05s1md6dhn2ps7m0un@4ax.com...
> > On 18 May 2003 23:39:37 GMT, k9sqg@aol.com (K9SQG) wrote:
> >
> > >None of my antenna books address the issue of spacing between
insulators
> for
> > >open wire line. I'm looking for people's experiences, especially with
2"
> > >spreaders.
> > >
> > >Thanks,
> > >
> > >Evan
> >
> > For "air-insulated transmission lines" the ARRL Antenna Book
> > recommends #12 or #14 wire, spaced 2" to 6" apart. The closer spacing
> > will keep the line from radiating at higher frequencies (28 mhz).
> >
> > Bob
> > k5qwg
>
>
> No, you misread the question. He's talking about spacing between
> INSULATORS,
> not between WIRES.

What insulators is he talking about? There are TWO types of insulators on
open-wire line:

1. The insulators that keep the wires evenly spaced from each other; and,

2. The insulators that keep the wire from banging up against the support
poles or whatever is holding it up.

In the case of commercially-available open-wire line, the line consists of a
ribbon with wires running up the edge. The ribbon is either solid --as in
the case of old 300-ohm TV lead-in -- or the ribbon has square holes cut in
it -- as in the case of the "450 ohm" open wire line sold today and used by
so many amateurs (me included).

HOWEVER -- real men make their own open-wire line bu fabricating small
insulators to place every few inches along the line to hold the wires
equidistant apart.

I think he's asking for that spacing -- and, as I recall, the spacing is
dependent on (1) the diameter of the wires, and, (2) the desired impedance
of the line.

Of course, I am writing this after several glasses of cheap California wine
so damn near anything is possible.

--

Regards,
Joe S.

>
> Laport's antenna book says a spacing of 1/7 wavelength or less between
> insulators.
> will prevent any frequency dependent characteristic impedance effects.
> There is
> also the mechanical issue of keeping the wires from flopping around. This
> is
> very application dependent, and there is no rule of thumb. On my 450 ohm
> line,
> I get away with one insulator every 50 feet on 5 foot support poles.
OTOH,
> if
> your line is flopping around connected to the center of a dipole, you may
> need
> insulators a few inches apart.
>
> Rick N6RK
>
>

3792. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:31:00 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec854ce_2@news1.prserv.net>
Source record: 117744

Dan:

To give you a credible answer, I would need 2 things, one of which you can give, the other, I suspect not. To do an analysis, I need the frequencies and amplitudes of the stations. Since I suspect you do not have a calibrated spectrum analyzer, let me take a WAG from the channels in your area, and frequencies of the FM stations. And, lacking amplitudes, a rough guess as to distance to the closer ones (any less than 25 miles). The likely problem will be the lower amplifier, where both the TV and FM will be present.

Omni FM antennas used to be common, there were two designs, a halo version for RVs and a folded dipole which was lazy "S" shaped when viewed from above.

I wasn't clear on your nearby FM problem. There are phone filters advertised in the ham magazines which will take care of the phone, and Winegard used to make a FM trap with one tunable notch, but I have no idea of the model number. And, I have had only marginal success tuning one of those without an analyzer of some type, as there are secondary effects which may or may not let you get effective performance. Which is probably why they are not more widely used. The RatShack FM filter is pretty good for the price, I looked at a handful of them a few weeks back, and was amazed at how similar they all were, and the amount of attenuation across the band. Unfortunately, they are not too good at the low end, so as to not attenuate channel 6 audio at 87.75 MHz, and based on the now incorrect premise that educational stations below 92 MHz will be running lower power. That was changed over 10 years ago, and there are plenty of class A stations near the low end now, and channel 6 vs. FM interference issues have again bubbled to the surface in the broadcasting industry. Unfortunately, no one has a good way to defeat the laws of physics, even though the lawyers legislate against them.

--
Crazy George
Remove NO and SPAM from return address

3793. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:35:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC85113.4090201@ieee.org>
Source record: 117743

Dr. Slick wrote:
> No, I'm not stupid enough to let you change the subject!

I started the thread that lead to this one. I know what the
subject is. The subject is what happens *INSIDE* a stub.

> How does it feel when someone "snips" off chunks of your message?
> You do it a lot!

I trim off stuff that I choose not to reply to in accordance with
netnews rules.

> You still haven't addressed your conflicting statements:

How many times do you want me to address that subject? There are
no conflicting statements. Both the following statements are true.

A stub is as lossy as it can possibly be, i.e. the losses are
fixed.

A stub is as lossless as it can possibly be, i.e. the losses are
fixed.

Can a stub be more lossy than it is? Can a stub be less lossy than
it is? Can a stub be more lossless than it is? Can a stub be less
lossless than it is? The answer to all those questions is no.

Pick any stub you wish. 1/4WL of RG-11 on 14 MHz. That stub is as
lossy as it can possibly be. That stub is as lossless as it can
possibly be. Why do you have so much trouble with such extremely
simple concepts? The stub has a certain amount of loss. The losses
are what they are. Both statements are correct.

Given your birthday as a boundary condition:
On May 18, 2003, you are as old as you can possibly be.
On May 18, 2003, you are as young as you can possibly be.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3794. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:44:15 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ec854cf_2@news1.prserv.net>
Source record: 117745

Well, the idea is to keep the conductors at a constant spacing, but to what fraction of a wavelength? Some of the systems Laport describes have very few spacers in the open spans, as the conductors are tightly stretched between fixed supports, and the relatively larger conductors (3/8" or 1/2" cable) are pretty far apart already. At the other extreme, floppy stranded conductors need continuous support as in 300 ohm twinlead. It is a mechanical problem. 2" spreaders are going to require small spacing, I suspect on the order of a foot, unless you can really tension the wires to keep them still. Be sure to stagger the exact spacing by 10% or 15% to avoid resonance effects.
--
Crazy George
Remove NO and SPAM from return address

3795. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 03:52:38 UTC
From: whagen6@cs.com
Message-ID: <20030518235238.15284.00000255@mb-m18.news.cs.com>
Source record: 117746

>This was done recently, I believe I read about it on the BBC web site;
>The critters (baboons?) shat on the keyboard and threw things at the
>display.

Which is precisely what we all would like to do on occaision, baboons are just a lot less inhibited.

3796. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 04:35:24 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305182035.71fe6cb3@posting.google.com>
Source record: 117747

k9sqg@aol.com (K9SQG) wrote in message
news:<20030518193937.09428.00000265@mb-m13.aol.com>...
> None of my antenna books address the issue of spacing between insulators for
> open wire line. I'm looking for people's experiences, especially with 2"
> spreaders.
>
> Thanks,
>
> Evan

Just depends on the setup, length, any curves in the line, amount of
wind, etc..
Whatever it takes to keep a steady spacing regardless of the wind or
weather. Could mean many of them, or as few as maybe two, if you had
the lines taut at each end. MK

3797. Re: FM Trap layman question

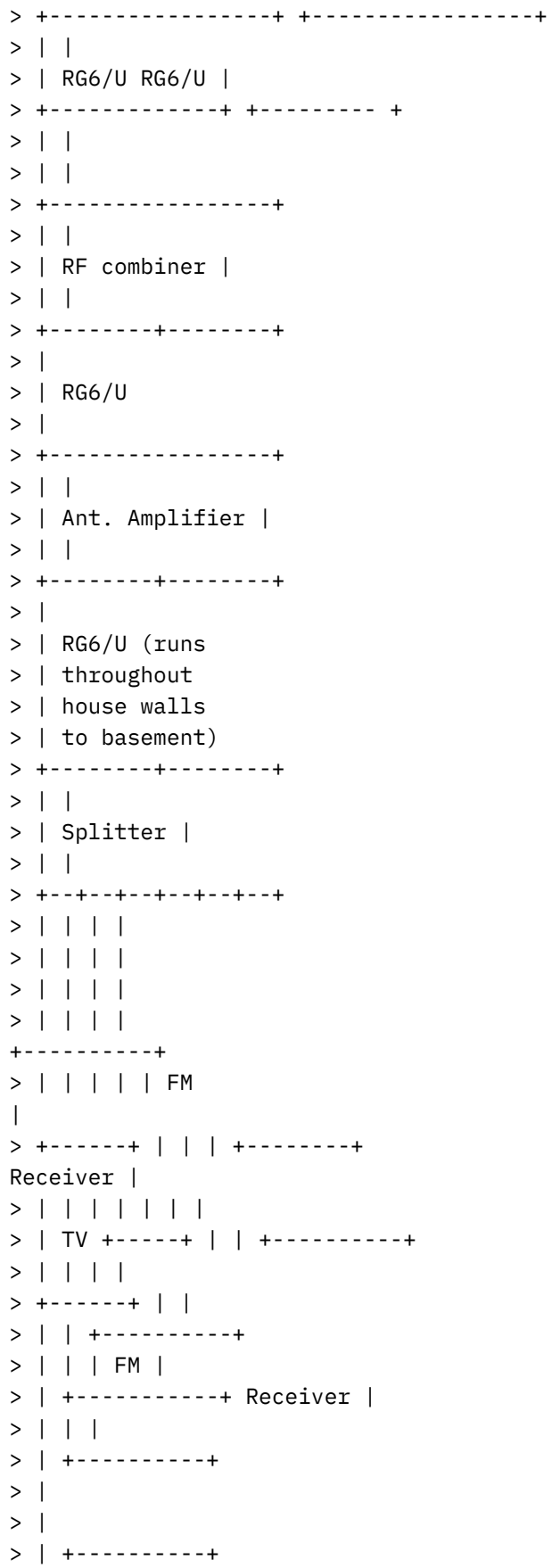
Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 05:31:27 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <ba9q7h$q7pdj$1@ID-134747.news.dfncis.de>
Source record: 117748

Omni directional FM Antenna # Radio Shack 15-2164

--
73 es cul

wb3fup
a Salty Bear

"Daniel" <danibe@my-deja.com> wrote in message
news:b73f7787.0305181900.7d575078@posting.google.com...
> "Crazy George" <munschNO@attglobal.net.SPAM>
wrote in message
news:<3ec5aeb1_1@news1.prserv.net>...
> > So, a suggestion. Install the TV antenna and
check the FM signal levels.
> > If they aren't strong enough, add the FM
antenna through the coupler. The
> > only way to get omnidirectional gain is at the
expense of a physically
> > taller structure, or by amplification. But, a
couple of strong FM signals
> > may overload the amplifier and cause
herringbone interference on one or more
> > TV channels.
>
> George, thank you for your answer (and thanks to
all other who
> replied). I do have a pretty strong FM radio
station near my house
> (can be heard over my ordinary (non-wireless)
phone...) and I would
> like to filter it out as closer to the antenna
as possible. Do you
> know where I can purchase such single-frequency
(98.9 MHz) filters?
>
>
> The idea that I had in mind for my antenna
installation was this:
>
> +-----------------+ +-----------------+
> | Amplified | | |
> | Omnidirectioanl | | Omnidirectioanl |
> | VHF/UHF Antenna | | FM Antenna |
> | with FM Trap | |(can I find one?)|


RG6/U RG6/U
RF combiner
RG6/U
Ant. Amplifier
RG6/U (runs throughout house walls to basement)
Splitter
FM Receiver
TV
FM Receiver

> | | FM |
> +--------------+ Receiver |
> | |
> +----------+
>
>
> However, I saw your other posting that suggested
that the amplified
> omnidirectional VHF/UFH antenna may be causing
some interference. (one
> would think that after learning about the
problem, Winegard would fix
> the problem and recall all its faulty
antennas...)
>
> I did manage to find a non-amplified version of
the MS-2000, called
> MS-1000 at:
http://www.winegard.com/products/vhfuhf_tv_products/general_antennas.html
>
> Do yo think this would be a better solution for
me? It seems that it
> might save me from investing in another antenna
and a combiner. I
> already have a 26dB antenna amplifier in my
attic (radio-shack
> #15-1108).
>
> Thank you so much for your advice!
> Daniel

3798. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 06:16:26 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <7etgcvk2bfl0i836npegfrb5kf6r5usc08@4ax.com>
Source record: 117749
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

On Sun, 18 May 2003 17:19:23 -0500, "Brian Oakley"
<brianoakley@ispwest.com> wrote:

>Cingular is up and running with 911 service, no special phone needed. It is
>not as accurate as gps but is within government requirements. IMHO, it is
>not as good as it needs to be but much better than none.

The previous post doens't show up on my news server, so I was just
going to comment on the GPS and accuracy.

IF any company is claiming 3 feet accuracy they are guilty of false
advertizing. It's more like 10 to 15 meters. Even in aricraft it
changes by about that much, but unless you are on an ILS no one flys a
course to that accuracy any way.

To get the high accuracy takes an additonal ground station to augument
the satellite signals.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3799. Re: Operation recommendations for 20m

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 09:37:58 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3EC8A5F6.D421BB4F@ecs.soton.ac.uk>
Source record: 117750
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Brian wrote:
>
> Simon
> if you have the additional cash (I know -poor student)

I'm sure the government won't mind me spending a bit more of their
money, I already owe them 14 grand.

> If you really are only going to be mono-band then a dipole is a good
> starting antenna and won't need an ATU. If you do want to experiment with
> antennas and are looking for an ATU the LDG is a good automatic ATU but
> if you are planning to get a K2 then you'll probably buy the K2's
> internal tuner anyway so may not want to spend so much now.

Yep, still planning on getting a K2, however as I'm starting a job which
requires me to own a car, I think I need to spend the money on
non-electronic products for the time being.

> As for DX - furthest I've got on 10W SSB is South Cook Island which is
> pretty much the antipodes - that's with a 102' dipole fed by ladder line
> to a balun and a short coax feed into the shack. I put up a random length
> dipole (probably about 20m - needed a tuner) on the 10m mast and worked
> Japan on 10W portable from a car park in the New Forest along with a
> couple of E Coast US stations. I just have a thick rubber band which I
> attach to the bottom of the top segment of the mast to hold the dipole
> centre in place and then attach string to the end of the dipole legs and
> use the string as guys giving a nice inverted V. Quick, easy and
> effective.
>
> If you need to play around tuning the antennas then I recommend joing
> Itchen Valley ARC (contact Sheila) - yeah it'll cost you 14 quid but as a
> member you can borrow the club's MFJ antenna analyzer which makes life
> easy.

I contemplated it, however, my degree finishes in 3 weeks time, and then
from September I'll be living in Surrey. I have been in touch with
Sheila about doing an Intermediate licence.

> Be careful though, only using 10W and all this home brew - you're in
> danger of giving M3's a good name :-)

Cheers!

> Brian G0UKB

PS I reckon I may have a look at turning the manual ATU into an
automatic one with an ADC, a PIC and a couple of stepper motors.

3800. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 12:44:13 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305190444.4f3346b7@posting.google.com>
Source record: 117751

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030517103829.24038.00000179@mb-m19.aol.com>...
> >

> I hate tuners, matching circuits on monoband antennas. My 3 el. quad is wide
> spaced and has 50 ohm impedance, no matching, no nothing. Coax is the same.
> Element spacing was kept constant, just loops were shortened to achieve
> resonance where originally calculated.

Yuri how exactly did you determine the resonant frequencies of the
director/reflector? Break them and insert a 259B into the loops and
adjust the lengths accordingly? Or did you scale them from the final
driven element length? Or what?

> Well, anybody who models the antenna in (cheap, not NEC4) EZNEC and builds it
> using insulated wire will get smacked right between the eyes by having it
> resonate below the design frequency (Unwin "director"? :-). If you take the
> delta frequency and correct the dimensions, you will be right where you wanted
> to be. Takes few minutes, no need to argue about the effect of color of
> insulation on reflected waves during the equinox for weeks :-)

Two comments here: I have to have a couple moderately complex Field
Day wire antennas built before the event and I don't want to have to
futz with corrections on the order of 5% (1.67 feet, 700 kHz @ 14 mHz)
onsite so I'm using bare wire with short, quickly trimmable "danglers"
at the ends. Asuming NEC 2 is leading me down the right path at least
in the case of bare wire.

After the event I'll have the opportunty to put up two simple dipoles,
one with my usual cheap insulated utility wire and the other with the
same size bare wire and find out where both resonate. That should
settle the matter for me.

>
> Yuri, K3BU

w3rv

3801. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 13:11:16 UTC
From: "Lawrence G. Mayka" <lgmayka000@ameritech.net>
Message-ID: <UJ4ya.19021$%_3.8275922@newssrv26.news.prodigy.com>
Source record: 117752
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:7etgcvk2bfl0i836npegfrb5kf6r5usc08@4ax.com...
> IF any company is claiming 3 feet accuracy they are guilty of false
> advertizing. It's more like 10 to 15 meters. Even in aricraft it

Qualcomm's fact sheet on gpsOne

http://www.cdmatech.com/solutions/pdf/gpsone_factsheet.pdf

says:

Accuracy to within 5-10m* outdoors/20m** suburban/indoors

* Clear sky, single fix; accuracy is dependent on RF environment and satellite
signal path
**Wood frame, low-rise environment

3802. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 13:12:52 UTC
From: richardharrison@webtv.net
Message-ID: <19194-3EC8D854-807@storefull-2316.public.lawson.webtv.net>
Source record: 117754

Cecil, W5DXP wrote:
"That stub is as lossy as it can possibly be."

Gibberish!

This is supported by Cecil`s contiguous statement: "That stub is as lossless as it can possibly be."

If Cecil thinks he has invented or even discovered something new, he could try a simple explanation devoid of useless distractions. After weeks of contentious postings, where`s the novelty?

Is there any need not already filled by conventional vector diagrams and their explanations published in many texts throughout the past century?

Very clear explanations are found in "Transmission Lines, Antennas, and Wave Guides" by King, Mimno, and Wing. For what happens in a 1/4-wave short-circuited stub, see page 24, "Short-Circuited Dissipationless Line". This text by (3) Ph.D,`s agrees with other texts I quoted in these threads instigated by Cecil on this subject. They don`t use the words constructive or destructive interference, and they don`t refer to optical analogies to explain transmission line behavior. Maybe what the old texts omitted would help explain behavior. Perhaps I`m too inflexible to embrace something new.

Best regards, Richard Harrison, KB5WZI

3803. Re: Two antennas to one line

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 13:38:23 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <7R6dnfKLwYbNQ1WjXTWcoQ@comcast.com>
Source record: 117753

Earl,

Since you guys are looking for some kind of gross failure, I would hate to see you drag an impedance meter to the top of the tower as a first step. Installing N connectors on to Heliax can be a nontrivial task, prone to failure, and a possible source of trouble. So, there is some justification to making measurements from inside the building through the cable.

I would unscrew the stub, and see if the SWR drops to around 2:1. Probably not, but easy to do. Now, with the stub removed, unscrew one of the antenna cables from the T, and measure the SWR of one antenna. Repeat for the other side of the T. Leaving unterminated Ts in the line will affect the SWR, but not enough to make it 3:1. You could also replace them with straight couplers.
If you see something suspicious, you could always put a dummy load at some point. Since you have the capability of doing low voltage measurements, the dummy load will fit in a shirt pocket.

Since everybody agrees that your matching arrangement should work, or almost work, my guess is that the problem is caused by antenna being damaged in moving, bad connector, use of 75 ohm coax (check the numbers), kink in coax due to too sharp a bend.

Tam/WB2TT

3804. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 14:00:24 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <KSKdnUvMt7jhflWjXTWcoA@comcast.com>
Source record: 117755

Daniel,

I think you have too much gain in the TV path. Put the FM distribution amp after the TV and FM signals have been separated. Also, do not use a 2 way splitter to do that. They make filters with separate outputs for TV and FM. This will keep the strong FM signal from getting into the TV. This would be the same thing you used to combine the two antennas, except hooked up backwards. Keep the gain of the FM amp on the lowest seting, probably 10 -15 db.

Since the FM station you are concerned with is around the middle of the FM band, filters should do a good job.

Tam/WB2TT

3805. HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 14:11:34 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3EC8E619.2050607@rochester.rr.com>
Source record: 117756

I put up a 102' dipole in the back yard yesterday.
She-who-must-be-obeyed says that she would rather have me put up a
vertical (commercial type) on top of the house. In a typical (for her)
fashion she has offered to buy the antenna for me.
What vertical will cover 80-10 meters? Or what other options?
I'm just listening to SW right now but plan on taking the local ham
club's classes in September.
I can get help to install an antenna but I'd not be able to put it up
and take it down for fine tuning. (I'm in a wheelchair)

Any Ideas?

3806. Re: how close is too close?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 14:56:38 UTC
From: "Kevin Muenzler, WB5RUE" <wb5rue@yahoo.com>
Message-ID: <3ec8f0b4$1_2@127.0.0.1>
Source record: 117757

IDEALLY, they should be no closer than 1/4 wavelength of the LONGER
wavelength.

Kevin, WB5RUE

"tad danley" <tdanley@nospamatearthlink.net> wrote in message
news:3EC7BCF9.D8100011@earthlink.net...
> I am installing two antennas on the roof of my Grand Cherokee. One for
> an FT-100D that will be used primarily on 6 and 10 meters, and one for a
> 2/440 dual band rig. Is there a way to determine how far apart the
> antennas need to be in order to ensure I don't damage a receiver by
> transmitting on the other rig?
>
> Thanks in advance and 73,
>
> --
> Tad Danley, K3TD
>
>
> * Anti-spam return address in use *

-----== Posted via Newsfeed.Com - Unlimited-Uncensored-Secure Usenet News==----
http://www.newsfeed.com The #1 Newsgroup Service in the World! >100,000 Newsgroups
---= 19 East/West-Coast Specialized Servers - Total Privacy via Encryption =---

3807. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 15:39:20 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <baatq9$j04$1@slb0.atl.mindspring.net>
Source record: 117758

"Wedgew" <wedgew@rochester.rr.com> wrote in message
news:3EC8E619.2050607@rochester.rr.com...
> I put up a 102' dipole in the back yard yesterday.
> She-who-must-be-obeyed says that she would rather have me put up a
> vertical (commercial type) on top of the house. In a typical (for her)
> fashion she has offered to buy the antenna for me.
> What vertical will cover 80-10 meters? Or what other options?
> I'm just listening to SW right now but plan on taking the local ham
> club's classes in September.
> I can get help to install an antenna but I'd not be able to put it up
> and take it down for fine tuning. (I'm in a wheelchair)
>
> Any Ideas?
>

Leave the dipole up. Tell her to get a life and leave you alone.

Dan/W4NTI

3808. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 15:49:12 UTC
From: richardharrison@webtv.net
Message-ID: <21692-3EC8FCF8-330@storefull-2314.public.lawson.webtv.net>
Source record: 117761

Evan, K9SQG wrote:
"None of my antenna books addresses the issue of spacing between insulators for open wire line."

The reason the number of spreaders per foot of line is scarcely mentioned is that the correct number is simply as many as it takes to keep the wires in place and no more. A good quality insulator has little effect on a transmission line. Most builders will use the fewest needed. Professionals hardly use spreaders at all in transmission lines on the level. Spacing is maintained only by supporting insulators.

The 15th edition of the Editors and Engineers "Radio Handbook" has a two-wire open lines chart on page 421. A 2-inch spacing gives the following Zo`s for a given diameter or size of wire:
1-in._180 ohms
1/2-in_270 ohms
1/4-in_350 ohms
No. 8_430 ohms
No. 10_450 ohms
No. 12_480 ohms
No. 14_520 ohms
No. 16_550 ohms
No. 18_580 ohms
No. 24_650 ohms
The 2-inch spacing is measured center-to-center of the parallel wires.

Best regards, Richard Harrison, KB5WZI

3809. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 15:52:15 UTC
From: "Donnie (N4JZH)" <n4jzh@knology.net>
Message-ID: <4avhcv82lncme2h0nsje9m47ttbschoopc@4ax.com>
Source record: 117759

>I put up a 102' dipole in the back yard yesterday.
>She-who-must-be-obeyed says that she would rather have me put up a
>vertical (commercial type) on top of the house. In a typical (for her)
>fashion she has offered to buy the antenna for me.
> What vertical will cover 80-10 meters? Or what other options?
> I'm just listening to SW right now but plan on taking the local ham
>club's classes in September.
> I can get help to install an antenna but I'd not be able to put it up
>and take it down for fine tuning. (I'm in a wheelchair)
>
>Any Ideas?

Trade her in for a new rig, take the rest of your money and throw an antenna party.

''Behold how good and pleasant it is for Brethren to dwell together in unity''
Donnie n4jzh@knology.net

3810. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 16:03:23 UTC
From: Tim Richardson <ter@bellsouth.net>
Message-ID: <9rvhcvg7jepricum68e64gjn0cg2jp184r@4ax.com>
Source record: 117760

If you want to go the vertical route, I would suggest that you visit
<http://www.eham.net> and read the product reviews written by users of
the various commercial verticals. In my situation, I personally find
that a dipole and a tuner is superior to a vertical antenna.

Tim W4IOU

On Mon, 19 May 2003 14:11:34 GMT, Wedgew <wedgew@rochester.rr.com>
wrote:

>I put up a 102' dipole in the back yard yesterday.
>She-who-must-be-obeyed says that she would rather have me put up a
>vertical (commercial type) on top of the house. In a typical (for her)
>fashion she has offered to buy the antenna for me.
> What vertical will cover 80-10 meters? Or what other options?
> I'm just listening to SW right now but plan on taking the local ham
>club's classes in September.
> I can get help to install an antenna but I'd not be able to put it up
>and take it down for fine tuning. (I'm in a wheelchair)
>
>Any Ideas?

3811. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 17:03:07 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030519130307.15389.00000310@mb-m06.aol.com>
Source record: 117762

>Yuri how exactly did you determine the resonant frequencies of the
>director/reflector? Break them and insert a 259B into the loops and
>adjust the lengths accordingly? Or did you scale them from the final
>driven element length? Or what?

I Just calculated frequency offset and corresponding length difference and adjusted all 3 loops by that % amount. Kind of standard procedure (here anyway), use your formulas, put up the antenna, check the resonance. If off, measure the difference and readjust the elements.
It is difficult to measure and adjust individual elements within the array, mutual interaction messes it up. You could take antenna appart, measure the res freq of the element and do the correction. Too much fooling around.

Yuri

3812. INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 17:55:03 UTC
From: n4xyz@exis.net
Message-ID: <78be1499.0305190955.979023@posting.google.com>
Source record: 117763

All

I have been having an intermittent high SWR problem with my shack setup and would love any suggestions. The setup is a TS-450s (no tuner) feeding a Drake L4B amp feeding a Drake high power tuner going through a two position switch to a off center feed dipole and a Mosley CL-33 tri-bander. There is an 8 ft ground rood on the other side of the wall from the back of the radios, about 5 feet away. I have a piece of braid connecting the ground to the tuner, and the amp is grounded to the tuner. The coax from the tower passes under the house. It goes through the crawl space hatch with bulkhead connectors. The steel hatch is grounded to an 8 ft rod at the base of the tower. At times my swr on 20 meters is 1.2:1, 15 mts 1.1:1 and 10 mts 1.4:1. Other times my swr on 20 goes to infinity and the power drops back accordingly. It acts like I have a ground loop problem. Sometimes I only see the problem on 20 and only on SSB. If I turn on my amp the problem goes away. I put a Radio Works line isolator between the amp and the tuner. That seemed to work for awhile, then I got the gremlin back. Then I moved the line isolator between the transceiver and the amp., the problem went away. Then it came back. I have tried the rig connected to the CL-33 with no ground and still have the problem. If I replace the TS-450 with my IC-706 the problem goes away.

This sure has me stumped and it is frustrating when you want to casualy do some operating. Any suggestion would be greatly appreciate.

De Dave, N4XYZ

3813. Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 18:04:49 UTC
From: rhwiley@neo.rr.com
Message-ID: <ea0ed91.0305191004.2594a508@posting.google.com>
Source record: 117764

I'm sorry if this posting is off topic. Normally I'm on topic (but this one is relative to normal discussions).

I currently am using an Outbacker Perth Plus with my IC-706. In my opinion, this antenna is probably one of the best antennas for a mobile application - especially given certain space restrictions a small area of operation allows for (eg. Pickup Truck, HMMV, the top of an emergency operations center shelter, ect).

I've been recently faced with a challenge of making suggestions (to a governmental agency) on how to upgrade an existing emergency-class mobile station for emergency first-responder types of applications using common off-the-shelf equipment.

The antennas currently being used are Hustler resonator-type mobile antennas. The mount used is a fabricated bolt-on type mount that holds the Hustler fold-over whip. The frequencies being used are mainly in the vicinities of 4.5 MHz, and 8.1 MHz (btw we're not using standard amateur type radios for this).

Has anyone ever run into a person/group/agency using Outbackers for such an application? I'm basing the antenna's value from my amateur radio operations experience, so I might be somewhat biased. Any information as to prior use or theoretical use would be appreciated.

Thanks and 73 de Bob, N8MMR

3814. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 18:31:39 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305191031.32a46506@posting.google.com>
Source record: 117766

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<ba9q7h$q7pdj$1@ID-134747.news.dfncis.de>...
> Omni directional FM Antenna # Radio Shack 15-2164

Thank you. I did find it on Radio Shack's web site
(http://support.radioshack.com/support_audio/doc61/61405.pdf), but
with all the detailed information I couldn't find out how big it is. I
need to make sure it can fit in my attic (unfortunately a small one).

Daniel

P.S. Anyone had bad experience with this antenna? How would you rate
it comparing to other **omnidirectional** FM antennas that can be
found in the market?

3815. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 18:35:44 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305191035.4137b7de@posting.google.com>
Source record: 117767

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<ba41rq$ov0gn$1@ID-134747.news.dfncis.de>...
> Radio Shack sells a omnidirectional outdoor
> antenna (15-2164) that sells for less than $20.
> It is two "folded dipoles" stacked at right angles
> to each other, separated by 3 - 5 inches. Each of
> the dipoles is about 5 feet long, and should mount
> easily in your attic. The antenna's nominal
> feedpoint impedance is 300 ohms, so you will need
> a balun (15-1230) to match to coax. If you need
> further amplification there are a number of
> distribution amplifiers available. However I
> would try the antenna barefoot first, just split
> the output 4 ways at the antenna and see what kind
> of reception you have.

Thank you very much for this information. I missed this posting and so
I mistakenly posted (elsehwere in the thread) a question about the
antennas size. Please ignore it.

3816. Re: INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 18:59:57 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <SpSdndw575GG11SjXTWcpA@comcast.com>
Source record: 117676

Dave,

When you don't have the amp on, I presume you still go through the amp box. I once had a problem with a linear where the break contact on the amp antenna relay was not making good contact. When you transmit through the amp on, you go through the make contact. If this is the problem, then the received signal levels will be down while it is acting up. In my case, operating the amp relay just once would clear up the problem. The 20 m thing may be a coincidence, unless it is repeatable. Next time this happens, you could try patching around the amp. Problem could be in the tuner also; so, patch around the tuner. The fact that the Icom works would rule out antenna and feedline. A bad ground would not mess up a CL33.
Tam/WB2TT
"Dave" <n4xyz@exis.net> wrote in message
news:78be1499.0305190955.979023@posting.google.com...
> All
>
> I have been having an intermittent high SWR problem with my
shack.....

3817. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:01:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC92A22.BB9691AD@cwis.net>
Source record: 117768

Bob,
If your organization is using discrete frequencies,
or a very narrow band of frequencies, I think the
'OutBacker' type antennas would be a lot of over kill,
not to mention expensive.
'Doc

3818. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:10:14 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC92C16.1588FBB2@cwis.net>
Source record: 117669

Wedgew,
I think I'd be safe in saying that I don't think
you will be too happy with an all band vertical. The
80 and 40 meter portions seldom are very wide, and
just don't 'do' as well as a simple dipole/doublet on
either band. As suggested, I'd read everything I could
find about the verticals you think may work for you.
You normally have to take a fair amount of 'salt' with
any amateur evaluation, but they should at least give
you an idea of how an antenna is working out...
'Doc

3819. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:12:26 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305191112.6648f735@posting.google.com>
Source record: 117670

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC84A60.2030608@ieee.org>...
> >>
> > Did i disagree with this? Ever? No!
>
> Of course you did. You disagreed loud and long. You said over and over
> that the SWR inside a stub is *NOT* nearly infinite and I was wrong
> for saying so. Would you like for me to dig up those past postings?
>

I said the SWR at the short or open is nearly infinite, but would
only be infinite in a superconducting, no-dielectric loss situation.

I offer the trivial to a trivial brain such as yours.

Slick

3820. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:16:08 UTC
From: Marco PE1LPK <m.vliet9@planet.nl>
Message-ID: <babe78$mo5$2@reader08.wxs.nl>
Source record: 117674

Yes see the product reviews or wait with buying placing an other antenna
till you met some amateurs in September.
They might find a solution or help you with placing one.!!
Anyway using a vertical or horizontal antennea at HF not a very ultimate
decission.
Hf signals could very easy turns in polarization on DX.signals.
So what antenna you will choise stick to it and be happy with it, and never
think owww i should have......
On VHF and higher the diffrence is much more in polarization.
Marco from Holland De PE1LPK

"Tim Richardson" <ter@bellsouth.net> schreef in bericht
news:9rvhcvg7jepricum68e64gjn0cg2jp184r@4ax.com...
> If you want to go the vertical route, I would suggest that you visit
> <http://www.eham.net> and read the product reviews written by users of
> the various commercial verticals. In my situation, I personally find
> that a dipole and a tuner is superior to a vertical antenna.
>
> Tim W4IOU
>
> On Mon, 19 May 2003 14:11:34 GMT, Wedgew <wedgew@rochester.rr.com>
> wrote:
>
> >I put up a 102' dipole in the back yard yesterday.
> >She-who-must-be-obeyed says that she would rather have me put up a
> >vertical (commercial type) on top of the house. In a typical (for her)
> >fashion she has offered to buy the antenna for me.
> > What vertical will cover 80-10 meters? Or what other options?
> > I'm just listening to SW right now but plan on taking the local ham
> >club's classes in September.
> > I can get help to install an antenna but I'd not be able to put it up
> >and take it down for fine tuning. (I'm in a wheelchair)
> >
> >Any Ideas?
>
>

3821. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:16:37 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305191116.7bdcd989@posting.google.com>
Source record: 117671

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC81593.4000609@ieee.org>...
> Dr. Slick wrote:
> > You are contadicting yourself to avoid admitting that you were
> > wrong!
>
> Given a certain set of boundary conditions, the losses are what
> they are. They cannot be any higher or lower. They are exactly
> as high as they can possibly be and exactly as lossless as they
> can possibly be. There is no contradiction. Both statements are
> true. Why is that so difficult for you to comprehend?
>

Why do you write like a 9 year old? "As lossless as they can
possibly be" implies as close to no-losses as possible.

"As high as they can be" implies high losses.

Another example of your poor writing skills.

Slick

3822. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:21:16 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305191121.47156385@posting.google.com>
Source record: 117672

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC85113.4090201@ieee.org>...
>
> How many times do you want me to address that subject? There are
> no conflicting statements. Both the following statements are true.
>
> A stub is as lossy as it can possibly be, i.e. the losses are
> fixed.
>

You are implying that the stub is lossy here.

> A stub is as lossless as it can possibly be, i.e. the losses are
> fixed.
>

You are implying that the stub has very low resistance here.

> Can a stub be more lossy than it is? Can a stub be less lossy than
> it is? Can a stub be more lossless than it is? Can a stub be less
> lossless than it is? The answer to all those questions is no.
>
> Pick any stub you wish. 1/4WL of RG-11 on 14 MHz. That stub is as
> lossy as it can possibly be. That stub is as lossless as it can
> possibly be. Why do you have so much trouble with such extremely
> simple concepts? The stub has a certain amount of loss. The losses
> are what they are. Both statements are correct.
>

What a shit-brain you are! So all this time, you were telling us
that the resistance of a stub is what it is.

Brilliant! When are you going to write a book on this??

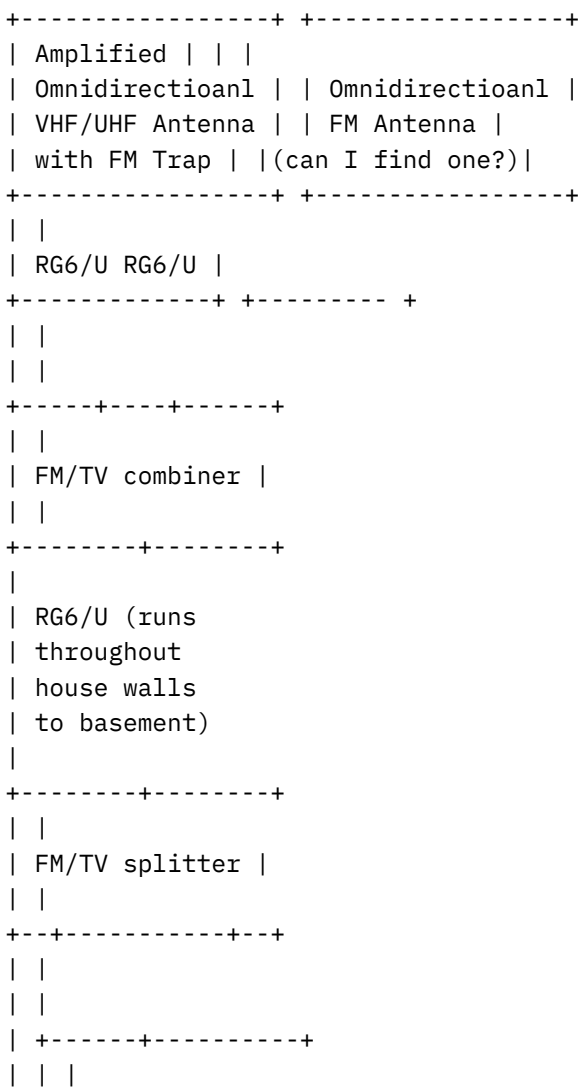
Slick

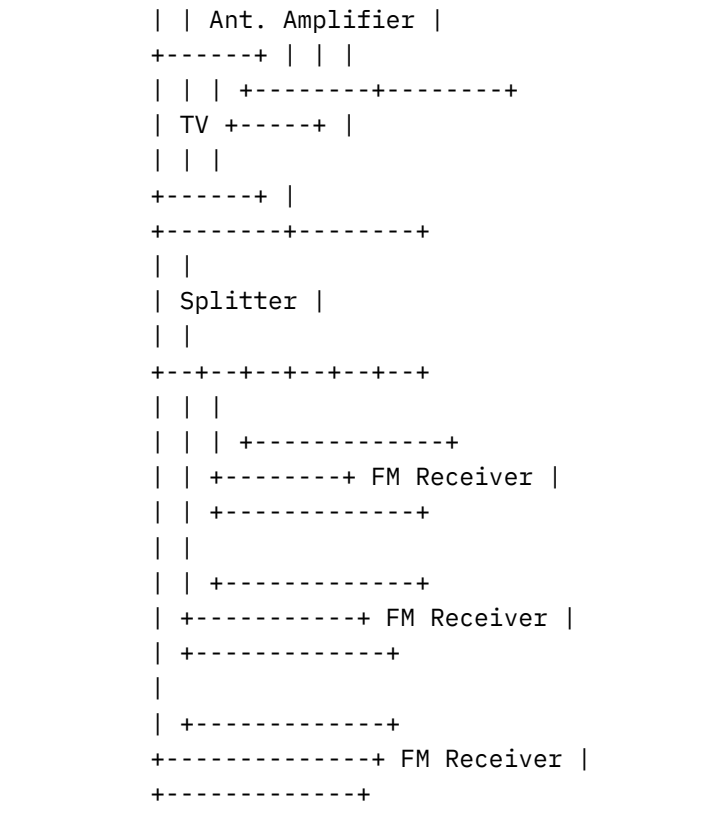
3823. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 19:33:47 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305191133.50ab22b1@posting.google.com>
Source record: 117673

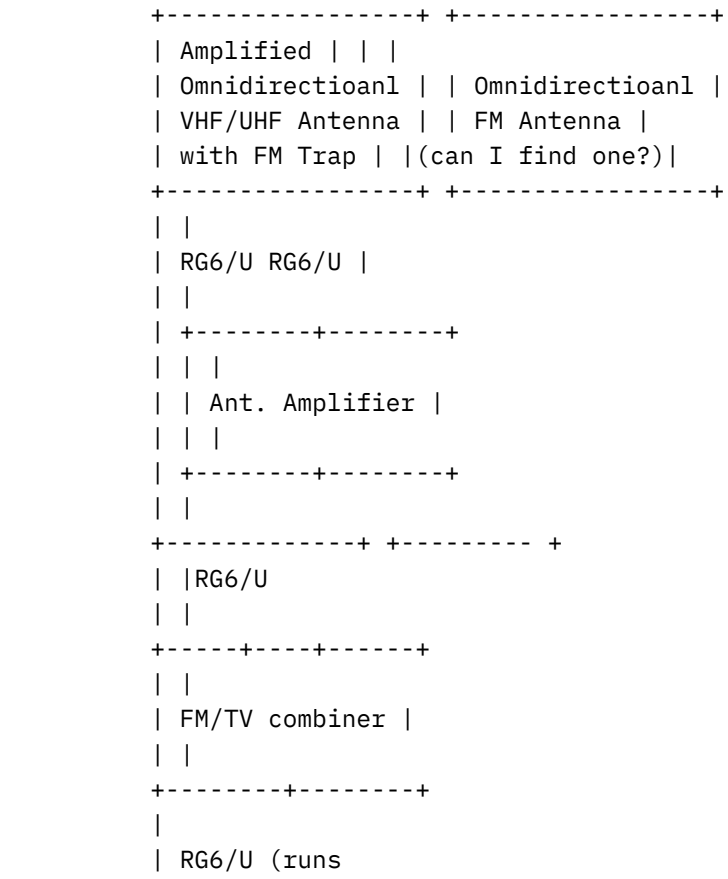
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<KSKdnUvMt7jhflWjXTWcoA@comcast.com>...
> I think you have too much gain in the TV path. Put the FM distribution amp
> after the TV and FM signals have been separated. Also, do not use a 2 way
> splitter to do that. They make filters with separate outputs for TV and FM.
> This will keep the strong FM signal from getting into the TV. This would be
> the same thing you used to combine the two antennas, except hooked up
> backwards. Keep the gain of the FM amp on the lowest seting, probably 10 -15
> db.

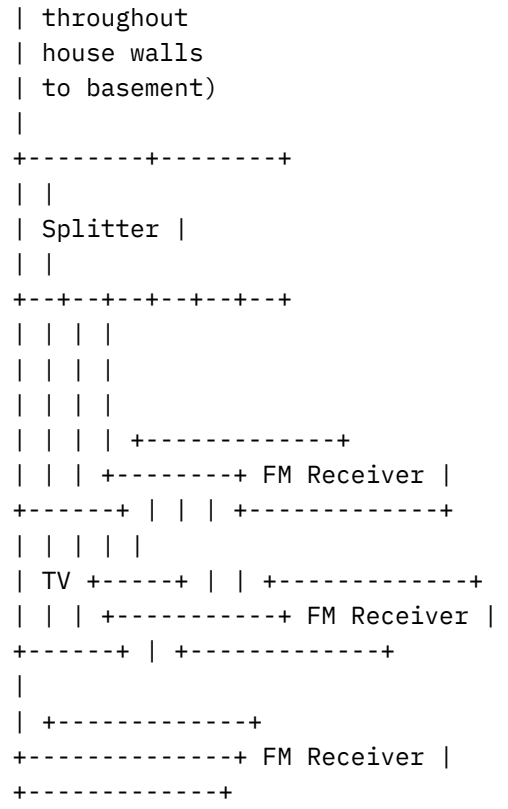
Thanks for your answer. If I understand you correctly, you meant the
following configuration (please use a fixed font to view this
properly):





But how about the following one:





Intuitively, I would think that it is better than the first one, since I amplify the FM signal right at the antenna (before picking up noise) and I also save the FM/TV splitter. What do you think?

Daniel

3824. Re: INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:06:19 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <babgv9fe1@slb0.atl.mindspring.net>
Source record: 117675

"Dave" <n4xyz@exis.net> wrote in message
news:78be1499.0305190955.979023@posting.google.com...
> All
>
> I have been having an intermittent high SWR problem with my shack
> setup and would love any suggestions. The setup is a TS-450s (no
> tuner) feeding a Drake L4B amp feeding a Drake high power tuner going
> through a two position switch to a off center feed dipole and a Mosley
> CL-33 tri-bander. There is an 8 ft ground rood on the other side of
> the wall from the back of the radios, about 5 feet away. I have a
> piece of braid connecting the ground to the tuner, and the amp is
> grounded to the tuner. The coax from the tower passes under the
> house. It goes through the crawl space hatch with bulkhead
> connectors. The steel hatch is grounded to an 8 ft rod at the base of
> the tower. At times my swr on 20 meters is 1.2:1, 15 mts 1.1:1 and 10
> mts 1.4:1. Other times my swr on 20 goes to infinity and the power
> drops back accordingly. It acts like I have a ground loop problem.
> Sometimes I only see the problem on 20 and only on SSB. If I turn on
> my amp the problem goes away. I put a Radio Works line isolator
> between the amp and the tuner. That seemed to work for awhile, then I
> got the gremlin back. Then I moved the line isolator between the
> transceiver and the amp., the problem went away. Then it came back.
> I have tried the rig connected to the CL-33 with no ground and still
> have the problem. If I replace the TS-450 with my IC-706 the problem
> goes away.
>
> This sure has me stumped and it is frustrating when you want to
> casualy do some operating. Any suggestion would be greatly
> appreciate.
>
>
> De Dave, N4XYZ

Why do you need a tuner with a Mosley tri-bander first off?

You may have a loose coaxial connector on a jumper or elsewhere. You may
not have a good ground from shield to the connector somewhere in the system.

You may have a bad solder connection on a jumper or on the main line.

You may have water in the line.

You may have a trap problem on the beam itself.

And this is just the beginning of suggestions. But a good place to start.

Try replacing all jumpers for a start. And follow it up the line. After you remove the tuner.

Check the Kenwood for poor or non-existant ground and check on the Microphone for the same. If using a pre-amp mic. Dont.

Dan/W4NTI

3825. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:25:18 UTC
From: jder8745@aol.com
Message-ID: <20030519172518.15354.00000375@mb-m06.aol.com>
Source record: 117677

My open wire line is #15 (YES, 15) enameled wire about 1-1/4 inch apart.

The insulators are about 8 inches apart.

If you used #22 wire (!), they wud need to be closer I reckon.

Jack, K9CUN

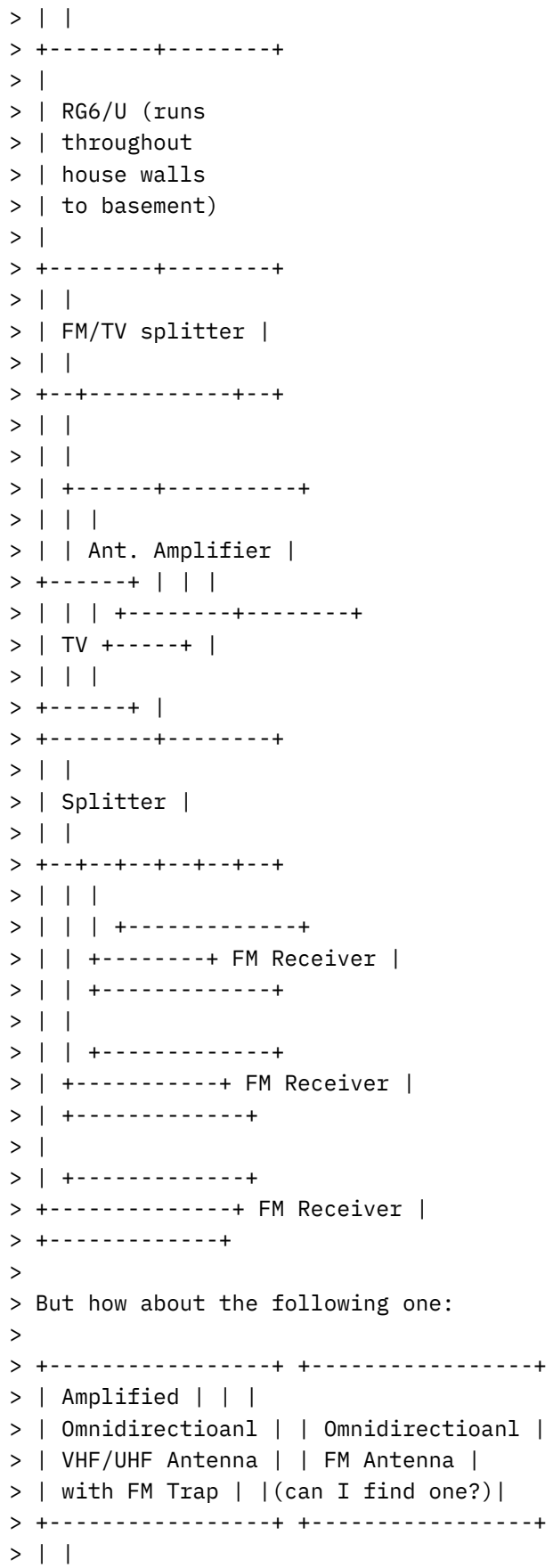
3826. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:30:12 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <94adnQuLQ4ih0FSjXTWcqQ@comcast.com>
Source record: 117678

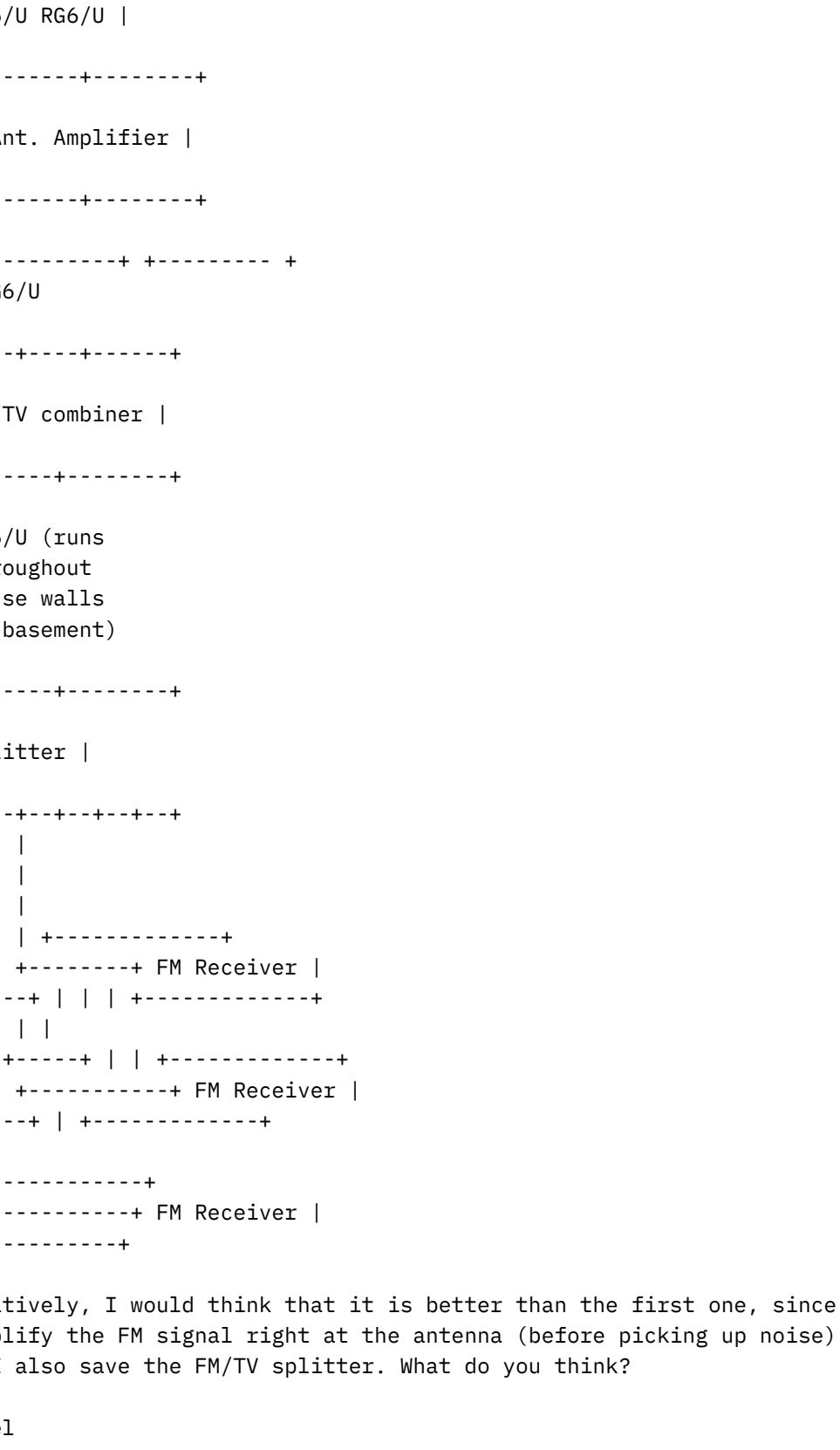
Daniel,

I agree that the second would be best from the FM sensitivity standpoint. There are two things against it though: you have to get DC power to it through the splitter, and you are combining a boosted FM sgnal with your TV signal. I am concerned about your super strong 98.X. How are you powering the TV antenna? Is there AC in the attick, like a light you could put a cheater socket on?

Tam/WB2TT
"Daniel" <danibe@my-deja.com> wrote in message
news:b73f7787.0305191133.50ab22b1@posting.google.com...
> "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<KSKdnUvMt7jhflWjXTWcoA@comcast.com>...
> > I think you have too much gain in the TV path. Put the FM distribution
amp
> > after the TV and FM signals have been separated. Also, do not use a 2
way
> > splitter to do that. They make filters with separate outputs for TV and
FM.
> > This will keep the strong FM signal from getting into the TV. This would
be
> > the same thing you used to combine the two antennas, except hooked up
> > backwards. Keep the gain of the FM amp on the lowest seting, probably
10 -15
> > db.
>
> Thanks for your answer. If I understand you correctly, you meant the
> following configuration (please use a fixed font to view this
> properly):
>
> +-----------------+ +-----------------+
> | Amplified | | |
> | Omnidirectioanl | | Omnidirectioanl |
> | VHF/UHF Antenna | | FM Antenna |
> | with FM Trap | |(can I find one?)|
> +-----------------+ +-----------------+
> | |
> | RG6/U RG6/U |
> +-------------+ +--------- +
> | |
> | |
> +-----+----+------+
> | |
> | FM/TV combiner |



> But how about the following one:
>



> Intuitively, I would think that it is better than the first one, since
> I amplify the FM signal right at the antenna (before picking up noise)
> and I also save the FM/TV splitter. What do you think?
>
> Daniel

3827. 48 foot Self Supporting Tower (near Ottawa Ont)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:33:58 UTC
From: ve3ab@mail.mondenet.com
Message-ID: <3ec94d71.698751@news.mondenet.com>
Source record: 117679

I have a 48 ft self supporting..delhi tower. Heavy Duty..good shape..Earl near Ottawa/Almonte. $200 or trade for ham radio or electronics..Earl VE3AB

3828. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:51:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC951DB.70400@ieee.org>
Source record: 117680

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "That stub is as lossy as it can possibly be." Gibberish!

Richard, the boundary conditions dictate the loss. Can a stub possibly be any more lossy than permitted by the boundary conditions? Think about what you are implying and laugh at yourself.

Support Slick's assertions by providing an example of a stub that is more lossy than is possible. Get it?

> This is supported by Cecil`s contiguous statement: "That stub is as
> lossless as it can possibly be."

Nope, that's Slick's statement with which he asked me to agree which I did because it is absolutely meaningless. Now Slick needs to define what is meant by "20% lossless".

Support Slick's assertions by providing an example of a stub that is more lossless than is possible. Get it?

Too bad you got hooked by Dr. Slick's meaningless word game troll.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3829. Re: Open wire insulator spacing?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:57:48 UTC
From: k9sqg@aol.com
Message-ID: <20030519175748.17091.00000303@mb-m16.aol.com>
Source record: 117681

Bob,

Thanks for the response. Since the 2" spreaders give 2" spacing, that was not an issue. What I was wondering about was the spacing between the insulators, not the wires.

73s,

Evan

3830. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:58:31 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC95387.8040208@ieee.org>
Source record: 117683

Robert H. Wiley wrote:
> I currently am using an Outbacker Perth Plus with my IC-706. In my
> opinion, this antenna is probably one of the best antennas for a
> mobile application - ...

During mobile shootout measurements on 75m, the Outbacker scored
8dB lower than a good bugcatcher or screwdriver, i.e. the bugcatchers
and screwdrivers radiated 84% more power than the Outbacker.
--
73, Cecil http://www.qsl.net/w5dxp

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3831. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 21:58:41 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <dejicv039b0r7gdhlhpmlmeq76h9s9bqvn@4ax.com>
Source record: 117682
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

On Mon, 19 May 2003 13:11:16 GMT, "Lawrence G. Mayka"
<lgmayka000@ameritech.net> wrote:

>"Roger Halstead" <rdhalste@tm.net> wrote in message
>news:7etgcvk2bfl0i836npegfrb5kf6r5usc08@4ax.com...
>> IF any company is claiming 3 feet accuracy they are guilty of false
>> advertizing. It's more like 10 to 15 meters. Even in aricraft it
>
>Qualcomm's fact sheet on gpsOne
>
>http://www.cdmatech.com/solutions/pdf/gpsone_factsheet.pdf

Welll...you might want to take that with at least a grain of salt.
First, when figuring accuracy you can use the average, but from a
safety standpoint you use the higher of the numbers.

They are *claiming* an outdoor accuracy of 5 to 10 meters (roughly 15
to 30 feet, not 3 feet). However, GPS (without augmentation) has an
average horizontal accuracy of *about* 15 meters (45 feet).
Vertically it's several times worse.

When doing search and rescue you plan for the poorest accuracy for the
service and hope for the best. It's just you can not count on
anything better than the worst figure given for accuracy.

OTOH IF you are in a wreck, caught on an ice flow (very common around
here in the spring), or have intruders breaking in, that accuracy is
good enough to bring help in a short time.

>
>says:
>
>Accuracy to within 5-10m* outdoors/20m** suburban/indoors

I don't think you could ever plan on seeing that kind of accuracy, nor
do I believe they can come close to providing it without augmentation.
(which they may have)

IF they, as civilians were given the error correcting equipment THEN
they could claim the 5 meters, but typically it still takes a ground
based transmitter, or reference to make GPS good enough to fly the
equivalent of an ILS which is on about that scale of accuracy.

Being familiar with GPS and how it works, that pdf appears to have
been written by "marketing".

OTOH, the given average of 15 meters for *un augmented* GPS is still
plenty good enough for most cases. BUT when you are talking apartment
complexes the vertical accuracy is roughly 100 feet.
>
>* Clear sky, single fix; accuracy is dependent on RF environment and satellite
>signal path

It would be more correct to say the accuracy is dependent on how many
satellites the receiver can hear. GPS depends on the reception of
more than one satellite. Typical is 5 to 9, but up to 12 in many
receivers, so there really isn't a single fix.

It's also dependent on the inherent accuracy of the GPS signals and
the equipment. Remember that GPS has a built in error which is
unlikely to be turned of any time soon.

>**Wood frame, low-rise environment

Actually any thing other than that is likely to be a lost cause. Even
in a single story, ranch style home, there are spots where my GPS can
not get a fix and just comes up with the error "insufficient
satellites received". Although a high rise and near the windows
might provide sufficient signal.

>
All in all I just don't believe their figures.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

3832. Re: One tough rotor! (additional)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:09:16 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <ptkicvohi076oq8bejkfm4guqtvqp4t90r@4ax.com>
Source record: 117684

On Sun, 18 May 2003 06:14:34 GMT, Roger Halstead <rdhalste@tm.net>
wrote:

>On Fri, 16 May 2003 23:19:58 -0400, "J. McLaughlin"
><JCM@Power-Net.Net> wrote:
>
>>Roger, my neighbor, tell us about the log periodic that is coming to
>>your house....
>
>Well, I dun been lookin' at that HyGain log for 20 through 10, but
>then again, I'd like to have one of the *big* 40 through 10 multi band
>yagis.

Welll... I made the repair climb this afternoon.
There's good news and there's bad news.

The good news is, the new bolt fit tight and I didn't have to ream the
holes oversized, so it was an easy fix.

The bad news is, I found the boom support for the 6-meter yagi had
come off the center support. THAT requires removing the rotor from
the tower, hooking a "come along" to the mast, loosening the tribander
mount so it lets the mast slide through it, lowering the mast until
the 6-meter beam is down to the tribander, and then climbing up onto
the top of the tower where I can reach the top of the center support
to refasten the 6-meter boom support.

The good news is, I had been looking for a reason to let the antennas
down so I could replace the four, 28 foot pigtails from the antennas
to and around the top of the tower.

The bad news is, this is nigh onto an all day job and it's pretty much
a "one man job".

The good news is, the work is not all that difficult (if the
connectors will come apart.) The last time I took out a pig tail the
connectors galled and both had to be replaced, "Up there".
What should have been a 10 minute job took three hours. <sigh>

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

>The stock market has to recover one of these days.<sigh>, but then the
>income will probably end up in the panel of the G-III, or in the
>engine compartment.

>Roger Halstead (K8RI EN73 & ARRL Life Member)
>www.rogerhalstead.com
>N833R World's oldest Debonair? (S# CD-2)
>>
>>Sure does make changing frequency easy.
>> 73 Mac N8TT

3833. Re: INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:20:46 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <RFSdnXe3UqBdxVSjXTWcoQ@comcast.com>
Source record: 117685

Dave,

You don't use the tuner with the CL33, right?? Thought of something else, I recently sent a brand new coax antenna switch back to Daiwa because one side was intermittent. Do you have anything loke that?

Dan had a good idea about patch cords. Also, if you are using RG58, go to 8X, but you have to use the RG6 reducer with PL259s. Both the center conductor and shield on RG58 ar too wimpy for a PL259 connector.

Tam/WB2TT

3834. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:20:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC958C8.4080408@ieee.org>
Source record: 117686

Dr. Slick wrote:
> I said the SWR at the short or open is nearly infinite, ...

Nope, here's what you said:

> ... near-infinite VSWR shorts and opens ... is totally incorrect.

Have you changed your mind?
--
73, Cecil http://www.qsl.net/w5dxp

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3835. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:30:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC95AEF.2030302@ieee.org>
Source record: 117687

Dr. Slick wrote:
> "As lossless as they can
> possibly be" implies as close to no-losses as possible.

With "possible" being the defining word. I say the losses are as
low as they can possibly be. You disagree and imply that the losses
can be lower than they can possibly be. So everyone won't think you
are crazy, please give us an example of a situation where the losses
are lower than they can possibly be.

> "As high as they can be" implies high losses.

Tsk, tsk, it's NOT nice to misquote! You left out the defining word,
"possibly". I said the losses are as high as they can *possibly* be.
You disagree and imply that the losses can be higher than they can
possibly be. So everyone won't think you are crazy, please give
us an example of a situation where the losses are higher than
they can possibly be.

> Another example of your poor writing skills.

I'm just playing along with your word game troll, Slick. Shirley
by now everyone is aware of your troll. Tell us, Slick, exactly
what does 20% lossless mean?

I have asked you to list items where we technically disagree.
Instead you play word games. Is that because you cannot win a
technical argument?
--
73, Cecil http://www.qsl.net/w5dxp

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3836. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:33:35 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcimsioe3f53e5@corp.supernews.com>
Source record: 117688
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

Dear Neighbor:
GPS dither was turned off something like two years ago. I get peak
(maximum) differences of about 15 feet when returning to the same spot
(in the open). I have not paid much attention to the vertical
component, however the height always seems to be about right.
It once took a lot of averaging to get that sort of repeatability.
Warm regards, Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:dejicv039b0r7gdhlhpmlmeq76h9s9bqvn@4ax.com...
> On Mon, 19 May 2003 13:11:16 GMT, "
<big snip>
>
> IF they, as civilians were given the error correcting equipment THEN
> they could claim the 5 meters, but typically it still takes a ground
> based transmitter, or reference to make GPS good enough to fly the
> equivalent of an ILS which is on about that scale of accuracy.
<snip>
>
> >* Clear sky, single fix; accuracy is dependent on RF environment and
satellite
> >signal path
>
> It would be more correct to say the accuracy is dependent on how many
> satellites the receiver can hear. GPS depends on the reception of
> more than one satellite. Typical is 5 to 9, but up to 12 in many
> receivers, so there really isn't a single fix.
>
> It's also dependent on the inherent accuracy of the GPS signals and
> the equipment. Remember that GPS has a built in error which is
> unlikely to be turned of any time soon.
<snip>
Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-2)

3837. Re: Cell phone link to replace existing home phones?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:36:50 UTC
From: "Lawrence G. Mayka" <lgmayka000@ameritech.net>
Message-ID: <60dya.19156$%_3.8381562@newssrv26.news.prodigy.com>
Source record: 117689
Cross-posted to: alt.cellular.sprintpcs,alt.cellular.tech,rec.radio.amateur.antenna

"Roger Halstead" <rdhalste@tm.net> wrote in message
news:dejicv039b0r7gdhlhpmlmeq76h9s9bqvn@4ax.com...
> They are *claiming* an outdoor accuracy of 5 to 10 meters (roughly 15
> to 30 feet, not 3 feet). However, GPS (without augmentation) has an
> average horizontal accuracy of *about* 15 meters (45 feet).
> Vertically it's several times worse.

gpsOne *is* an augmented GPS. It makes use of both GPS signals and cell site signals to get better accuracy under a wider range of conditions, and with a much shorter cold fix time. Perhaps you should read the fact sheet:

http://www.cdmatech.com/solutions/pdf/gpsone_factsheet.pdf

> >**Wood frame, low-rise environment
>
> Actually any thing other than that is likely to be a lost cause. Even
> in a single story, ranch style home, there are spots where my GPS can
> not get a fix and just comes up with the error "insufficient
> satellites received". Although a high rise and near the windows
> *might* provide sufficient signal.

gpsOne provides location "even inside large concrete structures." This is of course partly due to the use of cell site signals as well as GPS signals, but also due to gpsOne's heightened sensitivity even to the GPS signals themselves (-155 dBm). That's right, Qualcomm's design is *more* sensitive to GPS signals than a typical consumer GPS unit.

I do suggest you read about gpsOne technology. It is indeed impressive.

3838. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:45:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC95E77.E65ACCE0@uci.edu>
Source record: 117690

OC_CAM's Razor wrote:
> Think the unthinkable time: If I were in a free space with a Z0 of 100
> ohms, would light seem dimmer to me? If I were in a free space with
> a Z0 of 1000 ohms, would light seem brighter to me?

You could try the experiment from the bottom of a swimming pool. You'll
experience a different Z0 from there. :-)

73 de ac6xg

3839. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 22:56:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC9610F.80805@ieee.org>
Source record: 117691

Dr. Slick wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>A stub is as lossy as it can possibly be, i.e. the losses are
>>fixed.

> You are implying that the stub is lossy here.

Nope, you are inferring incorrectly. Given a certain set of boundary conditions, a stub is *exactly* as lossy (and lossless) as possible, no more, no less. Hint: all stubs are lossy, no stub is lossless.

You, OTOH, are implying that a stub can be less lossy than is possible. Please give us an example.

>>A stub is as lossless as it can possibly be, i.e. the losses are
>>fixed.

> You are implying that the stub has very low resistance here.

Nope, you are inferring incorrectly. Given a certain set of boundary conditions, a stub is *exactly* as lossless (and lossy) as possible, no more, no less. Hint: no stub is lossless, all stubs are lossy.

You, OTOH, are implying that a stub can be more lossless than is possible. Please give us an example.

Here's what happened:
W5DXP: "That cup is half full." Slick: "No, that cup is half empty."
W5DXP: "OK, I agree." Slick: "You just contradicted yourself. A cup cannot possibly be half full and half empty at the same time."

Do you think I didn't recognize your troll?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3840. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:03:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC962DB.FCACD84F@uci.edu>
Source record: 117692

W5DXP wrote:
>
> Dr. Slick wrote:
> > OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote:
> >>The SWR at the shorted end of a stub is nearly infinite. You have
> >>offered absolutely no proof otherwise. Your present argument is
> >>pitifully laughable.
> >>
> > Did i disagree with this? Ever? No!
>
> Of course you did. You disagreed loud and long. You said over and over
> that the SWR inside a stub is *NOT* nearly infinite and I was wrong
> for saying so. Would you like for me to dig up those past postings?
>
> > Once again, ONLY WITH A SUPERCONDUCTING MATERIAL AND NO DIELECTRIC
> > LOSSES, would you have 100% energy reflected (absolutely no dissipated
> > power).
>
> You throw in something that is trivial and irrelevant to the discussion
> just so you can be right about a single trivial thing? :-) OK, you're
> trivially correct about that and nobody has ever claimed otherwise. But
> for most rational engineers, 99.9999% reflected energy is close enough
> to 100% to round it off and say rho=1.0.
>
> "You strain out a gnat but swallow a camel."

So back to the original point of the argument, is it as lossy, or as
lossless as it can possibly be - or is it both? ;-)

ac6xg

3841. Re: INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:15:44 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <baboht$3dg$1@slb4.atl.mindspring.net>
Source record: 117693

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message The fact that the Icom works would rule out antenna
> and feedline. A bad ground would not mess up a CL33.
> Tam/WB2TT

Why do you surmise that? I have seen many situations where a mic cable is the problem with RF. Also the rig itself can have an internal grounding problem making it more sensitive to RF.

Nothing is absolute.

Dan/W4NTI

3842. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:15:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC965A6.7040401@ieee.org>
Source record: 117694

Jim Kelley wrote:
> OC_CAM's Razor wrote:
>>Think the unthinkable time: If I were in a free space with a Z0 of 100
>>ohms, would light seem dimmer to me? If I were in a free space with
>>a Z0 of 1000 ohms, would light seem brighter to me?
>
> You could try the experiment from the bottom of a swimming pool. You'll
> experience a different Z0 from there. :-)

I'm a SCUBA diver. Why didn't I think of that? Water has an IOR of 1.33.
So with equal energy in the light beam, would light appear to be brighter
under water than in air? Would the ratio of energy in the E-field to
the B-field be greater under water than in air? I realize I'm off on
a tangent and this has nothing to do with transmission lines. I just
never realized before that my eyes are responding only to the E-field
and not to the B-field.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3843. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:23:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC96761.20409@ieee.org>
Source record: 117696

Jim Kelley wrote:
> So back to the original point of the argument, is it as lossy, or as
> lossless as it can possibly be - or is it both? ;-)

Dr. Slick was hoping to hang me out to dry with his troll. The answer
to your question is the same as: Is the cup half full or half empty?

Given a fixed set of boundary conditions, a stub is *always* exactly
as lossy and lossless as it can possibly be. Anything else is impossible,
by definition.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3844. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:23:14 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcippijmhehpf5@corp.supernews.com>
Source record: 117695

Dear Neighbor:
As is true of so many things, it depends. It depends on what the goal is (or are) and the resources available. In your case, you have the huge advantage of being able to perform tower work. That sort of work costs me thousands and makes the cost of the antennas a minor part of the total cost. Resources are not just money.
As to goals:
1. Most contest stations care little about HF bands other than 160, 80/75, 40, 20, 15, & 10 meters. Single band beams or even tribanders can fill the bill. LPDAs are seen as having poor value.
2. The DXer tends to be interested also in the in-between bands. A LPDA fits this sort of interest to a T.
3. Indigenous (sp?) weather plays a role in goals. How long does one wish the antenna to stay up? In some cases it is a matter of "how long does one want the tower to stay up." If one is not on salt water, the major factors are: the probability distribution of wind pressure and the probability of ice. In our area, excepting a tornado hit, ice is likely to be the major factor. LPDA are available built to survive different amounts of ice/wind. Assuming good engineering, the "stronger" the antenna the greater is its profile to the wind. In other words, an antenna that has a long expected (remember, probability distribution) life might cause its tower to fail before the antenna fails.

The Hy-Gain LPDA appear to be competent, but have a significantly greater wind load than the beam antenna you are now using. Ouch. My approach is to start with the tower and work out what sort of load on the tower I can live with. You have a lot of load on your tower.

As an example: The LPDA I have on one tower is not-strong because I want to be sure that the antenna goes before the tower. With the about 7mm of ice we had last month, the ends of the elements were pointing almost straight down! A little more ice or some wind and the antenna would have started to shed. At the same time, a significantly stronger LPDA on another tower showed much less deflection. The other tower is not up to its max. load so, since the cost of the antenna in my case is only a small part of the total cost, its antennas may be stronger.

Another point: LPDA can cover an octave with almost no fuss. (One still needs to be careful about boom resonance and, most important, interaction with other antennas.) Covering more than an octave is a bit tricky. A lot of things tend to interact as the spread increases. (I predict that the BIG HyGain needs its own tower in order to have a clean pattern and few big SWR bumps.) The issue tends to involve goals wrt to 40 and 30 m. (Some people have no use for 30m. As part of a major propagation simulation some years ago, I noted that the most common

(mode) frequency useful for a large number of circuits, over a long period of time, was about 10 MHz. If one does not care to use 30m, a separate antenna for 40 m + a 20 to 10 LPDA can be close to optimum.)

I have gone on too long about a favored subject. Think about your goals and tower capacity. Drop me a line when your ship comes in. 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
Office: JCM@McLMcL.Com
"Roger Halstead" <rdhalste@tm.net> wrote in message news:419ecvk50o9ipn9qsuhm0u1iskma6r87v7@4ax.com...
> On Fri, 16 May 2003 23:19:58 -0400, "J. McLaughlin"
> <JCM@Power-Net.Net> wrote:
>
> >Roger, my neighbor, tell us about the log periodic that is coming to
> >your house....
>
> Well, I dun been lookin' at that HyGain log for 20 through 10, but
> then again, I'd like to have one of the *big* 40 through 10 multi band
> yagis.
>
> The stock market has to recover one of these days.<sigh>, but then the
> income will probably end up in the panel of the G-III, or in the
> engine compartment.
>
> Roger Halstead (K8RI EN73 & ARRL Life Member)
> www.rogerhalstead.com
> N833R World's oldest Debonair? (S# CD-

3845. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-19 23:49:31 UTC
From: Rich <rk911@ANTISPAM.yahoo.com>
Message-ID: <k4ricvcg8f4l4h8skba11plr76msm4lg3q@4ax.com>
Source record: 117697

On Mon, 19 May 2003 14:11:34 GMT, Wedgew <wedgew@rochester.rr.com>
wrote:

>I put up a 102' dipole in the back yard yesterday.
>She-who-must-be-obeyed says that she would rather have me put up a
>vertical (commercial type) on top of the house. In a typical (for her)
>fashion she has offered to buy the antenna for me.
> What vertical will cover 80-10 meters? Or what other options?
> I'm just listening to SW right now but plan on taking the local ham
>club's classes in September.
> I can get help to install an antenna but I'd not be able to put it up
>and take it down for fine tuning. (I'm in a wheelchair)
>
>Any Ideas?

check the cushcraft website (www.cushcraft.com) for some ideas. there
are a ton of vertical antennas that will cover 10-80m. there are
other mfgs as well but cushcraft (no, i don't work for them) is one of
the better known. you might take a look at their R-7000 vertical. it
requires no ground radials. i'm using an older version, the R-5, and
am very happy with it. if put together properly (not difficult to
do), you won't need a tuner. good luck with your classes.

73,
rich, n9dko

3846. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 00:04:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EC97101.7549708E@uci.edu>
Source record: 117698

W5DXP wrote:
>
> Jim Kelley wrote:
> > OC_CAM's Razor wrote:
> >>Think the unthinkable time: If I were in a free space with a Z0 of 100
> >>ohms, would light seem dimmer to me? If I were in a free space with
> >>a Z0 of 1000 ohms, would light seem brighter to me?
> >
> > You could try the experiment from the bottom of a swimming pool. You'll
> > experience a different Z0 from there. :-)
>
> I'm a SCUBA diver. Why didn't I think of that? Water has an IOR of 1.33.
> So with equal energy in the light beam, would light appear to be brighter
> under water than in air? Would the ratio of energy in the E-field to
> the B-field be greater under water than in air?

It could be that the E field stays constant and the B field changes. I
do know the wavelength of light will be shorter, and our antireflective
coating won't work properly down there. ;-)

73 de ac6xg

3847. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 00:35:00 UTC
From: denton <denton@oregontrail.net>
Message-ID: <babss9$a3m$1@news.oregontrail.net>
Source record: 117699

Check out the ladder line fed gound plane on titanex's web site
(www.titianex.com)
I converted an old 5/8 wave cb antenna utilizing a similiar feed method...a
4 to 1 balun at the feed point in the base and then 450 ohm ladder line to
the shack
The vertical radiator was 18' as were the 4 radials, feedpoint was up 20
feet..
I used it 20 thru 10 meters and could of used it on 40 and 30 meters if I
so desired.
I would recommend putting up something with 30 ft of vertical radiator for
use on 80 thru 10 meters.
Hope this helps.
"Wedgew" <wedgew@rochester.rr.com> wrote in message
news:3EC8E619.2050607@rochester.rr.com...
> I put up a 102' dipole in the back yard yesterday.
> She-who-must-be-obeyed says that she would rather have me put up a
> vertical (commercial type) on top of the house. In a typical (for her)
> fashion she has offered to buy the antenna for me.
> What vertical will cover 80-10 meters? Or what other options?
> I'm just listening to SW right now but plan on taking the local ham
> club's classes in September.
> I can get help to install an antenna but I'd not be able to put it up
> and take it down for fine tuning. (I'm in a wheelchair)
>
> Any Ideas?
>

3848. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 01:01:07 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <babuoj$4q1$1@sparta.btinternet.com>
Source record: 117700

Wedgew,

Ignore product reviews until you've held a ticket for 6 or 12 months.
Even then don't them very seriously.
Rule out anything with the number 102 in the specification.
Get some experience under your belt.
Never plan for ANY long term installation.
Within a short time of installation you will be sure to wish you had chosen something different.
Initially you will be interested in all HF bands in all directions of the compass.
So first erect an INVERTED-L or U, the general purpose workhorse.
Overall wire length anywhere between 140 and 160 feet.
18-gauge enamelled copper wire will last for years. Inexpensive. Easily joined and re-extended.
An inverted-L simply goes up the outside wall of the house, to the chimney and then to a pole or tree.
Height is the most important dimension of any antenna. A thin mast on the chimney is useful.
The length of an inverted-L can be changed in 30 minutes for experimental purposes with side-cutters and soldering iron.
The exact length is seldom important. An experimental bottom end loading coil is easily made and fitted.
When months, perhaps years later the time arrives to experiment with something like a 21 or 28 MHz beam or 160m magloop leave the inverted-L in situ. You will not wish to be isolated from your regular rag-chews on 80 and 40m.

If any old wife mentions the magic number of 120 1/4-wavelength ground radials just laugh. With reasonable garden soil 8 or 12 radials no longer than 20 or 30 feet will do a good enough job. Don't forget to include the domestic incoming metal water and gas pipes if you have such useful gadgets lying around. Don't waste time and effort on ground rods.

In the past, whatever else might have had decorated my back yard I have never been without the good old faithful inverted-L. At present there are only two ground radials - the gas and water pipes. Of course, all the other domestic hot and cold plumbing plus power wiring assists. Its a wierd sort of non-resonant counterpoise all in parallel. In anticipation of protests from nit-picking readers of these columns I hasten to add I have never run more than 100 watts on any HF band. (I can wistfully claim to have run 50 KW on 3000 MHz but then there were no gas pipes involved.)

By the way, whatever HF transmitting antenna you may decide on, the most essential item is an antenna tuner. With a few simple tools you can make an

L or T tuner. Until you've made one you've never lived. To buy one is a good long-term investment.

You will also need a TLI (Transmitter Loading Indicator) between the Tx and tuner.

Overlook comments about your marital relations but take good notice of other snippets of advice offered on these flimsy threads. We all look forward to welcoming you on the bands.

Regards, Reg, G4FGQ.

From proud Blackheath, in the Black Country, due to soot, where it all began, adjacent to the original City of Birmingham, England.

Incidentally, at the end of a canal tunnel built long before the railways, in the built-up suburbs of Birmingham there's a small district with the name California. The other end of the tunnel is in Halesowen in the Black Country, a small town which is listed in William the Conqueror's Domesday Book. Halesowen, just along the road from me, got into the news again relatively recently because the giant precision steel gun barrels intended to set the course of long distance rockets, exported to Iraq with the permission of the British government in the guise of large oil pipes, were manufactured at a local iron works and have since become classified as 'weapons of mass destruction'.
Was the name California exported to America along with Birmingam ?

RJE

3849. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 01:19:11 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <babvqi$rt7mv$1@ID-134747.news.dfncis.de>
Source record: 117701

Each of the elements is about 5 foot from tip to
tip. It folds in half, so out of the box it is a
packages about 6" square and 2 1/2 foot long.

73 es cul

wb3fup
a Salty Bear

"Daniel" <danibe@my-deja.com> wrote in message
news:b73f7787.0305191031.32a46506@posting.google.com...
> "WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in
message
news:<ba9q7h$q7pdj$1@ID-134747.news.dfncis.de>...
> > Omni directional FM Antenna # Radio Shack
15-2164
>
> Thank you. I did find it on Radio Shack's web
site
>
(http://support.radioshack.com/support_audio/doc61
/61405.pdf), but
> with all the detailed information I couldn't
find out how big it is. I
> need to make sure it can fit in my attic
(unfortunately a small one).
>
> Daniel
>
> P.S. Anyone had bad experience with this
antenna? How would you rate
> it comparing to other **omnidirectional** FM
antennas that can be
> found in the market?

3850. Re: Insulated Wire Velocity Factor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 01:21:55 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305191721.b2976ae@posting.google.com>
Source record: 117702

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030519130307.15389.00000310@mb-m06.aol.com>...
> >Yuri how exactly did you determine the resonant frequencies of the
> >director/reflector? Break them and insert a 259B into the loops and
> >adjust the lengths accordingly? Or did you scale them from the final
> >driven element length? Or what?
>
> I Just calculated frequency offset and corresponding length difference and
> adjusted all 3 loops by that % amount. Kind of standard procedure (here
> anyway), use your formulas, put up the antenna, check the resonance. If off,
> measure the difference and readjust the elements.

That'll work. I'll continue on my plan to determine the apparent delta
with two dipoles and take it from there.

> It is difficult to measure and adjust individual elements within the array,
> mutual interaction messes it up. You could take antenna appart, measure the res
> freq of the element and do the correction.

Understood.

> Too much fooling around.

I'll buy that.

Tnx.

>
> Yuri

w3rv

3851. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 01:50:20 UTC
From: forSALTsythm@optushome.com.aSALTu
Message-ID: <slrnbcj2es.5mb.forSALTsythm@plague.bogus.com>
Source record: 117703

On 19 May 2003 11:04:49 -0700, Robert H. Wiley <rhwiley@neo.rr.com> gushed forth:

[deletia]

>
>Has anyone ever run into a person/group/agency using Outbackers for

THe RFDS. Royal Flying DOctor Service, http://www.rfds.org.au uses
Outbackers but I dunno what model. Send 'em and e-mail and ask
them - they're pretty good at answering questions about what they
use and where and why.

[deletia]

>Thanks and 73 de Bob, N8MMR

--
Ooroo
Mark F...

Another Optus Cable Traffic Monitor.
http://www.members.optushome.com.au/forsythm/traff/

Today is Setting Orange, the 67th day of Discord in the YOLD 3169

3852. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 02:42:24 UTC
From: wp20032@aol.com
Message-ID: <20030519224224.23020.00000260@mb-m29.aol.com>
Source record: 117704

>During mobile shootout measurements on 75m, the Outbacker scored
>8dB lower than a good bugcatcher or screwdriver, i.e. the bugcatchers
>and screwdrivers radiated 84% more power than the Outbacker.
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>
Cecil--
I also use an Outbacker, because of its small size. However, I never operate
below 20m. Do you have any numbers for comparison on higher bands?
--Wayne

3853. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 03:00:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EC99A44.15E1A71C@cwis.net>
Source record: 117705

Reg,
I don't know about the name being exported, but I understand
that your California has ordered vine cuttings from our
California. Wonder if they're going to make jam??
'Doc

3854. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 03:03:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cf6jcvsn4g8cqe5bmpn85bi7ilno1i8rkc@4ax.com>
Source record: 117706

> Was "He" alive in the last century?
Apparently not.

With so many dead people, only one that can state your work with
authority? :-)

Zombie Physicks must explain where your "lost power" went.

3855. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 03:10:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC99CC3.3030101@ieee.org>
Source record: 117707

WP20032 wrote:
>>During mobile shootout measurements on 75m, the Outbacker scored
>>8dB lower than a good bugcatcher or screwdriver, i.e. the bugcatchers
>>and screwdrivers radiated 84% more power than the Outbacker.

> I also use an Outbacker, because of its small size. However, I never operate
> below 20m. Do you have any numbers for comparison on higher bands?

Mobile shootouts are usually done on 75m. I don't know of any
comparisons performed on the higher bands.
--
73, Cecil http://www.qsl.net/w5dxp

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3856. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 03:14:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC99D7F.6040907@ieee.org>
Source record: 117708

Richard Clark wrote:
>> Was "He" alive in the last century?
>
> Apparently not.

Ask a silly question - get a silly answer - from yourself.
--
73, Cecil http://www.qsl.net/w5dxp

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3857. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 03:35:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bac7bs$k1b$1@news.service.uci.edu>
Source record: 117709

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC96761.20409@ieee.org...
> Given a fixed set of boundary conditions, a stub is *always* exactly
> as lossy and lossless as it can possibly be. Anything else is impossible,
> by definition.

I can crank up the power without changing the boundary conditions. Wouldn't
it lose even more power then? ;-)

jk

3858. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 04:46:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EC9B32A.4010502@ieee.org>
Source record: 117710

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>Given a fixed set of boundary conditions, a stub is *always* exactly
>>as lossy and lossless as it can possibly be. Anything else is impossible,
>>by definition.
>
> I can crank up the power without changing the boundary conditions.

A fixed amount of power *is* one of the boundary conditions. How can
you change the power without changing the power?
--
73, Cecil http://www.qsl.net/w5dxp

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3859. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 05:11:40 UTC
From: whagen6@cs.com
Message-ID: <20030520011140.16948.00000537@mb-m16.news.cs.com>
Source record: 117711

When Sir Francis Drake planted the plaque and flag for the Queen and country, he was overheard saying "I claim this state of California for the Queen"... the rest is history.

3860. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:18:11 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305192218.571c3992@posting.google.com>
Source record: 117712

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC958C8.4080408@ieee.org>...
> Dr. Slick wrote:
> > I said the SWR at the short or open is nearly infinite, ...
>
> Nope, here's what you said:
>
> > ... near-infinite VSWR shorts and opens ... is totally incorrect.
>
> Have you changed your mind?

No, you have misquoted me out of context, to make it seem like
i'm saying something i never said.

Fuck You, i know what you are doing.

And you still haven't resolved your conflicting statements.

Slick

3861. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:19:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u3ijcvckegjsoj9dr81e4p8llo04n8rce4@4ax.com>
Source record: 117713

On Mon, 19 May 2003 22:14:07 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>>> Was "He" alive in the last century?
>>
>> Apparently not.
>
>Ask a silly question - get a silly answer - from yourself.
On Sun, 18 May 2003 16:17:49 -0500, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

>"RL" He's a peaceful guy

Not so restful in peaceful then, hmmm?

Still sounds like Zombie Physicks.

3862. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:24:38 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305192224.55c99019@posting.google.com>
Source record: 117714

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC9610F.80805@ieee.org>...

>
> Do you think I didn't recognize your troll?

You don't think i recognize when someone tries to back out of
a error?

Admit it, you contradicted yourself, and quite foolishly IMO.

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC46248.9010601@ieee.org>...
>
> In a shorted or open 1/4WL stub, the SWR *IS* as high as it can
> possibly be. The stub *IS* as lossless as it can possibly be.

However, earlier Cecil wrote:

> The SWR in any stub is as near infinity as
> it can possibly get along with losses that are as high as they can
> possibly be.

Now you are saying these two mean the same thing to avoid
admitting that you were wrong!

Haha, you are hilarious, Cecil!

Slick

3863. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:28:42 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305192228.7212d252@posting.google.com>
Source record: 117715

You just can't admit when you have contradicted yourself.

Slick

3864. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:32:48 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305192232.7c7d694b@posting.google.com>
Source record: 117716

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC95AEF.2030302@ieee.org>...
>
> I have asked you to list items where we technically disagree.
> Instead you play word games. Is that because you cannot win a
> technical argument?

A technical argument with you doesn't mean much, as you will twist
the basic definitions as it suits you.

Sure, you can alway say, "But, but..I really didn't mean that!"

Fuck you, you contradicted yourself.

Slick

3865. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 06:43:48 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305192243.516857@posting.google.com>
Source record: 117717

OC_CAM's Razor <Cecil.A.Moore@ieee.org> wrote in message
news:<3EC6B382.6010301@ieee.org>...
> Dave Shrader wrote:
> > If you mean the stub MUST be terminated in either an open or a short
> > thereby producing an 'infinite' VSWR I'll agree
>
> Yep, that's exactly what I mean. Dr. Slick says the SWR in a stub
> is NOT near-infinite.
>

I said the SWR in a stub in NOT infinite because there are always
some losses. If you had an ideal superconducting, no-dielectric loss
situation, the SWR would be ideally infinite.

Slick

3866. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 07:50:58 UTC
From: HS <fejkad_adress@dof.se>
Message-ID: <3EC9DE5E.40906@dof.se>
Source record: 117718

Hello Robert.

If You go to the website of the manufacturer of the Outbacker:
http://www.outbacker.com.au/
you will find that they make commercial versions of this antenna, custom tuned to HF-frequecies specified by the customer.

However, i would think that a screwriver-type antenna would be much more efficient, and there are several commercial srewriver-type antennas avaliable. Before buing a screwdriver antenna, you will probably have to take a look at the mecanical construction and weather-proofing of the moving parts, to see if the antenna is suitable for your application.

73 de Hans, SM3PXG

Robert H. Wiley wrote:
> I'm sorry if this posting is off topic. Normally I'm on topic (but
> this one is relative to normal discussions).
>
> I currently am using an Outbacker Perth Plus with my IC-706. In my
> opinion, this antenna is probably one of the best antennas for a
> mobile application - especially given certain space restrictions a
> small area of operation allows for (eg. Pickup Truck, HMMV, the top of
> an emergency operations center shelter, ect).
>
> I've been recently faced with a challenge of making suggestions (to a
> governmental agency) on how to upgrade an existing emergency-class
> mobile station for emergency first-responder types of applications
> using common off-the-shelf equipment.
>
> The antennas currently being used are Hustler resonator-type mobile
> antennas. The mount used is a fabricated bolt-on type mount that
> holds the Hustler fold-over whip. The frequencies being used are
> mainly in the vicinities of 4.5 MHz, and 8.1 MHz (btw we're not using
> standard amateur type radios for this).
>
> Has anyone ever run into a person/group/agency using Outbackers for
> such an application? I'm basing the antenna's value from my amateur
> radio operations experience, so I might be somewhat biased. Any
> information as to prior use or theoretical use would be appreciated.
>
> Thanks and 73 de Bob, N8MMR

3867. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 08:45:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <iiqjcv4ug57s1skt169fs0lhb047hu6akf@4ax.com>
Source record: 117569

On Mon, 19 May 2003 16:51:23 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard Harrison wrote:
>> Cecil, W5DXP wrote:
>> "That stub is as lossy as it can possibly be." Gibberish!
>
>Think about what you are implying and laugh at yourself.

He has been laughing too hard at the Gibberish to laugh at himself.

AND If he thought about it, he would start laughing at the Gibberish
again!

holding your hand through 1000 postings & 73's
Richard Clark, KB7QHC

3868. Re: how close is too close?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 11:22:01 UTC
From: Maguire@world.net
Message-ID: <3ECA0FD9.E8B78DA8@world.net>
Source record: 117570

Tad I have 3 antennas on my tahoe. The 2 at the rear are at the roof corners mounted on the roof rack.

I also have scanner, 2/440 and hf rigs in my vehicle. HF antenna bumper mounted.

I have not had any problems in the 2 years they have been there.

tad danley wrote:
>
> I am installing two antennas on the roof of my Grand Cherokee. One for
> an FT-100D that will be used primarily on 6 and 10 meters, and one for a
> 2/440 dual band rig. Is there a way to determine how far apart the
> antennas need to be in order to ensure I don't damage a receiver by
> transmitting on the other rig?
>
> Thanks in advance and 73,
>
> --
> Tad Danley, K3TD
>
> * Anti-spam return address in use *

3869. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 11:34:20 UTC
From: Maguire@world.net
Message-ID: <3ECA12BC.5A411794@world.net>
Source record: 117571

Donnie I have both, a dipole and vertical. My $29 dipole works better
than my $350 GAP Titan DX.

Both work 80 to 10 meters by the way. Go for a new rig instead of a
vertical.

"Donnie (N4JZH)" wrote:
>
> >I put up a 102' dipole in the back yard yesterday.
> >She-who-must-be-obeyed says that she would rather have me put up a
> >vertical (commercial type) on top of the house. In a typical (for her)
> >fashion she has offered to buy the antenna for me.
> > What vertical will cover 80-10 meters? Or what other options?
> > I'm just listening to SW right now but plan on taking the local ham
> >club's classes in September.
> > I can get help to install an antenna but I'd not be able to put it up
> >and take it down for fine tuning. (I'm in a wheelchair)
> >
> >Any Ideas?
>
> Trade her in for a new rig, take the rest of your money and throw an antenna party.
>
> ''Behold how good and pleasant it is for Brethren to dwell together in unity''
> Donnie n4jzh@knology.net

3870. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 11:54:14 UTC
From: rhwiley@neo.rr.com
Message-ID: <ea0ed91.0305200354.52eeaae7@posting.google.com>
Source record: 117572

Thanks for the info. I hadn't looked at the bugcatcher or the
screwdriver yet.

Currently, the problem with the Hustler equipment, is the narrowness
of the band, and the extra space to keep several resonators (all the
equipment is kept in a metal box about the size of a military
footlocker).

My personal pet peeve with the Hustler antenna, (I actually was sent
out on emergency duty a few months ago with this equipment) is the
need to unmount/mount a different resonator every time the band is
changed by net control. I'll need to check the specs on the
bugcatcher about that.

The problem with this type of emergency use, is the operation is under
sometimes severely 'adverse' conditions. In my case, I had 6 inches
of snow on my vehicle. Another person had 1/2" of mud on top of
theirs. I'll need to see how a screwdriver would handle that.

Thanks again and 73,

Bob, N8MMR

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EC95387.8040208@ieee.org>...
> Robert H. Wiley wrote:
> > I currently am using an Outbacker Perth Plus with my IC-706. In my
> > opinion, this antenna is probably one of the best antennas for a
> > mobile application - ...
>
> During mobile shootout measurements on 75m, the Outbacker scored
> 8dB lower than a good bugcatcher or screwdriver, i.e. the bugcatchers
> and screwdrivers radiated 84% more power than the Outbacker.

3871. FS: TX2 tailtwister rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 12:31:25 UTC
From: el34guy@aol.com
Message-ID: <20030520083125.04009.00000005@mb-m16.aol.com>
Source record: 117573

Hello everyone,

I have a like new tx2 rotor for sale, I had it up about a month. It comes with the analog controller. I bought it about a year ago as new but it is an older model that was never put up. price is 375 bucks shipped.

Mark
W0NCL

3872. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 12:32:32 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <Afpya.184774$vU3.24229@news1.central.cox.net>
Source record: 117574

Remember that the retina is in an aqueous environment, so Z is probably not the same a free space. There is an impedence change at the cornea, which is why light is focused on the retina . . .
Bob AB0OD
> > since chemical bonds are due to electric field interactions between atoms it
> > would make sense that the electric field part of the wave would be important
> > in triggering chemical reaction.
>
> Our eyes are a chemical reaction so do they only respond to the electric
> field in light? I realize that normally the electric field and magnetic
> fields in free space are related by the characteristic impedance of free
> space.
>
> Think the unthinkable time: If I were in a free space with a Z0 of 100
> ohms, would light seem dimmer to me? If I were in a free space with
> a Z0 of 1000 ohms, would light seem brighter to me?

3873. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 14:41:53 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <badedm$g0r$1@news.service.uci.edu>
Source record: 117575

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC9B32A.4010502@ieee.org...
> A fixed amount of power *is* one of the boundary conditions.

Sure it is, Cecil. ;-)

3874. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:07:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA44A2.8020409@ieee.org>
Source record: 117576

Dr. Slick wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
> No, you have misquoted me out of context, to make it seem like
> i'm saying something i never said.

Sorry, Slick, here's what you said, straight from Google:

> From: Dr. Slick (radio913@aol.com)
> Subject: Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...
> Newsgroups: rec.radio.amateur.antenna
> Date: 2003-05-15 18:29:51 PST
> You bridge analogy was wrong, and your other quote about
> "lossy and they can be" near-infinite VSWR shorts and opens (see other
> thread) is totally incorrect.

> And you still haven't resolved your conflicting statements.

You mean your troll?

Slick, the big clue that you were simply trolling was when you took
me to task for using the expression, "near infinite", and then you
turned around and alluded to degrees of losslessness.

> They are as loss-LESS as can be!

This is one of your statements and is absolutely meaningless. There
are no degrees of losslessness. Something is either lossless or it's
not. What does 20% lossless mean? - Absolutely nothing!

But as trolls go, I will give yours a 'B+'.
--
73, Cecil http://www.qsl.net/w5dxp

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3875. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:15:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA46A5.7080304@ieee.org>
Source record: 117577

Dr. Slick wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
> Admit it, you contradicted yourself, and quite foolishly IMO.

English appears not to be your native language so I will forgive you for your error. Here's an English lesson for you: Certain words in English do not possess degrees. It is a digital binary situation where something either is or isn't. Examples:

She is nearly pregnant. A stub is nearly lossless. The SWR is nearly infinite.

These statements are meaningless in English. How near is "nearly" is undefined. Consider exactly how meaningless.

She is 50% pregnant. The stub is 50% lossless. The SWR is 50% of infinity.

> Now you are saying these two mean the same thing to avoid
> admitting that you were wrong!

Please read a good book on the English language and get back to us. It is impossible to be wrong about a meaningless statement. Your statement, "A stub is as lossless as it can be." is a meaningless statement. Because it is a meaningless statement, it is true by default.
--
73, Cecil http://www.qsl.net/w5dxp

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3876. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:23:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA4862.9080208@ieee.org>
Source record: 117578

Dr. Slick wrote:
> You just can't admit when you have contradicted yourself.

I didn't contradict myself, Slick. You just can't admit
it when your troll fails. You keep milking that straw man
for all it's worth. (P.S. If you are going to milk it, you
should switch to a straw woman.)

"A stub is as lossless as it can be." is simply a statement
without meaning. It is logically true following the rules
of classical logic so I agreed with you about it. It is
of the logical family of statements that is true by
definition but meaningless. Here's another example:

"If I were a foot taller, I would be an NBA star."

This is a true statement, by definition, since the 'if'
portion of the statement is false.

"If stubs weren't lossy, they would be lossless."

This is a true statement, by definition, but completely
meaningless.
--
73, Cecil http://www.qsl.net/w5dxp

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3877. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:26:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA492B.2000201@ieee.org>
Source record: 117579

Dr. Slick wrote:
> Fuck you, you contradicted yourself.

Tsk, tsk, Slick. Have you always been such a poor loser?
It is impossible to contradict myself using meaningless
statements. All I did was play along with your troll.

You still haven't defined what "20% lossless" means? One
wonders why.
--
73, Cecil http://www.qsl.net/w5dxp

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3878. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:32:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA4A8C.8020600@ieee.org>
Source record: 117580

Dr. Slick wrote:
> I said the SWR in a stub in NOT infinite because there are always
> some losses.

Yes, you said that but you also asserted that I was wrong when I said the SWR in a stub is near-infinite. That means you were arguing that the SWR in a stub is NOT near-infinite.

Have you changed your mind and now agree with me? Please answer yes or no: Is the SWR in a stub near-infinite? If you say 'yes', you are agreeing with me and the argument is over. If you say 'no', then you still disagree with me.

I have already proven mathematically that any SWR is just as near-infinite as any other SWR so you might as well admit that you were wrong.
--
73, Cecil http://www.qsl.net/w5dxp

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3879. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:38:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA4BE1.6080005@ieee.org>
Source record: 117581

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Think about what you are implying and laugh at yourself.
>
> AND If he thought about it, he would start laughing at the Gibberish
> again!

That's the whole point, Richard. Dr. Slick's statement: "A stub is
as lossless as it can be." is pure Gibberish. Degrees of losslessness
do not exist. I have asked Dr. Slick to define "20% lossless" but
he continues to refuse that simple request.

The following statement is true:

If a stub is lossless, Dr. Slick's IQ is 23.7.
--
73, Cecil http://www.qsl.net/w5dxp

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3880. Re: Question for physicists

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:43:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA4D1A.8030407@ieee.org>
Source record: 117583

Robert McCown wrote:
> Remember that the retina is in an aqueous environment, so Z is probably not
> the same a free space. There is an impedence change at the cornea, which is
> why light is focused on the retina . . .

Yep, from _Optics_ by Hecht: "Incidentally, one of the reasons you can't
see very well under water ... is that its index is too close to that of
the cornea to allow for adequate refraction."
--
73, Cecil http://www.qsl.net/w5dxp

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3881. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:44:52 UTC
From: rhwiley@neo.rr.com
Message-ID: <ea0ed91.0305200744.40c693a0@posting.google.com>
Source record: 117582

Hans,

Thank you for the information. I had not seen the actual Outbacker
site before, so this is better information than I thought possible. I
have sent an email to a manufacturer of screwdriver antennas (Hi-Q)
regarding this project. Hopefully, I'll find an antenna that best
suits the needs with the given information.

Thanks again and 73 de Bob, N8MMR

HS <fejkad_adress@dof.se> wrote in message news:<3EC9DE5E.40906@dof.se>...
> Hello Robert.
>
> If You go to the website of the manufacturer of the Outbacker:
> http://www.outbacker.com.au/
> you will find that they make commercial versions of this antenna, custom
> tuned to HF-frequecies specified by the customer.
>
> However, i would think that a screwriver-type antenna would be much more
> efficient, and there are several commercial srewriver-type antennas
> avaliable. Before buing a screwdriver antenna, you will probably have to
> take a look at the mecanical construction and weather-proofing of the
> moving parts, to see if the antenna is suitable for your application.
>
>
> 73 de Hans, SM3PXG
>
>
>
>
>
>
>
>
> Robert H. Wiley wrote:
> > I'm sorry if this posting is off topic. Normally I'm on topic (but
> > this one is relative to normal discussions).
> >
> > I currently am using an Outbacker Perth Plus with my IC-706. In my
> > opinion, this antenna is probably one of the best antennas for a
> > mobile application - especially given certain space restrictions a
> > small area of operation allows for (eg. Pickup Truck, HMMV, the top of
> > an emergency operations center shelter, ect).
> >
> > I've been recently faced with a challenge of making suggestions (to a
> > governmental agency) on how to upgrade an existing emergency-class

> > mobile station for emergency first-responder types of applications
> > using common off-the-shelf equipment.
> >
> > The antennas currently being used are Hustler resonator-type mobile
> > antennas. The mount used is a fabricated bolt-on type mount that
> > holds the Hustler fold-over whip. The frequencies being used are
> > mainly in the vicinities of 4.5 MHz, and 8.1 MHz (btw we're not using
> > standard amateur type radios for this).
> >
> > Has anyone ever run into a person/group/agency using Outbackers for
> > such an application? I'm basing the antenna's value from my amateur
> > radio operations experience, so I might be somewhat biased. Any
> > information as to prior use or theoretical use would be appreciated.
> >
> > Thanks and 73 de Bob, N8MMR

3882. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:46:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA4DBD.2070001@ieee.org>
Source record: 117584

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>A fixed amount of power *is* one of the boundary conditions.
>
> Sure it is, Cecil. ;-)

You apparently forgot to ask me for a copy of the boundary
conditions. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3883. Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 15:58:24 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305200758.4acd36@posting.google.com>
Source record: 117585

Though the 'ratio' is what is viewed as all important
regardless of what the constituent mix is , the question
that I have is that for a transmitter, solid state or otherwise,
are there any advantages for a totally resistive mismatch
over one of the same ratio (SWR) that includes a reactive constituent ?
Art

3884. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 16:05:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <badjd4$ic7$1@news.service.uci.edu>
Source record: 117586

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECA4DBD.2070001@ieee.org...
> Jim Kelley wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
> >>A fixed amount of power *is* one of the boundary conditions.
> >
> > Sure it is, Cecil. ;-)
>
> You apparently forgot to ask me for a copy of the boundary
> conditions. :-)

Yep. I mistakenly assumed they had something to do with the properties of
the boundary.

3885. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 17:15:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA62B8.9090909@ieee.org>
Source record: 117587

Art Unwin KB9MZ wrote:
> Though the 'ratio' is what is viewed as all important
> regardless of what the constituent mix is , the question
> that I have is that for a transmitter, solid state or otherwise,
> are there any advantages for a totally resistive mismatch
> over one of the same ratio (SWR) that includes a reactive constituent ?

A purely resistive mismatch at the antenna quickly turns into
a reactive mismatch in the transmission line. In fact, unless
you know the length of the transmission line, you cannot tell
if the load is purely resistive or not.
--
73, Cecil http://www.qsl.net/w5dxp

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3886. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 17:19:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA63B8.8060104@ieee.org>
Source record: 117588

Jim Kelley wrote:
> I mistakenly assumed they had something to do with the properties of
> the boundary.

"Boundary conditions" apply to conceptual boundaries just as well
as to physical boundaries. "Assume a 100 watt transmitter." *IS*
a boundary condition, a boundary applied to source power.
--
73, Cecil http://www.qsl.net/w5dxp

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3887. Replacing an AM/FM Antenna-1996 Plymouth Grand Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 17:29:40 UTC
From: ralstonvaz@cox.net
Message-ID: <bd5d306d.0305200929.4ca3c7c@posting.google.com>
Source record: 117589

Hello,

I could really use some help on what may be a simple project to most
of the members in this group.
I am attempting to replace the base and mast of the antenna that came
with my recently purchased '96 Plymouth Grand Voyager. The problem is
this: for the life of me I can't figure out how to get to and remove
the existing base. It is positioned by the hood on the front passenger
side of the van, just behind the wheel well. It seems to be the
factory location.
I'm not sure how complicated a project this should be, but I see just
about no possible way to get to the darn thing. I'm not at all
interested in installing an antenna anywhere else on the van. I just
want to replace the base and mast of what is already there.

Any thoughts. Previous experience with this task is most appreciated!!
I know someone has been in these shoes before.

Thanks!
mance

3888. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 17:37:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vtpkcvgq2u64mh8696t8t2jh5q03uthhhm@4ax.com>
Source record: 117590

On Tue, 20 May 2003 10:38:09 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
More amusing Gibberish.

3889. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 17:58:50 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305200958.21ecb846@posting.google.com>
Source record: 117591

rhwiley@neo.rr.com (Robert H. Wiley) wrote in message
news:<ea0ed91.0305200354.52eeaae7@posting.google.com>...
> Thanks for the info. I hadn't looked at the bugcatcher or the
> screwdriver yet.
>
> Currently, the problem with the Hustler equipment, is the narrowness
> of the band, and the extra space to keep several resonators (all the
> equipment is kept in a metal box about the size of a military
> footlocker).

All decent mobile antennas will have a narrow bandwidth. No real way
around that. But the screwdriver would let you retune at the op
position, so in that case bandwidth becomes a non issue.
>
> My personal pet peeve with the Hustler antenna, (I actually was sent
> out on emergency duty a few months ago with this equipment) is the
> need to unmount/mount a different resonator every time the band is
> changed by net control.
> I'll need to check the specs on the
> bugcatcher about that.

You would need to "re-tap" a bugcatcher. Easier than screwing on a
resonator, but you still have to move from the operating position.
They do make the "spider" attachments from hustler setups to where you
don't have to change resonators. Or at least for maybe 3 bands. My pet
peave with hustler is the excess coil loss. And the "super" resonators
are worse than the small ones.
Normally, at least on the low bands, ground losses should overshadow
coil losses. But with a hustler, coil losses overshadow ground losses
usually.
I hate them hustler coils....BTW, they semi do that on purpose to
improve "bandwidth" and ease of matching. In general, with maybe a few
exceptions, the better the mobile antenna, the lesser the bandwidth.
Good wide bandwidth on the average mobile antenna is not what I want
to see. Something usually is suffering when that happens. With the
hustler, it's coil efficiency. :(
>
> The problem with this type of emergency use, is the operation is under
> sometimes severely 'adverse' conditions. In my case, I had 6 inches
> of snow on my vehicle. Another person had 1/2" of mud on top of
> theirs. I'll need to see how a screwdriver would handle that.

Should be ok, unless dirt can get inside the coil, motor, etc...
If it were me, I'd go with the bugcatcher type antenna, as I like max
performance with ease of modifying mast lengths, etc. And it's fairly

bulletproof. #2 on my list would be the screwdriver, as tuning from the drivers seat doesn't mean much to me. In your case you might prefer the screwdriver #1. MK

3890. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:11:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECA6FC2.33947611@uci.edu>
Source record: 117594

W5DXP wrote:
>
> Jim Kelley wrote:
> > I mistakenly assumed they had something to do with the properties of
> > the boundary.
>
> "Boundary conditions" apply to conceptual boundaries just as well
> as to physical boundaries. "Assume a 100 watt transmitter." *IS*
> a boundary condition, a boundary applied to source power.

Wrong boundary.

3891. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:11:44 UTC
From: Steve Miller <millersg@qrt.dma.org>
Message-ID: <3eca6fe0_3@athena.netset.com>
Source record: 117592

Roger Halstead <rdhalste@tm.net> wrote:
: Ohhhh...nothing that small. <:-)) Actually it isn't quite that big.
: http://www.rogerhalstead.com/tower.htm It's a big page but the
: overall views are at the bottom.

: The rotor is turning a TH-5 (soon to be log periodic) at 100 feet, a
: 50-7 C3i (28'8" boom) at 115 feet, and stacked 12s on 144 and stacked
: 11s for 440 on the same 14 foot cross boom (vertical polarization) at
: 130 feet. The mast alone weighs about 240#, plus the 6 antennas.

Hi Roger,

Just a quick comment on your antenna installation as seen on your web site. The forces causing your rotor and mast damage can be greatly alleviated by simply remounting all the VHF antennas at the center of their booms (like the TH-5).

Basically, CW torque produced by half of the boom is opposed by the CCW torque of the other half. When the two halves are nearly equal, the net torque applied to the rotor/mast is low. Net torque increases rapidly as the halves become unequal since the 'unbalanced region' of forces (at the far end of the longer half) operates on a long moment arm resulting in large torque contributions.

The other, more expensive alternative is to strengthen the rotor/mast/tower system to handle the larger amount of torque produced by asymmetric or offset booms. Since your mast/rotor system is now much stronger, remounting your antennas at this stage may be a moot point. However, I wanted to add $0.02 that might save you (or someone else) from a rotor headache or two in the future.

73,
Steve N8SM

3892. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:14:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA706D.6020709@ieee.org>
Source record: 117593

Richard Clark wrote:
> On Tue, 20 May 2003 10:38:09 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote: More amusing Gibberish.

You are starting to get it. Virtually everything written using
words like, "perfect", "lossless", "infinity", ... is logical
gibberish.

"A stub is as lossless as can be." is *PURE* gibberish -
logically indeterminate and therefore completely meaningless.

Dr. Slick seeks to imply that his stub is 10% lossless. Exactly
what is 10% of zero loss? You're exactly right - it's gibberish.
--
73, Cecil http://www.qsl.net/w5dxp

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3893. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:35:12 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECA7560.2BD9C079@uci.edu>
Source record: 117595

W5DXP wrote:
> Dr. Slick seeks to imply that his stub is 10% lossless. Exactly
> what is 10% of zero loss?

If it's 10% lossless, then the other 90% must be lossfull. :-)

Important stuff you got goin' on here, Cecil. Wow.

3894. Re: Replacing an AM/FM Antenna-1996 Plymouth Grand Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:49:31 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECA78BB.C4300BC3@cwis.net>
Source record: 117596

Mance,
How do you feel about removing a fender??
'Doc

3895. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:51:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECA7947.4597FC61@cwis.net>
Source record: 117597

Art,
Is there 'power' developed in a reactance?
'Doc

3896. Omni & Non Directional Terminology? (Scantenna ST2)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 18:55:47 UTC
From: Robert Rose <rgsrose@tiac.net>
Message-ID: <badtna$u6h$1@slb3.atl.mindspring.net>
Source record: 117598

Hello:

A bit confused over terminology.

The Scantenna ST2 is supposed to be "Omni," and non-directional.

Does this imply that you should think of a 3-d constant radius
reception sphere, with the antenna at the center ?

Thanks,
Bob

3897. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:23:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA80B2.5030706@ieee.org>
Source record: 117599

Jim Kelley wrote:
>
> W5DXP wrote:
>>"Boundary conditions" apply to conceptual boundaries just as well
>>as to physical boundaries. "Assume a 100 watt transmitter." *IS*
>>a boundary condition, a boundary applied to source power.
>
> Wrong boundary.

Sorry, it's my example so you don't get to choose the boundary
conditions. Please feel free to set up your own example with
your own boundary conditions.
--
73, Cecil http://www.qsl.net/w5dxp

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3898. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:25:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA8124.2000403@ieee.org>
Source record: 117600

Jim Kelley wrote:
> W5DXP wrote:
>>Dr. Slick seeks to imply that his stub is 10% lossless. Exactly
>>what is 10% of zero loss?
>
> If it's 10% lossless, then the other 90% must be lossfull. :-)
> Important stuff you got goin' on here, Cecil. Wow.

I certainly would not and did not introduce such silly concepts.
You can thank Dr. Slick for that.
--
73, Cecil http://www.qsl.net/w5dxp

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3899. Re: Omni & Non Directional Terminology? (Scantenna ST2)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:29:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA822A.5000003@ieee.org>
Source record: 117601

Robert Rose wrote:
> A bit confused over terminology.
> The Scantenna ST2 is supposed to be "Omni," and non-directional.

It is somewhat of a misnomer in a 3-d world. Think two-dimensions
and everything will become clear.
--
73, Cecil http://www.qsl.net/w5dxp

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3900. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:32:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECA82C1.C41AEE12@uci.edu>
Source record: 117602

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Dr. Slick seeks to imply that his stub is 10% lossless. Exactly
> >>what is 10% of zero loss?
> >
> > If it's 10% lossless, then the other 90% must be lossfull. :-)
> > Important stuff you got goin' on here, Cecil. Wow.
>
> I certainly would not and did not introduce such silly concepts.
> You can thank Dr. Slick for that.

And you have to be the winner - even of a silly argument! Bravo, man.

3901. Re: Omni & Non Directional Terminology? (Scantenna ST2)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:42:23 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eca8642_2@news1.prserv.net>
Source record: 117603

Most advertising plays fast and loose with terminology. An isotropic radiator, which exists as a concept only, is omnidirectional, i. e. a spherical radiator with unity gain over two pi steradians. Most real antennas are meant to be omnidirectional only in the horizontal plane, leaving the pattern shape for any other elevation angle undefined. One can usually guesstimate the shape from actual gain (advertised gain minus the fudge factor), but for antennas which are physically small with respect to a wavelength, they have equal loss in all directions.

--
Crazy George
Remove NO and SPAM from return address
"Robert Rose" <rgsrose@tiac.net> wrote in message
news:badtna$u6h$1@slb3.atl.mindspring.net...
> Hello:
>
> A bit confused over terminology.
>
> The Scantenna ST2 is supposed to be "Omni," and non-directional.
>
> Does this imply that you should think of a 3-d constant radius
> reception sphere, with the antenna at the center ?
>
> Thanks,
> Bob
>

3902. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 19:47:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA8660.2060005@ieee.org>
Source record: 117604

Jim Kelley wrote:
> And you have to be the winner - even of a silly argument!

I look forward to losing an argument. That's when I learn
something new. I seriously doubt there's any thing new to
be learned from concepts like Dr. Slick's "degrees of
losslessness", but I might be wrong. Such concepts
seem to me to be more metaphysical than technical.
--
73, Cecil http://www.qsl.net/w5dxp

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3903. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:10:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECA8BCF.A48EAB07@uci.edu>
Source record: 117605

W5DXP wrote:
> I look forward to losing an argument. That's when I learn
> something new.

Curious that you fight so vehemently against it. :-)

ac6xg

3904. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:21:33 UTC
From: tdonaly@aol.com
Message-ID: <20030520162133.15851.00000030@mb-m28.aol.com>
Source record: 117606

Cecil wrote,
>
>Jim Kelley wrote:
>>
>> W5DXP wrote:
>>>"Boundary conditions" apply to conceptual boundaries just as well
>>>as to physical boundaries. "Assume a 100 watt transmitter." *IS*
>>>a boundary condition, a boundary applied to source power.
>>
>> Wrong boundary.
>
>Sorry, it's my example so you don't get to choose the boundary
>conditions. Please feel free to set up your own example with
>your own boundary conditions.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

I guess its much like Calvin and Hobbes making up the rules for
their games as they played them. I thought there was something
funny going on here.
73,
Tom Donaly KA6RUH

3905. Radiation Patterns; Where To Find ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:30:03 UTC
From: Robert Rose <rgsrose@tiac.net>
Message-ID: <bae382ebg1@slb3.atl.mindspring.net>
Source record: 117607

Hi,

Have found lots of stuff via Google, but not quite what I'm after.
Really new at this antenna theory stuff.

Would like to see Horiz. AND Vert radiation patterns for:

a. a typical discone like the R/S one

b. a vertically mounted simple dipole

c. a horizontally mounted simple dipole

Any good, reasonable sources showing graphs, etc., that anyone
might suggest ?

Thanks,
Bob

3906. Re: Radiation Patterns; Where To Find ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:39:33 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3eca9221$0$48892$edfadb0f@dtext02.news.tele.dk>
Source record: 117608

Hello Rose

> Would like to see Horiz. AND Vert radiation patterns for:
>
> a. a typical discone like the R/S one
>
> b. a vertically mounted simple dipole
>
> c. a horizontally mounted simple dipole

Try this http://www.kyes.com/antenna/navy/rpatterns/radiapat.htm

found via Google :)

Regards Max

3907. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:40:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA92CC.60601@ieee.org>
Source record: 117609

Jim Kelley wrote:
> W5DXP wrote:
>>I look forward to losing an argument. That's when I learn
>>something new.
>
> Curious that you fight so vehemently against it. :-)

It pisses me off not to learn something new. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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3908. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:46:42 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECA9401.6080906@attbi.com>
Source record: 117610

Hmmm ... boundary conditions and the sublime non sequitor.

"A stub is as lossless as it can be."
"A stub is as lossy as it can be"

BOUNDARY CONDITIONS

A glass that can contain 12 ounces of liquid of specific density 1.000
at standard atmospheric conditions contains 6 ounces of fluid of
specific density 1.000 at those conditions.

Conclusion: Under the stated conditions the glass is both 1/2 full and
1/2 empty. Both statements are correct!

APPLICATION

In a stub with fixed but finite losses two conditions also
simultaneously exist:

1) The stub is as lossy as it can be.
2) The stub is as lossless as it can be.

BOTH STATEMENTS ARE CORRECT!

All the resulting language, profanity, vulgar language, slurs, IQ
comments, insults have caused this thread to deteriorate to the point
that it's no longer worth any more reading.

Kill it guys!!

Deacon Dave, W1MCE
+ + +

W5DXP wrote:
> Dr. Slick wrote:
>
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>> Admit it, you contradicted yourself, and quite foolishly IMO.
>
>
> English appears not to be your native language so I will forgive you
> for your error. Here's an English lesson for you: Certain words in
> English do not possess degrees. It is a digital binary situation where
> something either is or isn't. Examples:
>
> She is nearly pregnant. A stub is nearly lossless. The SWR is nearly
> infinite.
>

> These statements are meaningless in English. How near is "nearly" is
> undefined. Consider exactly how meaningless.
>
> She is 50% pregnant. The stub is 50% lossless. The SWR is 50%
> of infinity.
>
> > Now you are saying these two mean the same thing to avoid
>
>> admitting that you were wrong!
>
>
> Please read a good book on the English language and get back to us.
> It is impossible to be wrong about a meaningless statement. Your
> statement, "A stub is as lossless as it can be." is a meaningless
> statement. Because it is a meaningless statement, it is true by
> default.

3909. Replacing antenna on '96 Plymouth Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:47:45 UTC
From: ralstonvaz@cox.net
Message-ID: <bd5d306d.0305201247.500490f5@posting.google.com>
Source record: 117611

Hello all,

I'm wondering if anyone has any clue as to how to go about replacing the base and mast of my current antenna on my newly purchased '96 Plymouth Grand Voyager? I can't figure out how to get under where the antenna is located near the hood. I lift the hood and it seems to be enclosed. I'm not intrested in drilling, I just need access. Anyone know what I mean?

3910. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:47:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA947E.5070909@ieee.org>
Source record: 117612

Tdonaly wrote:
> I guess its much like Calvin and Hobbes making up the rules for
> their games as they played them. I thought there was something
> funny going on here.

Draw a boundary around a 50 ohm 1/4WL shorted stub. One boundary
condition is 100 watts into the stub at 21 MHz. The SWR is
measured at 35:1. How many watts are lost in the stub?
--
73, Cecil http://www.qsl.net/w5dxp

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3911. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 20:54:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECA95F7.20403@ieee.org>
Source record: 117613

Dave Shrader wrote:
> In a stub with fixed but finite losses two conditions also
> simultaneously exist:
>
> 1) The stub is as lossy as it can be.
> 2) The stub is as lossless as it can be.
>
> BOTH STATEMENTS ARE CORRECT!

Thanks Dave, that's what I said. Dr. Slick seems to think that
it is impossible for both those statements to be correct and
he keeps repeating, ad infinitum, that those two statements
are contradictory. Good to hear from an additional voice
of reason.

Of course, Dr. Slick will *never* admit that both statements
are correct and that he was wrong.
--
73, Cecil http://www.qsl.net/w5dxp

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3912. balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:14:22 UTC
From: antswitch@tomochka.com
Message-ID: <47c89a30.0305201314.7e1ee5c8@posting.google.com>
Source record: 117614

Folks,

Something that's tickled the back of my brain for some time relative to feeding dipole wires with high impedance feedline is why balun transformers are used (when such things are used) at the joining of the feedline to the coax or tuner or rig only, but not ALSO used at the joining of the feedline to the antenna itself? Apparently it doesn't make sense to, say, use a 4:1 balun to match a 50/75 ohm antenna to a 300 ohm line (step up) in addition to using one as a step down device on the rig end of things, but why not? Losses? Essentially equivalent to just using 50 ohm coax? ??

BTW, are there any decent antenna modeling programs that make balun insertion into the model fairly easy (no, not EZNEC, please).

73,

Casey

3913. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:16:02 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305201316.201abf2@posting.google.com>
Source record: 117615

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA4A8C.8020600@ieee.org>...
> Dr. Slick wrote:
> > I said the SWR in a stub in NOT infinite because there are always
> > some losses.
>
> Yes, you said that but you also asserted that I was wrong when I said the
> SWR in a stub is near-infinite. That means you were arguing that the SWR
> in a stub is NOT near-infinite.
>

Where did i say this?

> Have you changed your mind and now agree with me? Please answer yes or
> no: Is the SWR in a stub near-infinite? If you say 'yes', you are agreeing
> with me and the argument is over. If you say 'no', then you still disagree
> with me.
>

Fuck you, i never disagreed with you on this.

Slick

3914. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:21:27 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305201321.705f2970@posting.google.com>
Source record: 117616

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA4BE1.6080005@ieee.org>...
> Richard Clark wrote:
> > W5DXP <Cecil.A.Moore@ieee.org> wrote:
> >>Think about what you are implying and laugh at yourself.
> >
> > AND If he thought about it, he would start laughing at the Gibberish
> > again!
>
> That's the whole point, Richard. Dr. Slick's statement: "A stub is
> as lossless as it can be." is pure Gibberish. Degrees of losslessness
> do not exist. I have asked Dr. Slick to define "20% lossless" but
> he continues to refuse that simple request.
>

Now you are flat out lying about what i have said, when i have
quoted you directly.

YOU SAID, "A stub is as lossless as it can be."

> The following statement is true:
>
> If a stub is lossless, Dr. Slick's IQ is 23.7.

Yours is unchartably low.

3915. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:23:56 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305201323.65ec3c28@posting.google.com>
Source record: 117617

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA706D.6020709@ieee.org>...
>
> "A stub is as lossless as can be." is *PURE* gibberish -
> logically indeterminate and therefore completely meaningless.
>

Funny that you say this when it came out of your keyboard!

> Dr. Slick seeks to imply that his stub is 10% lossless. Exactly
> what is 10% of zero loss? You're exactly right - it's gibberish.

Stop lying about what i have said! NEVER said anything of the sort.

Slick

3916. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:29:17 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305201329.7d1d326b@posting.google.com>
Source record: 117618

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA46A5.7080304@ieee.org>...
>
> English appears not to be your native language so I will forgive you
> for your error. Here's an English lesson for you: Certain words in
> English do not possess degrees. It is a digital binary situation where
> something either is or isn't. Examples:
>
> She is nearly pregnant. A stub is nearly lossless. The SWR is nearly
> infinite.
>
> She is 50% pregnant. The stub is 50% lossless. The SWR is 50%
> of infinity.
>

This is almost as stupid as your Golden Gate bridge analogy.

The losses of a transmission line is not a binary situation:
losses are in degrees of decibels of loss.

> > Now you are saying these two mean the same thing to avoid
> > admitting that you were wrong!
>
> Please read a good book on the English language and get back to us.
> It is impossible to be wrong about a meaningless statement. Your
> statement, "A stub is as lossless as it can be." is a meaningless
> statement. Because it is a meaningless statement, it is true by
> default.

Cecil wrote, "A stub is as lossless as it can be."

That is YOUR quote, dipshit, and now you are trying to pin it on
me because you know you have contradicted yourself.

Slick

3917. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:31:33 UTC
From: richardharrison@webtv.net
Message-ID: <21691-3ECA9EB5-1145@storefull-2314.public.lawson.webtv.net>
Source record: 117520

Art Unwin, KB9MZ wrote:
"---for the transmitter, solid state or otherwise, are there any advantages for a totally resistive mismatch over one of the same ratio (SWR) that includes a reactive component?"

Cecil has already given a good answer. Terman as is usual, is clear on this. See "Reactive Loads" on page 93 of his 1955 edition:
"However, a reactive load impedance causes the minima of these (SWR) curves to be displaced with respect to the position of the minima for an open-circuit line." (The reflection coefficient for a reactance is ONE regardless of the magnitude of the reactance.)

Shifting the position of the SWR curves by adding a reactance is an "en masse" procedure. You still have your choice of impedances by using the proper length of line. (or perhaps proper choice of reactance)

Best regards, Richard Harrison, KB5WZI

3918. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:42:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA153.3010009@ieee.org>
Source record: 117519

Dr. Slick wrote:
> Fuck you, i never disagreed with you on this.

Then why did you argue with me? I have asked you to list
our points of actual technical disagreement but, so far,
you have refused. As a result, I have no idea upon what
we disagree.
--
73, Cecil http://www.qsl.net/w5dxp

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3919. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:46:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA239.6060801@ieee.org>
Source record: 117521

Dr. Slick wrote:
> YOU SAID, "A stub is as lossless as it can be."

Yes, I was agreeing with you when I said that.

Please read what Dave had to say about your silliness.
--
73, Cecil http://www.qsl.net/w5dxp

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3920. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:48:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA2CB.6040101@ieee.org>
Source record: 117522

Dr. Slick wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA706D.6020709@ieee.org>...
>
>>"A stub is as lossless as can be." is *PURE* gibberish -
>>logically indeterminate and therefore completely meaningless.
>>
> Funny that you say this when it came out of your keyboard!

I was just agreeing with you.

> Stop lying about what i have said! NEVER said anything of the sort.

You said the higher the SWR, the more lossless is the stub. That's
a degree of losslessness, Slick. You cannot deny that you said that.
--
73, Cecil http://www.qsl.net/w5dxp

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3921. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:51:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sn8lcvkmvhki0m9p2q5n4f2c7imek7444b@4ax.com>
Source record: 117523

On Tue, 20 May 2003 15:47:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Draw a boundary around a 50 ohm 1/4WL shorted stub. One boundary
>condition is 100 watts into the stub at 21 MHz. The SWR is
>measured at 35:1. How many watts are lost in the stub?

All of them. The boundary allows no where else for them to go.

3922. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:53:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5u8lcv0moajkrd9rabvjls2p76me3pfsva@4ax.com>
Source record: 117524

On Tue, 20 May 2003 15:40:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Jim Kelley wrote:
>> W5DXP wrote:
>>>I look forward to losing an argument. That's when I learn
>>>something new.
>>
>> Curious that you fight so vehemently against it. :-)
>
>It pisses me off not to learn something new. :-)

You need more beer.

3923. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:56:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA481.6050802@ieee.org>
Source record: 117525

Dr. Slick wrote:
> The losses of a transmission line is not a binary situation:
> losses are in degrees of decibels of loss.

We are not talking about losses, Slick. A stub is either LOSSLESS or it is not. That's a binary function. Since there's no such thing as a lossless stub, no stub is lossless. Why is that concept so hard for you to understand?

> Cecil wrote, "A stub is as lossless as it can be."

Yes, I was just agreeing with you. Why do you want to argue with me when I agree with you? Given the boundary conditions, a stub *IS* as lossless as it can be, i.e. it cannot be lossless in reality.

> That is YOUR quote, dipshit, and now you are trying to pin it on
> me because you know you have contradicted yourself.

Please read Dave's posting. There is no contradiction. The two statements mean the same thing.
--
73, Cecil http://www.qsl.net/w5dxp

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3924. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 21:59:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA559.90008@ieee.org>
Source record: 117526

Richard Clark wrote:
> On Tue, 20 May 2003 15:47:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>>Draw a boundary around a 50 ohm 1/4WL shorted stub. One boundary
>>condition is 100 watts into the stub at 21 MHz. The SWR is
>>measured at 35:1. How many watts are lost in the stub?
>
> All of them. The boundary allows no where else for them to go.

Wrong! The forward power into the stub is 100 watts. With an SWR
equal to 35:1, 89.2 watts of reflected power is flowing out of
the stub. Therefore, 10.8 watts are dissipated in the stub.
--
73, Cecil http://www.qsl.net/w5dxp

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3925. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:01:25 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bae8jl$9f2$1@sparta.btinternet.com>
Source record: 117527

> BTW, are there any decent antenna modeling programs that make balun
> insertion into the model fairly easy (no, not EZNEC, please).

==========

For a general purpose educational dipole antenna modelling/analysis program which works entirely different from Eznec, download program DIPOLE3 from the following website.

It caters for any size dipole, at any height and wire diameter, with a balanced feedline of any impedance plus a choke balun or voltage balun of any ratio, plus a coax line of any impedance, plus L and C component values of the L-network tuner to match a 50 ohm transmitter.

All line SWRs and input impedances are calculated.

With one hit of a key it will model a G5RV and find in a few seconds all its resonant frequencies. If you don't get what you expect then don't blame the program.

Power efficiencies of individual parts of the system, including tuner, are calculated plus overall radiating efficiency.

The only thing it won't tell you is the radiation pattern which everybody knows anyway.

Download program DIPOLE3 in a few seconds, run immediately, no unzipping inconveniences, user friendly, a 3-week training course is not needed. Just follow operating notes and fairly obvious instructions on the bottom line.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

3926. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:05:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gj9lcvcf34ut002kj347hvivfrfl67ick9@4ax.com>
Source record: 117528

On Tue, 20 May 2003 16:59:53 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>89.2 watts of reflected power is flowing out
Where? You described no boundary going out.

3927. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:07:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bm9lcv4u912mdlkmtrtuvg8mpnejs9ntab@4ax.com>
Source record: 117529

On Tue, 20 May 2003 16:48:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>You said the higher the SWR, the more lossless is the stub.
By the same standards you apply, so did you.

3928. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:09:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA79F.5080908@ieee.org>
Source record: 117531

Dr. Slick wrote:
> Cecil wrote, "A stub is as lossless as it can be."
>
> That is YOUR quote, dipshit, and now you are trying to pin it on
> me because you know you have contradicted yourself.

I was quoting you when I said that. This is your quote where "lossless"
was mentioned for the first time in this thread.

> Tue May 20 17:02:49 2003
> From: radio913@aol.com (Dr. Slick)
> Newsgroups: rec.radio.amateur.antenna
> Subject: Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...
> Date: 15 May 2003 18:22:58 -0700
> BZZZTT!! Wrong again! Hint: An SWR as high as it
> can be will be as LOSSLESS as can be, which would be the
> case with an ideal lossless short or open.

Fess up, Slick. You made the statement first and I merely agreed
with you. Are you ever right about anything?
--
73, Cecil http://www.qsl.net/w5dxp

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3929. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:11:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tq9lcvgoifb00b5hlloh0at333f20uqs03@4ax.com>
Source record: 117530

On Tue, 20 May 2003 16:56:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>We are not talking about losses, Slick. A stub is either LOSSLESS or it is
>not.
By your logic, if it is not, there are no losses.

Oh! I get it. This is about capitalization. We must be talking
about LOSSES.

3930. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:13:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bae99eaol1@sparta.btinternet.com>
Source record: 117532

> > Have you changed your mind and now agree with me? Please answer yes or
> > no: Is the SWR in a stub near-infinite? If you say 'yes', you are
agreeing
> > with me and the argument is over. If you say 'no', then you still
disagree
> > with me.
>
> Fuck you, i never disagreed with you on this.
>
==========

Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
the teeth bunch !

3931. WiFi antenna connector

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:15:42 UTC
From: Markus Baertschi <markus@markus.org>
Message-ID: <MPG.1934c77aaa0d25449896c1@News.CIS.DFN.DE>
Source record: 117533

Im looking to connect a homegrown antenna to my IBM 'High Rate Wireless LAN' PC-Card. The card is manufactured by Agere ('Wireless LAN World PC Card' and features a coaxial connector for an external connector. The Agere documentation says 'The coax connection is mechanically unique, such that no off-the-shelf connector will fit (FCC requirement). Despite this I'd like to connect an external antenna !

Where can I find a starting point to connect anyway ?

Markus
--
Markus Baertschi Phone: ++41 (21) 807 1677
Bas du Ross&#65533; 14b Fax : ++41 (21) 807 1678
CH-1163, Etoy Email: markus@markus.org
Switzerland Homepage: www.markus.org

3932. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:18:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAA9AC.8050902@ieee.org>
Source record: 117534

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>89.2 watts of reflected power is flowing out
>
> Where? You described no boundary going out.

The SWR equaling 35:1 described the boundary going out.
100 watts in with 89.2 watts out equals an SWR of 35:1.
Telling you that 89.2 watts was flowing out would have
been redundant.
--
73, Cecil http://www.qsl.net/w5dxp

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3933. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:26:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAAB90.5020309@ieee.org>
Source record: 117535

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>You said the higher the SWR, the more lossless is the stub.
>
> By the same standards you apply, so did you.

Not quite. I said stubs are as lossless as they can be,
i.e. not lossless at all. Lossless stubs simply do not
exist. Do you disagree?
--
73, Cecil http://www.qsl.net/w5dxp

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3934. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:28:38 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305201428.5d5a091f@posting.google.com>
Source record: 117536

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19195-3EC77F18-180@storefull-2316.public.lawson.webtv.net>...
> H. Adam Stevens wrote:
> "A shorted 1/4 wave transmission line is an RLC tank."
>
> H. is on to something.
>
> A peculiarity of a 1/8-wavelength of transmission line is a reactance of
> a magnitude equal to Zo.
>
> A shorted 1/8-wave line is an inductance with reactance equal to Zo.
>
> An open 1/8-wave line is a capacitance with reactance equal to Zo.
>
> Put the two line segments above together, and you have a shorted
> 1/4-wave stub which makes a parallel resonant circuit at its attachment
> points.
>

Interesting, but putting the open 1/8 -wave in series with the
shorted 1/8 wave would not necessarily be the same as putting them in
parallel.

I would consider adding the extra 1/8 -wave to the shorted 1/8
wave as simply increasing the inductive reactance to infinity, leading
to a virtual open.

Slick

3935. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:36:40 UTC
From: tdonaly@aol.com
Message-ID: <20030520183640.01005.00000031@mb-m18.aol.com>
Source record: 117537

Reg wrote,
>
>
>> > Have you changed your mind and now agree with me? Please answer yes or
>> > no: Is the SWR in a stub near-infinite? If you say 'yes', you are
>agreeing
>> > with me and the argument is over. If you say 'no', then you still
>disagree
>> > with me.
>>
>> Fuck you, i never disagreed with you on this.
>>
>==========================
>
>Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
>the teeth bunch !
>
>
>
>
>

Yes, and you colonialists are fighting and plundering right beside us.
Thank you for your support, but don't expect a share of the spoils.
73,
Tom Donaly, KA6RUH

3936. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:44:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vclbuqri0l9h33@corp.supernews.com>
Source record: 117538

This is pretty cool. Whenever anyone uses a voltage source and series resistor, or current source and shunt resistor, to illustrate a point, it's declared a "Thevenin equivalent" or "Norton equivalent" and thereby exempted from the normal rules of circuit analysis.

Sorry, Cecil, the rules hold for all linear circuits, no matter what you call them. But I can see how it's convenient to exclude certain combinations to avoid confronting a situation that contradicts a dearly-held belief.

Roy Lewallen, W7EL

OC_CAM's Razor wrote:
> Tom Bruhns wrote:
>
>> Could have been done it with one load;
>
>
> That's the point, Tom. It couldn't have been done with a constant load.
> The dissipation inside a Thevenin equivalent source and the dissipation
> inside a Norton equivalent source are completely different. That's why
> we are not supposed to even try to calculate the dissipation inside
> either one of those sources. The Thevenin/Norton theorems say that
> identical conditions will exist in the external circuit for both
> those models but nothing valid can be assumed from calculating the
> internal source dissipation.
>
> I quoted the prohibition against calculating the dissipation inside
> a Thevenin equivalent source from Ramo and Whinnery a couple of days
> ago. The dissipation inside a Thevenin source doesn't prove a thing.
>
> I would be interested in the results of bench testing. What will a
> real amp do with a vertical load line? Dissipate all its power
> internally? Burn itself up if not protected?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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3937. To the lurkers - thanks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:46:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vclc2u18vlqeaf@corp.supernews.com>
Source record: 117539

Thanks to all the "lurkers" who stopped by my booth at Dayton with your comments. It was a pleasure to meet you all.

Roy Lewallen, W7EL

3938. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 22:59:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <beclcvsctot12ncbrpc16852fsr9phr7ht@4ax.com>
Source record: 117540

On Tue, 20 May 2003 17:18:20 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Telling you that 89.2 watts was flowing out would have
>been redundant.

And you can stipulate that my answer:
On Tue, 20 May 2003 21:51:46 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:
>On Tue, 20 May 2003 15:47:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>>Draw a boundary around a 50 ohm 1/4WL shorted stub. One boundary
>>condition is 100 watts into the stub at 21 MHz. The SWR is
>>measured at 35:1. How many watts are lost in the stub?
>
>All of them.
is wrong? Were some of those same 10.8 Watts radiated then?

73's
Richard Clark, KB7QHC

3939. Modeling problem,..Help Needed... how do you model this...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 23:25:21 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <EPyya.215$jM5.78659@news20.bellglobal.com>
Source record: 117542

Hi can someone tell me how to model coaxial line in series with Tubing elements and running inside the pipes so not to contribute as a radiating element by any flow of current on the outside conductor.

Exemple.

1-Vertical (pipe .5in OD x 6 Ft) source at bottom..... Say in free space, the top is shorted to a inner wire of coax 75 ohm going back down in the same vert pipe. Then, the other end of the coax connects to a 10 Ft horizontal Pipe that is at right angle to this vertical.

..just want to know wich program handles this and how easy is it to model.

Thank you for the Help
PO

3940. Re: Replacing an AM/FM Antenna-1996 Plymouth Grand Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 23:28:08 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <baedmb$sflev$1@ID-134747.news.dfncis.de>
Source record: 117541

Most Auto antennas are held in place by a pivoting plate that acts much like a toggle bolt. To remove the old antenna you have to unscrew the antenna from this plate. To do this you must [put upward pressure on the antenna base while unscrewing it. In a perfect world you will unscrew it just enough so that you can sneak something into the gap between the fender and the antenna base and push the pivoting plate down to a nearly vertical position, at which point you will be able to remove the entire assembly. Since the world is seldom perfect you will unscrew the pivot plate completely and it will drop of, into the black void, and be there to rattle every now and then for the life of the car. Buy the replacement antenna first and you will see what I mean. The other fun part is running the coax from the new antenna to the radio. Good luck in your adventure in automotive electronics.

73 es cul

wb3fup
a Salty Bear

"Mance" <ralstonvaz@cox.net> wrote in message news:bd5d306d.0305200929.4ca3c7c@posting.google.com...
> Hello,
>
> I could really use some help on what may be a simple project to most
> of the members in this group.
> I am attempting to replace the base and mast of the antenna that came
> with my recently purchased '96 Plymouth Grand Voyager. The problem is
> this: for the life of me I can't figure out how to get to and remove
> the existing base. It is positioned by the hood on the front passenger
> side of the van, just behind the wheel well. It seems to be the
> factory location.
> I'm not sure how complicated a project this should be, but I see just

> about no possible way to get to the darn thing.
I'm not at all
> interested in installing an antenna anywhere
else on the van. I just
> want to replace the base and mast of what is
already there.
>
> Any thoughts. Previous experience with this task
is most appreciated!!
> I know someone has been in these shoes before.
>
> Thanks!
> mance

3941. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 23:48:36 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <Fbzya.268$jM5.82714@news20.bellglobal.com>
Source record: 117544

I would say if it is purely resistive at antenna then is it high impedance or low impedance mismatch ... then values of "I" versus "V" along the line are different and some components at the PA level might be able to deal with it in an easier way. A Reactive component might bring higher values of "I" and "V" at the PA and get to the limits of components specifications.

PO

3942. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-20 23:51:40 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305201551.78896551@posting.google.com>
Source record: 117543

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA62B8.9090909@ieee.org>...
> Art Unwin KB9MZ wrote:
> > Though the 'ratio' is what is viewed as all important
> > regardless of what the constituent mix is , the question
> > that I have is that for a transmitter, solid state or otherwise,
> > are there any advantages for a totally resistive mismatch
> > over one of the same ratio (SWR) that includes a reactive constituent ?
>
> A purely resistive mismatch at the antenna quickly turns into
> a reactive mismatch in the transmission line. In fact, unless
> you know the length of the transmission line, you cannot tell
> if the load is purely resistive or not.

Cecil,
My question was directed towards the transmitter !
Does the final amplifier only concern itself with the output
SWR (the mismatch ratio) or can it handle a totally resistive
mismatch in a better fashion ?
TIA
Art

3943. Re: WiFi antenna connector

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:07:50 UTC
From: for-sale <nospam@spam.net>
Message-ID: <toglcvkt3bpp4t920pbkif4ss1h74ribkq@4ax.com>
Source record: 117545

ask this question on alt.internet.wireless and you'll find out
everything you need to know.
regards
OTR
On Wed, 21 May 2003 00:15:42 +0200, Markus Baertschi
<markus@markus.org> wrote:

>
>Im looking to connect a homegrown antenna to my IBM 'High Rate Wireless
>LAN' PC-Card. The card is manufactured by Agere ('Wireless LAN World PC
>Card' and features a coaxial connector for an external connector. The
>Agere documentation says 'The coax connection is mechanically unique,
>such that no off-the-shelf connector will fit (FCC requirement). Despite
>this I'd like to connect an external antenna !
>
>Where can I find a starting point to connect anyway ?
>
>Markus

3944. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:12:06 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030520201206.09071.00000009@mb-m21.aol.com>
Source record: 117546

>Apparently it
>doesn't make sense to, say, use a 4:1 balun to match a 50/75 ohm
>antenna to a 300 ohm line (step up) in addition to using one as a step
>down device on the rig end of things, but why not? Losses? Essentially
>equivalent to just using 50 ohm coax? ??

We are blessed with 50 ohm radios, so there is need for 50 ohm coax coming out of radio. If you use random length dipole and want to satisfy the multiband operation and low losses, you should use low loss feedline for as long as you can and then "convert" to 50 or 75 ohm coax going to the rig. Low loss feedline will reduce your losses due to SWR (coax = more loss) and will tolerate high SWR and mismatch between the antenna and feedline. If you inserted balun there at junction of antenna and feedline you would fry it. Baluns don't like high SWR, they burn and stink like fried ferrite.
Good antenna is Windom, fed 1/3 from the end and cut for lowest band (half wave). It will maintain about 300 ohms on harmonic bands, you can feed it with 300 ohm twin lead and then convert via balun to unbalanced coax for nice flat response on all bands.

Yuri, K3BU

3945. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:36:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECACA03.4000200@ieee.org>
Source record: 117547

Reg Edwards wrote:
> Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
> the teeth bunch !

Reg, more than 2/3 of the states in the US have right-to-carry
concealed weapons laws and the crime rate is going down as a
result. I hear things are just the opposite in GB.
--
73, Cecil http://www.qsl.net/w5dxp

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3946. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:44:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECACBDF.8010302@ieee.org>
Source record: 117549

Roy Lewallen wrote:
> This is pretty cool. Whenever anyone uses a voltage source and series
> resistor, or current source and shunt resistor, to illustrate a point,
> it's declared a "Thevenin equivalent" or "Norton equivalent" and thereby
> exempted from the normal rules of circuit analysis.
>
> Sorry, Cecil, the rules hold for all linear circuits, no matter what you
> call them. But I can see how it's convenient to exclude certain
> combinations to avoid confronting a situation that contradicts a
> dearly-held belief.

I'm just quoting Ramo and Whinnery, Roy. The dearly held belief
seems to be that a real world ham transmitter won't burn itself
up if it is not delivering any power to a load. I burned an ARC-5
transmitter to smithereens trying to operate into an open circuit.
--
73, Cecil http://www.qsl.net/w5dxp

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3947. Re: Replacing an AM/FM Antenna-1996 Plymouth Grand Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:44:32 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <zqWcnbiCwpByVlejXTWcow@comcast.com>
Source record: 117548

"'Doc" <w5lz@cwis.net> wrote in message news:3ECA78BB.C4300BC3@cwis.net...
>
>
> Mance,
> How do you feel about removing a fender??
> 'Doc

He is not joking. You might be lucky though. Take a look up the wheel well,
also behind the passenger's side kick panel. See where the coax leads you.

Tam/WB2TT

3948. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:52:11 UTC
From: tdonaly@aol.com
Message-ID: <20030520205211.02066.00000038@mb-m17.aol.com>
Source record: 117550

Cecil wrote,
>
>Reg Edwards wrote:
>> Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
>> the teeth bunch !
>
>Reg, more than 2/3 of the states in the US have right-to-carry
>concealed weapons laws and the crime rate is going down as a
>result. I hear things are just the opposite in GB.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Crime is going down in many places in the U.S. Everone is
claiming credit for it: politicians, law-enforcement, social workers etc.
No one knows the real reasons for the decrease, but it sure isn't
because of right-to-carry laws.
73,
Tom Donaly, KA6RUH

3949. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:52:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECACDC0.9020100@ieee.org>
Source record: 117551

Art Unwin KB9MZ wrote:
> My question was directed towards the transmitter !
> Does the final amplifier only concern itself with the output
> SWR (the mismatch ratio) or can it handle a totally resistive
> mismatch in a better fashion ?

Seems to me, the highest stress on the transmitter would come
when the forward and reflected voltages are engaging in constructive
interference or when the forward and reflected currents are engaging
in constructive interference. That would be when the transmitter
sees a purely resistive load. But I really don't know for sure.
--
73, Cecil http://www.qsl.net/w5dxp

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3950. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 00:58:55 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECACF4F.9020401@ieee.org>
Source record: 117552

Richard Clark wrote:
> Were some of those same 10.8 Watts radiated then?

Maybe. In any case, the difference in the RF forward power and
the RF reflected power was lost from the boundaries of the stub
system (assuming heat was not stored inside those boundaries).
--
73, Cecil http://www.qsl.net/w5dxp

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3951. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 01:05:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAD0ED.6030700@ieee.org>
Source record: 117553

Tdonaly wrote:
> Crime is going down in many places in the U.S. Everone is
> claiming credit for it: politicians, law-enforcement, social workers etc.
> No one knows the real reasons for the decrease, but it sure isn't
> because of right-to-carry laws.

In Phoenix, a robber pulled a knife on a convenience store
clerk. Two customers whipped out semi-automatic handguns.
That certainly decreased the crime rate in Phoenix.

If you were a burglar, would you feel safer in CA or TX?

Since the ban on virtually all guns, the GB crime rate
has skyrocketed.
--
73, Cecil http://www.qsl.net/w5dxp

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3952. Re: To the lurkers - thanks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 01:25:16 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <baeki7$f4i$1@slb6.atl.mindspring.net>
Source record: 117554

Roy:

Hope you had a safe trip back. You do good work. I enjoyed speaking with
you eyeball to eyeball.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vclc2u18vlqeaf@corp.supernews.com...
> Thanks to all the "lurkers" who stopped by my booth at Dayton with your
> comments. It was a pleasure to meet you all.
>
> Roy Lewallen, W7EL
>

3953. Re: To the lurkers - thanks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 01:57:57 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305201757.21c6e4e7@posting.google.com>
Source record: 117555

Roy Lewallen <w7el@eznec.com> wrote in message news:<vclc2u18vlqeaf@corp.supernews.com>...
> Thanks to all the "lurkers" who stopped by my booth at Dayton with your
> comments. It was a pleasure to meet you all.
>
> Roy Lewallen, W7EL

Maybe I am better looking than I sound,
I fully expected a mouthfull!
Art

3954. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 02:02:52 UTC
From: richardharrison@webtv.net
Message-ID: <22499-3ECADE4C-1150@storefull-2313.public.lawson.webtv.net>
Source record: 117556

Dr. Slick wrote:
"Interesting but putting the open 1/8-wave in series with the shorted 1/8-wave would not necessarily be the same as putting them in parallel."

A short-circuited 1/4-wave stub is the equivalent of a parallel resonant circuit.

Confirmation comes from Terman in his 1955 edition on page 106:
"A transmission line can be used to perform the function of a resonant circuit. Thus, if the line is short-circuited at the load, then at frequencies in the vicinity of resonance (i.e., frequencies corresponding to a quarter wavelength) the impedance will be high and vary in exactly the same manner as does the impedance of the parallel resonant circuit."

Best regards, Richard Harrison, KB5WZI

3955. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 02:31:24 UTC
From: richardharrison@webtv.net
Message-ID: <2412-3ECAE4FC-984@storefull-2315.public.lawson.webtv.net>
Source record: 117558

Reg Edwards wrote:
"Aren`t you USA citizens such a juvenile, accrimonious, aggressive,
armed to the teeth bunch!"

The sooner the world grasps that reality, the better. I am reminded of
the space aliens who mistakenly came to that conclusion another way.

Demanding of a gasoline (petrol) pump to be taken to its leader, the
exasperated alien shot the pump clean through. It responded with a
tremendous explosion.

The companion alien chided the shooter with:
"You should have known that a weirdo like that with his tallywhacker
wrapped clean around his body and poked in his ear would be a real mean
SOB."

Best regards, Richard Harrison, KB5WZI

3956. Re: Replacing antenna on '96 Plymouth Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 02:31:58 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecae884_1@news1.prserv.net>
Source record: 117557

Loosen and remove the round nut on top with 3 slots in it. Lift off the various washers and insulators which come loose. Drop the assembly an inch or so and wiggle it. There should be a position where the underneath hardware moves into a position where it will slip up through the hole. Tie a wire snugly to the connector inside to follow it out through the grommet(s) and to then act as a pull for the new cable. Under fender access has never been necessary for many car radio antennas. A few, but not all. And Mopar usually doesn't require it.

--
Crazy George
Remove NO and SPAM from return address
"Mance" <ralstonvaz@cox.net> wrote in message
news:bd5d306d.0305201247.500490f5@posting.google.com...
> Hello all,
>
> I'm wondering if anyone has any clue as to how to go about replacing
> the base and mast of my current antenna on my newly purchased '96
> Plymouth Grand Voyager? I can't figure out how to get under where the
> antenna is located near the hood. I lift the hood and it seems to be
> enclosed. I'm not intrested in drilling, I just need access. Anyone
> know what I mean?

3957. Re: why no wire antenna over 20m band ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 02:52:31 UTC
From: jder8745@aol.com
Message-ID: <20030520225231.07881.00000040@mb-m29.aol.com>
Source record: 117559

"Am I missing something here?"

Yes indeedy

3958. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 03:01:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vclr0c34mad490@corp.supernews.com>
Source record: 117560

On the contrary, Cecil. The dearly held belief is that the real world transmitter, when faced with an extreme impedance, burns itself up because of reflected power being absorbed by the rig, rather than simply that the impedance it sees is wrong.

Quoting an authority is fine, but it's a poor substitute for thought.

Roy Lewallen, W7EL

W5DXP wrote:
>
> I'm just quoting Ramo and Whinnery, Roy. The dearly held belief
> seems to be that a real world ham transmitter won't burn itself
> up if it is not delivering any power to a load. I burned an ARC-5
> transmitter to smithereens trying to operate into an open circuit.

3959. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 03:06:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECAED38.3090201@ieee.org>
Source record: 117561

Roy Lewallen wrote:
> On the contrary, Cecil. The dearly held belief is that the real world
> transmitter, when faced with an extreme impedance, burns itself up
> because of reflected power being absorbed by the rig, rather than simply
> that the impedance it sees is wrong.

Who holds that belief? I thought the dearly held belief was that a
transmitter couldn't burn itself up if it sees an open circuit because
no current is flowing.
--
73, Cecil http://www.qsl.net/w5dxp

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3960. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 03:10:49 UTC
From: danibe@my-deja.com
Message-ID: <b73f7787.0305201910.10bc521f@posting.google.com>
Source record: 117562

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<94adnQuLQ4ih0FSjXTWcqQ@comcast.com>...
> I agree that the second would be best from the FM sensitivity standpoint.
> There are two things against it though: you have to get DC power to it
> through the splitter, and you are combining a boosted FM sgnal with your TV
> signal. I am concerned about your super strong 98.X. How are you powering
> the TV antenna? Is there AC in the attick, like a light you could put a
> cheater socket on?

I have a fully fledged AC outlet in the attic - installed by a
licensed electrician. However, I just received by email a thorough
analysis of my particular situation (several strong FM stations
nearby, and not so strong TV stations scatterd in different
directions...), which doesn't leave much hope for anything. :-(

I guess I'll have to pay the cable company (a monopoly in my state)
for monthly subscription...

Thanks,
Daniel

3961. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 03:17:59 UTC
From: richardharrison@webtv.net
Message-ID: <2412-3ECAEFE7-985@storefull-2315.public.lawson.webtv.net>
Source record: 117564

Art, KB9MZ wrote:
"Does the final amplifier only concern itself with the output SWR---?"

Yes because the SWR is a measure of the reflection the transmitter must cope with. But, more important is the transmitter`s load impedance. This can be adjusted with a tuner or by selection of the line length between the load and the transmitter.

SWR, like money, doesn`t care where it comes from, resistance mismatch or resistance and reactance mismatch. Reactance only shifts the positions of the SWR patterns to the right or left along the transmission line. It does nothing to the curves themselves. Zo for prsactical purposes is a resistance. It allows waves only to be in-phase or out-of-phase by 180-degrees as they travel in forward or reverse directions down the transmission line. That is, the incident voltage wave can only be in-phase with its current, and the reflected voltage wave can only be out-of-phase with its current.

SWR is the interference pattern made by the incident and reflected waves. The waves in each direction are uniform in amplitude along the transmission line except for some decline with distance imposed by line loss.

Best regards, Richard Harrison, KB5WZI

3962. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 03:41:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baesglhbg1@sparta.btinternet.com>
Source record: 117563

"'Doc" wrote
>
> Reg,
> I don't know about the name being exported, but I understand
> that your California has ordered vine cuttings from our
> California. Wonder if they're going to make jam??
==========
Interesting. Must make some local enqiries. Must be prepared for any eventualities.

The back yards round here, 70' by 30', were incorporated in Winston Churchill's ww2 "Grow for Victory" campaign, not by growing vegetables but rearing pigs, chickens and pigeons. Traditionally, in the Black Country, these had been the byproducts of back yards for centuries, the principal product being small shoe nails, tin-tacks, chains and similar small iron work. I have lived long enough to have seen as a child some of the last of these small family forges in operation. Every week a horse-drawn railway wagon came along the street, with a bugle-blowing driver, to collect at each house the hundred-weight bags of the week's work output.

The Victorian and even earlier age workers who operating the small bellows and coke forges were the mothers and children who lived in the house. Fathers and some women worked down the local small coal mines of which there were hundreds. There are records of women with babies on their backs crawling along mine tunnels dragging coal wagons to the pit head. The harder work of hewing coal at the work face, was of course, done by men.

The Victorian mine owners *did* in fact have some sort of conscience. Nevertheless, it cannot be denighed, it was cheaper to employ a woman than a pit pony. But the family of a miner who was maimed or was killrd in an accident was left entirely destitute. Mining accidents were frequent as were accidents amid the flaming sputtering molten metal and crude heavy machinery driven by the early steam engines.

The average life of an operator of a steam-driven tilt-hammer, a heavy forging machine producing such things as digging spades, was about 18 months. But he was well paid.

The very first steam engines used in industry were in fact made in the Black Country itself, at the Soho manufacturing works of the engineer Bolton and James Watt, the inventor of the condensing steam engine, now just inside the City of Birmingham boundary. But the whole area is now contiguously industrially and residentially built up. There are some remains of the original works. Some of the large original production machines are now installed in the B'ham Science Museum.

Within a hundred years Birmingham grew to be the Second City of England from a natural extension of the coal and iron and metal-bashing industry plus the first of the precision engineering factories such as Bolton and Watt's and others which originated in the Black Country. Over the whole international world of trade the words "Made in Birmingham" appeared on the multitude of manufactured products.

Returning to modern times there are hardly any records kept of where the ancient underground workings now exist. There's now a built up area of about 50 square miles. Every few years a 30 feet hole appears in somebody's back yard or in the middle of the local High Street. Last year in the town of Walsall a whole house slowly subsided into an underground cavern. But the present inhabitants of the Black Country (such as me) consider it to be safer at present living round here than in a Japanese or Californian earthquake region.

Even more specific, returning to pigs, highly intelligent animals, pigs can easily beome affectionate members of the family so when the time came round to call in the butcher the Sunday joints of roast pork, shared with neighbours, were devoured with mixed feelings. It was difficult not to feel like a canniball. Nevertheless the flavour was a very welcome change from spam and dried eggs from our american friends, thousands of tons of which foodstuffs still remain on the bottom of the North Atlantic.

What with pigs, chickens and pigeons, our back yards now consist of highly fertile soil enriched by pigs, chickens and pidgeons' droppings. Soil resistivity is as low as 50 ohm-metres in some parts of my garden. (250 years of industrial pollution has also had some effect).

Following Churchil's "Grow for Victory" and "We Will Fight On The Beaches" compaigns there are excellent ready-fertilised flower beds and lawns just waiting to be converted to grape bushes from which jam can be made, or grape vines by means of which the French, Spanish, Italian and Californian vintages can be removed from business. It won't take more than 25 years by which time the americans will be selling hotdogs from stalls in that prestigious square in Beijing.

Reg, G4FGQ

3963. Re: Replacing an AM/FM Antenna-1996 Plymouth Grand Voyager

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 04:17:49 UTC
From: Peter Ackermann <w4sfd@ispwest.com>
Message-ID: <kavlcvobpdj87c2silibq5stc3oj847i0r@4ax.com>
Source record: 117568

You might make contact with some amatuer Radio folks in your area.
One of them might be a professional installer.
I would have to see it to tell you how to do it.

W4SFD

On 20 May 2003 10:29:40 -0700, ralstonvaz@cox.net (Mance) wrote:

>Hello,
>
>I could really use some help on what may be a simple project to most
>of the members in this group.
>I am attempting to replace the base and mast of the antenna that came
>with my recently purchased '96 Plymouth Grand Voyager. The problem is
>this: for the life of me I can't figure out how to get to and remove
>the existing base. It is positioned by the hood on the front passenger
>side of the van, just behind the wheel well. It seems to be the
>factory location.
>I'm not sure how complicated a project this should be, but I see just
>about no possible way to get to the darn thing. I'm not at all
>interested in installing an antenna anywhere else on the van. I just
>want to replace the base and mast of what is already there.
>
>Any thoughts. Previous experience with this task is most appreciated!!
>I know someone has been in these shoes before.
>
>Thanks!
>mance

3964. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 04:19:03 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vclvhns13a3q50@corp.supernews.com>
Source record: 117565

Apparently you missed my original comment, which was in response to the statement that a transmitter was "smoked" by "relected" power. I showed a case (actually, two now) where a source resistor dissipates no power at all in spite of a large amount of reverse power. However, you've declared the simple circuit analysis to be invalid, which can only mean that you have some very interesting method of circuit analysis that results in the source resistor dissipating power despite having equal voltages on its two terminals and no current flowing through it.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> On the contrary, Cecil. The dearly held belief is that the real world
>> transmitter, when faced with an extreme impedance, burns itself up
>> because of reflected power being absorbed by the rig, rather than
>> simply that the impedance it sees is wrong.
>
>
> Who holds that belief? I thought the dearly held belief was that a
> transmitter couldn't burn itself up if it sees an open circuit because
> no current is flowing.

3965. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 04:26:26 UTC
From: tdonaly@aol.com
Message-ID: <20030521002626.05447.00000065@mb-m04.aol.com>
Source record: 117566

Cecil wrote,
>
>Tdonaly wrote:
>> Crime is going down in many places in the U.S. Everone is
>> claiming credit for it: politicians, law-enforcement, social workers etc.
>> No one knows the real reasons for the decrease, but it sure isn't
>> because of right-to-carry laws.
>
>In Phoenix, a robber pulled a knife on a convenience store
>clerk. Two customers whipped out semi-automatic handguns.
>That certainly decreased the crime rate in Phoenix.
>
>If you were a burglar, would you feel safer in CA or TX?
>
>Since the ban on virtually all guns, the GB crime rate
>has skyrocketed.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Cecil, in the past, practically every small grocery and liquor store in
California had a gun behind the counter. I would venture to say that
most of them still do. As far as I know, it's perfectly legal. I remember
reading of a Chinese woman, who, after being robbed by some
felon, followed him to a parking lot where she filled him full of lead
and took her money back. Guns are nothing new, here, and the
effect of guns on the crime rate has always been impossible to
measure.
I'm not a burglar, so I don't know where I would feel safer. I have
known a burglar or two, though, and they mostly burgled houses
that were empty of occupants at the time.
73,
Tom Donaly, KA6RUH

3966. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 04:29:12 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305202029.1c2daa07@posting.google.com>
Source record: 117567

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<21691-3ECA9EB5-1145@storefull-2314.public.lawson.webtv.net>...
> Art Unwin, KB9MZ wrote:
> "---for the transmitter, solid state or otherwise, are there any
> advantages for a totally resistive mismatch over one of the same ratio
> (SWR) that includes a reactive component?"
>
> Cecil has already given a good answer. Terman as is usual, is clear on
> this. See "Reactive Loads" on page 93 of his 1955 edition:
> "However, a reactive load impedance causes the minima of these (SWR)
> curves to be displaced with respect to the position of the minima for an
> open-circuit line." (The reflection coefficient for a reactance is ONE
> regardless of the magnitude of the reactance.)
>
> Shifting the position of the SWR curves by adding a reactance is an "en
> masse" procedure. You still have your choice of impedances by using the
> proper length of line. (or perhaps proper choice of reactance)
>
> Best regards, Richard Harrison, KB5WZI

Richard, the above is a bit too deep for me until I can read all that
you are refering to in Termans book. To be a bit more explicit for
where I am coming from is that when looking at the dynamic
characteristics for load impedances
of poewer tube amplifiers, there is distinct differences when
comparing resistive loads to those that are reactive loads . Not being
an electrical engineer this would suggest to me that there is more
than just SWR with respect to efficiency that is normally talked
about, whether it be distortion charactoristics, plain power
efficiencies or tube reaction to impedance 'phase'.
It also may be my imagination but it seems to me that my solid state
radio tolerates higher SWR loads if they are non reactive, which peaks
my interest
in an area that I know little about.
Regards
Art

3967. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 05:03:43 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <YMDya.5487$c41.475610@news20.bellglobal.com>
Source record: 117619

Balun use is to feed an unbalanced feedline Coaxial type (50ohm referenced to earth)to a balanced load (referenced to earth) so that no unwanted current flows back on line and disrupt the ant patern...and unwanted current path.
Then this same Balun is not a Magic Matching Unit that handles 1 to 30Mhz non-resonant antenna.

PO

3968. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 06:21:37 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <th6mcv8rla3cmvlff15oallqq3ga7s7jov@4ax.com>
Source record: 117620

On 20 May 2003 14:11:44 -0400, Steve Miller <millersg@qrt.dma.org>
wrote:

>Roger Halstead <rdhalste@tm.net> wrote:
>: Ohhhh...nothing that small. <:-)) Actually it isn't quite that big.
>: http://www.rogerhalstead.com/tower.htm It's a big page but the
>: overall views are at the bottom.
>
>: The rotor is turning a TH-5 (soon to be log periodic) at 100 feet, a
>: 50-7 C3i (28'8" boom) at 115 feet, and stacked 12s on 144 and stacked
>: 11s for 440 on the same 14 foot cross boom (vertical polarization) at
>: 130 feet. The mast alone weighs about 240#, plus the 6 antennas.
>
>
>Hi Roger,
>
>Just a quick comment on your antenna installation as seen on your web
>site. The forces causing your rotor and mast damage can be greatly
>alleviated by simply remounting all the VHF antennas at the center of
>their booms (like the TH-5).

The VHF are, but the two UHF are not. They are the little short ones.
I've thought about replacing them with the larger (more elements)
center mounted.

>
>Basically, CW torque produced by half of the boom is opposed by the
>CCW torque of the other half. When the two halves are nearly equal,
>the net torque applied to the rotor/mast is low. Net torque increases
>rapidly as the halves become unequal since the 'unbalanced region' of
>forces (at the far end of the longer half) operates on a long moment
>arm resulting in large torque contributions.
>
>The other, more expensive alternative is to strengthen the
>rotor/mast/tower system to handle the larger amount of torque produced
>by asymmetric or offset booms. Since your mast/rotor system is now
>much stronger, remounting your antennas at this stage may be a moot

I appreciate the thought.
The Big Boy rotor is strong enough to handle the load, and there are
two thrust bearings...One at the top of the tower and one about 12 to
15 feet down. The rotor is about 20 feet below the top as I recall.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

>point. However, I wanted to add $0.02 that might save you (or
>someone else) from a rotor headache or two in the future.
>
>73,
>Steve N8SM

3969. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 06:54:45 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305202254.318d44e9@posting.google.com>
Source record: 117621

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<22499-3ECADE4C-1150@storefull-2313.public.lawson.webtv.net>...
> Dr. Slick wrote:
> "Interesting but putting the open 1/8-wave in series with the shorted
> 1/8-wave would not necessarily be the same as putting them in parallel."
>
> A short-circuited 1/4-wave stub is the equivalent of a parallel resonant
> circuit.
>

You're right Richard.

But my point is difficult to type out in text only!

In other words, would you have the same effect if you had attached
the two stubs together in parallel, like inner radials soldered
together, and outer braids soldered together. In theory, this should
still be a parallel resonant circuit, which is a different topology,
but electrically the same as the shorted 1/4 wave stub.

I've never tried this.

Slick

3970. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 07:00:51 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305202300.b38e485@posting.google.com>
Source record: 117622

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA492B.2000201@ieee.org>...
> Dr. Slick wrote:
> > Fuck you, you contradicted yourself.
>
> Tsk, tsk, Slick. Have you always been such a poor loser?
> It is impossible to contradict myself using meaningless
> statements. All I did was play along with your troll.
>
> You still haven't defined what "20% lossless" means? One
> wonders why.

I don't have to define anything for an asshole.

3971. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 07:08:13 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305202308.4b73b202@posting.google.com>
Source record: 117623

Here's the original thread:

Cecil wrote:

> When I said "near-infinite", I mean the SWR is as high
> as it can possibly be. The SWR cannot be higher than
> having a short-circuit or open-circuit stub. The losses
> cannot be higher than having a short-circuit or open-
> circuit stub. Why is that so difficult to understand?

BZZZTT!! Wrong again! Hint: An SWR as high as it
can be will be as LOSSLESS as can be, which would be the
case with an ideal lossless short or open.

Next time, include your stupid quote and everything will make sense!

You are wrong here too. "The losses
cannot be higher than having a short-circuit or open-
circuit stub" is an incorrect statement.

You can certainly have much, much higher losses that an open or short.

Sigh...you will deny this is what you meant, of course.

Slick

3972. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 07:12:31 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305202312.225fddf8@posting.google.com>
Source record: 117624

Here's the original thread:

Cecil wrote:

> When I said "near-infinite", I mean the SWR is as high
> as it can possibly be. The SWR cannot be higher than
> having a short-circuit or open-circuit stub. The losses
> cannot be higher than having a short-circuit or open-
> circuit stub. Why is that so difficult to understand?

Slick responded:

BZZZTT!! Wrong again! Hint: An SWR as high as it
can be will be as LOSSLESS as can be, which would be the
case with an ideal lossless short or open.

Next time, include your stupid quote and everything will make sense!

You are wrong here too. "The losses
cannot be higher than having a short-circuit or open-
circuit stub" is an incorrect statement.

You can certainly have much, much higher losses than an open or short.

Sigh...you will deny this is what you meant, of course.

Slick

3973. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 07:15:18 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305202315.1e64d52d@posting.google.com>
Source record: 117625

Jim Kelley <jwkelley@uci.edu> wrote in message news:<3ECA8BCF.A48EAB07@uci.edu>...
> W5DXP wrote:
> > I look forward to losing an argument. That's when I learn
> > something new.
>
> Curious that you fight so vehemently against it. :-)
>
> ac6xg

Seriously!

Slick

3974. Re: Q of resonant lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 10:42:31 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB5817.8050009@ieee.org>
Source record: 117626

Roy Lewallen wrote:
> Apparently you missed my original comment, which was in response to the
> statement that a transmitter was "smoked" by "relected" power. I showed
> a case (actually, two now) where a source resistor dissipates no power
> at all in spite of a large amount of reverse power. However, you've
> declared the simple circuit analysis to be invalid, which can only mean
> that you have some very interesting method of circuit analysis that
> results in the source resistor dissipating power despite having equal
> voltages on its two terminals and no current flowing through it.

The reason that your simple circuit analysis is invalid is non-linearity which occurs whether the transmitter is dealing with a real physical impedance or reflected waves.

A typical ham transmitter will not remain linear when the total Thevenin equivalent voltage appears at its terminals. A typical ham transmitter will not remain linear when the total Norton equivalent current appears at its terminals. The total Thevenin equivalent voltage is an over-voltage condition for a typical ham transmitter. The total Norton equivalent current is an over-current condition for a typical ham transmitter.

If I remember right, your example involved a voltage source of 141.4 volts and a series resistance of 50 ohms. When driving a 50 ohm load, the voltage at the terminals is 70.7 volts. When driving an open circuit, the voltage at the terminals is 141.4 volts. 100 watt ham transmitters are not designed to tolerate 141.4 volts at their terminals. That is an over-voltage condition for them and they will burn up if they are not protected. 100 watt ham transmitters are not designed to tolerate 2.828 amps at the terminals. That is an over-current condition for them and they will burn up if they are not protected.

When dealing with real physical impedances, the impedance itself is the *cause* of the over-voltage or over-current *effects*.

When dealing with virtual impedances presented by transmission lines, the standing waves are the *cause* of the over-voltage or over current *effects* as their V/I ratio is the *cause* of the virtual impedance. When standing waves exist, either the voltage is going to be higher than the rated voltage or the current is going to be higher than the rated current. These conditions are caused by constructive interference between the forward and reflected waves. That constructive interference is why ham transmitters need protection when connected to a transmission line.

When the forward and reflected waves are orthogonal to each other, it is possible to have both an over-voltage condition and an over-current condition occurring at the same time.

--
73, Cecil http://www.qsl.net/w5dxp

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3975. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 10:45:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB58E6.9070909@ieee.org>
Source record: 117627

Tdonaly wrote:
> Cecil, in the past, practically every small grocery and liquor store in
> California had a gun behind the counter.

I was thinking more about residences than businesses. The typical Texas
residence around here has guns. The typical CA residence probably doesn't.
Unarmed citizens are an incentive for criminals to ply their trade.
--
73, Cecil http://www.qsl.net/w5dxp

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3976. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 10:49:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB599E.5060007@ieee.org>
Source record: 117628

Dr. Slick wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECA492B.2000201@ieee.org>...
>
>>Dr. Slick wrote:
>>
>>> Fuck you, you contradicted yourself.
>>
>>Tsk, tsk, Slick. Have you always been such a poor loser?
>>It is impossible to contradict myself using meaningless
>>statements. All I did was play along with your troll.
>>
>>You still haven't defined what "20% lossless" means? One
>>wonders why.
>
> I don't have to define anything for an asshole.

You seemed to declare victory if you could cause me to lose
my temper. Does it work the same in the other direction?
--
73, Cecil http://www.qsl.net/w5dxp

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3977. RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 10:59:01 UTC
From: helmsman <helmsman@DELETEmindspring.com>
Message-ID: <i0nmcvkqks0a3nni4nut10e3lsk4lhqmpg@4ax.com>
Source record: 117629

Here is the latest RFI challenge.
Looks like the FCC part xx sure got overlooked or over paid to some inspector
to let this pass the regs.
You need to read the website below to get the details and see the graph of
the RFI to understand what I am talking about.
Good luck. 73
Mike N5MT

This story is about one ham's experience with RFI produced by a Panasonic
big-screen plasma display.

http://www.dxengineering.com/plasmatv.html

.
Boycott anything made in france and vacation somewhere else.

3978. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 11:04:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB5D4E.607@ieee.org>
Source record: 117630

Dr. Slick wrote:
> BZZZTT!! Wrong again! Hint: An SWR as high as it
> can be will be as LOSSLESS as can be, which would be the
> case with an ideal lossless short or open.

BZZZTT!! Wrong again! Hint: It will be both as lossy and lossless
as can be. It simply cannot be anything else.

> Quoting Deacon Dave:
>> 1) The stub is as lossy as it can be.
>> 2) The stub is as lossless as it can be.
>> BOTH STATEMENTS ARE CORRECT!

Why is it that Dave can understand English and you cannot?

> You can certainly have much, much higher losses that an open or short.

Yes, but it will no longer be a shorted or open stub. The context is
shorted or open stubs.

Please reference figure 24, page 16-15, The ARRL Handbook, 70th edition.
"INCREASE IN LINE LOSS BECAUSE OF STANDING WAVES". The higher the SWR,
the greater the line loss. The SWR in a shorted or open stub is as high
as it can possibly be. Therefore, the losses in a shorted or open stub
are as high as they can possibly be. They are what they are.
--
73, Cecil http://www.qsl.net/w5dxp

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3979. Re: RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:06:49 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bafq4p$m4q$0@208.206.142.100>
Source record: 117633

helmsman wrote:

> Here is the latest RFI challenge.
> Looks like the FCC part xx sure got overlooked or over paid to some
> inspector
> to let this pass the regs.
> You need to read the website below to get the details and see the
> graph of
> the RFI to understand what I am talking about.
> Good luck. 73
> Mike N5MT
>
> This story is about one ham's experience with RFI produced by a
> Panasonic
> big-screen plasma display.
>
> http://www.dxengineering.com/plasmatv.html
>

In that linked piece, the individual involved asked:

> Is it true that if a device puts out a spurious signal on a certain
frequency > that it is susceptible to incoming signals
> of the same frequency? That's just a question. I'm not advocating
anything.

Since he is the proud owner of one of the offending devices,
why doesn'te he do the testing to find out?

Dick

3980. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:09:31 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305210409.28188bdb@posting.google.com>
Source record: 117631

"PO" <toolbox640@sympatico.ca> wrote in message
news:<Fbzya.268$jM5.82714@news20.bellglobal.com>...
> I would say if it is purely resistive at antenna then is it high impedance
> or low impedance mismatch ... then values of "I" versus "V" along the line
> are different and some components at the PA level might be able to deal
> with it in an easier way. A Reactive component might bring higher values of
> "I" and "V" at the PA and get to the limits of components specifications.
>
> PO

I imagine that the ideal design specs of an amplifier tube
were for a specified resistive load for linear reproduction\
purposes, thus by virtue of distortion that comes with
a reactive load it suggests that ideal operation settings are altered.
On the other hand if SWR or reflective waves was not the sole
arbiter for maximum efficiency surely more should have been
written about it, but then I have been surprised before.
Art

3981. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:12:25 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bafqf9$m4q$1@208.206.142.100>
Source record: 117634

Tdonaly wrote:

> Cecil wrote,
> >
> >Tdonaly wrote:
> >> Crime is going down in many places in the U.S. Everone is
> >> claiming credit for it: politicians, law-enforcement, social workers etc.
> >> No one knows the real reasons for the decrease, but it sure isn't
> >> because of right-to-carry laws.
> >>
> >In Phoenix, a robber pulled a knife on a convenience store
> >clerk. Two customers whipped out semi-automatic handguns.
> >That certainly decreased the crime rate in Phoenix.
> >
> >If you were a burglar, would you feel safer in CA or TX?
> >
> >Since the ban on virtually all guns, the GB crime rate
> >has skyrocketed.
> >--
> >73, Cecil http://www.qsl.net/w5dxp
> >
>
> Cecil, in the past, practically every small grocery and liquor store in
> California had a gun behind the counter. I would venture to say that
> most of them still do. As far as I know, it's perfectly legal. I remember
> reading of a Chinese woman, who, after being robbed by some
> felon, followed him to a parking lot where she filled him full of lead
> and took her money back. Guns are nothing new, here, and the
> effect of guns on the crime rate has always been impossible to
> measure.
> I'm not a burglar, so I don't know where I would feel safer. I have
> known a burglar or two, though, and they mostly burgled houses
> that were empty of occupants at the time.

The big difference is that in California of you use a gun to defemd yourself
from an assailant you're more likely to be prosecuted than the attacker would
have been if you hadn't taken him out.

3982. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:19:13 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305210419.69e8c2f9@posting.google.com>
Source record: 117632

'Doc <w5lz@cwis.net> wrote in message news:<3ECA7947.4597FC61@cwis.net>...
> Art,
> Is there 'power' developed in a reactance?
> 'Doc

Doc, this is the other side of the coin to which the
the question is directed at. One could also ask if
the reactive portion of SWR contains no power should
it in fact be included in the SWR. Could you be a bit more
explicit with respect to your 'power' comment?
Art

3983. Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:28:59 UTC
From: Ken <cprstn54zz@att.net>
Message-ID: <72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com>
Source record: 117635

As you tune your antenna for SWR=1.0, the received signal becomes
significantly louder.

Does this mean that a tuned antenna will give you better reception?
Or will a decent radio be able to pull the same quality signal from
the same antenna without the tuner?

Ken KC2JDY

Ken
(to reply via email
remove "zz" from address)

3984. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:33:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECB7212.4A3898FE@cwis.net>
Source record: 117636

Ken,
It ~can~ make a difference. As to if that difference
is great enough to make building/buying a tuner worth
the effort depends on you and your receiver.
'Doc

3985. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:35:06 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305210435.68cede43@posting.google.com>
Source record: 117637

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECACDC0.9020100@ieee.org>...
> Art Unwin KB9MZ wrote:
> > My question was directed towards the transmitter !
> > Does the final amplifier only concern itself with the output
> > SWR (the mismatch ratio) or can it handle a totally resistive
> > mismatch in a better fashion ?
>
> Seems to me, the highest stress on the transmitter would come
> when the forward and reflected voltages are engaging in constructive
> interference or when the forward and reflected currents are engaging
> in constructive interference. That would be when the transmitter
> sees a purely resistive load. But I really don't know for sure.

Well it would appear that you also 'sense' a tolerance difference
dependent
on the constituent make up of the particular ratio. When I remove the
reactance from a loads my solid state radio handles a 3:1 swr with
ease which is contrary to fold over power comments that I read of.
Art

3986. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 12:47:00 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <zxKya.5529$c41.501561@news20.bellglobal.com>
Source record: 117638

"Ken" <cprstn54zz@att.net> wrote in message
news:72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com...
> As you tune your antenna for SWR=1.0, the received signal becomes
> significantly louder.
>
> Does this mean that a tuned antenna will give you better reception?
> Or will a decent radio be able to pull the same quality signal from
> the same antenna without the tuner?
>
> Ken KC2JDY

Ken,

I think you have answered your own question.

3987. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 13:19:37 UTC
From: richardharrison@webtv.net
Message-ID: <19445-3ECB7CE9-15@storefull-2313.public.lawson.webtv.net>
Source record: 117640

Art, KB9MZ wrote:
"---my solid state radio tolerates higher SWR loads if they are non-reactive."

It is the load presented to the radio that counts, not necessarily the load at the far end of the transmission line. The line transforms a mismatched load for better or worse unless the line is some multiple of 1/2-wavelength.

Art mentioned efficiency. In the radio, this is a function of output versus input power of the radio. A reactance as a part of the transmitter load only helps if it is required to make a conjugate match. Otherwise, it is an extra current demand on the radio which usually would not contribute to radiation. Useless VAR`s only hurt efficiency. Only real (in-phase) volt-amperes do work and power a radiation resistance.

Best regards, Richard Harrison, KB5WZi

3988. Re: HF antenna options

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 13:23:32 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECB7DD4.121546AD@cwis.net>
Source record: 117639

Reg,
Dang! Almost makes me feel like I'm missing something.
All we grow around here is peanuts (legal crops), some
cattle, horses, pigs (both two and four legged), a few
chickens, and bored. This area is also noted for fishing,
both good and bad (just depends on what part of the lake
you're on). The 'lake' is the largest man-made one in the
world, with a gadzillion miles of shore line (or close to it).
There used to be several deep coal mines here, bunch of
'dog-holes' (shallow mines), and a few 'strip-pit' mines.
I've been in one deep coal mine and have absolutely no reason
to go back (can't imagine being that hungry!).
As for the liquid type of stuff, no vineyards, but lots of
stills, and brewing vats (the kind you find in the pantry
with cheese-cloth over them). Quality runs from "heavy duty
industrial cleaner" to "slap yo' mamma" smoooth!
I have plans for when we start selling hot-dogs on the
corners in Beijing. The secret ingredient is 'bikini's and
chili...
'Doc

3989. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 14:33:12 UTC
From: richardharrison@webtv.net
Message-ID: <5448-3ECB8E28-69@storefull-2312.public.lawson.webtv.net>
Source record: 117641

Dr. Slick wrote:
"---would you have the same effect if you had attached the two stubs together in parallel---"

I`ve never tried that either.

"Transmission Lines, Antennas and Wave Guides" by King, Mimno, and Wing on page 32 says:
"The antiresonance or parallel resonance occurring in the circuit of Fig. 26.1 (line running through the middle of the stub, open-circuit part protruding above the line) is a special example of the fact that a short-circuited quarter-wavelength line presents to any connection made along its length the equivalent of an antiresonant circuit at the fundamental frequency. (Does this remind us of a J-pole match?) In the Dissipationless case the impedance looking toward the open part is purely capacitive; the impedance looking toward the closed part is purely inductive and of equal magnitude as may be verified from (22.13) and (25.5)."

So, the answer from King, Mimno, and Wing is yes.

Best regards, Richard Harrison, KB5WZI

3990. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 14:57:15 UTC
From: wp20032@aol.com
Message-ID: <20030521105715.19376.00000056@mb-m10.aol.com>
Source record: 117643

> It also may be my imagination but it seems to me that my solid state
>radio tolerates higher SWR loads if they are non reactive, which peaks
>my interest
>in an area that I know little about.
>Regards
>Art

Just a thought....you might get different radio behavior with low R VSWR vs. high R VSWR. In other words, the voltages involved at a constant power level are different if a 3:1 VSWR results from a resistive load of 50/3 ohms vs a resistive load of 150 ohms.

--Wayne

3991. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 14:57:39 UTC
From: tdonaly@aol.com
Message-ID: <20030521105739.13344.00000055@mb-m25.aol.com>
Source record: 117642

Cecil wrote,
>
>Tdonaly wrote:
>> Cecil, in the past, practically every small grocery and liquor store in
>> California had a gun behind the counter.
>
>I was thinking more about residences than businesses. The typical Texas
>residence around here has guns. The typical CA residence probably doesn't.
>Unarmed citizens are an incentive for criminals to ply their trade.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Any Texas crook who comes to California thinking he will be safer here
because he thinks he'll be operating in a gun-free environment had better
have his burial plan up to date and in good order.
73,
Tom Donaly, KA6RUH

3992. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:07:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bag4b1$6s7$1@news.service.uci.edu>
Source record: 117644

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECB5D4E.607@ieee.org...
> Dr. Slick wrote:
> > BZZZTT!! Wrong again! Hint: An SWR as high as it
> > can be will be as LOSSLESS as can be, which would be the
> > case with an ideal lossless short or open.
>
> BZZZTT!! Wrong again! Hint: It will be both as lossy and lossless
> as can be. It simply cannot be anything else.

Come on Cecil. He doesn't understand the stupid word game you're playing
with him. Why not just knock it off. Haven't you had enough fun yet?

ac6xg

3993. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:17:50 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ECB989E-22@storefull-2315.public.lawson.webtv.net>
Source record: 117647

Max wrote:
"I think you have answered your own question."

Those same words immediately came to my mind upon reading Ken`s question.

Why matching an antenna to a receiver produces a stronger signal is exactly the same as why matching a transmitter to an antenna radiates the most signal.

Antennas have a characteristic radiation resistance. This becomes the source resistance of the "generator" feeding the receiver`s transmission line. Maximum power transfer requires a matched system.

The maximum power to a receiver is 50%. The antenna does not know it is only expected to capture energy, so when it is excited by any means it radiates at least 50% of the energy it receives (neglecting losses). More than 50% is re-radiated if the antenna is mismatched.

Best regards, Richard Harrison, KB5WZI

3994. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:18:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB98C1.8000704@ieee.org>
Source record: 117645

Tdonaly wrote:
> Any Texas crook who comes to California thinking he will be safer here
> because he thinks he'll be operating in a gun-free environment had better
> have his burial plan up to date and in good order.

For how much longer will you be able to say that, Tom?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

3995. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:40:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECB9DF5.3030503@ieee.org>
Source record: 117646

Richard Harrison wrote:
> Dr. Slick wrote:
> "---would you have the same effect if you had attached the two stubs
> together in parallel---"
>
> So, the answer from King, Mimno, and Wing is yes.

This one might be better analyzed using phasors and superposition.
Assuming the forward wave arrives at the above configuration with
its voltage and current in phase at zero degrees:

The reflected wave back from the shorted end of the 1/8WL stub
will arrive back at the mouth of the stub with its voltage at
90 deg. and its current at -90 deg. Superposing the forward and
reflected waves gives a voltage at 45 deg and a current at -45
deg.

For the open-ended 1/8WL stub, superposing the forward and
reflected waves gives a current at 45 deg and a voltage at -45
deg.

Superposing all these components puts the voltage back to zero deg
and the current back to zero deg. Therefore, a lossless configuration
like that one would have no effect during steady state. It seems
to indeed be like a perfect lossless parallel circuit. Of course,
in real life, there would be losses in the two stubs and those
losses will not be equal because there's a current maximum point
in one stub and a voltage maximum point in the other.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

3996. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:54:05 UTC
From: tdonaly@aol.com
Message-ID: <20030521115405.13414.00000058@mb-m25.aol.com>
Source record: 117648

Jim Kelly wrote,
>
>
>"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
>news:3ECB5D4E.607@ieee.org...
>> Dr. Slick wrote:
>> > BZZZTT!! Wrong again! Hint: An SWR as high as it
>> > can be will be as LOSSLESS as can be, which would be the
>> > case with an ideal lossless short or open.
>>
>> BZZZTT!! Wrong again! Hint: It will be both as lossy and lossless
>> as can be. It simply cannot be anything else.
>
>Come on Cecil. He doesn't understand the stupid word game you're playing
>with him. Why not just knock it off. Haven't you had enough fun yet?
>
>ac6xg
>

If I remember correctly, Slick started this. He's finding out, the
hard way, that Cecil could drive a statue crazy with his rhetoric and
mule-headedness. No mercy, Slick!
73,
Tom Donaly, KA6RUH

3997. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 15:56:37 UTC
From: richardharrison@webtv.net
Message-ID: <28871-3ECBA1B5-6@storefull-2317.public.lawson.webtv.net>
Source record: 117649

Wayne wrote:
"you might get a different radio behavior with a low R VSWR vs. high R VSWR."

VSWR is ditectly related to reflection coefficient which can be the same for loads too low or too high.

So, it all depends on how the load impedance is transformed by the length of the line between the load and the radio.

At the radio, too low an impedance may make the radio draw more current. Too high an impedance may allow voltage to soar at the radio. Many radios have protection circuits to curtail output into excessive loads to avoid damage.

Best regards, Richard Harrison, KB5WZI

3998. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 16:33:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcnai4e0o6ned6@corp.supernews.com>
Source record: 117650

I'm not sure you can draw any firm conclusions as to what particular impedance is "best" for a given SWR. For all SWRs except 1:1, there are two purely resistive possibilities. I can imagine that, depending on its design, a transmitter might be happier with a high, complex impedance than a low, purely resistive one. Or a low, complex impedance than a high, purely resistive one. The actual impedance reflected back to the active device for a given load impedance depends on the output filter/matching circuit design. Although modern rigs are designed for an optimal impedance seen by the active device when the load is purely resistive and 50 ohms, there's no guarantee that a complex load impedance won't be seen by the active device as a pure resistance, or that a purely resistive, non-50 ohm load as a complex impedance.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
> Though the 'ratio' is what is viewed as all important
> regardless of what the constituent mix is , the question
> that I have is that for a transmitter, solid state or otherwise,
> are there any advantages for a totally resistive mismatch
> over one of the same ratio (SWR) that includes a reactive constituent ?
> Art

3999. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 16:38:14 UTC
From: richardharrison@webtv.net
Message-ID: <28872-3ECBAB76-1@storefull-2317.public.lawson.webtv.net>
Source record: 117651

Cecil, W5DXP wrote:
"This one might be better analyzed using phasors and superposition."

Yes, but I was trying to explain rather than analyze. I decided not to argue with (3) Ph.D.`s, all Harvard professors, on the way to answer Dr. Slick`s question. One reason is that every posting I recall making using phasors and superposition has resulted in few if any responses. I think the lack of response was not because my posting was completely understood and there were no questions. Comparison of the tapping point on the J-pole stub, I thought would be more helpful as an illustration of the resonance anywhere along the stub. I left out the fact that too close to the shorted end of the stub, the relation sours, only to avoid the clutter of unnecessary facts.

Best regards, Richard Harrison, KB5WZI

4000. Re: FM Trap layman question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 16:52:11 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <b9OdnR3iP-4jM1ajXTWcoA@comcast.com>
Source record: 117652

Daniel,

You will get TV like you never got it before. I was never able to get rid of all ghosts with the antenna. Cable looks perfect. Wonder if your cable has FM on it.

Tam
"Daniel" <danibe@my-deja.com> wrote in message
news:b73f7787.0305201910.10bc521f@posting.google.com...
> "Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<94adnQuLQ4ih0FSjXTWcqQ@comcast.com>...
> > I agree that the second would be best from the FM sensitivity
standpoint.
> > There are two things against it though: you have to get DC power to it
> > through the splitter, and you are combining a boosted FM sgnal with your
TV
> > signal. I am concerned about your super strong 98.X. How are you
powering
> > the TV antenna? Is there AC in the attick, like a light you could put a
> > cheater socket on?
>
> I have a fully fledged AC outlet in the attic - installed by a
> licensed electrician. However, I just received by email a thorough
> analysis of my particular situation (several strong FM stations
> nearby, and not so strong TV stations scatterd in different
> directions...), which doesn't leave much hope for anything. :-(
>
> I guess I'll have to pay the cable company (a monopoly in my state)
> for monthly subscription...
>
> Thanks,
> Daniel

4001. Re: Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 16:55:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcnbs7lstiq8d@corp.supernews.com>
Source record: 117653
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Winding impedance, whether inductive, resistive, or a combination, appears in parallel across the transformer winding. So to keep from disturbing the circuit the transformer is connected to, this impedance should be considerably higher than the impedance of the circuit. Making it more than 5 or 10 times greater than the circuit impedance doesn't cause any problems, but it's often hard to do and a waste of effort.

Many of the ferrites used for broadband transformers exhibit primarily resistive winding impedance at the frequency of use. This is often an advantage over inductive impedance, since it stays relatively constant over a wide frequency range and doesn't introduce undesirable resonance effects. A purely or almost purely inductive impedance is only necessary when enough power is involved to make transformer dissipation a problem.

Roy Lewallen, W7EL

Jason Hsu wrote:
> Thanks to everyone who gave me great advice on the improved
> SWR/wattmeter I have been working on this semester for an independent
> study project in my graduate work. I put my device together, and it
> works. Though it doesn't quite have the performance I hoped for, it
> still runs rings around the MFJ cross-needle meters (high SWR and QRP
> capability as well as 100W capability). In case you are wondering, I
> am using FT82-43 toroids for the transformers with #30 wire for the
> primary (high voltage, low current) windings. I really pushed the
> limits on many things, such as the capability of LM324s, the
> capability of LM3914s, the current capacity of wire (>1A and #30 wire
> on an FT50-43 core do not mix), the space needed for the wires
> connecting 20-40 LEDs, and what happens when you accidentally connect
> a capacitor the wrong way (leaking fluid, noise, mess on the
> breadboard).
>
> I am working on my report, and one thing that still puzzles me is the
> significance of the inductive reactance in transformers. The design I
> am using is based on the one at
> http://engphys.mcmaster.ca/~elmer101/rfpower/swrtheory.html
>
> I have heard that the inductive reactance across a transformer winding
> should be at least 4 times the resistance that is connected across it.
> There is 100 ohms of resistance across the voltage transformer, so
> that should mean j400 ohms of resistance are required in the winding.
> According to the software programs of Reg Edwards (and the ARRL
> formulas), the secondary winding (the 1-turn side) of the voltage
> transformer would have only .45uH with one of the FT82-43 cores I am

> using. Most other SWR meter designs actually use SMALLER cores (FT50,
> even FT37), which have even less inductance per turn. The .45uH is
> only j5 ohms on 160m and j84 ohms on 10m, a far cry from j400 ohms.
>
> Could someone please shed some light on what is going on? How much
> inductive reactance is REALLY needed, and what would have happened if
> I did not have enough? Why can't RF transformers use plastic or air
> cores? (They would be much cheaper.)
>
> Jason Hsu, AG4DG
> usenet@@@jasonhsu.com

4002. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:17:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBB4A9.3040102@ieee.org>
Source record: 117654

Jim Kelley wrote:
> Come on Cecil. He doesn't understand the stupid word game you're playing
> with him. Why not just knock it off. Haven't you had enough fun yet?

Jim, Slick originated this word game. I'm just trying to show him
where his degrees of losslessness logically leads.
--
73, Cecil http://www.qsl.net/w5dxp

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4003. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:22:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBB5BE.2020509@ieee.org>
Source record: 117655

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "This one might be better analyzed using phasors and superposition."
>
> Yes, but I was trying to explain rather than analyze. I decided not to
> argue with (3) Ph.D.`s, all Harvard professors, on the way to answer Dr.
> Slick`s question.

My results agree with theirs so they must be right. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4004. Re: Significance of inductance in transformers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:25:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBB677.7070009@ieee.org>
Source record: 117657
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Roy Lewallen wrote:
> Winding impedance, whether inductive, resistive, or a combination,
> appears in parallel across the transformer winding. So to keep from
> disturbing the circuit the transformer is connected to, this impedance
> should be considerably higher than the impedance of the circuit. Making
> it more than 5 or 10 times greater than the circuit impedance doesn't
> cause any problems, but it's often hard to do and a waste of effort.

While learning transformer design at Texas A&M, we used a rule-of-thumb
of 10x. I notice that 5x seems to be acceptable for a balun.
--
73, Cecil http://www.qsl.net/w5dxp

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4005. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:26:50 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305210926.3ee4192d@posting.google.com>
Source record: 117656

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19445-3ECB7CE9-15@storefull-2313.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "---my solid state radio tolerates higher SWR loads if they are
> non-reactive."
>
> It is the load presented to the radio that counts, not necessarily the
> load at the far end of the transmission line. The line transforms a
> mismatched load for better or worse unless the line is some multiple of
> 1/2-wavelength.

The load at the transmitter was what I refered to at the outset of the
question
so transmission lines should have not entered into the discussion.

>
> Art mentioned efficiency. In the radio, this is a function of output
> versus input power of the radio. A reactance as a part of the
> transmitter load only helps if it is required to make a conjugate match.
> Otherwise, it is an extra current demand on the radio which usually
> would not contribute to radiation. Useless VAR`s only hurt efficiency.
> Only real (in-phase) volt-amperes do work and power a radiation
> resistance.

Agreed.
So now we have the original question, does the imposition of a
reactance in the SWR affect the efficiency of the output of a
amplifier? (requiring reduced output from the rig)
Your reply suggests that it does and thus there are some caveats
involved
when discussing SWR ..... It also suggests that my perceived
observation
with respect to solid state amplifiers could well be correct in that
higher SWR
can be useable if the load is resistive. Seems to me that refering to
SWR alone
with respect to antennas is not the whole story but I have not come
across any studies that specifically verify the impact of reactance in
the SWR mix.
>
> Best regards, Richard Harrison, KB5WZi

Regards
Art

4006. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:37:16 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305210937.43a2ad1e@posting.google.com>
Source record: 117658

Ken <cprstn54zz@att.net> wrote in message
news:<72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com>...
> As you tune your antenna for SWR=1.0, the received signal becomes
> significantly louder.
>
> Does this mean that a tuned antenna will give you better reception?
> Or will a decent radio be able to pull the same quality signal from
> the same antenna without the tuner?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

Ken,since you mentioned quality I suspect that an introduction
of any componenet would affect S/N and introduce a negative in
absolute quality. I have no experience in this area however.
Art

4007. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:38:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l3encv8l3pt6ne9f7fta1hifrqibjnq3tp@4ax.com>
Source record: 117659

On Tue, 20 May 2003 19:58:55 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard Clark wrote:
>> Were some of those same 10.8 Watts radiated then?
>Maybe.
"Maybe" reveals a poor setting of boundaries, my original observation
of your typical habit in these matters. The boundary problems where
you violate Conservation of Energy are legion when you stepped into
the Optics metaphor.

73's
Richard Clark, KB7QHC

4008. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:42:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ieencvglhn8rs5ul26monc0pecb4dh2uht@4ax.com>
Source record: 117660

On Wed, 21 May 2003 05:49:02 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>You seemed to declare ... if you could cause

The danger of learning English from the IEEE dictionary.

4009. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:42:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBBA9E.7826B095@uci.edu>
Source record: 117666

W5DXP wrote:
>
> Jim Kelley wrote:
> > Come on Cecil. He doesn't understand the stupid word game you're playing
> > with him. Why not just knock it off. Haven't you had enough fun yet?
>
> Jim, Slick originated this word game. I'm just trying to show him
> where his degrees of losslessness logically leads.

By repeating your play on words over and over and over again? There is more than one way to interpret the expression "as blank as it can possibly be" as you obviously know. You've played that card already. It's not funny anymore. You're arguing sematics, not technical subject matter. This is supposed to be a technical forum. Your point was only mildly clever when you first made it. Endless repetition has made it grossly boring and dullard-like. Let it go - and try to get a life for chrisesakes. Try getting on the air or something.

ac6xg

4010. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:51:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qrencvgjk37p5dpmda3hdi233fov3v32ac@4ax.com>
Source record: 117661

On 20 May 2003 23:54:45 -0700, radio913@aol.com (Dr. Slick) wrote:
> In other words, would you have the same effect if you had attached
>the two stubs together in parallel, like inner radials soldered
>together, and outer braids soldered together. In theory, this should
>still be a parallel resonant circuit, which is a different topology,
>but electrically the same as the shorted 1/4 wave stub.

Where was the source/load in the beginning, and where are they after your soldering? Books on Filter design are full of this stuff. The practical implementations of lumped circuits v. resonant lines may be differentiable; but when you put aside loss, then the differences fade into the wallpaper.

73's
Richard Clark, KB7QHC

4011. fm Propagation Question; AM vs PM ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:52:43 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <baged2$206$1@slb3.atl.mindspring.net>
Source record: 117662

Hello:

Regarding fm propagation. (e.g. in the 120 -450 MHz ranges):

Is it generally better at night, or during the day? Why ?

I uderstand that it is considered L.O.S., and therefore, I would imagine,
does no "bouncing' off
the changeable ionospheric layers, so would there be a AM vs PM difference ?

Thanks,
Bob

4012. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:53:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l7fncvkp3mhrcv6h2cldsaap8tmqhnikmv@4ax.com>
Source record: 117663

On Tue, 20 May 2003 21:31:24 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:
>Demanding of a gasoline (petrol) pump to be taken to its leader, the
>exasperated alien shot the pump clean through. It responded with a
>tremendous explosion.
>
>The companion alien chided the shooter with:
>"You should have known that a weirdo like that with his tallywhacker
>wrapped clean around his body and poked in his ear would be a real mean
>SOB."
>

:-) :-) :-) :-) :-)

4013. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:54:57 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECBBD39.6010503@attbi.com>
Source record: 117664

Art Unwin KB9MZ wrote:
> Though the 'ratio' is what is viewed as all important
> regardless of what the constituent mix is , the question
> that I have is that for a transmitter, solid state or otherwise,
> are there any advantages for a totally resistive mismatch
> over one of the same ratio (SWR) that includes a reactive constituent ?
> Art

In the design requirements of solid state transmitters the range of specified loads usually includes a "Maximum VSWR at ALL Phase Angles" clause. For example: a VSWR of 2:1 may include a resistive component of either 25 or 100 ohms and no reactance or, it can contain any resistive value between 25 and 100 ohms plus a reactive value that can be as high as +/- 35 ohms [the condition = 50 +/- j35 = VSWR 2:1].

The reactance in the load causes a phase shift in the reflected component of the VSWR. [high impedance (resistve) loads have a 180 degree phase reversal in the current, while low impedance (resistive) loads have a 180 degree hase reversal in the voltage]. The introduction of a reactance in the load causes an additional phase shift from the 180 degree value.

Now, returning to the design requirements. The reasons for specifying a maximum VSWR at all phase angles are numerous but are rooted in the electrical parameters of the output transistor/FET/etc.

Under purelyor closely resistive conditions the voltage and current in the active device are or are closely 'In Phase'.

With significant reactance in the load the voltages and currents in the active device have a phase shifted component which may cause the active device to operate outside it's safe operating area.

Conclusion: The reactive component in VSWR impacts the physics of stress in the active device.

Deacon Dave, W1MCE

4014. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 17:55:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBBD9B.8050602@ieee.org>
Source record: 117665

Art Unwin KB9MZ wrote:
> Ken,since you mentioned quality I suspect that an introduction
> of any componenet would affect S/N and introduce a negative in
> absolute quality. I have no experience in this area however.

The AGC dynamic range of a good HF receiver is quite high. If the HF receiver has negligible distortion at high AGC levels, a tuner won't appreciably improve the ability to copy a signal. A tuner simply allows one to get more signal+noise into the receiver. The signal is louder but so is the noise. At HF, most noise comes in with the signal. Note: this is all about HF.
--
73, Cecil http://www.qsl.net/w5dxp

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4015. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:01:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBBF0B.9000908@ieee.org>
Source record: 117667

Richard Clark wrote:
> "Maybe" reveals a poor setting of boundaries, ...

Maybe :-) but in the case of a stub, there is no distinction
between heat loss from the system and radiation loss from the
system. They add together to obtain the total energy lost from
the system boundaries, the difference between the forward power
into the stub and the reflected power out of the stub. And
I doubt that a well designed stub radiates more than a
negligible amount of energy.
--
73, Cecil http://www.qsl.net/w5dxp

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4016. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:02:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBBF4C.8020803@ieee.org>
Source record: 117419

Richard Clark wrote:
> The danger of learning English from the IEEE dictionary.

:-) Good one, Richard.
--
73, Cecil http://www.qsl.net/w5dxp

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4017. Re: RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:04:06 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECBBF5E.90106@attbi.com>
Source record: 117668

Why not forward this to our friend [?] Riley Hollingsworth adn ask him
to forward it to UNO who.

Also, forward to the RFI folks at ARRL to get their folks involved.

Deacon Dave, W1MCE

helmsman wrote:
> Here is the latest RFI challenge.
> Looks like the FCC part xx sure got overlooked or over paid to some
> inspector
> to let this pass the regs.
> You need to read the website below to get the details and see the
> graph of
> the RFI to understand what I am talking about.
> Good luck. 73
> Mike N5MT
>
>
> This story is about one ham's experience with RFI produced by a
> Panasonic
> big-screen plasma display.
>
>
> http://www.dxengineering.com/plasmatv.html
>
> .
> Boycott anything made in france and vacation somewhere else.

4018. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:10:39 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <jpfncv8lkgqd7h1timqocntham8rtb04g1@4ax.com>
Source record: 117426

On Wed, 21 May 2003 12:28:59 GMT, Ken <cprstn54zz@att.net> wrote:

>As you tune your antenna for SWR=1.0, the received signal becomes
>significantly louder.
>
>Does this mean that a tuned antenna will give you better reception?
>Or will a decent radio be able to pull the same quality signal from
>the same antenna without the tuner?
>
>Ken KC2JDY

Last night I tried a little experiment. I hooked a 100-foot long wire
to the back of an mfj-989c tuner, and then ran a short piece of coax
to the back of a good quality receiver, a Japan Radio Co. nrd-525.

I tuned the mfj inductor, peaking the noise/signals on a 75 meter net.
Noted the S-unit readings. Then I attached the long-wire directly to
the hi-Z input of the receiver. Got the same exact S-unit readings,
without the tuner.

Hmm...

Bob
k5qwg

>
>Ken
>(to reply via email
>remove "zz" from address)

4019. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:10:43 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECBC0EB.20008@attbi.com>
Source record: 117420

Additional, hopefully clarifying comments added as [SNIP].

Deacon Dave.

Dave Shrader wrote:
> Art Unwin KB9MZ wrote:
>
>> Though the 'ratio' is what is viewed as all important
>> regardless of what the constituent mix is , the question
>> that I have is that for a transmitter, solid state or otherwise,
>> are there any advantages for a totally resistive mismatch
>> over one of the same ratio (SWR) that includes a reactive constituent ?
>> Art
>
>
> In the design requirements of solid state transmitters the range of
> specified loads usually includes a "Maximum VSWR at ALL Phase Angles"
> clause. For example: a VSWR of 2:1 may include a resistive component of
> either 25 or 100 ohms and no reactance or, it can contain any resistive
> value between 25 and 100 ohms plus a reactive value that can be as high
> as +/- 35 ohms [the condition = 50 +/- j35 = VSWR 2:1].
>
> The reactance in the load causes a phase shift in the reflected
> component of the VSWR. [high impedance (resistve) loads have a 180
> degree phase reversal in the current, while low impedance (resistive)
> loads have a 180 degree hase reversal in the voltage]. The introduction
> of a reactance in the load causes an additional phase shift from the 180
> degree value.
>
> Now, returning to the design requirements. The reasons for specifying a
> maximum VSWR at all phase angles are numerous but are rooted in the
> electrical parameters of the output transistor/FET/etc.
>
> Under purelyor closely resistive conditions the voltage and current in
> the active device are or are closely 'In Phase'.

[SNIP] a linear resistive load line.

>
> With significant reactance in the load the voltages and currents in the
> active device have a phase shifted component which may cause the active
> device to operate outside it's safe operating area.

[SNIP] an oval shaped load line

>
> Conclusion: The reactive component in VSWR impacts the physics of stress
> in the active device.
>
> Deacon Dave, W1MCE
>

4020. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:11:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s9fncvcae0dn5kdrjninbib4es5duutarc@4ax.com>
Source record: 117421

On Tue, 20 May 2003 22:13:02 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>> > Have you changed your mind and now agree with me? Please answer yes or
>> > no: Is the SWR in a stub near-infinite? If you say 'yes', you are
>agreeing
>> > with me and the argument is over. If you say 'no', then you still
>disagree
>> > with me.
>>
>> Fuck you, i never disagreed with you on this.
>>
>==========================
>
>Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
>the teeth bunch !
>
You had a choice to march against our most obvious application of
this, or wander to the pub. The rest of the world sees you just as
repugnant, bloke.

We have a very insecure leader elected by a very insecure population
that responds to security alerts (raised to a higher level today) that
have evidenced absolutely nothing (to no obvious suppression of any
actual attempt).

We are on the razor's edge of SARS and a very simple scenario of
run-away fear where a passenger on board an airplane first asks the
armed pilot to shoot a coughing asian passenger. The aerospace
industry is set to collapse.

Suicide Bomber = Snotty nosed infant?

The trembling Right Whiners haven't got a clue when it comes to
security. Their solution to the equation above is to shoot first and
ask questions later (and then succumb after having infected their
community).

73's
Richard Clark, KB7QHC

4021. Re: fm Propagation Question; AM vs PM ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:13:57 UTC
From: hasan schiers <schiers@netins.net>
Message-ID: <bagfl6$s3ijq$1@ID-52642.news.dfncis.de>
Source record: 117422

That's a big question, Bob.

It's not so much AM vs PM, but early morning and evenings versus all the rest of the time.

In short:

Range extension happens often every morning and evening due to "settling" of the troposphere into layers that can "duct" or extend the normal receiving range. So propagation enhancement is a fairly regular morning and evening happening.

This can be a plus or a minus, as it will also bring in a lot of interfering stations that one normally does not hear.

Line of Sight is overcome by these tropospheric enhancements. There are larger tropo enhancements that are seasonal as well, based on weather fronts. The mechanism is similar, but the effect is much stronger and over much greater distances.

Basically, the settled air forms a boundary that acts like a pipeline that the signal can follow for many miles past line of sight. The actual mechanism is considerably more complicated than "settled air boundaries", but that's an easy way to refer to it for someone without extensive vhf/uhf propagation understanding.

Hope this helps.

...hasan, N0AN

"Robert11" <rgsrose@tiac.net> wrote in message
news:baged2$206$1@slb3.atl.mindspring.net...
> Hello:
>
> Regarding fm propagation. (e.g. in the 120 -450 MHz ranges):
>
> Is it generally better at night, or during the day? Why ?
>
> I uderstand that it is considered L.O.S., and therefore, I would imagine,
> does no "bouncing' off
> the changeable ionospheric layers, so would there be a AM vs PM difference
> ?
>
> Thanks,
> Bob
>

4022. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:18:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305211018.798d3db4@posting.google.com>
Source record: 117423

antswitch@tomochka.com (KS7J) wrote in message
news:<47c89a30.0305201314.7e1ee5c8@posting.google.com>...
> Folks,
>
> Something that's tickled the back of my brain for some time relative
> to feeding dipole wires with high impedance feedline is why balun
> transformers are used (when such things are used) at the joining of
> the feedline to the coax or tuner or rig only, but not ALSO used at
> the joining of the feedline to the antenna itself? Apparently it
> doesn't make sense to, say, use a 4:1 balun to match a 50/75 ohm
> antenna to a 300 ohm line (step up) in addition to using one as a step
> down device on the rig end of things, but why not? Losses? Essentially
> equivalent to just using 50 ohm coax? ??

The antenna impedance will vary wildly with changes in freq. Trying to
plan an appropriate transformer at that point is like spinning the
wheel...Your likely to get "Gulag"... A 1:1 makes as much sense as
anything. I say transformer, because being you are feeding a balanced
antenna with a balanced line, a balun is not needed at that point.
Also the losses using the ladder line are very low. So any losses from
a mismatch at that point should be nearly unnoticable. On the other
hand, at the rig end, the radio is picky. You do need a good match
there to assure full output, or possible final damage from the
mismatch. Coax is a different ballgame. It's losses with a high
mismatch are much higher. So in that case, it would be preferable to
match at the antenna feedpoint if the coax is the main feedline. Being
you do that and supply a 50 ohm load at all freq's, and using 50 ohm
coax, there is no need for another tuner at the rig. MK

4023. Re: fm Propagation Question; AM vs PM ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:20:47 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECBC347.10103@attbi.com>
Source record: 117424

First, un-thought out response [generally wrong, but a discussion starter].

At night temperatures are lower than during daylight. This causes a
slight increase in air density. Also, there is no direct impact on
ionization levels.

UHF scattering parameters and absorption cross sections both have a
density component and an ionization level component in their equations.

So, to a first guess, there is a difference in transmitted signal
strength on long path LOS.

Now, being an engineer as opposed to a physicist, I suspect that there
is no practical impact on LOS transmissions.

I will love to hear what the people with physics backgrounds have to say
on the subject.

Deacon Dave, W1MCE

Robert11 wrote:
> Hello:
>
> Regarding fm propagation. (e.g. in the 120 -450 MHz ranges):
>
> Is it generally better at night, or during the day? Why ?
>
> I uderstand that it is considered L.O.S., and therefore, I would imagine,
> does no "bouncing' off
> the changeable ionospheric layers, so would there be a AM vs PM difference ?
>
> Thanks,
> Bob
>

4024. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:21:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBC3B3.8090205@ieee.org>
Source record: 117425

Dave Shrader wrote:
> Conclusion: The reactive component in VSWR impacts the physics of stress
> in the active device.

Maybe a graphical illustration would help Art with that concept.
Sorry, I can't do it in ASCII.

Let's say a 100W transmitter is rated for an SWR of 3:1. That
means it is rated for a |rho|=0.5 or will tolerate half the
forward voltage being reflected.

From the (x,y) origin, draw a phasor of 70.7 volts at zero degrees.
With the arrow end of that phasor as the center of a circle, draw the
circle with a radius of 35.36 volts. Any phasor drawn from the origin
to any point on that circle represents the possible superposed voltage
phasor that the transmitter will have to deal with. You can draw the
same diagram for 1.414 amps with a 0.707 amp circle radius. Keep in
mind that the reflected voltage is 180 degrees out of phase with the
reflected current.
--
73, Cecil http://www.qsl.net/w5dxp

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4025. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:25:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBC48E.2020304@ieee.org>
Source record: 117427

Jim Kelley wrote:
> Endless repetition has made it grossly boring and dullard-like.

Dr. Slick is guilty of exactly the same thing. Are you letting him
off the hook while condemning me?
--
73, Cecil http://www.qsl.net/w5dxp

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4026. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:29:17 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9bgncvs2b8hl65omc9mqb1tvpr3fpnjmma@4ax.com>
Source record: 117428

On Wed, 21 May 2003 05:45:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Unarmed citizens are an incentive for criminals to ply their trade.

The death statistics are far more compelling than these orgasmic gun
fantasies of repelling the assault of a faceless enemy.

70% of the dead knew their attacker, where the death occurred in
familiar surrounds in usual activities, where someone was drunk.

Hold the societal tension level. Hold the alcoholic consumption
level. Add guns. More dead.

Whose responsibility is it for all three? Government has been
inventing security alerts with abandon. Government taxes and
regulates the trade of alcohol. Government enforces gun laws.

Do we see Government moving to REDUCE security alerts (no, the Right
Whiners would rather whupass a punk). Do we see the Government moving
to restrict alcohol (have they ever successfully prosecuted ANY
illegal drug OFF the street?)? Do we see the Government acting to
jail Arms dealers who supply snipers (no, they are busy with
legislation to limit the Arms dealers' liability.)?

Raise the societal tension level. Hold the alcoholic consumption
level. Add guns. Far More dead. ....Blame Bill

73's
Richard Clark, KB7QHC

4027. Re: How long a random wire should I use?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:29:18 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ecbc580$1_1@news.vo.lu>
Source record: 117429

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
news:86ist6l3yt.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Thierry" == Thierry <- ON1SKY" <lombrytNOSPAM@hotmail.com>> writes:

Thierry> Hi, Read this,
Thierry> http://www.astrosurf.com/lombry/qsl-longwire.htm and next
Thierry> page, than could help as I speak about antennas and their
Thierry> location.
Thierry> I use one of about 40m that gives my SWR 1:1 from 10 to 80m
...
I was able to get a good SWR (1:1) on 20m and a low level of noise on
the mountaintop, but microphone problems kept me from actually
transmitting successfully.
...

Hi,

By experience I know that OM that are using longwire, use preferably
beverage (the longest, up to 400m long !). Thay can be fine tuned so SWR 1:1
in reception of course and give excellents results, even on the 10m band.
But all depends working conditions at the moment you are using it.
I.e. I did several tests yesterday with an indoor mag loop and my friend
living 30 km away with a R8 outdoor. At some moment I didn't hear any QSO on
17m where my friend hear them loudly. A quarter later we came back on 17m,
and I captured stations as loudly as him.. So we cannot say "this antenna
work fine on that band, not on this one, etc". There are to many factors to
consider. The best is to try on site.

Now I always heard that longwires were not at all suited for emission. And
that most OM use second antenna, well cut and tuned for TX due to the severe
loss using the longwire.
I should made a test but I am quasi sure that with my 100 W available, less
than 10 W will be emitted using my 40m longwire. It is perfect for reception
not for emission.
On the contary I am also sure that my Fritzel vertical 6m long, a ground
plane (that receive signals as loudly as my longwire but a bit more QRM)
will be able to emit near its nominal power, at 100 W with few loss.

The alternative is using a true dipole, excellent for RX and TX and cheap.
;-)

Thierry
ON1SKY, LX3SKY

soon on the air.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.1 (FreeBSD)

iD8DBQE+pZm0GPFSfAB/ezgRAur0AKCv2xKN9pj6rkCo1h6i/Q27XpdLywCgoF6k
YUV1BOFEVAwHyqTIqdYBq0E=
=1hBI
-----END PGP SIGNATURE-----

4028. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:33:50 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <FCPya.5663$c41.533671@news20.bellglobal.com>
Source record: 117433

> Last night I tried a little experiment. I hooked a 100-foot long wire
> to the back of an mfj-989c tuner, and then ran a short piece of coax
> to the back of a good quality receiver, a Japan Radio Co. nrd-525.
>
> I tuned the mfj inductor, peaking the noise/signals on a 75 meter net.
> Noted the S-unit readings. Then I attached the long-wire directly to
> the hi-Z input of the receiver. Got the same exact S-unit readings,
> without the tuner.

I have modified the tuner in my TS850 to work in receive mode as well and I get quite a difference in received signal strength when the tuner is switched in and out of line. Just goes to show you how far my antenna is out of resonance, but a perfect example of how a "tuned" antenna is stronger on receive than an untuned one.

4029. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:34:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcnhklq80dsm73@corp.supernews.com>
Source record: 117430

But even if the tuner had increased the signals several S-units, it still wouldn't mean that you could hear any better. What counts is the signal to noise ratio, and as others have pointed out, simply increasing both the signal and noise, which is the best the tuner can do, doesn't help. The exception is that if the antenna is so poor or poorly matched that the receiver noise can be heard (indicated by no decrease in noise when the antenna is disconnected), then and only then will increasing the signal and noise into the receiver help the S/N ratio. This is unusual at HF, but the general rule at VHF and above.

Roy Lewallen, W7EL

Bob Miller wrote:
>
> Last night I tried a little experiment. I hooked a 100-foot long wire
> to the back of an mfj-989c tuner, and then ran a short piece of coax
> to the back of a good quality receiver, a Japan Radio Co. nrd-525.
>
> I tuned the mfj inductor, peaking the noise/signals on a 75 meter net.
> Noted the S-unit readings. Then I attached the long-wire directly to
> the hi-Z input of the receiver. Got the same exact S-unit readings,
> without the tuner.
>
> Hmm...
>
> Bob
> k5qwg

4030. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:36:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7ihncvk4ltpuk98gs3971tc8poa5pgkhtc@4ax.com>
Source record: 117431

On 21 May 2003 15:54:05 GMT, tdonaly@aol.com (Tdonaly) wrote:

>If I remember correctly, Slick started this. He's finding out, the
>hard way, that Cecil could drive a statue crazy with his rhetoric and
>mule-headedness. No mercy, Slick!

The lad doesn't recognize the fine Borgia hand and sips each drink
offered.

73's
Richard Clark, KB7QHC

4031. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:39:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <krhncvo2n43tjbecgafj5oaps2pq9t93tu@4ax.com>
Source record: 117432

On Wed, 21 May 2003 12:17:29 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>I'm just trying to show him
>where his degrees of losslessness logically leads.
It's that you are not trying very well - deliberately. Or contrary to
your outstanding claims, were you born last night?

73's
Richard Clark, KB7QHC

4032. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:46:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBC972.6E5C8DDC@uci.edu>
Source record: 117436

W5DXP wrote:
>
> Jim Kelley wrote:
> > Endless repetition has made it grossly boring and dullard-like.
>
> Dr. Slick is guilty of exactly the same thing. Are you letting him
> off the hook while condemning me?

"Well he started it." What are you, nine?

4033. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:47:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBC9A7.3000807@ieee.org>
Source record: 117434

Richard Clark wrote:
> Hold the societal tension level. Hold the alcoholic consumption
> level. Add guns. More dead.

Hold the societal tension level. Hold the alcoholic consumption
level. Add vehicles. More dead. Please compare the number of
people killed each year in gun accidents to the number of people
killed each year in vehicle accidents.

Please compare the number of children killed or injured by air
bags in 2001 to the number of children killed or injured in
high school shootings.
--
73, Cecil http://www.qsl.net/w5dxp

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4034. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 18:53:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBCB31.9090506@ieee.org>
Source record: 117435

Max wrote:
> I have modified the tuner in my TS850 to work in receive mode as well and I
> get quite a difference in received signal strength when the tuner is
> switched in and out of line. Just goes to show you how far my antenna is
> out of resonance, but a perfect example of how a "tuned" antenna is stronger
> on receive than an untuned one.

Stronger, maybe. But does a marginal signal become less marginal
when you tune your antenna? Or is the noise still just as loud
as the signal? What is the dynamic range of the AGC circuit in
a TS850?
--
73, Cecil http://www.qsl.net/w5dxp

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4035. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:09:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <n1incv46pildbd63vf2qnvggvm1lq4ngsh@4ax.com>
Source record: 117437

On 20 May 2003 21:29:12 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

> there is distinct differences when
>comparing resistive loads to those that are reactive loads

Hi Art,

You need more remedial references than Richard's. This will be an
instruction which assumes no part on you, except for the implied you
of the general, technical reader.

For some frequency:

Apply 100Vpk across two resistor in series.
Read the voltage drop across each.
Add voltages.

Apply 100Vpk across Inductor and Capacitor in series.
Read the voltage across each.
Add voltages.

The two operations do NOT illustrate the same expectations.

If you add the voltages of the reactive situation (resonance could be
exhibited, but is not necessary) you may find you have 300Vpk in
combination from the two loading your 100Vpk source (this is a
paradox: 100<>300). This is the danger of isolated measurements that
have lost (phase) information. You cannot add the voltages in this
way, you need to know their phase.

However, it illustrates how reactance can boost voltages (or currents)
beyond the source values applied to them. It is in these boost levels
where loss accumulates in step. Some reactive configurations present
hazard by the elevation of voltages. Thus depending on phase, you pay
attention to insulation (arc issues) or connections (ohmic loss).

Small reactive antennas like an Isoloop have outrageously huge
conductors with welds AND wide spaced resonating caps for these
reasons.

73's
Richard Clark, KB7QHC

4036. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:18:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k5kncv0ivvi2i4or68jjiddbpblnpcbjj0@4ax.com>
Source record: 117438

On Wed, 21 May 2003 13:01:47 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>more than a negligible amount of energy.
One sloppy boundary following another. You woulda lost the range war
130 years ago.

4037. Re: Modeling problem,..Help Needed... how do you model this...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:23:46 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305211123.3749aff4@posting.google.com>
Source record: 117439

"PO" <toolbox640@sympatico.ca> wrote in message
news:<EPyya.215$jM5.78659@news20.bellglobal.com>...
> Hi can someone tell me how to model coaxial line in series with Tubing
> elements and running inside the pipes so not to contribute as a
> radiating element by any flow of current on the outside conductor.
...
I'm sorry to say that email to your "from" address on this subject bounced.

Cheers,
Tom

4038. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:28:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4gkncvs85q78tpq27t96ahm3pm60f5ie32@4ax.com>
Source record: 117440

On Wed, 21 May 2003 13:47:03 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Please compare the number of
>people killed each year in gun accidents to the number of people
>killed each year in vehicle accidents.

How many miscreants have been jailed for holding up a jiffy mart with
their car?

Cecil, you want to argue the 30% side against the lethal experience of
the 70% of the dead.

Add guns. There are More of the 30% dead now too.

73's
Richard Clark, KB7QHC

4039. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:45:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBD75B.DBEAC0F6@uci.edu>
Source record: 117442

Richard Clark wrote:
> How many miscreants have been jailed for holding up a jiffy mart with
> their car?

How many miscreants would worry about committing a misdemeanor when
they're in the business of committing felonys?

ac6xg

4040. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 19:56:16 UTC
From: Steve Miller <millersg@qrt.dma.org>
Message-ID: <3ecbd9e0_2@athena.netset.com>
Source record: 117441

Roger Halstead <rdhalste@tm.net> wrote:
:Steve Miller <millersg@qrt.dma.org> wrote:
:: Just a quick comment on your antenna installation as seen on your web
:: site. The forces causing your rotor and mast damage can be greatly
:: alleviated by simply remounting all the VHF antennas at the center of
:: their booms (like the TH-5).
:
: The VHF are, but the two UHF are not. They are the little short ones.
: I've thought about replacing them with the larger (more elements)
: center mounted.

At http://www.rogerhalstead.com/tower5.htm (and double checking with a ruler), it appears that both the 6m and 2x2m Yagis have longer 'half booms' on the director versus the reflector end. This image shows the mounts not at the physical center of the boom (more likely near the center of gravity). If this is representative of your installation, the 6m Yagi would likely contribute the most torque.

73,
Steve N8SM

4041. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:14:13 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305211214.6b60312f@posting.google.com>
Source record: 117443

wp20032@aol.com (WP20032) wrote in message
news:<20030521105715.19376.00000056@mb-m10.aol.com>...
> > It also may be my imagination but it seems to me that my solid state
> >radio tolerates higher SWR loads if they are non reactive, which peaks
> >my interest
> >in an area that I know little about.
> >Regards
> >Art
>
> Just a thought....you might get different radio behavior with low R VSWR vs.
> high R VSWR. In other words, the voltages involved at a constant power level
> are different if a 3:1 VSWR results from a resistive load of 50/3 ohms vs a
> resistive load of 150 ohms.
>
> --Wayne

From an operators point of view, the main change would having to keep
the "Load" setting in an amp at the "1" position to try to load, vs at
the "10" position for the higher Z load. As long as the amp's loading
network will load the system within it's normal "loading" range, all
is fine. If not, some tweaking would be desired. Myself, I don't
really care what the componants of the "SWR" amount to. It's what the
radio thinks about the load it see's, that really matters. They will
tell you if they don't like the load. IE: out of loading range for a
tube amp, or shutdown, power foldback, or other problems with a solid
state amp. I have seen a few "normally acceptable" loads, "SWR wise"
that my solid state radios didn't like, but I'd have to bet common
mode currents and a hot radio rf wise, had a large part in it. Most
cases like that are where I'm trying to load up something really weird
with a tuner, etc.. MK

4042. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:16:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ihnncvcfpt7nbhj70vrdomo7vhii917qsc@4ax.com>
Source record: 117444

On Wed, 21 May 2003 12:45:31 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Richard Clark wrote:
>> How many miscreants have been jailed for holding up a jiffy mart with
>> their car?
>
>How many miscreants would worry about committing a misdemeanor when
>they're in the business of committing felonys?
>
>ac6xg

Name me one law they do worry about.

73's
Richard Clark, KB7QHC

4043. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:24:54 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305211224.2d867a75@posting.google.com>
Source record: 117445

Ken <cprstn54zz@att.net> wrote in message
news:<72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com>...
> As you tune your antenna for SWR=1.0, the received signal becomes
> significantly louder.
>
> Does this mean that a tuned antenna will give you better reception?
> Or will a decent radio be able to pull the same quality signal from
> the same antenna without the tuner?
>
> Ken KC2JDY

Most likely on all HF bands, the s/n ratio would not change if you added a tuner. Depends on the feedline loss. But on the VHF/UHF bands, a mismatch on a line such as coax which has high losses with large mismatches, yes it most likely would. But I don't use tuners on VHF/UHF. I tune the antenna, or add a matching device which is as low loss as possible. On HF, with a good radio, about all a tuner should do is pump up the s meter a bit. The s/n ratio will be the same unless you have really lousy or real long coax. The good thing about using a tuner for receive is it helps further clean the radio up a bit. Reduces "out of band" signals. MK

4044. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:25:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBE0AC.30501@ieee.org>
Source record: 117446

Jim Kelley wrote:
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>>Endless repetition has made it grossly boring and dullard-like.
>>
>>Dr. Slick is guilty of exactly the same thing. Are you letting him
>>off the hook while condemning me?
>
> "Well he started it." What are you, nine?

Absolutely not! I'm eight, - at least one of my personalities is.
Ever try managing six different personalities in the same body?
--
73, Cecil http://www.qsl.net/w5dxp

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4045. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:26:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBE0F4.9050003@ieee.org>
Source record: 117447

Richard Clark wrote:
> One sloppy boundary following another. You woulda lost the range war
> 130 years ago.

Agreed. I would have been -65 years old.
--
73, Cecil http://www.qsl.net/w5dxp

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4046. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:32:10 UTC
From: antswitch@tomochka.com
Message-ID: <47c89a30.0305211232.b96f319@posting.google.com>
Source record: 117448

Folks,

Thanks for all your thoughtful replies. Just was focused on the impedance transformation part of a non-1:1 balun and goofed in realizing I was essentially asking for a bal-bal. :)

But,... while on the subject here of modeling programs, one of the things that I do not understand about EZNEC is what assumptions it makes about the SWR relative to the feedpoint impedance. If, say, I model a dipole with a source at the center (no feedline) it defaults to a 50 ohm feed and allows you to designate an alternate Z0. The documentation states that this corresponds to the type of feedline you are using. However, if I actually model a transmission line with source at the far end, but of the same impedance (not 50 ohms) then the SWR readout is totally different.

Understandable, since different lengths of open line for instance might introduce impedance transformations in and of themselves, but what does EZNEC assume in the default case (where the source is at the antenna)? This stuff really took me hours to sort out and what I had to do was more or less play with it until I found a configuration that approximated the SWR I actually measured. Not really the way I want to go if I were to (heaven forbid) model my antenna before building it. :)

73,

Casey

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:<bae8jl$9f2$1@sparta.btinternet.com>...
> > BTW, are there any decent antenna modeling programs that make balun
> > insertion into the model fairly easy (no, not EZNEC, please).
>
> ====================
>
> For a general purpose educational dipole antenna modelling/analysis program
> which works entirely different from Eznec, download program DIPOLE3 from the
> following website.
>
> It caters for any size dipole, at any height and wire diameter, with a
> balanced feedline of any impedance plus a choke balun or voltage balun of
> any ratio, plus a coax line of any impedance, plus L and C component values
> of the L-network tuner to match a 50 ohm transmitter.
>
> All line SWRs and input impedances are calculated.

>
> With one hit of a key it will model a G5RV and find in a few seconds all its
> resonant frequencies. If you don't get what you expect then don't blame the
> program.
>
> Power efficiencies of individual parts of the system, including tuner, are
> calculated plus overall radiating efficiency.
>
> The only thing it won't tell you is the radiation pattern which everybody
> knows anyway.
>
> Download program DIPOLE3 in a few seconds, run immediately, no unzipping
> inconveniences, user friendly, a 3-week training course is not needed. Just
> follow operating notes and fairly obvious instructions on the bottom line.
> ----
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================

4047. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:33:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBE28D.7070209@ieee.org>
Source record: 117449

Richard Clark wrote:
> How many miscreants have been jailed for holding up a jiffy mart with
> their car?

Wrong question. How many miscreants have used a car in the commission
of their crime? It's a good bet that vehicles are used just as often
in the commission of a crime as are guns. How much crime do you think
there would be if criminals were prohibited from using vehicles for
their escape?

You strain out a gun and swallow an SUV. :-) (Apologies to God.)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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4048. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:34:03 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ECBE2BB-81@storefull-2315.public.lawson.webtv.net>
Source record: 117451

Cecil, W6DXP wrote:
"And I doubt that a well designed stub radiates more than a negligible amount of energy."

Company I worked for had at least a hundred of them made by Andrew Corp. and all of them radiated very well indeed. They were called "folded monopoles", but they were only short-circuited quarter-wave stubs connected to and above a set of radials.

These were used for their excellent lightning protection as they were effective shorts for most of the spectrum.

Best regards, Ruchard Harrison, KB5WZI

4049. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:35:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBE31E.8060203@ieee.org>
Source record: 117450

Richard Clark wrote:
> Name me one law they (criminals) do worry about.

Good point! The only people who obey gun laws are law-abiding
citizens. Therefore, gun laws penalize law-abiding citizens
and don't work on criminals. What's wrong with this picture?
--
73, Cecil http://www.qsl.net/w5dxp

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4050. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 20:46:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBE590.CDC8DC2A@uci.edu>
Source record: 117452

W5DXP wrote:
> I'm eight, - at least one of my personalities is.
> Ever try managing six different personalities in the same body?

If that's the case then you need to better manage your login accounts.
The child who posts as W5DXP is an embarassment. ;-)

73, ac6xg

4051. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:01:12 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ECBE918-85@storefull-2315.public.lawson.webtv.net>
Source record: 117456

Richard Clark wrote:
"And, you want to argue the 30% side against the lethal experience of the 70% of the dead now too."

Remember one of the adages from RLS`s "Treasure Island"? It was "Dead men tell no tales."

The deceased can`t argue against guns.

"Must be armed to enter the tavern" should be the requirement.

Best regards, Richard Harrison, KB5WZI

4052. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:04:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBE9ED.EFFECC47@uci.edu>
Source record: 117457

W5DXP wrote:
>
> Richard Clark wrote:
> > Name me one law they (criminals) do worry about.
>
> Good point!

That was the entire point! But there is one law that criminals do
sometimes worry about: Miranda. They're real big on that one.

ac6xg

4053. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:07:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcnqjol9e3i696@corp.supernews.com>
Source record: 117453

Yep, it all has to do with which way the currents are flowing. A differentially-excited stub radiates very little compared to the circulating power, if the spacing is small in terms of wavelength. On the other hand, a common-mode-excited stub (currents in the two conductors approximately in phase and in the same direction) radiates as well as a single wire carrying the same total current.

So Cecil's stub, presumably differentially excited, radiates very little, while Richard's, excited mainly by common mode currents, radiates very well. Somewhat like the blind men and the elephant.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Cecil, W6DXP wrote:
> "And I doubt that a well designed stub radiates more than a negligible
> amount of energy."
>
> Company I worked for had at least a hundred of them made by Andrew Corp.
> and all of them radiated very well indeed. They were called "folded
> monopoles", but they were only short-circuited quarter-wave stubs
> connected to and above a set of radials.
>
> These were used for their excellent lightning protection as they were
> effective shorts for most of the spectrum.
>
> Best regards, Ruchard Harrison, KB5WZI
>

4054. Re: fm Propagation Question; AM vs PM ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:14:43 UTC
From: jgboyles@aol.com
Message-ID: <20030521171443.03900.00000079@mb-m16.aol.com>
Source record: 117454

>Regarding fm propagation. (e.g. in the 120 -450 MHz ranges):
>
>Is it generally better at night, or during the day? Why ?

Hi Bob, I asked this same question back in 1999 in a thread "propagation explanation". I got an excellent reply that pretty much explained the whole thing. I'll try to paste an excert below.

One of the better explanations of this sort of tropospheric propagation is in The VHF/UHF Dx Book published by the RSGB and edited by our good friend G3SEK.

In short form, the refractive index of the atmosphere changes with temperature, pressure, and humidity. All three vary with height. Normally temperature declines
with height, but under certain conditions there can be an *inversion* of this temperature profile at some height. This causes signals which would normally pass off into space to be refracted back down toward the Earth at a distant location. The effect is a greatly increased line of sight distance.

In times when there is a stagnant high pressure cap over an area, radiative cooling at night causes the ground, and air near the ground, to be at a lower temperature than air higher up. So you get a temperature inversion and enhanced propagation in the mornings until the sun's heating causes convection which breaks up the inversion layer. That's what you've been experiencing.

If there is a front where warm humid air is overriding a cool dry air mass, or vice versa, a cold front where cool dry air is slipping in under a warm humid air mass, you also get a strong inversion. Propagation is enhanced *along* the frontal boundary. This can temporarily greatly enhance the distance you can work, in the direction along the boundary. Several hundred miles is not uncommon, several thousand miles is rare, but does happen.

Unlike ionospheric refraction, where there is a maximum usable frequency, this sort of temperature inversion refraction is actually stronger with increasing
frequency, and there is a minimum usable frequency below which there is little refractive effect. So under inversion conditions, try to use the highest frequency
band for which you are equipped.

The book I mentioned goes into this, and other effects, in great detail, and shows how you can predict these effects by studying weather patterns.

Now on to antennas which make the most of these conditions. You get the best effect when the antenna is just below the layer height, has a very

low angle of radiation, and as much gain as is practical. The less refraction the layer is called upon to do, the better. Now the layer is typically several hundred feet up, perhaps a couple of thousand feet up in some cases. So you usually won't have your antenna so high that it is *above* the layer. But if you do, you're "out of the duct" and can't take advantage of the enhanced propagation.

This sometimes happens to mountain top stations. They're above the layer, and can't use it. If in those cases you drive down the mountain side a ways, you may suddenly find that you're in the duct, and greatly increased range will result. This is one time where being located very high is not always an advantage.

Hope this helps.
73 Gary N4AST

4055. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:15:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qpqncvkmai4vehsscd9lobc91bcjeajfuo@4ax.com>
Source record: 117455

On Wed, 21 May 2003 15:35:42 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Name me one law they (criminals) do worry about.
>
>Good point! The only people who obey gun laws are law-abiding
>citizens. Therefore, gun laws penalize law-abiding citizens
>and don't work on criminals. What's wrong with this picture?

Law abiding citizens who are law abidingly armed kill others
unlawfully, their kith and kin, while drunk.

They obviously were not impressed with any law, nor the consequences.

73's
Richard Clark, KB7QHC

4056. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:29:47 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305211329.1321c7ea@posting.google.com>
Source record: 117458

Dave Shrader <david.shrader@attbi.com> wrote in message news:<3ECBC0EB.20008@attbi.com>...
> Additional, hopefully clarifying comments added as [SNIP].
>
> Deacon Dave.
>
> Dave Shrader wrote:
> > Art Unwin KB9MZ wrote:
> >
> >> Though the 'ratio' is what is viewed as all important
> >> regardless of what the constituent mix is , the question
> >> that I have is that for a transmitter, solid state or otherwise,
> >> are there any advantages for a totally resistive mismatch
> >> over one of the same ratio (SWR) that includes a reactive constituent ?
> >> Art
> > >
> > >
> > > In the design requirements of solid state transmitters the range of
> > > specified loads usually includes a "Maximum VSWR at ALL Phase Angles"
> > > clause. For example: a VSWR of 2:1 may include a resistive component of
> > > either 25 or 100 ohms and no reactance or, it can contain any resistive
> > > value between 25 and 100 ohms plus a reactive value that can be as high
> > > as +/- 35 ohms [the condition = 50 +/- j35 = VSWR 2:1].
> > >
> > > The reactance in the load causes a phase shift in the reflected
> > > component of the VSWR. [high impedance (resistve) loads have a 180
> > > degree phase reversal in the current, while low impedance (resistive)
> > > loads have a 180 degree hase reversal in the voltage]. The introduction
> > > of a reactance in the load causes an additional phase shift from the 180
> > > degree value.
> > >
> > > Now, returning to the design requirements. The reasons for specifying a
> > > maximum VSWR at all phase angles are numerous but are rooted in the
> > > electrical parameters of the output transistor/FET/etc.
> > >
> > > Under purelyor closely resistive conditions the voltage and current in
> > > the active device are or are closely 'In Phase'.
> >
> > [SNIP] a linear resistive load line.
> >
> > >
> > > With significant reactance in the load the voltages and currents in the
> > > active device have a phase shifted component which may cause the active
> > > device to operate outside it's safe operating area.
> >

> [SNIP] an oval shaped load line

Yes Dave, it was the oval shaped load line that caught my attention
in the first place since I had never come across it before, where as
the linear resistive line illustrations abounds.When comparing those
two lines it suggested
why it could be feasable that an output tube could be more efficient
with a purely resistive loading over one containing a reactive
component. But again as Roy states it cannot be carved in stone
because of reflection anomolies. I would imagine also that internal
capacitances of a tube versus a solid state amplifier
would stretch the answers beyond my understanding.
Thanks all for sticking with me and my muddled mind regarding this
question
Regards
Art

>
> >
> > Conclusion: The reactive component in VSWR impacts the physics of stress
> > in the active device.
> >
> > Deacon Dave, W1MCE
> >

4057. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:35:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcns8ks4hircc1@corp.supernews.com>
Source record: 117459

KS7J wrote:
> Folks,
>
> Thanks for all your thoughtful replies. Just was focused on the
> impedance transformation part of a non-1:1 balun and goofed in
> realizing I was essentially asking for a bal-bal. :)
>
> But,... while on the subject here of modeling programs, one of the
> things that I do not understand about EZNEC is what assumptions it
> makes about the SWR relative to the feedpoint impedance.

It makes none.

> If, say, I
> model a dipole with a source at the center (no feedline) it defaults
> to a 50 ohm feed and allows you to designate an alternate Z0. The
> documentation states that this corresponds to the type of feedline you
> are using. However, if I actually model a transmission line with
> source at the far end, but of the same impedance (not 50 ohms) then
> the SWR readout is totally different.

It sounds like you've made a mistake in building the model.

Let's take an example, using the BYDipole.EZ example file. The impedance at the source (as reported by Source Data) is 79.16 - j45.11 ohms. The SWR (50 ohm system) = 2.293. This means that if the source is connected to the antenna through a (lossless) 50 ohm transmission line of any length, the SWR on that line will be 2.293:1. If a transmission line of some other impedance is used, the SWR will be a different value -- and that value can be determined by setting the Alt SWR Z0 to the characteristic impedance of the line.

Now let's add a transmission line between the source and antenna. First it's necessary to create a short wire to connect the source and one end of the line to. I arbitrarily gave wire 2 coordinates (0, 50, 30) and (0, 50, 30.1). It just has to be short enough and/or far enough away and/or oriented such that it doesn't significantly interact with the antenna. The actual distance isn't important, and it doesn't have to equal the "transmission line" length.

Then make a transmission line, from wire 1 50% to wire 2 50%, say 30 feet long with Z0 = 50 and VF = 0.66 to mimic solid dielectric coax. Rev/Norm connection doesn't matter. Now move the source to wire 2 50% and look at the source data. You'll see that the impedance is now 23.66 - j13.01 ohms, but the SWR is still 2.293. You can play with the length of the transmission line and get an infinite variety of impedances, but

the SWR will always be 2.293:1 because that's the SWR on the line, and it doesn't change with line length. You'll find that if you make the line exactly a half electrical wavelength long (or multiple), the source impedance will be 79.16 - j45.11 ohms. And you can follow along on a Smith Chart if you'd like, for any line length.

Now suppose you use a 75 ohm line instead of a 50 ohm line. EZNEC reports a 75 ohm SWR of 1.786 for the BYDipole model. You'll find that if you change the impedance of your transmission line in the modified model to 75 ohms, the 75 ohm SWR will be 1.786 for any line length. That's the actual SWR on the transmission line. However, if you were to connect a 50 ohm SWR meter at the source, it wouldn't indicate the actual SWR on the line, but would rather interpret the impedance as though it was the load impedance on a 50 ohm line. EZNEC's 50 ohm SWR value is what the 50 ohm SWR meter would read. It'll be different for each length of 75 ohm line.

> Understandable, since different lengths of open line for instance
> might introduce impedance transformations in and of themselves, but
> what does EZNEC assume in the default case (where the source is at the
> antenna)?

Assume for what? Since there's no transmission line, there are no standing waves and hence no SWR. The 50 ohm SWR that's reported is the SWR which would occur on a 50 ohm line if the line were connected between the source and the antenna, as in the example above. It's also what a 50 ohm SWR meter or antenna analyzer would read if you connected it directly to the center of the antenna. Similarly, the 75 ohm (or other alt Z0) SWR value is what a 75 ohm (or other alt Z0) line would have, or what a 75 ohm SWR meter would read.

This stuff really took me hours to sort out and what I had
> to do was more or less play with it until I found a configuration that
> approximated the SWR I actually measured. Not really the way I want to
> go if I were to (heaven forbid) model my antenna before building it.
> :)

I tried to explain this in the manual, but apparently failed. What's there is under Interpreting The Results/Source Data. Unfortunately, it's necessary or at least helpful to have a basic understanding of transmission line principles in order to make best use of the impedance and SWR information EZNEC reports.

Roy Lewallen, W7EL

4058. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:38:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBF1D4.2050102@ieee.org>
Source record: 117460

Jim Kelley wrote:
> The child who posts as W5DXP is an embarassment. ;-)

You're obviously from the old school - children should
be seen and not heard.
--
73, Cecil http://www.qsl.net/w5dxp

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4059. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:43:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECBF2FE.3080502@ieee.org>
Source record: 117462

Richard Clark wrote:
> Law abiding citizens who are law abidingly armed kill others
> unlawfully, their kith and kin, while drunk.

Not true, Richard, only criminals do that. :-) Are you speaking
from experience, or what?

As a data point, people with concealed weapons permits commit
fewer crimes per capita than the general population. Chew on
that one for awhile.
--
73, Cecil http://www.qsl.net/w5dxp

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4060. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:44:09 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcnsq2nk7u15c7@corp.supernews.com>
Source record: 117461

"It seems
> to indeed be like a perfect lossless parallel circuit. Of course,
> in real life, there would be losses in the two stubs and those
> losses will not be equal because there's a current maximum point
> in one stub and a voltage maximum point in the other."

Mostly dielectric losses near the feedpoint, mostly I^2*R losses near the
short.
Measure the temperature along the stub to see the difference.
Bottom line: It's an RLC tank circuit, OK?
What is happening inside a stub?
Energy is moving back and forth between an E field and a B field;
Between potential and kinetic energy; ..... the harmonic oscillator.
Electrons are literally moving back and forth, heating the tank by friction.
If it's too lossy (my 160 meter bazooka) it won't oscillate.
See "flywheel effect".
What a thread!
H.
NQ5H

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECB9DF5.3030503@ieee.org...
> Richard Harrison wrote:
> > Dr. Slick wrote:
> > "---would you have the same effect if you had attached the two stubs
> > together in parallel---"
> >
> > So, the answer from King, Mimno, and Wing is yes.
>
> This one might be better analyzed using phasors and superposition.
> Assuming the forward wave arrives at the above configuration with
> its voltage and current in phase at zero degrees:
>
> The reflected wave back from the shorted end of the 1/8WL stub
> will arrive back at the mouth of the stub with its voltage at
> 90 deg. and its current at -90 deg. Superposing the forward and
> reflected waves gives a voltage at 45 deg and a current at -45
> deg.
>
> For the open-ended 1/8WL stub, superposing the forward and
> reflected waves gives a current at 45 deg and a voltage at -45
> deg.
>
> Superposing all these components puts the voltage back to zero deg
> and the current back to zero deg. Therefore, a lossless configuration

> like that one would have no effect during steady state. It seems
> to indeed be like a perfect lossless parallel circuit. Of course,
> in real life, there would be losses in the two stubs and those
> losses will not be equal because there's a current maximum point
> in one stub and a voltage maximum point in the other.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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4061. Re: fm Propagation Question; AM vs PM ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:44:49 UTC
From: richardharrison@webtv.net
Message-ID: <24142-3ECBF351-26@storefull-2314.public.lawson.webtv.net>
Source record: 117465

Robert 11 wrote:
"Is it generally better at night, or during the day?"

From recording microwave fades for years, daytime is much more reliable for line of sight propagation. Solar radiation stimulates wind in the atmosphere which prevents stratafication of air near the earth`s surface. Stagnant air is the main cause of anomalous surface propagation at VHF, UHF, and microwave.

Sometimes, anomalous propagation may enable chance DX if that`s what you want, but for reliable communications you need an agitated atmosphere.

Best regards, Richard Harrison, KB5WZI

4062. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:50:10 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcnt5ahha3mv14@corp.supernews.com>
Source record: 117463

Cars: Bigger than any other killer.
World wide.
Not war. Not disease. Not guns.
Car wrecks.
Orders of magnitude worse.
Look it up: CDC, WHO, etc.
H.
NQ5H

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECBC9A7.3000807@ieee.org...
> Richard Clark wrote:
> > Hold the societal tension level. Hold the alcoholic consumption
> > level. Add guns. More dead.
>
> Hold the societal tension level. Hold the alcoholic consumption
> level. Add vehicles. More dead. Please compare the number of
> people killed each year in gun accidents to the number of people
> killed each year in vehicle accidents.
>
> Please compare the number of children killed or injured by air
> bags in 2001 to the number of children killed or injured in
> high school shootings.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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4063. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 21:51:20 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcnt7ir7crq45e@corp.supernews.com>
Source record: 117464

being shot

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:ihnncvcfpt7nbhj70vrdomo7vhii917qsc@4ax.com...
> On Wed, 21 May 2003 12:45:31 -0700, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
> >Richard Clark wrote:
> >> How many miscreants have been jailed for holding up a jiffy mart with
> >> their car?
> >
> >How many miscreants would worry about committing a misdemeanor when
> >they're in the business of committing felonys?
> >
> >ac6xg
>
> Name me one law they do worry about.
>
> 73's
> Richard Clark, KB7QHC

4064. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 22:03:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECBF7AF.AE27FB6E@uci.edu>
Source record: 117466

Richard Harrison wrote:
> Remember one of the adages from RLS`s "Treasure Island"? It was "Dead
> men tell no tales."
>
> The deceased can`t argue against guns.

If they could argue, they'd probably be more inclined to argue against the criminals who perpetrated the crime than the inanimate objects associated with it. But what's common sense got to do with law anymore.

Yeah, sure. Let's go ahead a tack on a gun possession charge. That'll make a big difference to someone charged with 'using a gun in the commission of a crime' plus robbery and murder.

Don't you see Richard? It doesn't prevent a crime, it just creates one.

73 de ac6xg

4065. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 22:34:07 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcnvno2jnj1956@corp.supernews.com>
Source record: 117467

"Jim Kelley" opined.......

"It doesn't prevent a crime, it just creates one."

Bingo

Anyway.......
I find soberly bludgeoning with a lead pipe so much more satisfying than
drunken shooting.
It's more visceral and you can remember it.
H.

"Jim Kelley" <jwkelley@uci.edu> wrote in message
news:3ECBF7AF.AE27FB6E@uci.edu...
>
>
> Richard Harrison wrote:
> > Remember one of the adages from RLS`s "Treasure Island"? It was "Dead
> > men tell no tales."
> >
> > The deceased can`t argue against guns.
>
> If they could argue, they'd probably be more inclined to argue against
> the criminals who perpetrated the crime than the inanimate objects
> associated with it. But what's common sense got to do with law
> anymore.
>
> Yeah, sure. Let's go ahead a tack on a gun possession charge. That'll
> make a big difference to someone charged with 'using a gun in the
> commission of a crime' plus robbery and murder.
>
> Don't you see Richard? It doesn't prevent a crime, it just creates one.
>
> 73 de ac6xg

4066. My off-center dipole for 40 and 20M (17, 15, 12, 10 too!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 22:47:07 UTC
From: antswitch@tomochka.com
Message-ID: <47c89a30.0305211447.8272033@posting.google.com>
Source record: 117468

Folks,

I know there's been a lot of discussion around OCFs in past postings, but just wanted to share a design that I stumbled across using EZNEC when coming up with some optimizations for a simple camping antenna. By necessity (my K1 only has a 40/20 band module) this variation popped out at me in my experiments:

Cut total wire for roughly 1/2 wavelength at lowest frequency of interest (in this case 70'). Cut again at 27', leaving you with the long leg at 43'. BTW, the model suggests that cutting about the 38% point is more optimal than at the rule of thumb 1/3. Elevate both ends (in my experiments it is a sloper, 25' up on the high end, 4' on the low end) and feed with coax and a 1:1 current balun, in my case at the antenna feedpoint. I tried it with a short length (15') of twinlead, but could not control the SWR well, YMMV. Trim to resonance or as close as you can get, and use an ATU for the higher bands(mine is built-in) to finish off the match.

My K1 ATU easily brings in 40 and 20 meters at 1:1 SWR. Or so it says, because note the obvious imbalance in the feedline. Anyway, did not notice RF effects and on 5 W I seemed to be getting out just fine even with the wire that low. This also tunes 15 and 10 meters, according to the model and my K2, which includes these bands and a wider-match ATU.

Now, the really interesting part comes when you take the far end of the short leg and ground it (oh, and shorten it by 2 feet)! Now it tunes (high SWR but within reach of an ATU) 17, and 12 meters. Did not try getting out on those bands, however.

If you want to try your own experiments try this one: cut a regular 40M dipole, then ground one leg (maybe shortening it slightly). You'll be surprised I think at what the modeling shows.

Hope this will be of use to some experimenter in the future.

73,

Casey, KS7J

4067. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 22:53:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bp0ocvg2k4lj0qhgv09np4kem1pik43d18@4ax.com>
Source record: 117469

On Wed, 21 May 2003 16:38:28 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Jim Kelley wrote:
>> The child who posts as W5DXP is an embarassment. ;-)
>
>You're obviously from the old school - children should
>be seen and not heard.

Interviewer: "Mr. Fields, how do you like children?"
W.C. Fields: "Parboiled!"

4068. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 23:32:36 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305211532.7fd2acf5@posting.google.com>
Source record: 117470

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECB5D4E.607@ieee.org>...
>
> BZZZTT!! Wrong again! Hint: It will be both as lossy and lossless
> as can be. It simply cannot be anything else.
>

This is double-speak from a slick lawyer. YOU should be using my name!

> >> 1) The stub is as lossy as it can be.
> >> 2) The stub is as lossless as it can be.
> >> BOTH STATEMENTS ARE CORRECT!
>
> Why is it that Dave can understand English and you cannot?
>

Why is it you cannot admit that you contradicted yourself?

It's obvious that the other posters also know what an ass you really are,
as you pull the same word games with them.

Slick

4069. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 23:43:37 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECC0EF6.8090708@attbi.com>
Source record: 117471

W5DXP wrote:
> Richard Clark wrote:
>
>> Name me one law they (criminals) do worry about.
>
>
> Good point! The only people who obey gun laws are law-abiding
> citizens. Therefore, gun laws penalize law-abiding citizens
> and don't work on criminals. What's wrong with this picture?

Hmmm... ? The US and the states/counties/cities/towns have a total of more than 20,000 laws that do not infringe your/my right to keep and bear arms!!

I wonder what the definition of "infringe" is?

Deacon Dave, W1MCE

REFERENCE:

Amendment II

A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed.

4070. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 23:45:45 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <LcUya.760$jM5.205084@news20.bellglobal.com>
Source record: 117473

Also you have to take into account at the transmitter terminal 50 ohms
feed line will transfer impedance of the antenna well up to 1.5 SWR ...
thats 75 ohms to 50ohms ratio.
At higher SWR the properties of a COAXIAL transmisson line are lost, and
you cannot exactly predict the condition reflected to the transmitter
terminals in reference to the antenna load mismatch...

Also high current flows back on the outer conductor of the line and also
induce current in any parrallele conductor coming back to the shack....

So the transmitter "IMPEDANCE INTERFACE" it self is in a unknown state... PA
STAGE cannot get its L and C resonant to the Line and frequency because of
the unwanted RF current..... giving more heat in the heatsinks !

PO

"Mark Keith" <nm5k@wt.net> a crit dans le message de
news:25eb70d7.0305211214.6b60312f@posting.google.com...
> wp20032@aol.com (WP20032) wrote in message
news:<20030521105715.19376.00000056@mb-m10.aol.com>...
> > > It also may be my imagination but it seems to me that my solid state
> > >radio tolerates higher SWR loads if they are non reactive, which peaks
> > >my interest
> > >in an area that I know little about.
> > >Regards
> > >Art
> >
> > Just a thought....you might get different radio behavior with low R VSWR
vs.
> > high R VSWR. In other words, the voltages involved at a constant power
level
> > are different if a 3:1 VSWR results from a resistive load of 50/3 ohms
vs a
> > resistive load of 150 ohms.
> >
> > --Wayne
>
> From an operators point of view, the main change would having to keep
> the "Load" setting in an amp at the "1" position to try to load, vs at
> the "10" position for the higher Z load. As long as the amp's loading
> network will load the system within it's normal "loading" range, all
> is fine. If not, some tweaking would be desired. Myself, I don't
> really care what the componants of the "SWR" amount to. It's what the
> radio thinks about the load it see's, that really matters. They will
> tell you if they don't like the load. IE: out of loading range for a

> tube amp, or shutdown, power foldback, or other problems with a solid
> state amp. I have seen a few "normally acceptable" loads, "SWR wise"
> that my solid state radios didn't like, but I'd have to bet common
> mode currents and a hot radio rf wise, had a large part in it. Most
> cases like that are where I'm trying to load up something really weird
> with a tuner, etc.. MK

4071. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-21 23:54:57 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECC119D.2040909@attbi.com>
Source record: 117472

> Law abiding citizens who are law abidingly armed kill others
> unlawfully, their kith and kin, while drunk.

[SNIP] Drunkedness and motor vehicle homocide should be felony murder!

It's against the law to drive while drunk! But, who cares???

[UNSNIP]
>
> They obviously were not impressed with any law, nor the consequences.
>
> 73's
> Richard Clark, KB7QHC

4072. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 00:23:03 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECC1833.9020002@attbi.com>
Source record: 117474

I believe there are too many significant errors in this post to ignore it!

PO wrote:
> Also you have to take into account at the transmitter terminal 50 ohms
> feed line will transfer impedance of the antenna well up to 1.5 SWR ...
> thats 75 ohms to 50ohms ratio.

[SNIP] 50 ohm feed line is not limited to a 75 ohm load. A 50 ohm line
can be used with any load so long as you accept the transmission line
losses.
[UNSNIP]

> At higher SWR the properties of a COAXIAL transmisson line are lost,

[SNIP] The properties of a coax line are determined solely by the design
of the line not the load.
{UNSNIP]

> and you cannot exactly predict the condition reflected to the transmitter
> terminals in reference to the antenna load mismatch...

[SNIP] This is a totally incorrect statement! Transmission line
equations and/or a Smith Chart will very accurately calculate the load
looking into the coax at the source.
[UNSNIP]

> Also high current flows back on the outer conductor of the line and also
> induce current in any parrallele conductor coming back to the shack....

[SNIP] Mismatch does NOT cause any current imbalance in a coax system.
Mis-feeding the antenna does!!
[UNSNIP]

>
> So the transmitter "IMPEDANCE INTERFACE" it self is in a unknown state...

[SNIP] In a properly designed and installed antenna system the
"IMPEDANCE INTERFACE" is precisely known!!

[UNSNIP]

PA
> STAGE cannot get its L and C resonant to the Line and frequency because of
> the unwanted RF current..... giving more heat in the heatsinks !
>
> PO
>
[SNIP] This conclusion is unwarranted due to the cumulative effect of

the misunderstandings/errors cited above.
[UNSNIP]

4073. Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 00:35:30 UTC
From: k9sqg@aol.com
Message-ID: <20030521203530.09179.00000119@mb-m21.aol.com>
Source record: 117475

I'm looking for some small diameter coax, like RG-174, but with a higher power rating. Where might I find some other than a 500 foot roll?

Thanks.

Evan

4074. Re: Modeling problem,..Help Needed... how do you model this...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 00:37:17 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <9ZUya.38$0E2.13663@news20.bellglobal.com>
Source record: 117476

This might be more it

--
PO
Remove "tool" in
toolbox640@sympatico.ca

"Tom Bruhns" <k7itm@aol.com> a crit dans le message de
news:3200347.0305211123.3749aff4@posting.google.com...
> "PO" <toolbox640@sympatico.ca> wrote in message
news:<EPyya.215$jM5.78659@news20.bellglobal.com>...
> > Hi can someone tell me how to model coaxial line in series with Tubing
> > elements and running inside the pipes so not to contribute as a
> > radiating element by any flow of current on the outside conductor.
> ...
> I'm sorry to say that email to your "from" address on this subject
bounced.
>
> Cheers,
> Tom

4075. Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 01:39:35 UTC
From: AL KA5JGV <ABurzynski@nojunk.satx.rr.com>
Message-ID: <rTVya.14362$ui.618034@twister.austin.rr.com>
Source record: 117477

In the previous post, Does a Tuner Help on Receive?, the majority seem to be in agreement that a tuner pumps up the noise equally with the signal. But what if one wanted to improve the signal to noise ratio. What does one do to improve it? How do you increase signal strength but not the noise? Or, how do I suppress noise and leave the signal strength as is? Are we just stuck with what we have?

Al
KA5JGV

4076. Re: Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 01:49:14 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecc2d68_4@news1.prserv.net>
Source record: 117478

www.pasternack.com

50 foot minimum.

--
Crazy George
Remove NO and SPAM from return address
"K9SQG" <k9sqg@aol.com> wrote in message
news:20030521203530.09179.00000119@mb-m21.aol.com...
> I'm looking for some small diameter coax, like RG-174, but with a higher
power
> rating. Where might I find some other than a 500 foot roll?
>
> Thanks.
>
> Evan

4077. Ole Jerry has been puttering again.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 01:57:51 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <y5Wya.44572$jH2.15969@fe09.atl2.webusenet.com>
Source record: 117480

I post this in the hope that it might help someone in a same predicament as me.

Recently I bought an S-10 pickup and began to prepare to set up my HF mobile. I went and looked at Drawtite-style hitches, but chafed a bit at the 90-100 buck cost plus installation. I looked under the truck and saw I could make an antenna receiver myself. I had bought an "L" shaped screwdriver mount as seen by *some* manufacturers at a hamfest. Yesterday, I visited a metal supplier/scrap yard and picked up a 6 foot piece of square tubing that would accept the smaller
"L" bracket. I carefully drilled holes as required to accept a hitch pin so as to slide the L piece
in at the side. I also got some 1/2" X 4" bolts and drilled under/behind the chassis and bumper.
Then I painted the whole assembly black and mounted it up using a garage jack and some C clamps. Cost? $18.00 for the tubing, $20 for the the hamfest L bracket, and a couple of bucks
worth of bolts, washers, nuts, and U clamps. And the piece I cut off (I actually cut the tubing a
bit long--just in case) is just long enough to make a receiver for a trailer hitch.

Now, I do admit that I have a small shop in my garage (after all, I build screwdrivers)--metal saws,
Shopsmith whose drill press is powerful enough to handle heavy steel, various wrenches and hand tools, but if you have access to drills and wrenches, etc, you can save a bit of money. And some-
times, vehicles can be a bit pesky when trying to mount an antenna.

I just thought I'd pass this along. With a bit of imagination, and a few tools, a ham can contruct a
receiver mount and save a pretty good chunk of change into the bargain.

73

Jerry
K4KWH

4078. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 01:58:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1qaocvc0m2dahdpmbvlpa0e7jfus0r0ppj@4ax.com>
Source record: 117479

On Thu, 22 May 2003 01:39:35 GMT, "AL KA5JGV"
<ABurzynski@nojunk.satx.rr.com> wrote:

>In the previous post, Does a Tuner Help on Receive?, the majority seem to be
>in agreement that a tuner pumps up the noise equally with the signal. But
>what if one wanted to improve the signal to noise ratio. What does one do to
>improve it? How do you increase signal strength but not the noise? Or, how
>do I suppress noise and leave the signal strength as is? Are we just stuck
>with what we have?
>
>Al
>KA5JGV
>

You attempt to perform some form of noise canceling, there are more
than several.

The canceling can take place anywhere in the signal path, and each
point of entry has different requirements, and limitations. One
method employs a noise antenna to serve as the source of noise that is
then combined out of phase with the Signal+Noise to reduce that path.
Trick is, how do you get an antenna to listen to noise only (why don't
you just buy an antenna that listens to Signal only?). Answer there
is that some noise, generally local noise, will dominate the little
sniffer antenna. This signal is injected into the IF where frequency
is constant, and phase shifting can be controlled.

Sharper filters in the IF also slice out the interference. Sharper
really means steeper skirt edges so you don't also degrade audio
performance in seeking higher Q's. This is being solved by expensive
IF DSP - but more about its cheaper AF cousin below.

One unique form I built for my professor in school is the Quadrature
Detector. It was a pain to build back then, a breeze now. There are
other variants of this.

Another answer is in the Audio path with clipping diodes. This cheap
and simple fix pulls down wide swings of noise, but ultimately a
limiter can only stop it down to equal that of the signal of interest.
Some noise cancelers use a variable clipping that has an "attack"
setting to follow fast noise, snubbing it, but to ignore slow signal
content and allowing it to pass.

There are also T notch filters that can remove whistles of
heterodyning and other spurs.

And of late, we have the miracle of electronics, DSP. The advances in this regard have been enormous, so much so that it goes back to needing dynamic range so that the software can follow the signal down and pull it out. Then it pays to have more RF sensitivity.

73's
Richard Clark, KB7QHC

4079. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:00:19 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecc3183_3@news1.prserv.net>
Source record: 117481

Well. Al,
There are a couple of approaches. Digital signal post-processing is one.

The other is that neither signal nor noise fields are homogeneous. There are various antenna configurations which can take advantage of this fact. Beverages for one, loops for another. Then, the phase and subtract technique as implemented by MFJ and others can often help reduce ONE problem or the other. From any given antenna, there is not much you can do to the stuff coming out of the end of the feed line to improve things, other than common mode stuff which should never be there to begin with.

One caveat: This analysis is based on installations which are done according to good engineering practice. If you are using a wire thrown over a tree and onto a chain link fence, forget it. I guess the first statement above should have been: You can improve the signal to noise ratio by selecting the right antenna and installing it correctly.

--
Crazy George
Remove NO and SPAM from return address
"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:rTVya.14362$ui.618034@twister.austin.rr.com...
> In the previous post, Does a Tuner Help on Receive?, the majority seem to
be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do
to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?
>
> Al
> KA5JGV
>
>

4080. Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:39:05 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcoe0qess94507@corp.supernews.com>
Source record: 117482

Experience in Michigan is consistent with what Cecil has said. Since it has taken significant training to qualify for a CPL, no licensee has committed a crime involving a firearm.
In that same period, a number of policemen and others of high position have committed such crimes.

The more important point involves the many, many more people who do not have a CPL and yet will not be attacked because they might. Part of the elegance of a system such as the one in Michigan, and a few other States, is that a criminal can not tell from gender or status information if a person is an easy mark or not. 73 Mac
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECBF2FE.3080502@ieee.org...
<snip>
> As a data point, people with concealed weapons permits commit
> fewer crimes per capita than the general population. Chew on
> that one for awhile.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>

4081. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:43:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECC3944.2000407@ieee.org>
Source record: 117483

Dr. Slick wrote:
> Why is it you cannot admit that you contradicted yourself?

A stub is at the same time just as lossy and just as lossless as it
can possibly be. It is whatever it is. Most people understand that
and are tiring of your ignorance of the English language. So am I.

I request again - please present some *technical* point upon which
you and I disagree. Your dislike of my style is not very technical.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4082. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:46:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECC39F7.50003@ieee.org>
Source record: 117484

Dave Shrader wrote:
> W5DXP wrote:
>> Good point! The only people who obey gun laws are law-abiding
>> citizens. Therefore, gun laws penalize law-abiding citizens
>> and don't work on criminals. What's wrong with this picture?
>
> Hmmm... ? The US and the states/counties/cities/towns have a total of
> more than 20,000 laws that do not infringe your/my right to keep and
> bear arms!!

And how many laws do infringe my right to keep and bear arms? My SKS
is perfectly legal in Texas and illegal in California. I can carry
concealed in Texas but not in California.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4083. Re: Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:49:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECC3AB5.4010700@ieee.org>
Source record: 117485

K9SQG wrote:
> I'm looking for some small diameter coax, like RG-174, but with a higher power
> rating. Where might I find some other than a 500 foot roll?

RG316 teflon from The Wireman. 60 cents a foot.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4084. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 02:51:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECC3B42.4060607@ieee.org>
Source record: 117486

AL KA5JGV wrote:
> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?

There are various noise reducing devices. For instance, localized noise can
sometimes be superposed out.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4085. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 06:25:46 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <8vqocv0sbvamhae6oesgakffsqo4p163h8@4ax.com>
Source record: 117487

On 21 May 2003 15:56:16 -0400, Steve Miller <millersg@qrt.dma.org>
wrote:

>Roger Halstead <rdhalste@tm.net> wrote:
>:Steve Miller <millersg@qrt.dma.org> wrote:
>:: Just a quick comment on your antenna installation as seen on your web
>:: site. The forces causing your rotor and mast damage can be greatly
>:: alleviated by simply remounting all the VHF antennas at the center of
>:: their booms (like the TH-5).
>:
>: The VHF are, but the two UHF are not. They are the little short ones.
>: I've thought about replacing them with the larger (more elements)
>: center mounted.
>
>At http://www.rogerhalstead.com/tower5.htm (and double checking with a
>ruler), it appears that both the 6m and 2x2m Yagis have longer 'half
>booms' on the director versus the reflector end. This image shows the
>mounts not at the physical center of the boom (more likely near the
>center of gravity). If this is representative of your installation,
>the 6m Yagi would likely contribute the most torque.
OK, I see what you are getting at now.

For wind and gravity the beams are mounted at the Center of gravity
and not length. Particularly with the 6-meter antenna there is more
aerodynamic drag aft of the physical center than forward.
Unfortunately this gives an asymmetrical load when winds come from the
side.

In either case I have a choice. Center of gravity mount (the easiest)
and also gives better survivability with ice storms.

The only problem I've had with the system since getting the Big Boy
was the pin shearing in 70 plus MPH winds. I'm surprised that all the
antennas survived as they are only rated for 80 MPH.

BTW, the TH-5 mounts at the center of gravity as well.
It balances nicely on the mount when set on a flap surface.

The tower installation is rated at well over 90 MPH.

I'm going to do two things. One is to use a larger pin in the mast
coupling. The other is a rotor clamp that has a bit of give in it, but
I have to be careful to avoid resonance which would tear the whole
works apart.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com

N833R World's oldest Debonair? (S# CD-2).
>
>73,
>Steve N8SM

4086. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 06:53:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bahs4fbgk1@sparta.btinternet.com>
Source record: 117488

There's nothing you can do about the noise except point the beam in the direction noise the is NOT coming from.

In effect, the noise-cancelling method using a second antenna does exactly the same thing. It just puts a notch in the resulting radiating/receiving pattern.

Reg, G4FGQ

4087. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 07:01:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcoteut6bjvsc6@corp.supernews.com>
Source record: 117489

Several methods have been suggested. Another is to use a directional antenna. That way, noise from directions other than the direction(s) favored by the antenna are attenuated. This approach helps only if the antenna or pattern can be rotated or a fixed antenna happens to be positioned to favor the direction the signal is coming from, or to reject a particularly strong source of noise. For example, I've used a 4 square vertical array on 40 meters. I can easily hear the south Pacific when the array is pointed to null out the thunderstorms from the Midwest and Gulf coast at night, while I can't hear those stations with a single vertical. On the other hand, it doesn't help me to hear stations in the same direction as the thunderstorms, since they're by far the major source of noise.

Roy Lewallen, W7EL

AL KA5JGV wrote:
> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?
>
> Al
> KA5JGV
>
>

4088. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 07:24:29 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305212324.3c9b6ef1@posting.google.com>
Source record: 117490

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<7ihncvk4ltpuk98gs3971tc8poa5pgkhtc@4ax.com>...
> On 21 May 2003 15:54:05 GMT, tdonaly@aol.com (Tdonaly) wrote:
>
> >If I remember correctly, Slick started this. He's finding out, the
> >hard way, that Cecil could drive a statue crazy with his rhetoric and
> >mule-headedness. No mercy, Slick!
>
> The lad doesn't recognize the fine Borgia hand and sips each drink
> offered.
>

Then I spit it back into Cecil's face.

I never accepted Cecil's double speak.

Slick

4089. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 07:41:44 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305212341.9acda86@posting.google.com>
Source record: 117491

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<qrencvgjk37p5dpmda3hdi233fov3v32ac@4ax.com>...
>
> Where was the source/load in the beginning, and where are they after
> your soldering? Books on Filter design are full of this stuff. The
> practical implementations of lumped circuits v. resonant lines may be
> differentiable; but when you put aside loss, then the differences fade
> into the wallpaper.
>

```
_____ ____
S11---_____1/4 wave____short

_____ ____
/--_____1/8 wave____short
S22--- [_____ ____
\--_____1/8 wave____open
```

"[" denotes soldered outer braid of coax, also attached to the
ground of the S22 port.

```
/---inductor +jZo----\
S33--- !---ground, also attached to the
ground of S33
\---capacitor -jZo---/ port.
```

Whew! Ok, as per this discussion, all of the above impedances should
be very close to an ideal open assuming minimal losses.

It would be a fun experiment if one had access to a vector network
analyzer, to measure S11 and S22 to see how close they really are to
an ideal open on the "bench" as opposed to the theoretic ideal.

Slick

4090. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 07:52:47 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcp0fcgaldl0d6@corp.supernews.com>
Source record: 117492

I see I am not the only insomniac waiting for a 20 meter opening.
And 40 meters, at 3-or-4-in-the-morning with the BiggIR vertical and 4,000
feet of fence for a "ground", rocks.
73 es gud dx
H.

"Dr. Slick" <radio913@aol.com> wrote in message
news:1d15af91.0305212341.9acda86@posting.google.com...
> Richard Clark <kb7qhc@attbi.com> wrote in message
news:<qrencvgjk37p5dpmda3hdi233fov3v32ac@4ax.com>...
> >
> > Where was the source/load in the beginning, and where are they after
> > your soldering? Books on Filter design are full of this stuff. The
> > practical implementations of lumped circuits v. resonant lines may be
> > differentiable; but when you put aside loss, then the differences fade
> > into the wallpaper.
> >
>
> _____ ____
> S11---_____1/4 wave____short
>
>
>
> _____ ____
> /--_____1/8 wave____short
> S22--- [_____ ____
> \--_____1/8 wave____open
>
>
> "[" denotes soldered outer braid of coax, also attached to the
> ground of the S22 port.
>
>
>
> /---inductor +jZo----\
> S33--- !---ground, also attached to the
> ground of S33
> \---capacitor -jZo---/ port.
>
>
>
> Whew! Ok, as per this discussion, all of the above impedances should
> be very close to an ideal open assuming minimal losses.
>

> It would be a fun experiment if one had access to a vector network
> analyzer, to measure S11 and S22 to see how close they really are to
> an ideal open on the "bench" as opposed to the theoretic ideal.
>
>
> Slick

4091. Help SGC230 Schematic please?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 08:28:32 UTC
From: "Robin T. Greenwood" <Robin@g3lba.freeserve.co.uk>
Message-ID: <bai585$pq4$1@news6.svr.pol.co.uk>
Source record: 117494

Please can anyone send me the schematic for the SGC230 Auto ATU. I have a sick one, and have lost the original schematic. My ATU is circa 1990 has the MC3393P prescaler fitted and is an issue M board. Later circuits are completely different. I need only the part of circuit for the RF sensing and the processor.
Thanks.G3LBA

P.S. the SGC site only has present day schematic.

4092. Microstrip Patch Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 08:53:25 UTC
From: Miguel Alba <miguel_pad@terra.es>
Message-ID: <9e0za.36087$u6.54642@telenews.teleline.es>
Source record: 117493

Somebody know where can I find a tutorial of a homebrew microstrip antenna for wireless aplication? (2.4 GHz)

thanks

4093. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 11:24:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECCB377.3060509@ieee.org>
Source record: 117495

Dr. Slick wrote:
> I never accepted Cecil's double speak.

Which means you never accepted reality. Since there is no
such thing as a lossless stub, degrees of losslessness in
stubs simply do NOT exist. I recognized that fact from the
moment you introduced your "LOSSLESS as can be" concept.
Virtually anything you can say about lossless stubs is true
and absolutely meaningless.

Examples:
If lossless stubs existed, Dr. Slick would be right.
If lossless stubs existed, Dr. Slick would still be wrong.

Both of those statements are logically true. If you don't
understand that, I suggest you read a good logic textbook.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4094. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 12:37:36 UTC
From: richardharrison@webtv.net
Message-ID: <14600-3ECCC490-154@storefull-2316.public.lawson.webtv.net>
Source record: 117496

Cecil, W5DXP wrote:
"---degrees of losslessness do not exist."

Nonsense!

A stub can be 10% lossy or 90% lossless.. Just as Ivory Soap can be 99 and 44/100% pure.

Best regards, Richard Harrison, KB5WZI

4095. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 13:56:53 UTC
From: richardharrison@webtv.net
Message-ID: <28691-3ECCD725-62@storefull-2315.public.lawson.webtv.net>
Source record: 117499

Al, KA5JVG wrote:
"---the majority seem to be in agreement that the tuner pumps up the noise equally with the signal."

The majority is often wrong. A tuner is frequency selective. Noise is often broadband. The tuner selectivity is poor as compared with the receiver, but the tuner often prevents noise overloads that would inextricably combine the noise with the desired signal.

Other techniques of noise avoidance include high directivity in the antenna system. Noise often originates from various directions. A sharp antenna beam only accepts noise from the direction of the desired signal source.

Diversity in antennas of site and type can be used to select the antenna with the best S/N ratio at the moment. With only space diversity, antennas only 10 wavelengths apart have wide variations in the instantaneous signal strengths being received in the various antennas. Strength of the noise and interference being received is not directly coordinated in all antennas simultaneously. Polarization diversity is effective in some instances at HF.

Most severe noise is local. Ground-wave polarization is vertical. There is no ground wave propagation of horizontally polarized waves. So, horizontally polarized antennas are often quieter than vertically polarized antennas.

Much severe noise is impulsive. Most common is automobile ignition noise. The "noise-blanker" was devised to handle impulse noise. A separate noise antenna isn`t needed. Wideband impulse noise can be sensed outside the signal passband. The received pulse is received by design sooner than the desired signal and is used to turn-off the receiver for the duration of the pulse. The Motorola "Extender Circuit" is an outstanding example of this noise blanker. It was supplied with a blanker in / out switch to demonstrate its effectiveness.

Balanced antennas are another example of noise reduction. Often noise will be picked up as a common-mode on the balanced system. In a well balanced system no voltage difference from the common-mode noise appears across the balanced receiver input.

Regardsless of what the majority says, there are very effective noise avoidance techniques.

Best regards, Richard Harrison, KB5WZI

4096. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:03:00 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcpm5e76909gf4@corp.supernews.com>
Source record: 117497

and this can be the longest thread since I had an ARPANET account
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:14600-3ECCC490-154@storefull-2316.public.lawson.webtv.net...
> Cecil, W5DXP wrote:
> "---degrees of losslessness do not exist."
>
> Nonsense!
>
> A stub can be 10% lossy or 90% lossless.. Just as Ivory Soap can be 99
> and 44/100% pure.
>
> Best regards, Richard Harrison, KB5WZI
>

4097. Re: Ole Jerry has been puttering again.....

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:09:58 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ECCDA36-170@storefull-2315.public.lawson.webtv.net>
Source record: 117503

Congratulations!
There`s great satisfaction in a job done well.

Best regards, Richard Harrison, KB5WZI

4098. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:14:10 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3ECCDB32.5000507@mwci-news>
Source record: 117498

AL KA5JGV wrote:
> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?
>
>

Modern receivers are designed to operate most efficiently from a 50 ohm source (generator). If that impedance is not 50 ohms the signal power and antenna noise power that are "available" to the receiver are reduced. If the antenna noise is at least 10 dB greater than the internal noise of the receiver, the signal-to-noise (S/N) ratio is not significantly degraded by the mismatch. But S-meter calibration (done at 50 ohms) can be degraded.

If the antenna source impedance is much different than 50 ohms, a degradation of S/N can occur, especially at higher HF frequencies (10 meters for example) where antenna noise is less. A low-noise preamp of 6 to 8 dB in the receiver can be very useful at the higher frequencies. An antenna tuner is definitely a good idea also in this highly mismatched situation. The same tuner that is used by the transmitter is very good for this.

At any frequency, a directional antenna, such as a rotary beam, can be very effective in improving signal-to-noise (S/N) ratio by several dB or more. The reason is that the total amount of antenna noise to the receiver tends to remain roughly the same, assuming the noise is equally strong (not always exactly true) from all directions, but the desired signal is stronger, because of the antenna gain. This S/N improvement is one of the big (but not always appreciated) features of directional antennas, especially the rotary beam antenna with its unidirectional pattern.

Another way to improve S/N is to shape the receiver selectivity to the minimum value needed

for reception. Adaptive digital filters and special analog filters, especially cascaded filters, can do this. Cascaded filters reduce receiver wideband internal noise that is generated in IF amplifier stages.

Bill W0IYH

4099. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:27:05 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baimnpreo1@hercules.btinternet.com>
Source record: 117500

A tuner doesn't help. But a pre-selector does.

Similar circuits. Different L and C's.

SELECTIVITY, not conjugate matching, is the keyword.

Reg.

4100. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:31:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECCDF4F.9020309@ieee.org>
Source record: 117502

Richard Harrison wrote:
> Cecil, W5DXP wrote:
>> "---degrees of losslessness do not exist."

> A stub can be 10% lossy or 90% lossless.. Just as Ivory Soap can be 99
> and 44/100% pure.

And a woman can be 99 and 44/100% pregnant?

You are obviously confusing "90% lossless" with "90%
efficiency". Big difference.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4101. Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:32:38 UTC
From: h4mb0ne@hotmail.com
Message-ID: <b0a445bd.0305220632.41d8620@posting.google.com>
Source record: 117501

Looking for a HF antenna to put in my attic. Using an FT-817 w/ Tokyo Hy-Power HL-50B amp so power will never be more than 50-60 watts. Cost isn't a factor as I have been looking at the CliffDweller II ($40 6-80 meters) all the way to a MFJ magnetic loop ($340 10-30MHz).

Any recommendations would be greatly appreciated.

4102. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 14:55:14 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcpp7c3u3i5td9@corp.supernews.com>
Source record: 117504

BINGO!
Send that man a case of Shiraz.

H.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:baimnpreo1@hercules.btinternet.com...
> A tuner doesn't help. But a pre-selector does.
>
> Similar circuits. Different L and C's.
>
> SELECTIVITY, not conjugate matching, is the keyword.
> ---
> Reg.
>
>

4103. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:00:56 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1053615748.224625@halkan.kabelfoon.nl>
Source record: 117505

"h4mb0ne" <h4mb0ne@hotmail.com> schreef in bericht
news:b0a445bd.0305220632.41d8620@posting.google.com...
> Looking for a HF antenna to put in my attic. Using an FT-817 w/ Tokyo
> Hy-Power HL-50B amp so power will never be more than 50-60 watts. Cost
> isn't a factor as I have been looking at the CliffDweller II ($40 6-80
> meters) all the way to a MFJ magnetic loop ($340 10-30MHz).
>
> Any recommendations would be greatly appreciated.

The magnetic loop is very suitable putting in the attic. It will work just fine from inside the house. An other advantage is the low chances of TVI. The antenna is a band-filter in it self so you will put out a very clean signal and almost no harmonics. On RX the magnetic loop is very quiet and hardly picks up disturbances from electrical equipments. This will result in a usually clear reception of signals.

So I would recommend the magnetic loop. I own several myself. You can check my homepage to read more about it.
--
73, Norbert (PA7NR)
Homepage : http://www.qsl.net/pa7nr/index.html

4104. SGC 239 Box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:12:10 UTC
From: jder8745@aol.com
Message-ID: <20030522111210.09550.00000109@mb-m11.aol.com>
Source record: 117506

Howdy,

Looking for info on a recommended plastic Tupperware box for the SGC 239 Tuner.

tnx es 73 de Jack K9cun

4105. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:31:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9eqpcvgr07g2h2dlocs6v4s6buurqhb2qn@4ax.com>
Source record: 117507

On 22 May 2003 00:41:44 -0700, radio913@aol.com (Dr. Slick) wrote:

> It would be a fun experiment if one had access to a vector network
>analyzer, to measure S11 and S22 to see how close they really are to
>an ideal open on the "bench" as opposed to the theoretic ideal.

Reduce the drawings to lumped circuits, then assemble them in
Electronic Workbench. There is nothing here that hasn't already been
covered 60 Years ago by H.W. Bode. Even at a glance, as drawn there
is:
nothing remarkable = something suitable for Cecil to examine
across 200 postings of restating the obvious ("nearly" as much SWR as
you can "possible" have).

If you were going to the expense to do it right (by using a network
analyzer); then you would probably find more interest in what role you
play in being part of the fields (you are resistive, I presume, and
Cecil would be reactive).

73's
Richard Clark, KB7QHC

4106. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:36:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0erpcvoqbdbs9alv9ggmn3jaodm8uqd96l@4ax.com>
Source record: 117508

On Thu, 22 May 2003 09:03:00 -0500, "H. Adam Stevens"
<solo@totalaccess.net> wrote:
>and this can be the longest thread since I had an ARPANET account
but you are still a newcomer here. This thread hardly holds a candle
to the standard strike points. Double it and you would still be short
of a record.

73's
Richard Clark, KB7QHC

4107. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:37:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <akrpcv4mna5sm32rjksrfa7sdo6ng3g22q@4ax.com>
Source record: 117509

On Thu, 22 May 2003 09:31:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>And a woman can be 99 and 44/100% pregnant?
Only Cecil can find an association between sex and short lossy stubs.

4108. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:39:34 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcprqfbuil4056@corp.supernews.com>
Source record: 117510

fascinating

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:0erpcvoqbdbs9alv9ggmn3jaodm8uqd96l@4ax.com...
> On Thu, 22 May 2003 09:03:00 -0500, "H. Adam Stevens"
> <solo@totalaccess.net> wrote:
> >and this can be the longest thread since I had an ARPANET account
> but you are still a newcomer here. This thread hardly holds a candle
> to the standard strike points. Double it and you would still be short
> of a record.
>
> 73's
> Richard Clark, KB7QHC

4109. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:41:44 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vcprui2475iv89@corp.supernews.com>
Source record: 117511

rotflmao
"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:akrpcv4mna5sm32rjksrfa7sdo6ng3g22q@4ax.com...
> On Thu, 22 May 2003 09:31:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
> >And a woman can be 99 and 44/100% pregnant?
> Only Cecil can find an association between sex and short lossy stubs.

4110. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 15:42:02 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <0qrpcvg0bg7p4gck33iljkvm86i0qlur1s@4ax.com>
Source record: 117512

I would put up the longest dipole I could get in the attic (bending
around the corners if necessary) and hook it to an Icom AH-4 tuner
mounted right at the antenna. See the following for notes on using
the AH-4 with balanced antennas http://www.hamoperator.com/ah4/ah4.htm

Dick - W6CCD

On Thu, 22 May 2003 17:00:56 +0200, "norbert"
<pa7nrNOSPAMMM@hotmail.com> wrote:

>
>"h4mb0ne" <h4mb0ne@hotmail.com> schreef in bericht
>news:b0a445bd.0305220632.41d8620@posting.google.com...
>> Looking for a HF antenna to put in my attic. Using an FT-817 w/ Tokyo
>> Hy-Power HL-50B amp so power will never be more than 50-60 watts. Cost
>> isn't a factor as I have been looking at the CliffDweller II ($40 6-80
>> meters) all the way to a MFJ magnetic loop ($340 10-30MHz).
>>
>> Any recommendations would be greatly appreciated.
>
>The magnetic loop is very suitable putting in the attic. It will work just
>fine from inside the house. An other advantage is the low chances of TVI.
>The antenna is a band-filter in it self so you will put out a very clean
>signal and almost no harmonics. On RX the magnetic loop is very quiet and
>hardly picks up disturbances from electrical equipments. This will result in
>a usually clear reception of signals.
>
>So I would recommend the magnetic loop. I own several myself. You can check
>my homepage to read more about it.

4111. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 16:29:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dtrpcv4keiclp55ihd0fci0ikuga5tqpmt@4ax.com>
Source record: 117513

On Wed, 21 May 2003 22:39:05 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:

>Experience in Michigan is consistent with what Cecil has said. Since it
>has taken significant training to qualify for a CPL, no licensee has
>committed a crime involving a firearm.

Michigan must be a garden of eden compared to Tacoma.

We have had the news full of one such CPL holder who killed his wife
in a parking lot, and then killed himself. This, of course, fulfills
much of the standard Perp characteristics.

This miscreant, a criminal as described by Cecil, was the Police
Chief. His wife had attempted to have papers served on him, but his
fellow CPL holders (other criminals otherwise known as deputies and
officers) shrugged her off. The Police Chief took the precaution in
earlier meetings with her, to take along a witness (another criminal,
also with CPL priveleges) his second in command (a woman in this case,
to lend the air of civility, or to cover his ass - you choose).

This fine upstanding representative of security had been rated unfit
by screeners early in his career. This upstanding citizen, duly
licensed to bear arms legally, was accused of rape some dozen years
ago. The department shrugged that one off too as having no material
substance, even after he confessed.

When investigations climbed the hierarchy of security, it found the
city manager offering to "retire." This of course harkens back to an
earlier episode where the same region had to arrest their Sherrif.

The deterrent of the Death Penalty for these acts, committed by
prestigious citizens lawfully carrying arms was exactly zero- and we
still Hang them here.

73's
Richard Clark, KB7QHC

4112. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 16:43:41 UTC
From: wp20032@aol.com
Message-ID: <20030522124341.09071.00000067@mb-m21.aol.com>
Source record: 117514

>Wayne wrote:
>"you might get a different radio behavior with a low R VSWR vs. high R
>VSWR."
>
>VSWR is ditectly related to reflection coefficient which can be the same
>for loads too low or too high.
>
>So, it all depends on how the load impedance is transformed by the
>length of the line between the load and the radio.
>
>At the radio, too low an impedance may make the radio draw more current.
>Too high an impedance may allow voltage to soar at the radio. Many
>radios have protection circuits to curtail output into excessive loads
>to avoid damage.
>
>Best regards, Richard Harrison, KB5WZI
>
Sorry for the slow response....
Right...and well said. Art seems to observe better matching for a resistive mismatch. My question was whether the same condition occurred at the low R and high R mismatch conditions, as the transmitter design might cause different behavior.

In other words, with a Smith chart constant VSWR circle, does the transmitter itself behave in a constant manner between the left and right sides of the circle.

--Wayne

4113. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 17:10:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD046B.8020202@ieee.org>
Source record: 117515

Richard Clark wrote:
> nothing remarkable = something suitable for Cecil to examine
> across 200 postings of restating the obvious ...

I am always stating the obvious, at least obvious to me. Question
is: Why are there 200 postings arguing against the obvious?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4114. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 17:32:26 UTC
From: h4mb0ne@hotmail.com
Message-ID: <b0a445bd.0305220932.7b3203bf@posting.google.com>
Source record: 117516

Norbert,
Thanks for your post. Yes the magnetic loop does seem like a very good choice.
Mark

"norbert" <pa7nrNOSPAMMM@hotmail.com> wrote in message
news:<1053615748.224625@halkan.kabelfoon.nl>...
> "h4mb0ne" <h4mb0ne@hotmail.com> schreef in bericht
> news:b0a445bd.0305220632.41d8620@posting.google.com...
> > Looking for a HF antenna to put in my attic. Using an FT-817 w/ Tokyo
> > Hy-Power HL-50B amp so power will never be more than 50-60 watts. Cost
> > isn't a factor as I have been looking at the CliffDweller II ($40 6-80
> > meters) all the way to a MFJ magnetic loop ($340 10-30MHz).
> >
> > Any recommendations would be greatly appreciated.
>
> The magnetic loop is very suitable putting in the attic. It will work just
> fine from inside the house. An other advantage is the low chances of TVI.
> The antenna is a band-filter in it self so you will put out a very clean
> signal and almost no harmonics. On RX the magnetic loop is very quiet and
> hardly picks up disturbances from electrical equipments. This will result in
> a usually clear reception of signals.
>
> So I would recommend the magnetic loop. I own several myself. You can check
> my homepage to read more about it.

4115. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 17:46:20 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcq35pr6b72qad@corp.supernews.com>
Source record: 117517

In Michigan, a policeperson does not need, and rarely would have, a CPL. It is quite possible that the Washington Police Chief did not have a CPL because of his status. From what you have described, he would not qualify for a CPL in Michigan.

Once upon a time, all it took in Michigan to receive a CPL was political influence, or its equivalence. This may be true still in other States. Now, it requires a demonstration of training, understanding of the law, and skill (better than that of most city police) and passing an intrusive background check. However, now a regular, honest, man or woman is able, with effort, to qualify for a CPL - where previously they were excluded.

Eventually, a civilian CPL holder will commit a crime involving a firearm in Michigan. From the experience so far in Michigan, and in other similar States, the rate is much lower than that of the population as a whole and lower than that for police.

In the matter of the police chief: Plato described the problem long ago. The need for civilian oversight has always been present. Let us hope that some good will come from the tragedy. We all know the salutary effects of negative feedback. Our Constitution contains many such negative feedback loops. Let us resolve to see that more such loops are included in the "system."

73 Mac N8TT
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

4116. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:01:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD107A.5080503@ieee.org>
Source record: 117518

J. McLaughlin wrote:
> Let us hope that some good will come from the tragedy.

Some good has already come from that tragedy. That last
bullet did some good.
--
73, Cecil, W5DXP

4117. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:05:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD115F.5050406@ieee.org>
Source record: 117369

Richard Clark wrote:
> We have had the news full of one such CPL holder who killed his wife
> in a parking lot, and then killed himself.
> This miscreant, a criminal as described by Cecil, was the Police
> Chief.

Why would a Police Chief be a CPL holder? Seems that is a very
rare situation. Police Chiefs don't need a CPL to carry a
concealed weapon.
--
73, Cecil, W5DXP

4118. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:12:47 UTC
From: Steve Miller <millersg@qrt.dma.org>
Message-ID: <3ecd131e_1@athena.netset.com>
Source record: 117370

Roger Halstead <rdhalste@tm.net> wrote:

: OK, I see what you are getting at now.

: For wind and gravity the beams are mounted at the Center of gravity
: and not length. Particularly with the 6-meter antenna there is more
: aerodynamic drag aft of the physical center than forward.
: Unfortunately this gives an asymmetrical load when winds come from the
: side.

: In either case I have a choice. Center of gravity mount (the easiest)
: and also gives better survivability with ice storms.

Mounting Yagis at the C.G. is certainly easiest during installation, but this almost never coincides with the best mounting point for wind torque. FYI, Dick Weber, K5IU, authored the definitive articles on Yagi windloading in Communications Quarterly around 1995 where he described the 'cross-flow' principle. It explains the wind forces and disproved a common equation used in windload calculations that was prevalent in ham circles at the time including the ARRL antenna book, antenna manufacturer's windload figures and Leeson's "Physical Design of Yagi Antennas" (which erroneously introduced 'torque compensator' elements based on the flawed equation).

When I moved in late 1998, Dick became a neighbor of mine and taught me much about the mechanical design of Yagis. One relavent design trick is mounting at the boom center to minimize wind produced torque then adding a counterweight (typically at the director end of the boom) to 'weight balance' the antenna. This worked very well for my HF homebrew Yagis at the cost of a slightly heavier antenna.

Anyway, it sounds like your system will be quite durable after the next upgrade. Even so, let's hope those 70+ MPH winds are far & few between!

73,
Steve N8SM

4119. Re: SGC 239 Box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:13:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcq4q05gg09ad3@corp.supernews.com>
Source record: 117371

Be aware that if you put the Tupperware box outside, it'll quickly turn
brittle due to exposure to sunlight.

Roy Lewallen, W7EL

JDer8745 wrote:
> Howdy,
>
> Looking for info on a recommended plastic Tupperware box for the SGC 239 Tuner.
>
> tnx es 73 de Jack K9cun

4120. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:43:05 UTC
From: kenfowler@attbi.com
Message-ID: <ZS8za.423210$Si4.369359@rwcrnsc51.ops.asp.att.net>
Source record: 117372

P L O N K ! !

On 21-May-2003, Richard Clark <kb7qhc@attbi.com> wrote:

> X-Received-Date: Wed, 21 May 2003 18:11:01 GMT (rwcrnsc52.ops.asp.att.net)
>
> On Tue, 20 May 2003 22:13:02 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
> >
> >> > Have you changed your mind and now agree with me? Please answer yes or
> >> > no: Is the SWR in a stub near-infinite? If you say 'yes', you are
> >agreeing
> >> > with me and the argument is over. If you say 'no', then you still
> >disagree
> >> > with me.
> >>
> >> Fuck you, i never disagreed with you on this.
> >>
> >>==========================
> >
> >Aren't you USA citizens such a juvenile, accrimonious, agressive, armed to
> >the teeth bunch !
> >
> You had a choice to march against our most obvious application of
> this, or wander to the pub. The rest of the world sees you just as
> repugnant, bloke.
>
> We have a very insecure leader elected by a very insecure population
> that responds to security alerts (raised to a higher level today) that
> have evidenced absolutely nothing (to no obvious suppression of any
> actual attempt).
>
> We are on the razor's edge of SARS and a very simple scenario of
> run-away fear where a passenger on board an airplane first asks the
> armed pilot to shoot a coughing asian passenger. The aerospace
> industry is set to collapse.
>
> Suicide Bomber = Snotty nosed infant?
>
> The trembling Right Whiners haven't got a clue when it comes to
> security. Their solution to the equation above is to shoot first and
> ask questions later (and then succumb after having infected their
> community).
>

> 73's
> Richard Clark, KB7QHC

4121. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 18:55:28 UTC
From: wp20032@aol.com
Message-ID: <20030522145528.27374.00000119@mb-m03.aol.com>
Source record: 117373

>> > Looking for a HF antenna to put in my attic. Using an FT-817 w/ Tokyo
>> > Hy-Power HL-50B amp so power will never be more than 50-60 watts. Cost
>> > isn't a factor as I have been looking at the CliffDweller II ($40 6-80
>> > meters) all the way to a MFJ magnetic loop ($340 10-30MHz).
>> >
>> > Any recommendations would be greatly appreciated.
>>
A low cost, reasonable performer is simply a square loop mounted horizontally in the attic, fed with coax via a tuner. Just make the loop as big as you can. Mine is about 16 feet/side and does a reasonable job on 20-10.

With any indoor antenna, you may transmit into unwanted devices. In my case, the horizontal loop was just a few feet away from the microprocessor controlled thermostat for the central heat/AC. That one blew up. On the new one, I mounted ferrite beads to isolate the control wiring, and everything is fine.

--Wayne

4122. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:10:28 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305221110.79552f55@posting.google.com>
Source record: 117374

"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:<rTVya.14362$ui.618034@twister.austin.rr.com>...
> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?

Depends on where the noise is coming from, and what its
characteristics are. Generally on HF and below, it doesn't take much
of an antenna to get the noise contribution delivered by the antenna
to the receiver to be dominant. But at UHF and above, it can be
important to grab all the signal you can and deliver it to the
receiver front end, because atmospheric noise is lower. Note that the
best noise figure is in general not with the receiver input matched to
the source (antenna) impedance. And if the noise is not random, no
matter where it's coming from, there is some hope of getting rid of
it, as with a noise blanker; similarly if you have a priori knowledge
about the signal you are trying to receive, there may be processing
you can do to enhance your ability to decode the message (copy the CW
or make out the voice or...) Bandwidth limiting is one thing, but
there are other possibilities for signal processing if you are really
serious. If the receiver noise doesn't dominate, and you've done all
you can with signal processing, then you have to focus on the antenna
itself (given sufficient receiver front end linearity). As others
have said, the antenna pattern can enhance the signal-to-noise ratio,
so long as the noise source isn't coincident with the signal source.
For example, if the noise is embedded in the transmitted signal,
there's not much you can do about it (as with many broadcast TV
shows!)

Cheers,
Tom

4123. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:28:39 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3ECD24E7.5090707@mwci-news>
Source record: 117375

WP20032 wrote:
>
> In other words, with a Smith chart constant VSWR circle, does the transmitter
> itself behave in a constant manner between the left and right sides of the
> circle.

Broadband solid-state power amplifiers are usually
designed for a 50 ohm pure resistance load. They
usually operate quite well over a 1.5:1 SWR, which
is a circle on the Smith chart that passes through
75 ohms R and 33.3 ohms R, and various complex
impedances on the circle. At various points on
this circle the PA works "OK" but probably not at
its most optimum. Problems such as degradation of
intermodulation distortion and stability
degradation and transistor overheating due to
reactive components in the load impedance are
things to look for.

It is common practice to perform "load pull"
testing, which means varying the load impedance to
several different values on the 1.5:1 SWR circle.
This testing is often also done on a 2.0:1 circle
for additional stability confidence. This is
repeated at many different frequencies to assure
reliable operation on, for example, each amateur band.

Vacuum tube amplifiers with tuned output networks
can be adjusted so that the tubes always see
(within reasonable limits) the correct value of
resistive plate load impedance.

Bill W0IYH

4124. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:35:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2e9qcv451ok1iorq50d4doftv7dikqkrl0@4ax.com>
Source record: 117376

On Thu, 22 May 2003 11:01:30 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>J. McLaughlin wrote:
>> Let us hope that some good will come from the tragedy.
>
>Some good has already come from that tragedy. That last
>bullet did some good.

Would you like to send that in the card and flowers to their children?

4125. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:44:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gk9qcv02opcehn7an1dtu2b0kampkun28b@4ax.com>
Source record: 117377

On Thu, 22 May 2003 11:05:19 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> We have had the news full of one such CPL holder who killed his wife
>> in a parking lot, and then killed himself.
>> This miscreant, a criminal as described by Cecil, was the Police
>> Chief.
>
>Why would a Police Chief be a CPL holder? Seems that is a very
>rare situation. Police Chiefs don't need a CPL to carry a
>concealed weapon.

Why would an honest citizen shoot his unarmed wife is the larger
question. Your solution would have been for her to arm herself?
Given the support of the police, that was her only chance.

When police have guns, the only protection we will find will be in
buying illegal arms from crooks. Support current legislation offered
by the Right Whiners to reduce the liability of seedy gun shop owners
who supply snipers. Tell the dead along the bullet riddled corridors
of the Capitol that "entitlements" went the way of the buggy whip and
Bill Clinton.

73's
Richard Clark, KB7QHC

4126. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:47:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <29aqcvsg3cctai1goqvjrc822ac6nk1ue2@4ax.com>
Source record: 117378

On Thu, 22 May 2003 12:10:03 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Why are there 200 postings arguing against the obvious?
like your post?

4127. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 19:58:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baja4g$8tf$1@hercules.btinternet.com>
Source record: 117379

H., How thoughtful of you to give ample warning.

As cases cannot be posted through the letter box flap I have left a sticky message inside the glass in the front door to inform the postman the door is unlocked and please open it to leave packages inside the porch.

==========

"H. Adam Stevens" wrote -

> BINGO!
> Send that man a case of Shiraz.

==========

"Reg Edwards" wrote -
> .
> > A tuner doesn't help. But a pre-selector does.
> >
> > Similar circuits. Different L and C's.
> >
> > SELECTIVITY, not conjugate matching, is the keyword.
> >
> > Reg.

4128. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:18:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD307B.6060802@ieee.org>
Source record: 117380

Richard Clark wrote:
> <Cecil.A.Moore@ieee.org> wrote:
>>Some good has already come from that tragedy. That last
>>bullet did some good.
>
> Would you like to send that in the card and flowers to their children?

No, I would like to go back in time and shoot
the bastard before he murdered their mother.
--
73, Cecil, W5DXP

4129. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:22:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD3197.8080808@ieee.org>
Source record: 117381

Richard Clark wrote:
> Why would an honest citizen shoot his unarmed wife is the larger
> question. Your solution would have been for her to arm herself?

Your solution is for her to disarm herself?
--
73, Cecil, W5DXP

4130. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:24:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD31F4.1000409@ieee.org>
Source record: 117382

Richard Clark wrote:
> <Cecil.A.Moore@ieee.org> wrote:
>>Why are there 200 postings arguing against the obvious?
>
> like your post?

Nope, I was thinking more of yours and Dr. Slick's.
--
73, Cecil, W5DXP

4131. Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:43:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD3670.5010802@ieee.org>
Source record: 117383

The other day, I reported that any constructive interference
had to be equaled by the destructive interference. Many argued
with my statement and I couldn't find my reference at that time.
Here's the reference from _Optics_ by Hecht, 4th Edition, section
4.11, page 138.

"Interference is a nonlocalized phenomenon; it cannot happen
at only one single point in space."

"The principle of Conservation of Energy makes it clear that
if there is constructive interference at one point, the "extra"
energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

These facts seem obvious to me. I find it hard to believe that
anyone questions them.

These facts fit perfectly with my idea that the constructive interference
energy on the load side of a Z0-match point must be supplied by an
equal magnitude of destructive interference energy from the source
side of the Z0-match.
--
73, Cecil, W5DXP

4132. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:52:32 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <v1eqcvgft0n0b4u7bd3vat7833hvdns24g@4ax.com>
Source record: 117384

On Thu, 22 May 2003 13:22:47 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Why would an honest citizen shoot his unarmed wife is the larger
>> question. Your solution would have been for her to arm herself?
>
>Your solution is for her to disarm herself?

Do you support the sniper hugger legislation?

4133. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:56:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <15eqcv85bo309lqc5cr5pe1stmnv6g3pvj@4ax.com>
Source record: 117385

On Thu, 22 May 2003 13:43:28 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>The other day, I reported that any constructive interference
>had to be equaled by the destructive interference. Many argued
>with my statement and I couldn't find my reference at that time.
>Here's the reference from _Optics_ by Hecht, 4th Edition, section
>4.11, page 138.
>
>"Interference is a nonlocalized phenomenon; it cannot happen
>at only one single point in space."

Already pointed out some years ago to you Cecil.

>
>"The principle of Conservation of Energy makes it clear that
>if there is constructive interference at one point, the "extra"
>energy at that location must have come from elsewhere. There
>must therefore be destructive interference somewhere else."

I've been harping on your failure to balance that conservation for
months, Cecil.

>
>These facts seem obvious to me. I find it hard to believe that
>anyone questions them.

Review your denials of these same facts for these past 6-8 months.

>
>These facts fit perfectly with my idea that the constructive interference
>energy on the load side of a Z0-match point must be supplied by an
>equal magnitude of destructive interference energy from the source
>side of the Z0-match.

And you supply such distorted logic, supported by these same failures
listed above, that you may need time to reflect ;-)

holding your hand, as always, 73's
Richard Clark, KB7QHC

4134. Antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:56:22 UTC
From: Chicago <badams@lvcm.com>
Message-ID: <oTaza.30421$Dr3.870@fed1read02>
Source record: 117388

Does anybody have a antenna design program that could give me the following information:

I have outdoor space on my condo porch for a loop type antenna of 39 feet. This porch is located on a second story building facing the West. Wire would be insulated from the ceiling and walls by plastic clips. What would be the impedance at the feedpoint. I do have a 4 to 1 and 2 to 1 balum. I would probably use a balum with 52 ohm coax going to my antenna tuner. Or I could use 300 ohm twin lead to a antenna tuner then 52 ohm coax to my hf rig....Any help would be appreciated....

Bob

4135. Re: Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:57:20 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecd3a85_4@news1.prserv.net>
Source record: 117387

Since I get a half-dozen Pasternack catalogs every year, I never looked at
their web site to see how poorly it is done. RG-188A/U is the closest size
Teflon coax to RG-174. They do have same for $0.70 a foot, 50 foot minimum
order.

--
Crazy George
Remove NO and SPAM from return address
"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:3ecc2d68_4@news1.prserv.net...
> www.pasternack.com
>
> 50 foot minimum.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "K9SQG" <k9sqg@aol.com> wrote in message
> news:20030521203530.09179.00000119@mb-m21.aol.com...
> > I'm looking for some small diameter coax, like RG-174, but with a higher
> power
> > rating. Where might I find some other than a 500 foot roll?
> >
> > Thanks.
> >
> > Evan
>
>

4136. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 20:58:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4eeqcvsktmrrhsfdb6nto6fb350dfev1qj@4ax.com>
Source record: 117386

On Thu, 22 May 2003 13:24:20 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> <Cecil.A.Moore@ieee.org> wrote:
>>>Why are there 200 postings arguing against the obvious?
>>
>> like your post?
>
>Nope, I was thinking more of yours and Dr. Slick's.
there you go again

4137. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 21:56:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD47A4.7010405@ieee.org>
Source record: 117389

Richard Clark wrote:

> Do you support the sniper hugger legislation?

What's that?
--
73, Cecil, W5DXP

4138. Re: Antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 21:58:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bajh6k$cn8$1@sparta.btinternet.com>
Source record: 117390

"Chicago" wrote
> Does anybody have a antenna design program that could give me the
following
> information:
>
> I have outdoor space on my condo porch for a loop type antenna of 39 feet.
> This porch is located on a second story building facing the West. Wire
would
> be insulated from the ceiling and walls by plastic clips. What would be
the
> impedance at the feedpoint. I do have a 4 to 1 and 2 to 1 balum. I would
> probably use a balum with 52 ohm coax going to my antenna tuner. Or I
could
> use 300 ohm twin lead to a antenna tuner then 52 ohm coax to my hf
> rig....Any help would be appreciated....
>
> Bob
>
==========

Download in a few seconds and run immediately program DIPOLE3 from website below and run it immediately. You won't need a 3-weeks training course.

It will allow you to examine the behaviour and peformance of a geat variety of dipole + twin line + balun + coax + tuner configurations. It does not cover continuous loop antennas but open loops of the same overall length as a dipole will get you in the right ball park. There is no way of accurately modelling any sort of antenna which is indoors clinging to walls. Treat it as a very low bent dipole. You may have replies from people who have been successful in situations similar to yours. Hang up some wire and see what happens. You are sure to get out somewhere on the higher frequencies.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

4139. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 21:59:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD4859.5070304@ieee.org>
Source record: 117391

Richard Clark wrote:
> <Cecil.A.Moore@ieee.org> wrote:
>>These facts seem obvious to me. I find it hard to believe that
>>anyone questions them.
>
> Review your denials of these same facts for these past 6-8 months.

I have offered those same facts as evidence to support my
ideas, Richard. Your Big Lie attempt is not going to work.
--
73, Cecil, W5DXP

4140. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 22:24:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <udjqcv41ee5o93mb41b1g747ofqspa4ue5@4ax.com>
Source record: 117392

On Thu, 22 May 2003 14:56:52 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>> Do you support the sniper hugger legislation?
>What's that?
Never mind Cecil, your complaisance will provide enough support.

4141. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 22:33:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jijqcvkq50sl340hoqtmkjl69ckud16t4h@4ax.com>
Source record: 117393

On Thu, 22 May 2003 14:59:53 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> <Cecil.A.Moore@ieee.org> wrote:
>>>These facts seem obvious to me. I find it hard to believe that
>>>anyone questions them.
>>
>> Review your denials of these same facts for these past 6-8 months.
>
>I have offered those same facts as evidence to support my
>ideas, Richard. Your Big Lie attempt is not going to work.

Uh-Huh.

Speaking of the Big (insert favorite lossy stub here), got a publish
date yet? :-)

Whoops, whipped back 6-8 months ago when the answer was yes, then no,
then maybe, and now (?). It is simple to keep track of time by the
number of acolyte corpses that litter the calendar. But I do enjoy
your sacrifices. The last one squealed like a virgin. (please note,
for the record, the usage of "like")

Good Luck, and 73's
Richard Clark, KB7QHC

4142. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 22:38:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD5178.5090808@ieee.org>
Source record: 117394

Richard Clark wrote:
> Speaking of the Big (insert favorite lossy stub here), got a publish
> date yet?

I haven't heard anything but I also didn't hear anything
either before my last two articles were published. The first
time I knew they were being published was when I opened the
magazine.
--
73, Cecil, W5DXP

4143. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 22:45:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8kkqcv8jl00kuivpn6gd93onja1nis2doh@4ax.com>
Source record: 117395

On Thu, 22 May 2003 15:38:48 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>I haven't heard anything but I also didn't hear anything
>either before my last two articles were published. The first
>time I knew they were being published was when I opened the
>magazine.

Ah! then it will be a surprise to us all. Well then, the next year
should resolve that. Maybe.

I can see your problem with boundary definitions.

73's
Richard Clark, KB7QHC

4144. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 23:01:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECD56B4.DA29C949@uci.edu>
Source record: 117398

W5DXP wrote:
>
> The other day, I reported that any constructive interference
> had to be equaled by the destructive interference. Many argued
> with my statement and I couldn't find my reference at that time.
> Here's the reference from _Optics_ by Hecht, 4th Edition, section
> 4.11, page 138.
>
> "Interference is a nonlocalized phenomenon; it cannot happen
> at only one single point in space."

> "The principle of Conservation of Energy makes it clear that
> if there is constructive interference at one point, the "extra"
> energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."
>
> These facts seem obvious to me. I find it hard to believe that
> anyone questions them.

I actually agree that if you were to first take a measure of the
intensity of two non-coherent sources both illuminating a screen, and
then take two coherent sources of the same intensity as the non-coherent
sources and combine them to produce an interference pattern, the
intensity at the antinodes will excurd as far above the non-coherent
intensity as the intensity at the nodes falls below it. But obviously
the intensity at an interference node is not equal to the intensity at
an antinode. And you can't do math that produces negative intensities.

> These facts fit perfectly with my idea that the constructive interference
> energy on the load side of a Z0-match point must be supplied by an
> equal magnitude of destructive interference energy from the source
> side of the Z0-match.

The caveat is that there is no energy at, or transferred to a
destructive interference node, and therefore can't be considered a
"supply" of energy. 'Energy' doesn't come from there - rather it
refuses to go to the node and must instead go somewhere else. It's
correct to say that the amount of energy that would have been reflected
ends up as transmitted energy. But you can't build an energy reflection
model based on destructive interference as a source of energy, or as a
cause of reflection.

The 'source' of forward transmitted energy is constructive interference
between waves that are moving in the transmitted direction -
specifically, P1 and P2 in your paper. The irradiance equation for
these two in-phase components indeed yields the correct forward power.

75+8.33+(2*SQRT(75*8.33)). The out of phase voltage waves V3 and V4 however do not result in a transfer of energy as is demonstrated by the irradiance equation for P3 and P4. 25+25-(2*SQRT(25*25).

Does this mean energy is destroyed? Of course not. It means that waves which cancel along their path don't transfer energy. The energy in the transmission line manifested as V3 and V4 moves there during the transient period. The alternating fields remain established of course, but in the steady state these fields cancel and no longer provide a conduit for the transfer of energy. No transfer of energy means no power. P3 and P4 fall out of the equation. It also means that tranfer of energy appears as forward power resulting from constructive interference between forward moving waves. And thankfully we don't have to invent a mechanism for cancelled waves, moving in the wrong direction, to somehow turn around somewhere between the discontinuity and the source and head back across the discontinuity toward the load. And as we know from Hecht, it certainly can't happen just "at the impedance discontinuity point".

73 de AC6XG

4145. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 23:22:44 UTC
From: antswitch@tomochka.com
Message-ID: <47c89a30.0305221522.5852a81f@posting.google.com>
Source record: 117396

Roy,

I worked through the example you gave (though my copy of BYDipole gives different SWR readings than yours for some reason, it was the first time I'd opened it) and have a grasp at what is going on. You have to remember to match the Alt Zo impedance on the sweep to the impedance of the line to get consistent results and maybe I was misinterpreting that earlier. I'd already understood how to construct the transmission line, it was the results that were puzzling me.

So, now I have a new puzzle, though. Fine, I can throw in, say, a 300 ohm line, with the intent to drive down my SWR across a broader range of frequencies (in BYDipole if you do that you get higher average SWR, but a nice broad trough instead of a sharp dip as with 50 ohm line). But how do I model or compensate for (in EZNEC) the inevitable mismatch between that 300 ohm line and my radio which stubbornly refuses to offer up anything deviating from 50 ohms?

Yes, a transmatch, a balun here and there, but can I model it in EZNEC so I can see what the results are of those components on the antenna SWR across the frequencies (from my radio's point of view)? That seems to be where my model and my measurements of the actual antenna vary widely.

73,
Casey

4146. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-22 23:24:00 UTC
From: Jack Smith <jsmith@mnsinc.com>
Message-ID: <gkmqcv86uubfi0vhl6uabpoch1330rc5mp@4ax.com>
Source record: 117397

On 22 May 2003 12:10:28 -0700, k7itm@aol.com (Tom Bruhns) wrote:

>"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:<rTVya.14362$ui.618034@twister.austin.rr.com>...
>> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
>> in agreement that a tuner pumps up the noise equally with the signal. But
>> what if one wanted to improve the signal to noise ratio. What does one do to
>> improve it? How do you increase signal strength but not the noise? Or, how
>> do I suppress noise and leave the signal strength as is? Are we just stuck
>> with what we have?
>
>Depends on where the noise is coming from, and what its
>characteristics are. Generally on HF and below, it doesn't take much
>of an antenna to get the noise contribution delivered by the antenna
>to the receiver to be dominant. But at UHF and above, it can be
>important to grab all the signal you can and deliver it to the
>receiver front end, because atmospheric noise is lower. Note that the
>best noise figure is in general not with the receiver input matched to
>the source (antenna) impedance. And if the noise is not random, no
>matter where it's coming from, there is some hope of getting rid of
>it, as with a noise blanker; similarly if you have a priori knowledge
>about the signal you are trying to receive, there may be processing
>you can do to enhance your ability to decode the message (copy the CW
>or make out the voice or...) Bandwidth limiting is one thing, but
>there are other possibilities for signal processing if you are really
>serious. If the receiver noise doesn't dominate, and you've done all
>you can with signal processing, then you have to focus on the antenna
>itself (given sufficient receiver front end linearity). As others
>have said, the antenna pattern can enhance the signal-to-noise ratio,
>so long as the noise source isn't coincident with the signal source.
>For example, if the noise is embedded in the transmitted signal,
>there's not much you can do about it (as with many broadcast TV
>shows!)
>
>Cheers,
>Tom

And, in some cases, one may apply maximal ratio combining to
independent signals arriving from N antennas and achieve a
proportional improvement in S/N. The technology is widely used in
cellular radio systems.

At the risk of *grossly* oversimplifying, think of it as phasing
signals from widely separated antennas so that the desired signal
arrive in phase from both antennas but interference (and noise) arrive

in random phase. The correlated signals add directly, the
de-correlated signals add with random phase and the resultant S/N
improves. Under the right circumstances, 3 dB improvement in S/N for 2
antennas, 6 dB for 4, etc.

Not so practical for ham radio use, but in wide use commercially.

Jack

4147. Re: 'Dan/W4NTI' w4nti@mindspring.com trolls CB groups

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 00:14:58 UTC
From: valmont <radiola.news.invalid@web2news.net>
Message-ID: <32907N498@web2news.com>
Source record: 117399
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Moparholic@hotmailnospam.com wrote:
> Moparholic@hotmailnospam.com wrote:
>> Moparholic@hotmailnospam.com wrote:
>>> Moparholic@hotmailnospam.com wrote:
>>>> Moparholic@hotmailnospam.com wrote:
>>>>> Moparholic@hotmailnospam.com wrote:
>>>>>> Moparholic@hotmailnospam.com wrote:
>>>>>>> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote:
>>>>>>>> Now there is a good point.
>>>>>>>>
>>>>>>>> Dan/W4NTI
>>>>>>>>
>>>>>>>> "Operation "RRCB" Freedom" <atanycost@antitwisty.com> wrote
> etc..
>>>> Me too.
>>>>
>>> OIC.
>>>
>> Good point.
>>
> Agreed.

shut op lawn boy

--
Posted via http://web2news.com the faster web2news on the web

4148. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 00:37:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD6D31.2080608@ieee.org>
Source record: 117400

Jim Kelley wrote:
> But obviously
> the intensity at an interference node is not equal to the intensity at
> an antinode. And you can't do math that produces negative intensities.

The correct modern term is "irradiance" instead of "intensity".
Destructive interference causes the total irradiance to be less
than the average irradiance. Constructive interference causes the
total irradiance to be more than the average irradiance. The destructive
interference energy MUST exactly equal the constructive interference
energy and the constructive interference energy comes from the
destructive interference energy. If the destructive interference
is in one direction in a transmission line, the constructive
interference will, of necessity, be in the only other direction.

> The caveat is that there is no energy at, or transferred to a
> destructive interference node, and therefore can't be considered a
> "supply" of energy.

The fact that destructive interference takes place means that there
is extra energy that has to go somewhere or else a violation of the
conservation of energy principle will occur.

We've been through this before. A mismatched load reflects energy
in the form of reflected waves. The superposition of forward and
reflected waves cause the standing waves so we know the energy from
the mismatched load *is* traveling back toward the source. Under your
scenario, there is no way to get the energy in that rearward traveling
wave turned around to join the forward wave. Sorry about that, Jim, but
you are just going to have to solve that pesky problem. Until you do
actually solve that problem, nothing that you have to say will make
any sense.

So, under your scenario, how do you get the energy in the reflected
wave from a mismatched load turned around and headed back toward
the load? We can use a directional wattmeter and a circulator+load
to prove that it exists so don't bother denying its existence.

Incidentally, here is another quote from _Optics_, by Hecht.

"If two or more electromagnetic waves arrive at point P out-
of-phase and cancel, "What does that mean as far as their
energy is concerned?" Energy can be redistributed, but it
doesn't cancel out."

Sound familiar?
--

73, Cecil, W5DXP

4149. Roof Mounted Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 01:15:59 UTC
From: K4NE <phil.harder@adelphia.net>
Message-ID: <jDeza.113$Ci.220951@news2.news.adelphia.net>
Source record: 117401

After a break from amateur radio to start a family, I am poised to jump back into hamming. My station is ready to go except for antennas.

My desire is to put up some sort of yagi for the high bands and wire antennas for the low. Here's the problem: I live on a small to medium sized city plot that is boardered by tall trees and power lines on three of four sides. (The free side faces a city street.) The only clear space for a tower/antenna is directly above the house. My thought was to install an eight foot tripod tower on the roof to support the yagi and wire antennas, but I hate the thought of mounting anything on a roof and having to deal with the possibility of leaks.

Has anyone had experience with tripod towers? Are they worth the effort? Is there anyone that would talk me out of it?

TNX

Phil, K4NE

4150. Re: Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 01:20:00 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <AHeza.8859$eo1.670017@news20.bellglobal.com>
Source record: 117402

You can also look for RF attenuator 3db or 6db comes in 25W 50W (Heatsink)
continuous and .....size is independent of frequency!
If this is the reason of your search.
--
PO
Remove "tool"
toolbox640@sympatico.ca
"K9SQG" <k9sqg@aol.com> a crit dans le message de
news:20030521203530.09179.00000119@mb-m21.aol.com...
> I'm looking for some small diameter coax, like RG-174, but with a higher
power
> rating. Where might I find some other than a 500 foot roll?
>
> Thanks.
>
> Evan

4151. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:10:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECD8300.91CC17E2@uci.edu>
Source record: 117403

W5DXP wrote:
> So, under your scenario, how do you get the energy in the reflected
> wave from a mismatched load turned around and headed back toward
> the load?

You don't explain it under your scenario. How about you go first. If
it makes sense.....end of argument!

73, ac6xg

4152. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:17:54 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <841rcvokbuja1ivoq293i7teaa5h9322gj@4ax.com>
Source record: 117404

On Thu, 22 May 2003 22:24:57 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Thu, 22 May 2003 14:56:52 -0700, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>>> Do you support the sniper hugger legislation?
>>What's that?
>Never mind Cecil, your complaisance will provide enough support.

Note that Richard has failed to answer the question about his
inflamatory propaganda.

Russ

4153. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:44:24 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vcr2mo8n9dsu90@corp.supernews.com>
Source record: 117405

Many years ago, I was told by a Motorola engineer that their final test
of a new transmitter design (so that the radio had a chance, as he put
it, of surviving on a fire engine) involved connecting a transmission
line to the output that had a movable short. The transmitter was then
keyed and the short was moved to the point where the plates had the most
radiation in the optical band. I no longer remember how long the rig
had to survive. This is an example of going around a curve on Smith
chart.
I wonder what sort of test is used today.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"William E. Sabin" <sabinw@mwci-news> wrote in message
news:3ECD24E7.5090707@mwci-news...
> WP20032 wrote:
> >
> > In other words, with a Smith chart constant VSWR circle, does the
transmitter
> > itself behave in a constant manner between the left and right sides
of the
> > circle.
>
> Broadband solid-state power amplifiers are usually
> designed for a 50 ohm pure resistance load. They
> usually operate quite well over a 1.5:1 SWR, which
> is a circle on the Smith chart that passes through
> 75 ohms R and 33.3 ohms R, and various complex
> impedances on the circle. At various points on
> this circle the PA works "OK" but probably not at
> its most optimum. Problems such as degradation of
> intermodulation distortion and stability
> degradation and transistor overheating due to
> reactive components in the load impedance are
> things to look for.
>
> It is common practice to perform "load pull"
> testing, which means varying the load impedance to
> several different values on the 1.5:1 SWR circle.
> This testing is often also done on a 2.0:1 circle
> for additional stability confidence. This is
> repeated at many different frequencies to assure
> reliable operation on, for example, each amateur band.

>
> Vacuum tube amplifiers with tuned output networks
> can be adjusted so that the tubes always see
> (within reasonable limits) the correct value of
> resistive plate load impedance.
>
> Bill W0IYH
>

4154. WANTED-DIRECTIONS

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:46:21 UTC
From: n2ion@aol.com
Message-ID: <20030522224621.27532.00000150@mb-m03.aol.com>
Source record: 117406

I'M IN NEED OF THE DIRECTIONS TO INSTALL AN ICOM UT-40 IN A IC-32AT.

EMAIL IF YOU HAVE THEM

4155. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:55:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECD8DBE.8000106@ieee.org>
Source record: 117408

Jim Kelley wrote:
> W5DXP wrote:
>>So, under your scenario, how do you get the energy in the reflected
>>wave from a mismatched load turned around and headed back toward
>>the load?
>
> You don't explain it under your scenario. How about you go first. If
> it makes sense.....end of argument!

You refuse to answer that simple question, Jim, and that's the problem with your scenario. It is doomed from the start. You must resolve that difficulty before you can proceed with your scenario. Here's a mental experiment that will help. And everyone is invited to participate.

You are in a room. Through a hole in the wall comes a 150 ohm transmission line. In the middle of the room, that transmission line is terminated in a 50 ohm resistive load. The voltage across that resistor is 61.24 volts RF. The current through that resistor is 1.225 amps RF. Is there a reflected wave? Is there any energy in that reflected wave? Is that system matched or not?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4156. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:56:16 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305221856.69aa7e6e@posting.google.com>
Source record: 117407

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<baimnpreo1@hercules.btinternet.com>...
> A tuner doesn't help. But a pre-selector does.
>
> Similar circuits. Different L and C's.
>
> SELECTIVITY, not conjugate matching, is the keyword.
> ---
> Reg.

Dunno, my tuner plays "preselector" ok. Probably not as good as a real preselector, but it does cut the crud in my receiver. One case is using my IC-706 on 160m. I get some BC spurs across that band. The MW field strength here is very strong from a couple of locals. It seems the filter is borderline at stopping the MW signals. My tuner totally knocks that stuff out. A preselector is better, but a regular tuner can reduce out of band signals down to a level usually managable by the radio in many cases. MK

4157. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 02:58:53 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305221858.458ef4e0@posting.google.com>
Source record: 117409

"William E. Sabin" <sabinw@mwci-news> wrote in message Bill, very nicely put.
What I was working on at the time was a single element radiator
where I had the ability to remove reactance within the radiator
and relied on the inbuilt solid state tuner in the rig to
do its thing with respect to resistance mismatch.
I was quite surprised how much broader frequency
bandspread was now useable when, tho resonant the radiator reached
high SWR numbers without crippling the transmitter .
With the above observation I was able to choose a central value balun
(4:1)
that allowed use of multi bands without creating transister
overheating, since it is reactance that is normally the restrictive
figure that dominates bandwidth.
Thanks for your insights
Art

news:<3ECD24E7.5090707@mwci-news>...
> WP20032 wrote:
> >
> > In other words, with a Smith chart constant VSWR circle, does the transmitter
> > itself behave in a constant manner between the left and right sides of the
> > circle.
>
> Broadband solid-state power amplifiers are usually
> designed for a 50 ohm pure resistance load. They
> usually operate quite well over a 1.5:1 SWR, which
> is a circle on the Smith chart that passes through
> 75 ohms R and 33.3 ohms R, and various complex
> impedances on the circle. At various points on
> this circle the PA works "OK" but probably not at
> its most optimum. Problems such as degradation of
> intermodulation distortion and stability
> degradation and transistor overheating due to
> reactive components in the load impedance are
> things to look for.
>
> It is common practice to perform "load pull"
> testing, which means varying the load impedance to
> several different values on the 1.5:1 SWR circle.
> This testing is often also done on a 2.0:1 circle
> for additional stability confidence. This is
> repeated at many different frequencies to assure
> reliable operation on, for example, each amateur band.
>

> Vacuum tube amplifiers with tuned output networks
> can be adjusted so that the tubes always see
> (within reasonable limits) the correct value of
> resistive plate load impedance.
>
> Bill W0IYH

4158. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:16:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <aj4rcvsip4853icv55up8gmanqpckquus7@4ax.com>
Source record: 117410

On Thu, 22 May 2003 22:17:54 -0400, Russ <carlzomer@hotmail.com>
wrote:

>On Thu, 22 May 2003 22:24:57 GMT, Richard Clark <kb7qhc@attbi.com>
>wrote:
>
>>On Thu, 22 May 2003 14:56:52 -0700, W5DXP <Cecil.A.Moore@ieee.org>
>>wrote:
>>>> Do you support the sniper hugger legislation?
>>>What's that?
>>Never mind Cecil, your complaisance will provide enough support.
>
>Note that Richard has failed to answer the question about his
>inflamatory propaganda.
>
>Russ
Your support is counted amongst the gravestones too.

4159. Re: Microstrip Patch Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:18:09 UTC
From: Mark <blockspam@spamblock.com>
Message-ID: <7h4rcvkec9m7moi6260cn5cb8ij0e3ecoh@4ax.com>
Source record: 117411

Look at the Ansoft web site <www.ansoft.com> and download the freeware
student version of Ensemble SV. The program is a planar EM simulator.
The tool allows you to design and simulate a patch antenna as well as
other structures. The program also has an estimator feature to help
you size the patch element. They also have a PDF file with a patch
antenna tutorial.

Mark

--
On Thu, 22 May 2003 08:53:25 GMT, "Miguel Alba" <miguel_pad@terra.es>
wrote:

>Somebody know where can I find a tutorial of a homebrew microstrip antenna
>for wireless aplication? (2.4 GHz)
>
>thanks
>
>

--
PCB Milling
http://www.pcbmilling.com
Be sure to "unblock" the address to reply.
Your source for information on prototype
PC board fabrication, rapid prototyping
and related topics.

4160. Re: Radiation Patterns; Where To Find ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:20:58 UTC
From: Mark <blockspam@spamblock.com>
Message-ID: <rr4rcvs7qos58cf054g1f9d26d08a2sref@4ax.com>
Source record: 117412

I think RF Cafe has a web page with some antenna radiation pattern
plots.

Mark

--
On Tue, 20 May 2003 16:30:03 -0400, "Robert Rose" <rgsrose@tiac.net>
wrote:

>Hi,
>
>Have found lots of stuff via Google, but not quite what I'm after.
>Really new at this antenna theory stuff.
>
>Would like to see Horiz. AND Vert radiation patterns for:
>
>a. a typical discone like the R/S one
>
>b. a vertically mounted simple dipole
>
>c. a horizontally mounted simple dipole
>
>Any good, reasonable sources showing graphs, etc., that anyone
>might suggest ?
>
>Thanks,
>Bob
>
>

--
PCB Milling
http://www.pcbmilling.com
Be sure to "unblock" the address to reply.
Your source for information on prototype
PC board fabrication, rapid prototyping
and related topics.

4161. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:45:25 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <DPgza.8912$eo1.707419@news20.bellglobal.com>
Source record: 117417

```
Ratio of R ... SWR is 50/150 so 3:1 SWR. Current and Voltage are in phase
and you will find high power energy at every Voltage Peak every 180 degree
Maximas .....along the transmission line from the load.... assuming 0 Loss.
```

? Is your transmission line 150 Ohms Bal or unBal.
--
PO
Remove "tool"
toolbox640@sympatico.ca
"W5DXP" <Cecil.A.Moore@ieee.org> a crit dans le message de
news:3ECD8DBE.8000106@ieee.org...
> Jim Kelley wrote:
> > W5DXP wrote:
> >>So, under your scenario, how do you get the energy in the reflected
> >>wave from a mismatched load turned around and headed back toward
> >>the load?
> >
> > You don't explain it under your scenario. How about you go first. If
> > it makes sense.....end of argument!
>
> You refuse to answer that simple question, Jim, and that's the problem
with
> your scenario. It is doomed from the start. You must resolve that
difficulty
> before you can proceed with your scenario. Here's a mental experiment that
> will help. And everyone is invited to participate.
>
> You are in a room. Through a hole in the wall comes a 150 ohm transmission
> line. In the middle of the room, that transmission line is terminated in
> a 50 ohm resistive load. The voltage across that resistor is 61.24 volts
RF.
> The current through that resistor is 1.225 amps RF. Is there a reflected
wave?
> Is there any energy in that reflected wave? Is that system matched or not?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4162. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:46:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nn4rcvo8osntnoolplmqdjpu2p772r68lg@4ax.com>
Source record: 117413

On Thu, 22 May 2003 21:55:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>You are in a room.
more boundary issues. How many new ones will creep in along the way?
Is this one of those RF shielded rooms? You know, with conductive
walls? (no boudary offered) This "room" is an inconsequential detail
that adds nothing to the technical discussion.
>Through a hole in the wall comes a 150 ohm transmission
the hole, we are to presume (no boundary offered) does not add a
discontinuity (cable perhaps, twin lead perhaps not, perhaps - nothing
is said, but at 150 Ohms it would seem twin lead needs twin holes. If
not, why bother with a room and the hole?) The hole, like the room,
adds nothing to the technical discussion.
>line. In the middle of the room, that transmission line is terminated in
>a 50 ohm resistive load.
the resistive load must be dissipative (no boundary offered) as in
other correspondence Cecil has allowed that "maybe" some radiation
occurs with this kind of loose characterization by him. Being in the
middle of the room is one of those needless boundary conditions that
add nothing to the technical discussion.
> The voltage across that resistor is 61.24 volts RF.
the measuring instrument adds no discontinuity of its own - presumably
(no boundary offered).
>The current through that resistor is 1.225 amps RF.
the measuring instrument adds no discontinuity of its own - presumably
(no boundary offered).
>Is there a reflected wave?
Where? (no boundary offered)
>Is there any energy in that reflected wave?
Which one, the energy in the reflection of the reflection, or its
reflection? If interference demands that construction requires energy
from destruction it sounds like a wash: problem of (you guessed it) no
boundary offered.
> Is that system matched or not?
what about the lost power? does that count when dt approaches zero?
(no time boundary offered)

This enumeration is prepared knowing that Cecil will eventually get
around to their application in argument (you pick the topic).

So, are you telling us that a conductive hole in the wall in a room
without doors and windows (how you gonna breathe? - Oh through the
hole in the wall, isn't that how you burned your lip?) terminates in
the middle of the room (congrats, a boundary) with a radiative load,
exhibits 61.24 volts RF at 1.225 amps RF to a Simpson 260 causes SWR

(news flash) with at least some energy (as much as there is) reflected
(somewhere, and at least one time to the discontinuity) at zero time
(or just infinitesimally after).

This will no doubt be mocked, and then the individual concepts (sic)
plagiarized 200 times without attribution. Anticipating this:
Free license is hereby granted to all (Cecil) to copy and repeat
at will.

73's
Richard Clark, KB7QHC

4163. Re: Roof Mounted Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:49:11 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <4NycnaPw_8PZB1CjXTWcog@comcast.com>
Source record: 117414

You might want to consider running a pipe up the side of the house,
supported with brakets. Just make sure the pipe extends all the way to the
ground. There are also cheap towers you can do this with. See if this will
work if you get somebody to trim some branches.
Tam/WB2TT
"K4NE" <phil.harder@adelphia.net> wrote in message
news:jDeza.113$Ci.220951@news2.news.adelphia.net...
> After a break from amateur radio to start a family, I am poised to jump
back
> into hamming. My station is ready to go except for antennas.
>
> My desire is to put up some sort of yagi for the high bands and wire
> antennas for the low. Here's the problem: I live on a small to medium
> sized city plot that is boardered by tall trees and power lines on three
of
> four sides. (The free side faces a city street.) The only clear space
for
> a tower/antenna is directly above the house. My thought was to install an
> eight foot tripod tower on the roof to support the yagi and wire antennas,
> but I hate the thought of mounting anything on a roof and having to deal
> with the possibility of leaks.
>
> Has anyone had experience with tripod towers? Are they worth the effort?
> Is there anyone that would talk me out of it?
>
> TNX
>
> Phil, K4NE
>
>

4164. Re: Antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:53:41 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3ECD9B4A.6000003@get.lost>
Source record: 117415

Chicago wrote:
> Does anybody have a antenna design program that could give me the following
> information:
>
> I have outdoor space on my condo porch for a loop type antenna of 39 feet.
> This porch is located on a second story building facing the West. Wire would
> be insulated from the ceiling and walls by plastic clips. What would be the
> impedance at the feedpoint. I do have a 4 to 1 and 2 to 1 balum. I would
> probably use a balum with 52 ohm coax going to my antenna tuner. Or I could
> use 300 ohm twin lead to a antenna tuner then 52 ohm coax to my hf
> rig....Any help would be appreciated....

No program will be able to calculate what you need. There are simply too
many parameters this close to the building and with all the metallic
structures around the antenna, from the gutters, to the electrical and
cable TV wiring inside, etc.

The weird thing is that I have the exact same (hopefully very temporary)
setup as you described, but the loop is about 35 feet and it resonates
around 25Mhz. Forget baluns and just use the antenna tuner. The bad news
is that it is usable for 1 hop dxing only on 10-12-15m and even then
when the sunspots are way up which is no longer the case. Yes, condos suck.

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

4165. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 03:56:45 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305221956.8323850@posting.google.com>
Source record: 117416

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<9eqpcvgr07g2h2dlocs6v4s6buurqhb2qn@4ax.com>...
> On 22 May 2003 00:41:44 -0700, radio913@aol.com (Dr. Slick) wrote:
>
> > It would be a fun experiment if one had access to a vector network
> >analyzer, to measure S11 and S22 to see how close they really are to
> >an ideal open on the "bench" as opposed to the theoretic ideal.
>
> Reduce the drawings to lumped circuits, then assemble them in
> Electronic Workbench. There is nothing here that hasn't already been
> covered 60 Years ago by H.W. Bode.

Richard, you asked me what i meant (where are the sources and
loads), and i spelled it out for you. Just trying to be nice,
azzhole...

It's new for me, i've never consider 1/8 wave stubs in parallel,
and maybe it's new for someone else.

> If you were going to the expense to do it right (by using a network
> analyzer); then you would probably find more interest in what role you
> play in being part of the fields (you are resistive, I presume, and
> Cecil would be reactive).
>

I suppose this is the kind of jokes you tell on the air?

Slick

4166. Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 04:18:48 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305222018.eb3a20c@posting.google.com>
Source record: 117418

Hello,

I'm planning on building a 300 Watt broadcast VHF antenna for good penetration of the concrete and metal in the middle of the city, something will good horizontal gain, or a very low angle of radiation.

A friend suggested a stacked dipole, but then changed his mind when i suggested that the height of the antenna would be limited (the mast length limited).

It was then suggested that a super J-pole be used, as the mast length would not matter as much.

The super J-pole would give how much more gain over a 5/8ths?

Any other suggested designs?

Thanks in advance.

Slick

4167. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 05:41:29 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECDB489.DE49B1BA@cwis.net>
Source record: 117319

"Dr. Slick",
What, exactly, is a 'super J-pole'?
'Doc

4168. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 05:54:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcrdtct25kc6da@corp.supernews.com>
Source record: 117320

EZNEC is an antenna modeling program, and doesn't have provision for modeling impedance matching networks. If you do a frequency sweep with EZNEC, it can be made to generate input files for MicroSmith (no longer available) and WinSMITH. These programs enable you to build an impedance matching network, adjusting the component values as desired, and to see the results on a Smith chart. With one of these programs and the information EZNEC gives about the antenna or feedline input impedance, you can design a network to do the impedance matching you need to do. There are also a number of programs that will design L or other simple networks to match a given impedance at a particular frequency. I believe Reg offers one or more, for free, at his web site.

While it isn't appropriate to use this newsgroup to regularly conduct EZNEC support, there are enough EZNEC users (including demo version users) reading this group to make it seem appropriate to answer occasional questions that are likely to be of interest to a substantial number of people -- particularly ones like these which apply also to other modeling programs. If anyone objects to my occasionally doing this on the newsgroup, please let your objections be known, either publicly or privately. It's not my intent to make commercial use of the newsgroup.

Roy Lewallen, W7EL

KS7J wrote:
> Roy,
>
> I worked through the example you gave (though my copy of BYDipole
> gives different SWR readings than yours for some reason, it was the
> first time I'd opened it) and have a grasp at what is going on. You
> have to remember to match the Alt Zo impedance on the sweep to the
> impedance of the line to get consistent results and maybe I was
> misinterpreting that earlier. I'd already understood how to construct
> the transmission line, it was the results that were puzzling me.
>
> So, now I have a new puzzle, though. Fine, I can throw in, say, a 300
> ohm line, with the intent to drive down my SWR across a broader range
> of frequencies (in BYDipole if you do that you get higher average SWR,
> but a nice broad trough instead of a sharp dip as with 50 ohm line).
> But how do I model or compensate for (in EZNEC) the inevitable
> mismatch between that 300 ohm line and my radio which stubbornly
> refuses to offer up anything deviating from 50 ohms?
>
> Yes, a transmatch, a balun here and there, but can I model it in EZNEC
> so I can see what the results are of those components on the antenna
> SWR across the frequencies (from my radio's point of view)? That seems

> to be where my model and my measurements of the actual antenna vary
> widely.
>
> 73,
> Casey

4169. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 05:59:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcre5nigqmno0f@corp.supernews.com>
Source record: 117321

I believe you said this is for a pirate broadcast station? Which city?

Roy Lewallen, W7EL

Dr. Slick wrote:
> Hello,
>
> I'm planning on building a 300 Watt broadcast VHF antenna for
> good penetration of the concrete and metal in the middle of the city,
> something will good horizontal gain, or a very low angle of
> radiation.
>
> A friend suggested a stacked dipole, but then changed his mind
> when i suggested that the height of the antenna would be limited (the
> mast length limited).
>
> It was then suggested that a super J-pole be used, as the mast
> length would not matter as much.
>
> The super J-pole would give how much more gain over a 5/8ths?
>
> Any other suggested designs?
>
> Thanks in advance.
>
> Slick

4170. Re: My off-center dipole for 40 and 20M (17, 15, 12, 10 too!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 06:50:26 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3ecdc4a8$0$26594$626a54ce@news.free.fr>
Source record: 117322

Hello!

My Daiwa tuner brings any random length dipole and any metal junk to an SWR
of 1:1 too!

Bye!

"KS7J" <antswitch@tomochka.com> a crit dans le message de
news:47c89a30.0305211447.8272033@posting.google.com...
> Folks,
>
> I know there's been a lot of discussion around OCFs in past postings,
> but just wanted to share a design that I stumbled across using EZNEC
> when coming up with some optimizations for a simple camping antenna.
> By necessity (my K1 only has a 40/20 band module) this variation
> popped out at me in my experiments:
>
> Cut total wire for roughly 1/2 wavelength at lowest frequency of
> interest (in this case 70'). Cut again at 27', leaving you with the
> long leg at 43'. BTW, the model suggests that cutting about the 38%
> point is more optimal than at the rule of thumb 1/3. Elevate both ends
> (in my experiments it is a sloper, 25' up on the high end, 4' on the
> low end) and feed with coax and a 1:1 current balun, in my case at the
> antenna feedpoint. I tried it with a short length (15') of twinlead,
> but could not control the SWR well, YMMV. Trim to resonance or as
> close as you can get, and use an ATU for the higher bands(mine is
> built-in) to finish off the match.
>
> My K1 ATU easily brings in 40 and 20 meters at 1:1 SWR. Or so it says,
> because note the obvious imbalance in the feedline. Anyway, did not
> notice RF effects and on 5 W I seemed to be getting out just fine even
> with the wire that low. This also tunes 15 and 10 meters, according to
> the model and my K2, which includes these bands and a wider-match ATU.
>
> Now, the really interesting part comes when you take the far end of
> the short leg and ground it (oh, and shorten it by 2 feet)! Now it
> tunes (high SWR but within reach of an ATU) 17, and 12 meters. Did not
> try getting out on those bands, however.
>
> If you want to try your own experiments try this one: cut a regular
> 40M dipole, then ground one leg (maybe shortening it slightly). You'll
> be surprised I think at what the modeling shows.
>
> Hope this will be of use to some experimenter in the future.

>
> 73,
>
> Casey, KS7J

4171. Re: INTERMITTENT HIGH SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 06:54:27 UTC
From: F8BOE Olivier <f8boeNOSPAM@free.fr>
Message-ID: <3ecdc599$0$26588$626a54ce@news.free.fr>
Source record: 117323

Hello!

First of all test all connectors and lines to see if they did not become
loose. I had the same problem with my TM-455.

73 de F8BOE Olivier ...-.-

"Dave" <n4xyz@exis.net> a crit dans le message de
news:78be1499.0305190955.979023@posting.google.com...
> All
>
> I have been having an intermittent high SWR problem with my shack
> setup and would love any suggestions. The setup is a TS-450s (no
> tuner) feeding a Drake L4B amp feeding a Drake high power tuner going
> through a two position switch to a off center feed dipole and a Mosley
> CL-33 tri-bander. There is an 8 ft ground rood on the other side of
> the wall from the back of the radios, about 5 feet away. I have a
> piece of braid connecting the ground to the tuner, and the amp is
> grounded to the tuner. The coax from the tower passes under the
> house. It goes through the crawl space hatch with bulkhead
> connectors. The steel hatch is grounded to an 8 ft rod at the base of
> the tower. At times my swr on 20 meters is 1.2:1, 15 mts 1.1:1 and 10
> mts 1.4:1. Other times my swr on 20 goes to infinity and the power
> drops back accordingly. It acts like I have a ground loop problem.
> Sometimes I only see the problem on 20 and only on SSB. If I turn on
> my amp the problem goes away. I put a Radio Works line isolator
> between the amp and the tuner. That seemed to work for awhile, then I
> got the gremlin back. Then I moved the line isolator between the
> transceiver and the amp., the problem went away. Then it came back.
> I have tried the rig connected to the CL-33 with no ground and still
> have the problem. If I replace the TS-450 with my IC-706 the problem
> goes away.
>
> This sure has me stumped and it is frustrating when you want to
> casualy do some operating. Any suggestion would be greatly
> appreciate.
>
>
> De Dave, N4XYZ

4172. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 09:20:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g6lrcvclfufggj51jdnee91ald4qjqkgp0@4ax.com>
Source record: 117324

On 22 May 2003 20:56:45 -0700, radio913@aol.com (Dr. Slick) wrote:

>Richard Clark <kb7qhc@attbi.com> wrote in message
news:<9eqpcvgr07g2h2dlocs6v4s6buurqhb2qn@4ax.com>...
>> On 22 May 2003 00:41:44 -0700, radio913@aol.com (Dr. Slick) wrote:
>>
>> > It would be a fun experiment if one had access to a vector network
>> >analyzer, to measure S11 and S22 to see how close they really are to
>> >an ideal open on the "bench" as opposed to the theoretic ideal.
>>
>> Reduce the drawings to lumped circuits, then assemble them in
>> Electronic Workbench. There is nothing here that hasn't already been
>> covered 60 Years ago by H.W. Bode.
>
> Richard, you asked me what i meant (where are the sources and
>loads), and i spelled it out for you. Just trying to be nice,

That is the price of engaging in technical discussion - completeness.
The complete picture revealed nothing remarkable - that is the payoff.

>azzhole...

The vulgar hardly illuminates your path, and is a more notable
characteristic than your niceness. Navy training has built my
vocabulary along that line considerably further than your limited
repertoire, and out of boredom I won't challenge your amateur status.
[You would have to have the experience of Henry Miller, or the style
of e.e. cummings to make an impression.]

>
> It's new for me, i've never consider 1/8 wave stubs in parallel,
>and maybe it's new for someone else.

And now you have an author referenced, the best available for your
subject material. Others have probably noted this at least twice in
these threads from me already, and several many times in my more than
several many years here.

>
>> If you were going to the expense to do it right (by using a network
>> analyzer); then you would probably find more interest in what role you
>> play in being part of the fields (you are resistive, I presume, and
>> Cecil would be reactive).
>>
>
> I suppose this is the kind of jokes you tell on the air?

>
And widely appreciated too. Posting is an exercise of YOUR choice of where to go.

I offered that you could recoup something interesting to all: the introduction of lossy variables by operators, and the equipment they use; you decided to focus on jokes. Both were there, a function of my being able to approach a topic stylistically from more than one perspective. Your choice abandoned the technical, and it offered nothing humorous. [Scatological commentary never is, unless you write for South Park. I would suggest you refrain from submitting scripts to them, though. Cartman is vastly more entertaining and may have more experience with large radiating alien probes. :-)]

Now, if you want to pursue the technical AND blast away, goferit. Most of us have the capacity to absorb petty assaults without responding in kind. OR You can just gust on, but you don't have the bandwidth. OR If you want to stick with the technical, then skip the fulminations and those that irritate you. Any of the three are guaranteed their particular results, you choose which.

73's
Richard Clark, KB7QHC

4173. 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 10:11:03 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3ECDF3B7.9496E98A@ecs.soton.ac.uk>
Source record: 117325
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Hi

I'm currently having a couple of problems looking at the design for the 20m dipole I'm going to build.

(Sorry for the maths)

1/2-wave dipole impedance = 73+j0 ohms

Load reflection coefficient = (73-50)/(73+50) = 0.1869918699

VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46

Now I'd prefer not to have nearly 20% of my output power coming back at my PA.

Is it possible to wind a 1.46:1 Balun to make the input impedance of the Balun Dipole network 50 ohms?

Or can the impedance be matched by shortening the dipole, whilst keeping the reactance negligible?

Or is it time for Mr. Smiths nice chart to make an appearrance to design a stub tuner?

73 de

Simon M3CYT

PS where does one purchase Baluns.

4174. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 10:46:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcrv01funi144@corp.supernews.com>
Source record: 117326
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

The power doesn't "come back at your PA". Your PA simply sees a slight impedance mismatch. Nearly any rig can easily handle the mismatch represented by the 1.5:1 SWR without any effort or harm. You should also realize that the feedpoint impedance won't have a resistance of 73 ohms anyway, because of proximity to ground, and it'll be reactive at all frequencies except one. So it's pointless to try matching it.

I'm sure a web search on "balun" will reveal many sources. It's also easy to make one yourself -- as easy as winding a few turns of coax into a flat coil. Dimensions for various bands are in the ARRL Handbook, and probably other sources.

Roy Lewallen, W7EL

st599@ecs.soton.ac.uk wrote:
> Hi
>
> I'm currently having a couple of problems looking at the design for the
> 20m dipole I'm going to build.
>
> (Sorry for the maths)
>
> 1/2-wave dipole impedance = 73+j0 ohms
>
> Load reflection coefficient = (73-50)/(73+50) = 0.1869918699
>
> VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46
>
> Now I'd prefer not to have nearly 20% of my output power coming back at
> my PA.
>
> Is it possible to wind a 1.46:1 Balun to make the input impedance of the
> Balun Dipole network 50 ohms?
>
> Or can the impedance be matched by shortening the dipole, whilst keeping
> the reactance negligible?
>
> Or is it time for Mr. Smiths nice chart to make an appearrance to design
> a stub tuner?
>
> 73 de
>
> Simon M3CYT
>

> PS where does one purchase Baluns.

4175. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:05:43 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305230305.ded93b5@posting.google.com>
Source record: 117327

Roy Lewallen <w7el@eznec.com> wrote in message news:<vcre5nigqmno0f@corp.supernews.com>...
> I believe you said this is for a pirate broadcast station? Which city?
>
> Roy Lewallen, W7EL
>

AirycracksVille, Illinois.

Great City! :^]

Fu** the FCC.

Slick

4176. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:10:14 UTC
From: "Gareth (G1LVN)" <gareth@mycallsign.freeserve.co.uk>
Message-ID: <bakvm9qbn1@news6.svr.pol.co.uk>
Source record: 117328
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vcrv01funi144@corp.supernews.com...
> . You should also
> realize that the feedpoint impedance won't have a resistance of 73 ohms
> anyway, because of proximity to ground,

This is key - and the reason why so many amateurs use an antenna tuning unit (ATU) in conjunction with even 20m dipoles. For all practical use an ATU is required to tune such an antenna. Unless of course you can get it a few 10's of wavelengths off the ground and a few quarter wavelengths away from any supporting structures e.g. masts, Mr Smith will be of little use (more suited to VHF and above)

just my 2p

--
73 de G1LVN
Gateway details at: www.g1lvn.org.uk
(change "mycallsign" to reply by email)
send spam to abuse@theplanet.net

4177. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:23:59 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305230323.634fac91@posting.google.com>
Source record: 117329

'Doc <w5lz@cwis.net> wrote in message news:<3ECDB489.DE49B1BA@cwis.net>...
> "Dr. Slick",
> What, exactly, is a 'super J-pole'?
> 'Doc

http://www.nemr.net/~aschmitz/antennas/jpolecalc.html

http://n4bz.org/ham/jpoles.htm

From one Doc to another: Have you heard of Google? It's a great search engine.

Slick

4178. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:24:44 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECE04C8.7090709@attbi.com>
Source record: 117330
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

VSWR = 1.46 does not equal 20% reflected power!!!

Try again and find an answer closer to 3% reflected power.

Deacon Dave, W1MCE

st599@ecs.soton.ac.uk wrote:
> Hi
>
> I'm currently having a couple of problems looking at the design for the
> 20m dipole I'm going to build.
>
> (Sorry for the maths)
>
> 1/2-wave dipole impedance = 73+j0 ohms
>
> Load reflection coefficient = (73-50)/(73+50) = 0.1869918699
>
> VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46
>
> Now I'd prefer not to have nearly 20% of my output power coming back at
> my PA.
>
> Is it possible to wind a 1.46:1 Balun to make the input impedance of the
> Balun Dipole network 50 ohms?
>
> Or can the impedance be matched by shortening the dipole, whilst keeping
> the reactance negligible?
>
> Or is it time for Mr. Smiths nice chart to make an appearrance to design
> a stub tuner?
>
> 73 de
>
> Simon M3CYT
>
> PS where does one purchase Baluns.

4179. Simple mobile HF antenna mount.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:51:04 UTC
From: HS <fejkad_adress@dof.se>
Message-ID: <3ECE0B21.9080903@dof.se>
Source record: 117331

Fellow Amateurs!

I made a simple roof rack mount for my HF mobile whip, and i thought i'd show my "creation" to the group.

I just bolted a piece of plywood to a roof rack, and bolted a fold over mount in the center of the board.
This way i can tilt the whip fully forward to park in my garage.

The Plywood board serves as a insulator. The coax from the antenna tuner is grounded in the trunk, and the antenna is fed through a simple wire running from the trunk to the roof rack.

Pictures Here:
http://www.qsl.net/sm3pxg/hfmobile.html

Ugly or Pretty, Its in the eye of the beholder...

73 de SM3PXG /Hans

4180. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:53:59 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <bn2scv8f6qe19m0bpo0fg5nfmi76v8hgse@4ax.com>
Source record: 117333

On 22 May 2003 21:18:48 -0700, radio913@aol.com (Dr. Slick) wrote:

>Hello,
>
> I'm planning on building a 300 Watt broadcast VHF antenna for
>good penetration of the concrete and metal in the middle of the city,
>something will good horizontal gain, or a very low angle of
>radiation.
>
> A friend suggested a stacked dipole, but then changed his mind
>when i suggested that the height of the antenna would be limited (the
>mast length limited).
>
> It was then suggested that a super J-pole be used, as the mast
>length would not matter as much.
>
> The super J-pole would give how much more gain over a 5/8ths?
>
> Any other suggested designs?

You might want to contact the FCC, and ask for The Department of VHF
Antenna Design. They have some great antenna gurus over there, and
they are more than happy to help out folks such as you.

Bob
k5qwg

>
> Thanks in advance.
>
>Slick

4181. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 11:56:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bal293$lg4$1@hercules.btinternet.com>
Source record: 117332
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Simon, get yourself on the right track.

Why are you unhappy with "power" bouncing back towards the transmitter?

It's not power anyway. It's just stored energy bouncing back and forth along a low loss line. Nothing is lost. It eventually bounces back into the antenna. All energy leaving the transmitter eventually finds its way to the antenna's radiation resistance. Look at the circuit diagram and ask yourself, where else is there for it to go?

Some systems are deliberately designed to have a high SWR. Use is often made of the excess energy-storing line properties. A transmission line of the correct length and impedance is used as a voltage or current transformer between transmitter and antenna.

And most SWR meters don't measure SWR on the feedline anyway. In fact they don't measure anything.

By far the most important thing is to provide the resistive load the transmitter has been designed to work into

Beware of Old Wives and conjugate matches.

Reg, G4FGQ

==

> I'm currently having a couple of problems looking at the design for the
> 20m dipole I'm going to build.
>
> (Sorry for the maths)
>
> 1/2-wave dipole impedance = 73+j0 ohms
>
> Load reflection coefficient = (73-50)/(73+50) = 0.1869918699
>
> VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46
>
> Now I'd prefer not to have nearly 20% of my output power coming back at
> my PA.
>
> Is it possible to wind a 1.46:1 Balun to make the input impedance of the
> Balun Dipole network 50 ohms?
>
> Or can the impedance be matched by shortening the dipole, whilst keeping
> the reactance negligible?

>
> Or is it time for Mr. Smiths nice chart to make an appearrance to design
> a stub tuner?
>
> 73 de
>
> Simon M3CYT
>
> PS where does one purchase Baluns.

4182. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:09:54 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <oKSQdvBS+gz+EAtW@ifwtech.co.uk>
Source record: 117334
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
>The power doesn't "come back at your PA". Your PA simply sees a slight
>impedance mismatch. Nearly any rig can easily handle the mismatch
>represented by the 1.5:1 SWR without any effort or harm. You should
>also realize that the feedpoint impedance won't have a resistance of 73
>ohms anyway, because of proximity to ground, and it'll be reactive at
>all frequencies except one. So it's pointless to try matching it.
>
>I'm sure a web search on "balun" will reveal many sources. It's also
>easy to make one yourself -- as easy as winding a few turns of coax
>into a flat coil. Dimensions for various bands are in the ARRL
>Handbook, and probably other sources.

In the UK, the same information about flat coil baluns has been repeated several times by 'In Practice' - search the cumulative index at the website below..

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4183. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:12:10 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3ECE101A.EB1A4B68@ecs.soton.ac.uk>
Source record: 117335
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

My mistake, used the wrong axes on my crib, I hate my handwriting.

Dave Shrader wrote:
>
> VSWR = 1.46 does not equal 20% reflected power!!!
>
> Try again and find an answer closer to 3% reflected power.
>
> Deacon Dave, W1MCE
>
> st599@ecs.soton.ac.uk wrote:
> > Hi
> >
> > I'm currently having a couple of problems looking at the design for the
> > 20m dipole I'm going to build.
> >
> > (Sorry for the maths)
> >
> > 1/2-wave dipole impedance = 73+j0 ohms
> >
> > Load reflection coefficient = (73-50)/(73+50) = 0.1869918699
> >
> > VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46
> >
> > Now I'd prefer not to have nearly 20% of my output power coming back at
> > my PA.
> >
> > Is it possible to wind a 1.46:1 Balun to make the input impedance of the
> > Balun Dipole network 50 ohms?
> >
> > Or can the impedance be matched by shortening the dipole, whilst keeping
> > the reactance negligible?
> >
> > Or is it time for Mr. Smiths nice chart to make an appearrance to design
> > a stub tuner?
> >
> > 73 de
> >
> > Simon M3CYT
> >
> > PS where does one purchase Baluns.

4184. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:16:32 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3ECE1120.21CACF14@ecs.soton.ac.uk>
Source record: 117336
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
>
> Simon, get yourself on the right track.
>
> Why are you unhappy with "power" bouncing back towards the transmitter?
>

Because it isn't being radiated in phase with the main signal, and
damage may occur to the Power amplifier stage as this is matched and all
reflected power will be dissipated in the 50 ohm output stage.

>By far the most important thing is to provide the resistive load the
>transmitter has been designed to work into

I quite agree, that's why I asked how to match a 73 ohm half wave dipole
to a 50 transmission line.

73 de

Simon M3CYT

4185. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:44:19 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ECE1999.2FEE1753@uwe.ac.uk>
Source record: 117339
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
>
> Simon, get yourself on the right track.
>
> Why are you unhappy with "power" bouncing back towards the transmitter?
>
> It's not power anyway. It's just stored energy bouncing back and forth along
> a low loss line. Nothing is lost. It eventually bounces back into the
> antenna. All energy leaving the transmitter eventually finds its way to the
> antenna's radiation resistance. Look at the circuit diagram and ask
> yourself, where else is there for it to go?

Dear Reg,

I suggest you key up your linear and disconnect the aerial. Watch the anodes. That bright red colour is caused by the reflected power being dissipated in the output devices. You can't see it in a transistor PA of course and it'll happen a bit faster. Reflected power doesn't necessarily just bounce backwards and forwards, it can be dissipated in the output stage. Otherwise we wouldn't need ATUs at all, would we?

Puzzled as to why you said that, you are usually right on the money.

vy 73

Andy, M3ABC

4186. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:45:46 UTC
From: Steve <no-one@home.here>
Message-ID: <GIoza.9253$0a4.1691476@newsfep2-win.server.ntli.net>
Source record: 117337
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

<st599@ecs.soton.ac.uk> wrote in message
news:3ECE1120.21CACF14@ecs.soton.ac.uk...
> Reg Edwards wrote:
> >
> > Simon, get yourself on the right track.
> >
> > Why are you unhappy with "power" bouncing back towards the transmitter?
> >
>
> Because it isn't being radiated in phase with the main signal, and
> damage may occur to the Power amplifier stage as this is matched and all
> reflected power will be dissipated in the 50 ohm output stage.
Nope. The PA is designed to deliver power into a 50 ohm load - it does not
have a 50 ohm source resistance. As analogy, what's the source impedance of
an audio amplifier designed to feed a 8 ohm 'speaker? The 'reflected power'
simply means that the impedance looking into the feeder at the transmitter
end isn't 50 ohms.

Steve

4187. Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 12:46:51 UTC
From: Paul Rosete <prosete@worldnet.att.net>
Message-ID: <%Koza.168957$ja4.8470138@bgtnsc05-news.ops.worldnet.att.net>
Source record: 117338

[If this is the wrong nsg for this question, please let me know where to post it]

I installed a yagi antenna on my roof to pick up OTA local dtv signals (decoded thru an add-on module to my sat receiver). All local stations' digital transmits are located to my northeast and within the 64 to 69 degree compass headings from my house.

The problem I'm having is that some channels come in at peak strength (in the upper 90% range) while others, even those sharing the same degree heading, come in so low that the signal is unstable and constantly blacks out. Example: my local NBC and ABC are both situated at the 64 degree heading but NBC's signal strength comes up no higher than low 60 percent range, so that it's lost continuously, while the ABC station peaks out at 95 to 98 percent in the strength meter.

What causes this disparity in strength when both stations' broadcast antennas are co-located in the same general area? What can I do about it to improve the low signal strength?

Here's what I've tried so far:

Raised the antenna by an extra 15 feet. No change.
Rotated the antenna both away from and toward the stations' tower location. No change.
Replaced it with a Terk 55, including signal amplifier, and found no change. Even rotated the Terk 360 degrees with no change in signal strengths.

My antenna has a clear line of sight with no obstacles in the way. No hills, mountains, buildings, or other solid structures. Just a flat, wooded trerrain.

Any help appreciated.

Paul

4188. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:06:54 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ECE1EE4.E12C9921@uwe.ac.uk>
Source record: 117343
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

st599@ecs.soton.ac.uk wrote:
>
> Reg Edwards wrote:
> >
> > Simon, get yourself on the right track.
> >
> > Why are you unhappy with "power" bouncing back towards the transmitter?
> >
>
> Because it isn't being radiated in phase with the main signal, and
> damage may occur to the Power amplifier stage as this is matched and all
> reflected power will be dissipated in the 50 ohm output stage.
>
> >By far the most important thing is to provide the resistive load the
> >transmitter has been designed to work into
>
> I quite agree, that's why I asked how to match a 73 ohm half wave dipole
> to a 50 transmission line.
>

First catch your 73 ohm dipole. You'll need some free space to put it in.
Seriously though, you won't get a 73 ohm resistive dipole for 20 metres
unless you have some very tall non conducting poles. Real world 20 m
dipoles will be much closer to 50 ohms. Try modeling with the free
version of EZNEC over a real ground and get a feel for the impedances
you will get in practice. That's Roy Lewallen's excellent antenna
modeling software at :- http://www.eznec.com/

vy 73

Andy, M3ABC

4189. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:06:56 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <bal6nk$vha5$1@ID-34767.news.dfncis.de>
Source record: 117341
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

> I quite agree, that's why I asked how to match a 73 ohm half wave dipole
> to a 50 transmission line.
It is very simple:
Balun 1:1(not necessory) plus Stub Match: L1=1.87m and Ls=2.73 Short 50Ohm
Vf=0.66

73!

Alex

4190. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:07:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE1D23.20707@ieee.org>
Source record: 117340

PO wrote:
> Ratio of R ... SWR is 50/150 so 3:1 SWR. Current and Voltage are in phase
> and you will find high power energy at every Voltage Peak every 180 degree
> Maximas .....along the transmission line from the load.... assuming 0 Loss.

Here were the questions. Did you answer them? Is there a reflected wave?
Is there any energy in that reflected wave? Is that system matched or not?

> ? Is your transmission line 150 Ohms Bal or unBal.

Balanced, but why does it matter?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4191. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:11:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE1E0F.7060804@ieee.org>
Source record: 117342

Richard Clark wrote:
> Is this one of those RF shielded rooms?

Richard, we already know that you are capable of nit-picking
any discussion to death.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4192. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:17:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE1F5E.5040503@ieee.org>
Source record: 117344
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
> It's not power anyway. It's just stored energy bouncing back and forth along
> a low loss line.

Reg, the IEEE definition of "power" is energy in motion.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4193. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:25:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE215F.8020603@ieee.org>
Source record: 117345
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

st599@ecs.soton.ac.uk wrote:
> Because it isn't being radiated in phase with the main signal, and
> damage may occur to the Power amplifier stage as this is matched and all
> reflected power will be dissipated in the 50 ohm output stage.

The output stage is designed to work into 50 ohms but may not be
50 ohms itself. The danger to a power amplifier is the superposition
of the forward and reflected waves. Constructive interference
between the voltage waves can cause over-voltage. Constructive
interference between the current waves can cause over-current.
If the power amplifier is equipped with fold-back circuitry,
it will fold-back instead of experiencing damage. If your SWR
is higher than 1:1 and your protected amp doesn't fold back,
it is probably OK.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4194. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:35:08 UTC
From: richardharrison@webtv.net
Message-ID: <14601-3ECE238C-133@storefull-2316.public.lawson.webtv.net>
Source record: 117347

Richard Clark, KB7QHC wrote:
"The measuring instrument adds no discontinuity of its own-"

Seems a safe assumption to me.

Cecil gives us 61.24 volts RF and 1.225 amps RF. Ohm tells us the specified resistor is 50 ohms.

Cecil tells us the cable delivering volts and amps to the 50 ohms has a Zo of 150 ohms, then Cecil asks: "Is there a reflected wave?"

The cable can deliver 1.225 amps but must have more volts than 61.24 to do so. Both Zo and ZL are immutable and rigidly enforce their impedances. We have surplus volts from Zo in the example, and these must be rejected by ZL. Current in Zl is limited by current allowed in Zo. Volts across ZL results from the limited current through ZL, hence the surplus volts. This forces a reflected wave. The turn around is a reversal of phase and polarity of the volts. The sum of incident and reflected volts must equal the volts across ZL.

Forget constructive and destructive interference on a transmission line as the cause of reflection. The cause of reflection is simple incompatibility between Zo and ZL.

Best regards, Richard Harrison, KB5WZI

4195. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:42:02 UTC
From: Brian Reay <brian.reay@bigfoot.com>
Message-ID: <bal8em$uaj0$1@ID-140397.news.dfncis.de>
Source record: 117346
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

<st599@ecs.soton.ac.uk> wrote in message
news:3ECE1120.21CACF14@ecs.soton.ac.uk...
> Reg Edwards wrote:
> >
> > Simon, get yourself on the right track.
> >
> > Why are you unhappy with "power" bouncing back towards the transmitter?
> >
>
> Because it isn't being radiated in phase with the main signal, and
> damage may occur to the Power amplifier stage as this is matched and all
> reflected power will be dissipated in the 50 ohm output stage.

Any damage to the output is caused by it not being correctly loaded and thus operating outside it safe area of operation.

It is incorrect to think of the output impedance of the PA being 50 ohm and dissipating power in it, if nothing else the design is poor if the Ls and Cs are that lossey.

Reg is quite correct, power reflected from a mismatch at the antenna does 'bounce' to and fro in the feeder. It is either disipated in the antenna's notional radiation resistance (ie radiated) or in feeder losses. With lower feeder losses, and the PA loaded within its area of operation, you are OK.

> >By far the most important thing is to provide the resistive load the
> >transmitter has been designed to work into
>
> I quite agree, that's why I asked how to match a 73 ohm half wave dipole
> to a 50 transmission line.
>

Depends on the bandwidth, an 'ATU', LC matching , 1/4 wave impedance transformer- if you are that concerned re a relatively reasonable match.

--
73
Brian
G8OSN
www.g8osn.org.uk

and

www.qsl.net/g8osn for FREE training material for the UK Foundation and Intermediate Licences

4196. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:47:11 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bal8ov$g1b$1@titan.btinternet.com>
Source record: 117348
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

> Dear Reg,
>
> I suggest you key up your linear and disconnect the aerial. Watch the
anodes.
> That bright red colour is caused by the reflected power being dissipated
in
> the output devices. You can't see it in a transistor PA of course and
it'll
> happen a bit faster. Reflected power doesn't necessarily just bounce
backwards
> and forwards, it can be dissipated in the output stage. Otherwise we
wouldn't
> need ATUs at all, would we?
>
> Puzzled as to why you said that, you are usually right on the money.
> Andy, M3ABC

==========

Dear Andy,

Your logic is wildly adrift or you're just joking. It is not reflected power which melts the anodes. It is power supply DC amps and volts which does that. Turning up the grid drive has the same effect.

There's no power reflected back from the disconnected antenna because none leaves the transmitter to be reflected. The changed load on the transmitter won't accept any power.

And how do your reflections account for the fact that if the PA is a simple tuned tank circuit (as they all used to be) then disconnecting the load resistance causes anode dissipation to practically cease.

And I'm still right on the money.

Reg, G4FGQ

4197. 1. Stacking 2M folded dipoles 2. simple HF receive only wire ant + simple ATU.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 13:51:40 UTC
From: G6XCD <look@this.con>
Message-ID: <1053697825.51642.0@iris.uk.clara.net>
Source record: 117349

Following a long layoff from Amateur Radio, and being 'blessed' with serious memory problems, I find I've forgotten far too much of the little I managed to learn in order to take the exam.

I decided it was time to stop 'feeling sorry' for myself and make a comeback on 2M to begin with and (hopefully) 6M and 70cms later.

Since rotatable beams and collinears are out of the question, until circumstances permit, I'm forced to use what I have available, which turns out to be a pair of folded driven elements from an old 10XY. I made coaxial baluns to match these when I bought the beam back in 1984 and I recall seeing details in the VHF/HUF Handbook for stacking these vertically, but I can't remember how to calculate the spacings or phasing to bring a pair back to a 50 ohm feedpoint, though I do remember seeing some form of phasing/stacking harness being commercially available for side by side phasing. I never got one though, I made a spare boom and took the easy way out by treating them as two seperate H&V yagis with independent feeds.

I have the folded dipoles, reflectors and a few directors with assorted clamps and bolts. I can make another boom from square section TV antenna boom of the right shape and size, so it may not be impossible to make up two 2 or 3 ele yagis. Since the mast must be erected below the roof apex level and I can only erect one vertical tubular mast, could the dipoles be stacked or used back to back on the same mast with some shack end switching or plug swapping?? It occurs that more information on the folded dipole may be needed to be assured of the impedance. These are mounted with a bolt and saddle through the dipole centre to the boom, so the element is DC grounded to the boom and to the mast. The coax balun is around 19 inches of RG58 and is coiled inside the connector box which is insulated from the boom and other fittings

I don't have a clue about how to calculate the stand-off required to prevent any interaction from the steel tube mast, so I would appreciate any help to give me a quick start and a couple of ounces of gain. The rig is QRP all modes 5W output max

Part 2 is a request for suggestions to make a simple long wire HF antenna for an SWL station. I have around 5 metres from the high anchor point at the north to a convenient feed point, and a further 30 or 35 metres of free space to run down to another anchor point about 2 metres above ground at the south end, so I guess I'm looking for some kind of sloping windom or none symetrical dipole or just an end fed long wire. The receiver covers 500KHz to 80MHz in all modes and my interest is the usual amateur bands with some commercial broadcast DX thrown in for fun. I'm getting some useable results

on 10 and 20M by using an old 11 Metre whip and a couple of short radials, but it's very inefficient. The Rx ideally wants 50ohms at the antenna and I'm limited to bonding an earth/ground to the central heating piping. I've saved earlier posts which cover ladder and twin feed to coax matching, and I'm sure I can home brew a length of ladder or buy 300 ohm slotted twin, which should save some ink.

Suggestions here would be much appreciated. Also welcome would be suggestions about a simple ATU for 'peaking' each band. I've seen some cheap Zetagi Brand AMU's advertised for 11 metres which could possibly benefit from a few extra turns on the coil and a banana plug or croc clip switch to extend the band coverage, unless there's something ready made which would be a better choice

Sorry this is long winded. Perhaps some judicious use of the delete key could split replies into two or three segments?

good DX & 73

Eric, G6XCD

4198. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:02:41 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bal9m1$2t6$1@hercules.btinternet.com>
Source record: 117350
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Cec,

My reasoning is not bound by anybody else's quite arbitrary opinions. Who's the IEEE anyway?

Have a free program. ;o)

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com

==========

"W5DXP" wrote > Reg Edwards wrote:
> > It's not power anyway. It's just stored energy bouncing back and forth along
> > a low loss line.
>
> Reg, the IEEE definition of "power" is energy in motion.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4199. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:08:06 UTC
From: richardharrison@webtv.net
Message-ID: <19444-3ECE2B46-380@storefull-2313.public.lawson.webtv.net>
Source record: 117351

Doc, W5LZ wrote:
"What, exactly is a "super J-pole"?"

It`s found on page 16-24 of the 19th edition of the ARRL Antenna Book.

Gain is said to be around 3 db over a 5/8-wave antenna.

Length of the super-J is 1 and 1/4-wave, including the 1/4-wave shorted stub line matching section at the bottom. A tad more vertical height is added by the width of a 1/4-wave stub added to invert phase between the (2) 1/2-wave sections, to keep them in-phase.

Best regards, Richard Harrison, KB5WZI

4200. HF (30M - 10M) ant recommendation pls

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:22:04 UTC
From: jotis <charlesriver@peoplepc.com>
Message-ID: <vcsbkhtac819c@corp.supernews.com>
Source record: 117353

Hello- I am having pretty good results with a long wire and tuner on 80M, 40M, and 20M, but having a bit of trouble tuning the wire (using an MFJ 949E) on 30M and higher frequencies.

Any comments or suggestions will be greatly appreciated.

73

Joe
K1QHQ

4201. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:24:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <balaglfhl1@news.service.uci.edu>
Source record: 117352

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECD8DBE.8000106@ieee.org...
> Jim Kelley wrote:
> > W5DXP wrote:
> >>So, under your scenario, how do you get the energy in the reflected
> >>wave from a mismatched load turned around and headed back toward
> >>the load?
> >
> > You don't explain it under your scenario. How about you go first. If
> > it makes sense.....end of argument!
>
> You refuse to answer that simple question, Jim, and that's the problem
with
> your scenario.

The issue was addressed in my response to your first post, Cecil. I've addressed it repeatedly. And you continue to gloss over that particular shortcoming of your model. Like I said, you need to asnwer that question. You haven't done so because you're unable to do so.

73 de ac6xg

4202. Re: Source of small diameter coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:25:02 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <rdbscvkcja97mea6pjottoqj90v7pqbhvm@4ax.com>
Source record: 117354

On Thu, 22 May 2003 21:20:00 -0400, "PO" <toolbox640@sympatico.ca>
sent into the ether:

>You can also look for RF attenuator 3db or 6db comes in 25W 50W (Heatsink)
>continuous and .....size is independent of frequency!
>If this is the reason of your search.
Hi,
I saw this thread late, so I may be off a bit here.
I found a source for small, I don't remember the number, coax. Look
for a commercial heating and cooling outfit. No, not the ones that
come to your home. The one that does commercial buildings. Ask them
about the coax they use as control cable, run through the
pleniums(sp). It has to resist heat. It is teflon coax, in i think
75 ohm, but I think they have 50 ohm also. Try to buy a little off
the guys on the jobsite or call the office. I got mine from the crew
onsite and it worked great for a coil I had to make that was able to
take 900 watts of AM and not melt or self destruct in any way.
I love teflon coax! Anyway, it's just another source.
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

4203. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:28:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <balao7fpf1@news.service.uci.edu>
Source record: 117355

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECBF1D4.2050102@ieee.org...
> Jim Kelley wrote:
> > The child who posts as W5DXP is an embarassment. ;-)
>
> You're obviously from the old school - children should
> be seen and not heard.

When it comes to old, you've got me beat by a mile, Cecil. :-)

ac6xg

4204. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:33:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE3157.9080000@ieee.org>
Source record: 117356

Richard Harrison wrote:
> Forget constructive and destructive interference on a transmission line
> as the cause of reflection.

I hope I haven't given the wrong impression. At a physical
(non-virtual) impedance, like a load, interference is NOT
the *cause* of anything. Interference is the *result* of
reflections at the load.

However, when the impedance is virtual (the ratio of superposed
voltages to superposed currents), interference *is* the
cause of the virtual impedance and therefore, the *cause* of
everything blamed on the virtual impedance which in this particular
case is an *effect*, not a cause. A physical load impedance is NOT
virtual.

For a real (non-virtual) impedance, given a voltage, the impedance
is a CAUSE of the RESULTING current.
cause ==> effect
V/Z = I

For a virtual impedance, given the superposed voltage and the
superposed current, the virtual impedance is the RESULT of the
V/I ratio.
cause ==> effect
V/I = Z

Why are those concepts so difficult to understand?

> The cause of reflection is simple
> incompatibility between Zo and ZL.

That's perfectly obvious at the physical (non-virtual) load ZL.
Not so obvious when the virtual impedance is *only* a ratio of a
voltage to a current and not a physical impedance at all. The
virtual V/I ratio is an *effect*, not a *cause*.

If the impedance is non-virtual, the physical impedance is the
cause of everything, e.g. the resistance of a resistor.

If the impedance is virtual, the thing that caused the virtual
impedance is the cause of everything, i.e. the ratio of the
superposed voltages to the superposed currents.
--
73, Cecil, W5DXP

4205. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:35:24 UTC
From: tdonaly@aol.com
Message-ID: <20030523103524.07518.00000190@mb-m22.aol.com>
Source record: 117357

Slick wrote,
>
>Hello,
>
> I'm planning on building a 300 Watt broadcast VHF antenna for
>good penetration of the concrete and metal in the middle of the city,
>something will good horizontal gain, or a very low angle of
>radiation.
>
> A friend suggested a stacked dipole, but then changed his mind
>when i suggested that the height of the antenna would be limited (the
>mast length limited).
>
> It was then suggested that a super J-pole be used, as the mast
>length would not matter as much.
>
> The super J-pole would give how much more gain over a 5/8ths?
>
> Any other suggested designs?
>
> Thanks in advance.
>
>Slick

Around here, it's against the law to help in the commission of a crime.
Tom Donaly, KA6RUH

4206. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:41:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE332D.2020607@ieee.org>
Source record: 117358
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
> My reasoning is not bound by anybody else's quite arbitrary opinions. Who's
> the IEEE anyway?

The organization that defines the words we use on this newsgroup,
at least for us Yanks in The Colonies. :-)
--
73, Cecil, W5DXP

4207. Re: HF (30M - 10M) ant recommendation pls

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:43:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE3398.6090700@ieee.org>
Source record: 117359

jotis wrote:
> Hello- I am having pretty good results with a long wire and tuner on 80M,
> 40M, and 20M, but having a bit of trouble tuning the wire (using an MFJ
> 949E) on 30M and higher frequencies.
>
> Any comments or suggestions will be greatly appreciated.

Change the length of the antenna or feedline by 1/4WL on 30m.
--
73, Cecil, W5DXP

4208. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:50:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE3540.1050309@ieee.org>
Source record: 117360

Jim Kelley wrote:
> The issue was addressed in my response to your first post, Cecil. I've
> addressed it repeatedly. And you continue to gloss over that particular
> shortcoming of your model. Like I said, you need to asnwer that question.
> You haven't done so because you're unable to do so.

Nope, I haven't done so because my "shortcoming" is
downstream from your shortcoming. Yours is here where
we are now. Mine is downstream. Therefore, your shortcoming
should be addressed first. If you are correct about reflected
energy not existing at a mismatched load in a Z0-matched system,
my arguments are completely moot and I will admit defeat.
So please prove your point.
--
73, Cecil, W5DXP

4209. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:52:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE3591.6050705@ieee.org>
Source record: 117361

Jim Kelley wrote:
> When it comes to old, you've got me beat by a mile, Cecil. :-)

I beg your pardon. I'm as young as I can possibly be. :-)
--
73, Cecil, W5DXP

4210. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 14:59:06 UTC
From: Brian Reay <brian.reay@bigfoot.com>
Message-ID: <balcv7$10qs7$1@ID-140397.news.dfncis.de>
Source record: 117362
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECE332D.2020607@ieee.org...
> Reg Edwards wrote:
> > My reasoning is not bound by anybody else's quite arbitrary opinions.
Who's
> > the IEEE anyway?
>
> The organization that defines the words we use on this newsgroup,
> at least for us Yanks in The Colonies. :-)

You stopped being the "Colonies" when you stopped paying our taxes. You
can't sneak back in now.

We may like to come and join you, on the other hand ;-)

--
73
Brian
G8OSN
www.g8osn.org.uk

and

www.qsl.net/g8osn for FREE training material for the UK Foundation and
Intermediate Licences

4211. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:06:15 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3ECE38E7.697E2C6@ecs.soton.ac.uk>
Source record: 117363
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

> First catch your 73 ohm dipole. You'll need some free space to put it in.
> Seriously though, you won't get a 73 ohm resistive dipole for 20 metres
> unless you have some very tall non conducting poles. Real world 20 m
> dipoles will be much closer to 50 ohms. Try modeling with the free
> version of EZNEC over a real ground and get a feel for the impedances
> you will get in practice. That's Roy Lewallen's excellent antenna
> modeling software at :- http://www.eznec.com/

Many Thanks

None of the textbooks I've read, have ever said that ground proximity is
a parameter.

73 de

Simon M3CYT

4212. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:06:57 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <3ECE3911.660B44D@ecs.soton.ac.uk>
Source record: 117364
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>
> Reg Edwards wrote:
> > My reasoning is not bound by anybody else's quite arbitrary opinions. Who's
> > the IEEE anyway?
>
> The organization that defines the words we use on this newsgroup,
> at least for us Yanks in The Colonies. :-)
> --
> 73, Cecil, W5DXP

No, its standards are normally used in the UK in conjunction with IEE
ones.

4213. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:12:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE3A42.9010407@ieee.org>
Source record: 117365
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Brian Reay wrote:
> We may like to come and join you, on the other hand ;-)

To bad we limited our horizons by naming the country
The United States of "America". :-)
--
73, Cecil, W5DXP

4214. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:29:48 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <balepbofi1@titan.btinternet.com>
Source record: 117366
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

> None of the textbooks I've read, have ever said that ground proximity is
> a parameter.
>
==========

That's because text books are written for rich individuals, richly educated engineers, rich broadcasting companies, the rich military, who can afford to erect high antennas well out of range of 'ground proximity'.

You must be rich too. Welcome down to the level of impoverishment suffered by we ignorant radio peasants. ;o)

Reg, G4FGQ

4215. Attach Ground to fence post?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:40:39 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3ECE40FC.7060408@rochester.rr.com>
Source record: 117367

Another question about grounding. I've read that 1 solution is to drive a copper rod into the ground and use a thick wire to connect it to the rig.
Just outside my window is my backyard chain link fence with posts dug in evry 9-10 feet. It would be an easy matter to hook up a heavy gauge wire to the fence. ?worth while? Good idea? , bad Idea?

4216. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:57:14 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECE44A2.4080700@attbi.com>
Source record: 117368
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Wait just one minute!!!

Since when is the former Mexican state of Texas, before 1776, or the Republic of Texas [circa 1830-1840 AD] considered one of the British Colonies.

How does W5DXP, AKA Cecil, qualify as a "Yank"? According to the great American Hero, John Wayne, he may qualify as a Texican!! [Assuming his ancestors died at the Alamo.]

We, the true Yanks, Tories and Whigs of New England, New York, New Jersey, Delaware, Virginia, Maryland, Georgia may have reservations about allowing a Texican to share our rebellious, revolutionary and bloodthirsty heritage. The Alamo was not involved in THE REVOLUTION! Was it??

Besides, no one at the Alamo had relatives who came over on the Mayflower!

With tongue firmly in cheek, I am Deacon Dave, W1MCE.

PS: My maternal grandparents migrated from Canada and my paternal great grandparents jumped ship from Nova Scotia. Oh well! That means I'm not a true Yank, Whig or Tory either <glum>.

+++

>W5DXP wrote:

<SNIP> the IEEE is ... <SNIP>
> The organization that defines the words we use on this newsgroup,
> at least for us Yanks in The Colonies. :-)
> --
> 73, Cecil, W5DXP
>

4217. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 15:58:51 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECE4505.3070707@attbi.com>
Source record: 117269

Are you as old as you can possibly be??? <G>

DD

W5DXP wrote:
> Jim Kelley wrote:
>
>> When it comes to old, you've got me beat by a mile, Cecil. :-)
>
>
> I beg your pardon. I'm as young as I can possibly be. :-)
> --
> 73, Cecil, W5DXP
>

4218. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:04:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE46A1.60600@ieee.org>
Source record: 117270
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Dave Shrader wrote:
> The Alamo was not involved in THE REVOLUTION! Was it??

Of course it was, Dave. It was part of THE REVOLUTIONARY
WAR for Texas independence from Mexico.
--
73, Cecil, W5DXP

4219. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:07:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE473F.6000508@ieee.org>
Source record: 117271

Dave Shrader wrote:

> W5DXP wrote:
>> I beg your pardon. I'm as young as I can possibly be. :-)

> Are you as old as you can possibly be??? <G>

If I answer "yes" to that question, Dr. Slick will again
accuse me of a contradiction. :-)
--
73, Cecil, W5DXP

4220. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:14:49 UTC
From: The Mary Millington Experience <bms@groundcontrolhq.co.uk>
Message-ID: <balhdp$97q$1@sparta.btinternet.com>
Source record: 117272
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

How did we get from 20m dipoles to The Alamo

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECE46A1.60600@ieee.org...
> Dave Shrader wrote:
> > The Alamo was not involved in THE REVOLUTION! Was it??
>
> Of course it was, Dave. It was part of THE REVOLUTIONARY
> WAR for Texas independence from Mexico.
> --
> 73, Cecil, W5DXP
>

4221. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:17:59 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECE4980.2060803@attbi.com>
Source record: 117273
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

I mean the REAL Revolution! The one Fostered [beer] by Sam Adams [beer] and the other tee..[tea party]..totaling Patriots [not the football team] who refused to pay their unjust taxes to HRM George [Hmmm... do we have a beer named HRM George? or even HRM Tea?]

Texicans just gon't have any true sense of Colonial history. They are just 50 years behind true historical events <too bad>.

Cecil, be proud to be a Texican but not a true blue blooded 1776 YANKEE.

BTW: The Boston descendents of those revolutionaries, Red Sox, still have trouble with the New York descendents of those Tories, the cursed Yankees. Maybe we should write a new chapter in USA history: The Battle of Bunker hill versus the Alamo!!

DD

W5DXP wrote:
> Dave Shrader wrote:
>
>> The Alamo was not involved in THE REVOLUTION! Was it??
>
>
> Of course it was, Dave. It was part of THE REVOLUTIONARY
> WAR for Texas independence from Mexico.
> --
> 73, Cecil, W5DXP
>

4222. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:18:44 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECE49AE.2060806@attbi.com>
Source record: 117274
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

MEA CULPA!!

The Mary Millington Experience wrote:
> How did we get from 20m dipoles to The Alamo
>
>
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ECE46A1.60600@ieee.org...
>
>>Dave Shrader wrote:
>>
>>>The Alamo was not involved in THE REVOLUTION! Was it??
>>
>>Of course it was, Dave. It was part of THE REVOLUTIONARY
>>WAR for Texas independence from Mexico.
>>--
>>73, Cecil, W5DXP
>>
>
>
>

4223. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:33:42 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <r6jscv8mv3ltrlpgomikm2213fj6c8bgvh@4ax.com>
Source record: 117275

On Fri, 23 May 2003 03:16:50 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Thu, 22 May 2003 22:17:54 -0400, Russ <carlzomer@hotmail.com>
>wrote:
>
>>On Thu, 22 May 2003 22:24:57 GMT, Richard Clark <kb7qhc@attbi.com>
>>wrote:
>>
>>>On Thu, 22 May 2003 14:56:52 -0700, W5DXP <Cecil.A.Moore@ieee.org>
>>>wrote:
>>>>> Do you support the sniper hugger legislation?
>>>>What's that?
>>>Never mind Cecil, your complaisance will provide enough support.
>>
>>Note that Richard has failed to answer the question about his
>>inflamatory propaganda.
>>
>>Russ
>Your support is counted amongst the gravestones too.

You still haven't answered the question, regardless of my support
amongst the dead. I take it that you are also in favor of banning
automobiles, swimming pools and physicians, who are responsible for
over 100,000 needless deaths in the US alone as a result of "medical
misadventures".

Russ

4224. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire ...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:37:55 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ECE4E63-339@storefull-2315.public.lawson.webtv.net>
Source record: 117276

Eric, G6XCD wrote:
"---which turns out to be a pair of folded driveen elements from an old 10XY."

Know not what a 10XY is. There is a plumber`s delight 8-element tippable array in the 15th edition pf the Editors and Engineers "Radio Handbook" on page 489.

The Radio Handbook array uses a pair of folded dipole driven elements on 2m.

Spacing of the two yagis in this array is about 3/4 wavelength.

Length of each RG-59 (75-ohms) yagi drive cable is 40 inches or about 3/4 wavelength, considering its velocity factor. So, each cable is a Q-section between its folded element and the paralleling point where it should match a 50-ohm common-point impedance. Ideally each Q-section should present 100-ohms.

SWR is said to be within 2:1 from 144 MHz to 148 MHz. Gain is said to exceed 10 db.

Best regards, Richard Harrison, KB5WZI

4225. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 16:50:07 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305230850.391d160e@posting.google.com>
Source record: 117277

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0305222018.eb3a20c@posting.google.com>...
> Hello,
>
> I'm planning on building a 300 Watt broadcast VHF antenna for
> good penetration of the concrete and metal in the middle of the city,
> something will good horizontal gain, or a very low angle of
> radiation.
>
> A friend suggested a stacked dipole, but then changed his mind
> when i suggested that the height of the antenna would be limited (the
> mast length limited).
>
> It was then suggested that a super J-pole be used, as the mast
> length would not matter as much.
>
> The super J-pole would give how much more gain over a 5/8ths?
>
> Any other suggested designs?

> Dr Slick I have limited experience with VHF but it would appear that you require gain but have space restriction, so here is some thought.
The most efficient radiator(db per unit length) is the straight
radiator which contains a loop at it center which is made resonant at
the required frequency by virtue of an added lumped reactance. Though
one feeds the dipole via a delta match beyond the loop/dipole joints
it is the LOOP oscillation that determines the radiation frequency as
a whole regardless of dipole length.
This ofcourse can be placed either vertically or horizontally.
In your case it would be imperitive to ensure that your signal was
extremely free of interference to existing transmissions, this can be
achieved with slight variation of the lumped reactances. I see that in
another thread that you have got involved with stubs. The loop acts in
a similar way except it not only provides added useful radiation but
allows for collinear construction to suit the available space. I see
no reason why such a design cannot be used to advantage in array form
as well as custom designed for signal bandwidth if so required.
All the above can be analysed via complex circuitry where the
radiators
are reduced to lumped electrical form.
Have fun
Art

4226. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:03:44 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <balk9ggsf1@news1.tribune.com>
Source record: 117278

Your TV antenna is actually 3 antennas mounted on one boom.

Channels 2 to 6 are Low vhf frm 53 to 88 mhz.
Channles 7 to 13 are high vhf, around 175 to 220
Channles 14 to 66 are UHF around 500 to 800 mhz.

Most tv antennas also have an "fm trap" option. This is to allow you to
prevent a strong local fm station from overwhelming the tv.

Compare your problem to the above information, see if it helps your process
any.

John

"Paul Rosete" <prosete@worldnet.att.net> wrote in message
news:%Koza.168957$ja4.8470138@bgtnsc05-news.ops.worldnet.att.net...
> [If this is the wrong nsg for this question, please let me know where to
> post it]
>
> I installed a yagi antenna on my roof to pick up OTA local dtv signals
> (decoded thru an add-on module to my sat receiver). All local stations'
> digital transmits are located to my northeast and within the 64 to 69
degree
> compass headings from my house.
>
> The problem I'm having is that some channels come in at peak strength (in
> the upper 90% range) while others, even those sharing the same degree
> heading, come in so low that the signal is unstable and constantly blacks
> out. Example: my local NBC and ABC are both situated at the 64 degree
> heading but NBC's signal strength comes up no higher than low 60 percent
> range, so that it's lost continuously, while the ABC station peaks out at
95
> to 98 percent in the strength meter.
>
> What causes this disparity in strength when both stations' broadcast
> antennas are co-located in the same general area? What can I do about it
to
> improve the low signal strength?
>
> Here's what I've tried so far:
>
> Raised the antenna by an extra 15 feet. No change.
> Rotated the antenna both away from and toward the stations' tower
location.
> No change.
> Replaced it with a Terk 55, including signal amplifier, and found no

change.
> Even rotated the Terk 360 degrees with no change in signal strengths.
>
> My antenna has a clear line of sight with no obstacles in the way. No
hills,
> mountains, buildings, or other solid structures. Just a flat, wooded
> trerrain.
>
> Any help appreciated.
>
> Paul
>
>

4227. Re: Where's the dish on the Placebo video?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:12:19 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305230912.5bed6a2c@posting.google.com>
Source record: 117279

"J. Harvey" <JM002.Harvey_NOSPAM@Sympatico.ca> wrote in message
news:<YGvqa.5423$2g5.802848@news20.bellglobal.com>...

> Easy....Jodrell Bank.
>
> Jodrell Bank homepage
> http://www.jb.man.ac.uk/

Whew... and to think I was beggining to believe what Zoran said about hams =)

Q

4228. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:13:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE56A5.4000606@ieee.org>
Source record: 117280
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

The Mary Millington Experience wrote:
> How did we get from 20m dipoles to The Alamo?

If they had had 20m dipoles at the Alamo, they
could have called for help.
--
73, Cecil, W5DXP

4229. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:24:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcsm9k7u89s8c@corp.supernews.com>
Source record: 117281
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Egad, here we go again. Sigh, I guess it's worth one more try.

Let's suppose you have a 100 watt transmitter feeding a 50 ohm load through one wavelength of 50 ohm transmission line. The forward power on that line is 100 watts and the reverse power on that line is zero, right? The transmitter sees 50 ohms and operates normally.

No replace the one wavelength of 50 ohm line with one wavelength of 450 ohm line. Now the forward power on that line is 278 watts and the reverse power is 178 watts. The transmitter still sees 50 ohms and operates normally. Why don't those 178 watts of evil reverse power make the anodes glow?

Now here's another one. Put 450 ohms at the end of that 450 ohm line. Now the reverse power is zero, but the transmitter is definitely unhappy, since it sees 450 ohms. Yet the reverse power on the line is zero. Where did all that reflected power come from to make the anodes glow?

The fact is that the reverse power on the line, as others have said, really only represents power sloshing back and forth on the line. It doesn't "escape" to "smoke" the transmitter. All the transmitter cares about is the impedance it sees, and it doesn't know and can't tell how much "reverse power" is on the line.

This myth about "reverse power" exiting the line to destroy the rig is a long standing and dearly held one. I'm sure it will never die.

Roy Lewallen, W7EL

Andy Cowley wrote:
>
> Dear Reg,
>
> I suggest you key up your linear and disconnect the aerial. Watch the anodes.
> That bright red colour is caused by the reflected power being dissipated in
> the output devices. You can't see it in a transistor PA of course and it'll
> happen a bit faster. Reflected power doesn't necessarily just bounce backwards
> and forwards, it can be dissipated in the output stage. Otherwise we wouldn't
> need ATUs at all, would we?
>
> Puzzled as to why you said that, you are usually right on the money.
>
> vy 73
>
> Andy, M3ABC

4230. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:30:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcsmknb6pv1tac@corp.supernews.com>
Source record: 117282
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

So the ATU manufacturers have finally got the hams where the want them,
where they're convinced that you need an ATU for a dipole.

You don't. Unless you're operating the dipole a long way from its
resonant frequency (say, at the bottom end of the 3.5 MHz band with a
skinny dipole resonant at the top). I don't know how many dipoles I've
built since I got my first ticket in 1957, but it's a bunch. And I've
never needed an ATU for one.

Hams have already been convinced that they need an ATU to protect their
transmitters from the evil reflected power that will flow out of the
feedline to smoke the rig. Now they're getting convinced that they need
an ATU for a simple dipole. No wonder MFJ is doing so well -- too bad
they don't sell stock.

Roy Lewallen, W7EL

Gareth (G1LVN) wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vcrv01funi144@corp.supernews.com...
>
>>. You should also
>>realize that the feedpoint impedance won't have a resistance of 73 ohms
>>anyway, because of proximity to ground,
>
>
> This is key - and the reason why so many amateurs use an antenna tuning unit
> (ATU) in conjunction with even 20m dipoles. For all practical use an ATU is
> required to tune such an antenna. Unless of course you can get it a few 10's of
> wavelengths off the ground and a few quarter wavelengths away from any
> supporting structures e.g. masts, Mr Smith will be of little use (more suited to
> VHF and above)
>
> just my 2p
>
>
> --
> 73 de G1LVN
> Gateway details at: www.g1lvn.org.uk
> (change "mycallsign" to reply by email)
> send spam to abuse@theplanet.net
>
>
>

>

4231. Re: SWR on vertical problem solved... here's the explanation :)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:32:50 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305230932.48e18dfc@posting.google.com>
Source record: 117283

Wes Stewart <n7ws@#arrl.net> wrote in message
news:<0qb5cvob354cn920h80p74j2u8p41ahjlk@4ax.com>...

> Is the PVC pipe filling up with water?

PVC is open at the bottom, so there's no water accumulating.

> Why radials and not a direct connection to the roof?

That's an interesting question I've been pondering for some time.
There's a couple of mecanical reasons (mainly how to connect the braid
to the roof tin in an electrically effective manner that won't rust
over time), but the real reason I chose the radials was to discard
that the roof should be what's causing the weird SWR readings. Since
the roof has a slightly irregular shape (kind of a T shape) I figured
it might not be the "ideal" infinite ground you'd think it would be.

Now, the question that comes up... what exactly is considered an
"infinite" ground plane? It occurs to me there must be some kind of
relation between wavelength and extension of the plane that would make
radials superior or inferior. Would using a less conductive material
(galvanized steel vs. copper/aluminium) cause any notable attenuation
effects or just the expected variation in antenna impedance?

> Why is the SWR so high to start with?

When I took down the 20m vertical I had installed on the roof I found
out why. Seems the two weren't getting along too well... in fact later
on I took measurements and they were separated about 0.17W on 17m, and
the 20 meter vertical is 25% longer than the 18 meter. Seems the other
vertical was accidentally acting as an incorrectly-calibrated
reflector and that's what was causing the SWR to act up. Probably when
the roof was wet the conductivity changed slightly, but enough to send
the whole "array" out of "adjustment".

Strange thing is, when I ran a model later on (taking into account
roof angles, antenna lenghts, radials, etc) no interaction between the
two came up.

One of those weird interactions that comes up at times I guess.

Mario

4232. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:33:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcsmqr3ut5d04d@corp.supernews.com>
Source record: 117284

Art Unwin KB9MZ wrote:
>
> The most efficient radiator(db per unit length) is the straight
> radiator which contains a loop at it center which is made resonant at
> the required frequency by virtue of an added lumped reactance. Though
> one feeds the dipole via a delta match beyond the loop/dipole joints
> it is the LOOP oscillation that determines the radiation frequency as
> a whole regardless of dipole length. . .

Can you show that this is true with theory, modeling, or measurement?

Roy Lewallen, W7EL

4233. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:39:53 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305230939.271d909e@posting.google.com>
Source record: 117285

'Doc <w5lz@cwis.net> wrote in message news:<3EC3FFB5.BEDE73D@cwis.net>...

> Now we are 'assuming' Mario has a 'perfect ground'.
> I sure wish someone would 'assume' me a raise on my
> check...

I guess that if you compare it in conductivity and loss to your normal backyard soil, the tin metal roof could be considered a "perfect" ground. The doubts I have would be not so much with the "perfect" part, but with the other part in theorical verticals: "infinite".

Mario

4234. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:40:09 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <6nmscvotp35roje9ilqehkone8pir8vd0t@4ax.com>
Source record: 117291

On Fri, 23 May 2003 15:57:14 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>Wait just one minute!!!
>
>Since when is the former Mexican state of Texas, before 1776, or the
>Republic of Texas [circa 1830-1840 AD] considered one of the British
>Colonies.
>
>How does W5DXP, AKA Cecil, qualify as a "Yank"? According to the great
>American Hero, John Wayne, he may qualify as a Texican!! [Assuming his
>ancestors died at the Alamo.]

Well, Texican -- some of us would say Texian.

Our land was a part of New Spain, and then Mexico, and there were a
lot of Spaniards and Mexicans that came up from the South, but from
the North, quite a few Germans and French settled in these parts, so
we had our share of "Yanks." Here in the Alamo city, if a street
doesn't have a Spanish name, it generally has a German moniker.

Bob
k5qwg

>
>We, the true Yanks, Tories and Whigs of New England, New York, New
>Jersey, Delaware, Virginia, Maryland, Georgia may have reservations
>about allowing a Texican to share our rebellious, revolutionary and
>bloodthirsty heritage. The Alamo was not involved in THE REVOLUTION! Was
>it??
>
>Besides, no one at the Alamo had relatives who came over on the Mayflower!
>
>With tongue firmly in cheek, I am Deacon Dave, W1MCE.
>
>PS: My maternal grandparents migrated from Canada and my paternal great
>grandparents jumped ship from Nova Scotia. Oh well! That means I'm not a
>true Yank, Whig or Tory either <glum>.
>
>+++
>
> >W5DXP wrote:
>
><SNIP> the IEEE is ... <SNIP>
>> The organization that defines the words we use on this newsgroup,
>> at least for us Yanks in The Colonies. :-)

>> --
>> 73, Cecil, W5DXP
>>

4235. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:40:33 UTC
From: Brian Reay <brian.reay@bigfoot.com>
Message-ID: <balme7$15r1c$1@ID-140397.news.dfncis.de>
Source record: 117286
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ECE56A5.4000606@ieee.org...
> The Mary Millington Experience wrote:
> > How did we get from 20m dipoles to The Alamo?
>
> If they had had 20m dipoles at the Alamo, they
> could have called for help.

I good job they didn't. Can you imagine the endless sequels "The Alamo 37".

One thing about the Alamo, wasn't Davy Crockett a Congressman?

Can you imagine a current UK MP being prepared to lay down his life like
that?

--
73
Brian
G8OSN
www.g8osn.org.uk

and

www.qsl.net/g8osn for FREE training material for the UK Foundation and
Intermediate Licences

4236. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:42:37 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305230942.1bd4b60c@posting.google.com>
Source record: 117287

richardharrison@webtv.net (Richard Harrison) wrote in message news:<21692-3EC41082-115@storefull-2314.public.lawson.webtv.net>...

> Why not make the radiator a little too long and bring the radiation
> resistance up to 50 ohms, then tune out the excess inductance with a
> relatively lossless series capacitance?

How easy to do would that be construction-wise? Sounds like a reasonable alternative, but depending on how exactly you go about doing it it might turn out it's simply easier to deal with the plain vanilla flavored vertical impedance.

Mario

4237. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:44:16 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0305230944.2f19ee9@posting.google.com>
Source record: 117288

"Jimmy" <Gfender@carolina.rr.com> wrote in message
news:<0faxa.36982$Lm2.2465911@twister.southeast.rr.com>...

> He may have his antenna mounted on the slope of the roof. If so his
> impedance could be around 25 0hms. We are only assuming it is mounted on the
> peak

No, it's basically at the peak. Roof slope is 15%, north and south.

Mario

4238. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:46:49 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECE5E89.54EE154C@uci.edu>
Source record: 117289

W5DXP wrote:
> Nope, I haven't done so because my "shortcoming" is
> downstream from your shortcoming. Yours is here where
> we are now. Mine is downstream. Therefore, your shortcoming
> should be addressed first. If you are correct about reflected
> energy not existing at a mismatched load in a Z0-matched system,
> my arguments are completely moot and I will admit defeat.
> So please prove your point.

Sound like you want me to prove YOUR point cuz it sure isn't MY point.
;-)

Say you've got a 25 watt laser burning a hole in a 10x12. Then you turn on another identical 25 watt laser shining at 90 degrees to the first one. The two beams cross paths, intersecting at a beam splitter (with a really good heat sink on it). Now (portions of) both beams are headed toward the 10x12 and are attenuated by the same amount. You adjust the path length of one of the lasers by fractions or a wavelength until the two laser beams are 100% in phase phase along their path to the 10x12, and your hole burning is progressing nicely. Then you readjust the position of the laser by a half wavelength and the beams are now 180 degrees out of phase. At this point you stop burning a hole in the 10x12 and pronounce that the energy has been re-reflected back to the source by destructive interference.

That's basically what you're trying to sell us.

73, ac6xg

4239. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:54:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ijlscvcq9i5lr9po4s78jf384mn9n3do4u@4ax.com>
Source record: 117290

On Fri, 23 May 2003 12:33:42 -0400, Russ <carlzomer@hotmail.com>
wrote:
>
>You still haven't answered the question, regardless of my support
>amongst the dead. I take it that you are also in favor of banning
>automobiles, swimming pools and physicians, who are responsible for
>over 100,000 needless deaths in the US alone as a result of "medical
>misadventures".
>
>Russ

Well Russ,

There's your problem:
> I take it that you are also....
is symptomatic of poor perception. I am also in favor of allowing
sleazy arms dealers to mix freely with snipers against the wall
counting bullets. Is that an example of gun control you are against?

Right Whiners don't mind taking the profit, they just don't like the
blindfold-optional party afterwards. During cocktails they usually
compare their prospects with the nobility of the Save the Whales
crowd. It is amazing about their 11th hour conversions to eliminate
Capital Punishment.

Yesterday a kid was caught in school with a Mac-10, with a full 32
round clip (maybe 34). He was also drunk. Again, the classic triad
hallmarks of a Perp: gun, familiar setting, alcohol. No strangers
involved. No masked assailants. No mention of it being unlicensed,
but certainly its possession by the boy was. What is your magic
number of dead kids when it becomes an issue for supporting a lower
sniper-liablities law proposal?

The logic of the Right Whiners would have it that every
American has the duty to be armed as is proper of a free and
democratic society. Now that this same crowd is in charge of bringing
that same freedom and democracy to Iraq I ponder the implications of
just which way the wind blows for them in the east. After-all, much
of the inflamed Moslem world already practices this form of democracy
and it has worked for years hasn't it? Where is our security in that?

How long before we find the administration driving for a program to
hand out rifles to Guantanamo releasee's? After-all, we were ahead of
the curve in supplying them before they arrived. They may also get a
cake and a complementary bible inscribed by George.

73's
Richard Clark, KB7QHC

4240. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:54:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE604A.4060902@ieee.org>
Source record: 117292
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Dave Shrader wrote:
> BTW: The Boston descendents of those revolutionaries, Red Sox, still
> have trouble with the New York descendents of those Tories, the cursed
> Yankees. Maybe we should write a new chapter in USA history: The Battle
> of Bunker hill versus the Alamo!!

Don't forget the Yankees (Pistons or Nets) Vs the Texans (Spurs or Mavericks).
--
73, Cecil, W5DXP

4241. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:55:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <03oscv88rbafac1oe1dnckvu10lku40dhg@4ax.com>
Source record: 117293

On Fri, 23 May 2003 08:11:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard, we already know that you are capable of nit-picking
>any discussion to death.
Do I actually rate right up there with you?
Thanx for the flowers! ;-)

4242. 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 17:57:41 UTC
From: Jeff <kb1hol@REMOVETHIS.arrl.net>
Message-ID: <kb1hol-5F4D11.13573923052003@news.mindspring.com>
Source record: 117294

Hello!

I have constructed a roll up J-pole antenna from 450ohm ladder line for 2 meters. It works quite well with a 1.4-1.2 SWR across the bandwidth.

My question is what are the power limits for this antenna? I have seen that the same antenna made with 300ohm "twin lead" is suggested to keep under 10 watts on VHF. What about the heavier 450ohm ladder line that I've made this antenna with? Could it handle 25 watts? What about 65W?

I've got a Yaesu FT-2800 2 meter TXR that I'd love to pair it with since I live in an apartment with no method of installing an external antenna. Likewise, a 1/4 wave 2M groundplane is impractical in our livingspace. The J-pole can happily be hung in the corner of our bedroom near the window with no fuss (and no complaints from my other half! :)

Thank you!

73s
Jeff
KB1HOL/AG
--
--
J. Rogers KB1HOL
KB1HOLatARRLdotNET

4243. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 18:04:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <a5oscvk6k6lbjtojmf8bg1pa0niqttia1j@4ax.com>
Source record: 117295

On Fri, 23 May 2003 08:35:08 -0500 (CDT), richardharrison@webtv.net (Richard Harrison) wrote:

>Richard Clark, KB7QHC wrote:
>"The measuring instrument adds no discontinuity of its own-"
>
>Seems a safe assumption to me.
>
Ah but Richard,

Therein lies the problem of the unexpressed Boundary when measurement precision exceeds device capacity.

Therein lies another problem of Boundary in the free mix of real with theoretical. We are introduced to a problem in the metaphor of buildings, holes in the wall, middle of the room terminated lines. Were these details meaningful? Rhetorically, certainly as we will no doubt see both sides of the coin visited indiscriminately to serve poor logic and a failed argument.

Your safe assumption is the same as accepting "nearly infinite." That is a modest allowance, but it does not mix with a declaration that follows declaring a state of losslessness as part of the problem being examined. Your favorite Bird cannot support an argument couched in absolutism; contrariwise, a practical solution need not be proven with 100 digit resolution traceable to a Standards Lab.

73's
Richard Clark, KB7QHC

4244. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 18:13:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE64B7.7080003@ieee.org>
Source record: 117296
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> Now replace the one wavelength of 50 ohm line with one wavelength of 450
> ohm line. Now the forward power on that line is 278 watts and the
> reverse power is 178 watts. The transmitter still sees 50 ohms and
> operates normally. Why don't those 178 watts of evil reverse power make
> the anodes glow?

Because of the 100% wave cancellation between two rearward traveling
reflected waves (as explained on the Melles-Griot web page). There is
no reflected energy on a 50 ohm piece of coax between the transmitter
and the 450 ohm line proving a Z0-match to 50 ohms. How can the
reflected energy possibly cause any damage when it doesn't even
reach the transmitter?

> This myth about "reverse power" exiting the line to destroy the rig is a
> long standing and dearly held one. I'm sure it will never die.

If reflected energy cannot damage a transmitter, then why is
protection circuitry necessary at all?

If the reflected voltage and reflected current is allowed to reach the
transmitter, the superposition of the forward wave and the reflected
wave can cause an over-voltage or over-current condition in an unprotected
transmitter. Over-voltage and over-current can surely damage a transmitter.
The over-voltage and over-current conditions accompanying reflected waves
has the same effect as the over-voltage and over-current conditions
accompanying the driving of an unmatched load impedance.
--
73, Cecil, W5DXP

4245. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 18:23:51 UTC
From: derswede@aol.comspam.com
Message-ID: <20030523142351.04155.00000206@mb-m15.aol.com>
Source record: 117297

<< > I'm planning on building a 300 Watt broadcast VHF antenna for
>good penetration of the concrete and metal in the middle of the city,
>something will good horizontal gain, or a very low angle of
>radiation. >>

Heh....how about an EH antenna? Works <<great>>

Heh.

A

4246. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 18:38:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cgqscvo37qqgdabt1bmvim6iu8q439t44s@4ax.com>
Source record: 117298

On Fri, 23 May 2003 10:46:49 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:
>At this point you stop burning a hole in the
>10x12 and pronounce that the energy has been re-reflected back to the
>source by destructive interference.
>That's basically what you're trying to sell us.
Ask him to look back along that axis.

4247. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 18:38:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE6AB0.3030008@ieee.org>
Source record: 117299

Jim Kelley wrote:
> Then you readjust the
> position of the laser by a half wavelength and the beams are now 180
> degrees out of phase. At this point you stop burning a hole in the
> 10x12 and pronounce that the energy has been re-reflected back to the
> source by destructive interference.

Quoting _Optics_, by Hecht: "Interference tales place over an
extended region of space in a coordinated fashion that leaves
the total amount of radiant energy unchanged."

Assume irradiance I1 is coming from laser#1 and irradiance I2
is coming from laser#2. These are the irradiances that you are
using to burn the hole.

While burning the hole the total irradiance is I1 + I2 + 2Sqrt(I1*I2).
The constructive interference is 2Sqrt(I1*I2). Where is the necessary
accompanying destructive interference occurring?

While not burning the hole the total irradiance is
I1 + I2 - 2Sqrt(I1*I2). The destructive interference is -2Sqrt(I1*I2).
Where is the necessary accompanying constructive interference occurring?

Again from _Optics_, by Hecht: "The principle
of conservation of energy makes it clear that if there is
constructive interference at one point, the "extra" energy at
that location must have come from elsewhere. There must therefore
be destructive interference somewhere else.

> That's basically what you're trying to sell us.

Yes, that's basically what I am saying but that assertion is
far downstream from where we are now. If we don't even agree
on basic premises, then further discussion is a waste of time.

Based on my acceptance of the premises of the wave reflection
model, one of my basic premises is that energy is reflected from
a mismatched load even if a Z0-match point exists in the rest
of the system. You say that basic premise of mine is incorrect.
So that is the place to start the discussion by proving that
my basic premise is incorrect. If you can do that, the entire
rest of my argument falls apart.
--
73, Cecil, W5DXP

4248. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:00:15 UTC
From: "Gareth (G1LVN)" <gareth@mycallsign.freeserve.co.uk>
Message-ID: <balr77$q9s$1@newsg4.svr.pol.co.uk>
Source record: 117300
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vcsmknb6pv1tac@corp.supernews.com...
> So the ATU manufacturers have finally got the hams where the want them,
> where they're convinced that you need an ATU for a dipole.
>
> You don't. Unless you're operating the dipole a long way from its
> resonant frequency (say, at the bottom end of the 3.5 MHz band with a
> skinny dipole resonant at the top). I don't know how many dipoles I've
> built since I got my first ticket in 1957, but it's a bunch. And I've
> never needed an ATU for one.

You are no doubt right, I tried a 20m dipole without an atu and got a very narrow bandwidth out of it. Someone at work told me a needed an atu and so I bought one but the dipole had gone by then and I was using a vertical designed for 10 and 15m. I use the ATU to give me 40m - 10m.

> Hams have already been convinced that they need an ATU to protect their
> transmitters from the evil reflected power that will flow out of the
> feedline to smoke the rig. Now they're getting convinced that they need
> an ATU for a simple dipole. No wonder MFJ is doing so well -- too bad
> they don't sell stock.
>

Pretty good at turning a longwire into a multiband. The MFJ I have has ground matching which is useful if you don't have earth (Tower block etc)

I'll get my coat.....

--
73 de G1LVN
Gateway details at: www.g1lvn.org.uk
(change "mycallsign" to reply by email)
send spam to abuse@theplanet.net

4249. Re: Attach Ground to fence post?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:08:25 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECE71A9.991F5040@cwis.net>
Source record: 117301

Wedgew,
It may be a 'good' ground, then again, it may not be. I have something like 250 feet of chain-link around my yard, which is also interconnected with the neighbor's fences. I thought that it would make a pretty good addition to my ground system too. It turned out that my neighbor's didn't care for their porch lights, toasters, TV's, stereo's, etc, picking up everything I said on the radio. When I disconnected the fence from my ground system the neighbors stopped banging on my front door.
The fence posts are set in concrete with very little of the post actually in dirt. Concrete isn't all that 'good' as a conductor, so what I had was a 'radial' that had varying degrees of conduction to ground, every 10 feet or so, running all through the neighborhood and around the neighbor's houses. (Sounds about right, right?)
Anyway, the 'chain-link fence ground' didn't work to well in my case. You might try it to see what happens, just be prepared to 'un-do' it if you need to...
'Doc

4250. GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:20:52 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ece7495$1_1@news.vo.lu>
Source record: 117302

Hi,
An antenna installed at ground level loss its performances and displays few lobes in respect with an antenna placed at 0.5-1 lambda above ground... (I speak especially for the HF emission).
I know that a GP vertical (in my case a Fritzel GP 404) should offer a "better" signal placed 2m about ground; that means that lobes are modified by the presence of the ground. But more precisely ?
I never saw the lobes of radiation of such an antenna, on the ground or placed 2m high. There is in my opinion only one circular lobe (central symetry) which should be somewhat directed according to the position of radials (placed at 360° or limited to a sector in the rear "side" of the antenna). Correct ?
Then there should also be an influence according the height of the antenna base above ground level... (forget the environment influence, near houses, metal block, trees, etc).
Does somebody have such radiation patterns or a URL where I could find patterns of a GP ?
Thanks in advance
Thierry
ON1SKY, LX3SKY
http://www.astrosurf.com/lombry

4251. Re: 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:27:05 UTC
From: richardharrison@webtv.net
Message-ID: <27058-3ECE7609-335@storefull-2318.public.lawson.webtv.net>
Source record: 117306

Jeff wrote:
"Could it handle 25 watts?"

According to the Antenna Book tables, 300-ohm twinlead is about 3X lossier than is 450-ohm ladderline at 100MHz.
So, for the same loss, if the twinlead is only good for 10 watts, the ladderline is likely good for 30 watts. Wire size is #20 in the twinlead versus #18 in the ladderline. 450 ohms means slightly lower current for a given power than does 300 ohms, in addition to the advantage of slightly larger wire. The short answer is probably yes, a ladderline J-pole can endure 25-watts if a similar antenna constructed of twinlead can support 10 watts. MFJ sells a twinlead 2-meter J-pole. I don`t remember what its maximum power rating is claimed to be.

Best regards, Richard Harrison, KB5WZI

4252. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:28:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECE766C.3712ADEE@uci.edu>
Source record: 117303

W5DXP wrote:
>
> Jim Kelley wrote:
> > Then you readjust the
> > position of the laser by a half wavelength and the beams are now 180
> > degrees out of phase. At this point you stop burning a hole in the
> > 10x12 and pronounce that the energy has been re-reflected back to the
> > source by destructive interference.

> Quoting _Optics_, by Hecht: "Interference tales place over an
> extended region of space in a coordinated fashion that leaves
> the total amount of radiant energy unchanged."

That's exactly what I've been trying to tell you. Think about how much
transferred energy is involved in not burning a hole in the 10x12 board.

> While not burning the hole the total irradiance is
> I1 + I2 - 2Sqrt(I1*I2). The destructive interference is -2Sqrt(I1*I2).
> Where is the necessary accompanying constructive interference occurring?

An excellent question. The answer is that constructive interference
takes place in this instance at a right angle to the hole burning beam,
between the portion of one beam that is reflected from the beam splitter
and the portion of the other beam that is transmitted through the beam
splitter.

In the case of our impedance discontinutiy we have a similar situation,
as I have described.

> Again from _Optics_, by Hecht: "The principle
> of conservation of energy makes it clear that if there is
> constructive interference at one point, the "extra" energy at
> that location must have come from elsewhere. There must therefore
> be destructive interference somewhere else.

> > That's basically what you're trying to sell us.
>
> Yes, that's basically what I am saying but that assertion is
> far downstream from where we are now. If we don't even agree
> on basic premises, then further discussion is a waste of time.

I've explained many times that we agree on the basic premises. What
upstream issue is in contention?

> Based on my acceptance of the premises of the wave reflection
> model, one of my basic premises is that energy is reflected from
> a mismatched load even if a Z0-match point exists in the rest

> of the system.

Okay, I see the issue. As with the laser example, not all of the waves involved move energy from one place to another, V3 and V4 in this specific case.

> You say that basic premise of mine is incorrect.

Cecil, if I didn't like your basic premise I wouldn't be this interested in seeing you present the correct solution in print.

> So that is the place to start the discussion by proving that
> my basic premise is incorrect. If you can do that, the entire
> rest of my argument falls apart.

It is possible to redirect your argument a bit. Your idea that interference is key is apparently correct. Your implementation of the idea has some correctable problems. But I have shown you a way to correct them. I am open to discussion about them? Of course. I've been trying to discuss it with you for a few weeks now.

vy 73 de ac6xg

4253. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:30:40 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECE76E0.6034323D@cwis.net>
Source record: 117304

"Dr. Slick",
Yes, I've heard of 'Google'. But a search engine
can't read minds. That's why I asked you what you
were talking about. I've also heard a J-pole made from
4" tubing called a 'super J-pole' (rain guttering down
spout)...
'Doc

4254. Re: GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:31:48 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ece772a$0$48898$edfadb0f@dtext02.news.tele.dk>
Source record: 117305

Hello Thierry

> Does somebody have such radiation patterns or a URL where I could find
> patterns of a GP ?

http://www.cebik.com/58.html

Regards Max

4255. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:51:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <eoqscv8i6nvftfegmom1n97q93hkhdr74r@4ax.com>
Source record: 117307
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 23 May 2003 10:24:11 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Egad, here we go again. Sigh, I guess it's worth one more try.
>
>Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
>through one wavelength of 50 ohm transmission line. The forward power on
>that line is 100 watts and the reverse power on that line is zero,
>right? The transmitter sees 50 ohms and operates normally.
>
>No replace the one wavelength of 50 ohm line with one wavelength of 450
>ohm line. Now the forward power on that line is 278 watts and the
>reverse power is 178 watts. The transmitter still sees 50 ohms and
>operates normally. Why don't those 178 watts of evil reverse power make
>the anodes glow?

This is a problem of mixing the theoretical with the actual. It is
presumed that 178 Watts is reflected (somewhere) on the basis of
computations ignorant or unaffected by losses. And yet when the rest
of the question is uttered, it is presumed none of the reflected power
returns to be dissipated in the source (and no computation is offered,
nor supportable).

Let's allow the extreme of this situation: the transmitter evidences
no dissipation of reflected energy (this is the Old Wife's tale of
energy bouncing back and forth). It is then offered that some value
of energy/power is found in the line, in this case 178 Watts (the
value is wholly immaterial). Can you prove it? With great, great
care of which I am sure Roy is fully capable of, but as an unstated
characteristic assumed by the average Ham, a dangerous supposition.
In fact the scenario guarantees that you will NOT measure 178 Watts
due to the indeterminacy of the combination of interference which
again returns us to a formula I provided several times:
>>
>>The mother science of RF, Optics, has always had the answer:
>> "Optics," Miles Klein, John Wiley & Sons,
>> Chptr. 5.2 "Two-Beam Interference"
>>page 185 shows illustration for "Intensity Distribution" that you can
>>do for yourself with simple math:
>> I = 2 * I1 * (1 + cos(phi2 - phi1 - delta))
>> ave(I) = 2*I1 for an integral number of waves
>> where:
>> I: The intensity over the variation in phase (delta)
>> I1: The intensity of each, coherent source (being equal)

>> phi2: source2 phase (fixed over interval of delta)
>> phi1: source1 phase (fixed over interval of delta)
>> delta: vary phase to observe full 360ï¿½ interference pattern
For those lacking Optics references (or ill apply them), other work by R.W. Beatty published by IEEE or Hewlett Packard (Application Note 56) called Mismatch Uncertainty will illuminate the issue above when the Source Z is declaimed of having nominal 50 Ohms, and no other Z valuation mention follows. HP AP note 56 is given fuller treatment in the HP book "Microwave Theory and Applications," Stephen F. Adam.

Let us consider a very ordinary situation with less than astronomical (apparently) implications. We take a load of 25|100 Ohms and excite it through conventional 50 Ohm transmission line with a source that is not 50 Ohms. However, at this juncture we will not equivocate, but either measure its value, or for the sake of argument simply assign it a value of 25|100 Ohms.

In essence we have a cable terminated at both ends with a 2:1 mismatch.

How much power is in the line's forward and reverse components? This is an ordinary question with an ordinary operation to make an ordinary determination. Unfortunately, ordinary will not do. A formula corresponding to the one above is suitable in response, but the measure will have to attend it closely to confirm. That is because if you simply drop a SWR meter into this line at any point, then you stand the chance of facing ï¿½60% error for BOTH forward AND reverse power measurements. An illustration of a Boundary problem.

Note the magnitude of error for 2:1 mismatches, and every critic that claims the Transmitter is not exhibiting 50 Ohms goes on to regale us values for power with 3 digit resolution WITHOUT revealing what the Transmitter does exhibit for Z. A Boundary problem meltdown.

>This myth about "reverse power" exiting the line to destroy the rig is a
>long standing and dearly held one. I'm sure it will never die.
>
>Roy Lewallen, W7EL
>

Death be not proud....

The greater myth is that you can casually measure any power accurately in the face of the trivial unknowns I've offered above.

What is even more amusing with this pollution of theoretical discussion by the embrace of actual equipment is found in the unexamined mismatch BEHIND the Transmitter antenna port. If the Source (AKA Transmitter) does not exhibit 50Ohms source Z, then it must of necessity reflect some power in proportion to the mismatch found with a 50 Ohm load. Most Hams have access at one side of that connector and will lull themselves with the sweet taste of 100W being offered the load --- little aware that this same port has "perhaps"

reflected 50W of a total 150W effort of the finals. The "perhaps" is correlatable to the references provided above.

This lends credence to Roy's lament above and is far more compelling, but in fact few can state with any certainty what their rig exhibits for Z; and they skip measurement to simply fall back on Specification, or in most cases, the old Wife's Tale.

I've measured values that fall within 2:1 for my rigs (generally between 35 and 70 Ohms). Walt Maxwell has also, as have some others (Tom Rauch if not more). The rest of the field simply shrugged it off without examination, relying on ancient tales around the campfire.

73's
Richard Clark, KB7QHC

4256. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:53:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <c0vscv0ag9nr3mcdie55hslp2jclur9701@4ax.com>
Source record: 117308
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 23 May 2003 18:40:33 +0100, "Brian Reay"
<brian.reay@bigfoot.com> wrote:

>One thing about the Alamo, wasn't Davy Crockett a Congressman?
for Tennessee.

4257. Re: GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:54:48 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <balua8pt1@sparta.btinternet.com>
Source record: 117309

> > Does somebody have such radiation patterns or a URL where I could find
> > patterns of a GP ?
>
==========

Could you please be more precise. What's a GP ?

4258. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:58:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d5vscvsga8bhnf88lnhqhu7o8f995hnvv4@4ax.com>
Source record: 117311

On Fri, 23 May 2003 11:38:40 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Where is the necessary accompanying constructive interference occurring?
This question reveals how you consistently fail at Conservation of
Energy. A complete 360ï¿½ is required to observe the total interference
along the path.

Holding your hand as always, 73's
Richard Clark, KB7QHC

4259. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 19:59:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE7D8D.1080601@ieee.org>
Source record: 117310

Jim Kelley wrote:

> W5DXP wrote:
>> Quoting _Optics_, by Hecht: "Interference tales place over an
>> extended region of space in a coordinated fashion that leaves
>> the total amount of radiant energy unchanged."

> That's exactly what I've been trying to tell you.

Give me an ever loving break, Jim. You have been arguing against
that concept loud and long for weeks. You even invented "destructive
irradiance" to try to win your argument. You said the destructive
interference when I1=I2 is zero and the constructive interference
is 4*I1. Do those assertions of yours sound like destructive interference
equals constructive interference? What has happened is that you have
gone off and changed your mind and now agree with me. I have been beating
conservation of energy principle involving constructive interference Vs
destructive interference into you and others for years.

> It is possible to redirect your argument a bit. Your idea that
> interference is key is apparently correct. Your implementation of the
> idea has some correctable problems. But I have shown you a way to
> correct them. I am open to discussion about them? Of course. I've
> been trying to discuss it with you for a few weeks now.

I don't remember you trying very hard. In any case, discussing the
above is a moot point if reflections from a mismatched load in
a Z0-matched system do not exist.

If reflections from a mismatched load in a Z0-matched system don't
exist, then interference is impossible. So the first thing we
need to resolve is your assertion that there is no such thing as
reflected energy from a mismatched load in a Z0-matched system.
Everything about my ideas depends upon reflections from a mismatched
load. If you can prove that they don't exist, I will retire from the
argument.
--
73, Cecil, W5DXP

4260. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:05:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE7EEE.1060402@ieee.org>
Source record: 117312

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Where is the necessary accompanying constructive interference occurring?
>
> This question reveals how you consistently fail at Conservation of
> Energy.

Asking a question qualifies as a failure? I feel sorry
for any students of yours.
--
73, Cecil, W5DXP

4261. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:10:09 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <fDidnUkMbMnfHVOjRTvU3Q@comcast.com>
Source record: 117313

Paul,

Two things come to mind,

1. The NBC station is a temporary lashup with low power, or

2. The NBC station is at one end or another of the band, like channel 14 or 69, where your antenna gain might be less.

You might want to post what the actual channels are, and how far away they are.

Tam/WB2TT
"Paul Rosete" <prosete@worldnet.att.net> wrote in message news:%Koza.168957$ja4.8470138@bgtnsc05-news.ops.worldnet.att.net...
> [If this is the wrong nsg for this question, please let me know where to
> post it]
>
> I installed a yagi antenna on my roof to pick up OTA local dtv signals
> (decoded thru an add-on module to my sat receiver). All local stations'
> digital transmits are located to my northeast and within the 64 to 69 degree
> compass headings from my house.
>
> The problem I'm having is that some channels come in at peak strength (in
> the upper 90% range) while others, even those sharing the same degree
> heading, come in so low that the signal is unstable and constantly blacks
> out. Example: my local NBC and ABC are both situated at the 64 degree
> heading but NBC's signal strength comes up no higher than low 60 percent
> range, so that it's lost continuously, while the ABC station peaks out at 95
> to 98 percent in the strength meter.
>
> What causes this disparity in strength when both stations' broadcast
> antennas are co-located in the same general area? What can I do about it to
> improve the low signal strength?
>
> Here's what I've tried so far:
>
> Raised the antenna by an extra 15 feet. No change.
> Rotated the antenna both away from and toward the stations' tower location.
> No change.
> Replaced it with a Terk 55, including signal amplifier, and found no change.

> Even rotated the Terk 360 degrees with no change in signal strengths.
>
> My antenna has a clear line of sight with no obstacles in the way. No
hills,
> mountains, buildings, or other solid structures. Just a flat, wooded
> trerrain.
>
> Any help appreciated.
>
> Paul
>
>

4262. Re: GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:19:02 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <Omvza.9682$eo1.777200@news20.bellglobal.com>
Source record: 117318

"Reg Edwards"
> What's a GP ?

Ground Plane (I presume).

4263. Mobile Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:21:43 UTC
From: Bill <n4wc@arrl.net>
Message-ID: <3ECE82D7.3090802@arrl.net>
Source record: 117314

I heard someone on 40 ssb the other day refer to his mobile antenna
as an "illegal" antenna. I think he said it was too tall? Are there
various states' statutes that regulate mobile antenna height/length?
This assumes the vehicle is moving on a public thoroughfare at the time.

If a mobile antenna meets a certain legal (assumption) height could it
be legally longer in the horizontal plane?
Ignorance is sometimes not blissful.

73 Bill Cook N4WC

4264. Re: 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:29:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bam0b7$42a$1@sparta.btinternet.com>
Source record: 117315

> According to the Antenna Book tables,

==========

Don't you mean bibles ?

4265. Which is better -- roof mount or ground mount?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:29:34 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86k7chiez5.fsf@duchess.twilley.org>
Source record: 117316

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

There is a three-story house with a peaked roof. The top of the peak is forty feet above ground level. Zoning laws in this location have a maximum height of forty feet, with an additional allowance of fifteen feet for antenna masts. The surrounding lots include some houses of similar size, some commercial buildings of lesser height and a couple of parking lots. There is a location on the lot where a single tower can be placed legally and safely and without offending the sensibilities of SWMBO. This location is fifteen feet from the house towards the other houses but not towards the parking lots or commercial buildings.

I would like to operate on 80m-10m CW and SSB, 2m voice and APRS. Would it be best to put all three antennas on the roof, or to get a tower for one or more antennas? I am attempting to optimize performance without going overboard on costs.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+zoS7GPFSfAB/ezgRAlVPAJ9dytJV5kv6j55VFhulqiXIiMWongCfaAZx
SjUXOGayFWb8wFm4yD5jXW4=
=MYFQ
-----END PGP SIGNATURE-----

4266. Re: Mobile Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:32:59 UTC
From: dplatt@radagast.org
Message-ID: <vct1brl8qj9d67@corp.supernews.com>
Source record: 117317

In article <3ECE82D7.3090802@arrl.net>, Bill <n4wc@arrl.net> wrote:

>I heard someone on 40 ssb the other day refer to his mobile antenna
>as an "illegal" antenna. I think he said it was too tall? Are there
>various states' statutes that regulate mobile antenna height/length?
>This assumes the vehicle is moving on a public thoroughfare at the time.

I don't think it's the antenna length per se, but the total height of
the vehicle including the antenna.

http://www.dot.ca.gov/hq/traffops/trucks/trucksize/cvc-sum.htm
summarizes the rules in California.

"General Rule: CVC Section 35250. No vehicle or load shall exceed a
height of 14 feet measured from the surface upon which the vehicle
stands, except that a double-deck bus may not exceed a height of 14
feet, 3 inches. Any vehicle or load which exceeds a height of 13 feet,
6 inches, shall only be operated on those highways where deemed to be
safe by the owner of the vehicle or the entity operating the bus."

My recollection is that 13'6" is a height which will permit vehicles
to travel safely under bridges, through tunnels, etc. which have been
built to California standards. If your vehicle is taller than that,
it may hit a bridge beam or tunnel roof... and if this happens it's
the responsibility of the owner/operator of the vehicle.

I imagine that other states may have similar rules.

>If a mobile antenna meets a certain legal (assumption) height could it
>be legally longer in the horizontal plane?

I would imagine so. If it sticks out past the rear of the vehicle
it'd probably have to be safety-flagged. The maximum length of
vehicles is also regulated in California (and probably other states as
well) so I suspect that running a 4-lambda 160-meter rhombic out the
back of your RV would probably not be a great idea ;-)

I've read of some truckers (and perhaps other folks) constructing
more-efficient low-frequency antennas by installing horizontal
sections at the top... somewhat akin to an inverted-L configuration or
a whip with a big capacity hat.

>Ignorance is sometimes not blissful.

When the consequence is hitting a bridge, breaking your antenna,
strewing the roadway with bits of metal, and maybe causing an
accident, I entirely agree!

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

4267. Re: GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:50:13 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ece8986$1_2@news.vo.lu>
Source record: 117170

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:balua8pt1@sparta.btinternet.com...
> > > Does somebody have such radiation patterns or a URL where I could find
> > > patterns of a GP ?
> >
> ======================
>
> Could you please be more precise. What's a GP ?
>
>

Hi,

GP stands for "Ground Plane".
In fact a Fritzel vertical GP 404 (6m high) that comes with 5 radials
(wire), 1 per band, placed on a sector of about 160° at the rear of the
antenna base.
See pic at mid page on http://www.astrosurf.com/lombry/qsl-radials.htm with
some comments about GP in the framed box.

Thierry
ON1SKY, LX3SKY

4268. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:50:23 UTC
From: tdonaly@aol.com
Message-ID: <20030523165023.23114.00000195@mb-m13.aol.com>
Source record: 117169

Richard Clark wrote,
>
>On Fri, 23 May 2003 18:40:33 +0100, "Brian Reay"
><brian.reay@bigfoot.com> wrote:
>
>>One thing about the Alamo, wasn't Davy Crockett a Congressman?
>for Tennessee.
>
>

Those were the days when it was considered proper to eat peas with
a Bowie knife, and spit your used up chewing tobacco across a roomful
of ladies to hit the spittoon on the other side. They just don't teach the
social graces to kids any more, danggit!
73,
Tom Donaly, KA6RUH

4269. Re: GP vertical radiation pattern ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 20:52:32 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ece8a10$1_1@news.vo.lu>
Source record: 117171

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3ece772a$0$48898$edfadb0f@dtext02.news.tele.dk...
> Hello Thierry
>
> > Does somebody have such radiation patterns or a URL where I could find
> > patterns of a GP ?
>
> http://www.cebik.com/58.html
>

Hi,

I remember now visiting that page months ago but I forgot it. Thanks, this
is what I have needed.

Thierry

> Regards Max
>
>

4270. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:02:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECE8C6C.ED122791@uci.edu>
Source record: 117172

W5DXP wrote:
>
> Jim Kelley wrote:
>
> > W5DXP wrote:
> >> Quoting _Optics_, by Hecht: "Interference tales place over an
> >> extended region of space in a coordinated fashion that leaves
> >> the total amount of radiant energy unchanged."
>
> > That's exactly what I've been trying to tell you.

> Give me an ever loving break, Jim. You have been arguing against
> that concept loud and long for weeks. You even invented "destructive
> irradiance" to try to win your argument.

Just so ya know, since you seem to be insistant upon misconstruing the obvious meaning of that expression, it means the solution to the irradiance equation for the case where there is a 180 degree phase shift between I1 and I2, i.e. the case in which the two wave components destructively interfere. Must I really use all those words, in addition to the equation, in order for you to be able to understand? No. I really think you're just being an obstinent bastard.

> I don't remember you trying very hard.

Give me an everlovin' break, Cecil. I have 75 posts in my outbox that indicate otherwise. Not to mention the abuse I've taken from you about this.

> In any case, discussing the
> above is a moot point if reflections from a mismatched load in
> a Z0-matched system do not exist.

And of course that's not what I've been discussing. You seem to like to bring it up a lot though.

> If reflections from a mismatched load in a Z0-matched system don't
> exist, then interference is impossible.

Would you a least try to understand what I've been saying? I just showed you that energy isn't transferred by waves that combine in destructive interference. That doesn't mean that reflections don't occur.

> So the first thing we
> need to resolve is your assertion that there is no such thing as
> reflected energy from a mismatched load in a Z0-matched system.

I've been very clear that some energy is reflected. But, you would have had to pay attention to what I was saying, rather than simply concetrating on constructing your next strawman.

> Everything about my ideas depends upon reflections from a mismatched
> load.

Think of the discontinuity as the beam splitter in the laser example, okay? I really thought you were about the grasp the concept this time. Think about the equations I wrote out for you. There were reflections in them - from the load for chrise sakes! Vref2 is real. You know about it. Think of it as Eref2 - an electric field. Eref2 impinges on the discontinuity, and we get E4 and E2. Field E4 (like one of the laser beams) cancels with E3 (like the other laser beam), and that portion of the energy represented by Eref2 is not transferred from the load to the discontinuity. But we also have E2 which reflects off the discontinuity. It is not cancelled. We've got an energy path there. E2 transfers energy. E2 interferes constructively with E1 (also transferring energy) in the direction of the load (like the contructive interference side in the laser example).

> If you can prove that they don't exist, I will retire from the
> argument.

How about you actually try discussing the things I actually write, instead of making up your own stuff to argue about? That way I would have to keep correcting you and retyping what I said. Try referring specifically to text included from the post you're replying to for example. That would be a good way to discuss things for a change, doncha think?

ac6xg

4271. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:06:09 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <XSCdnW5lYqXYEFOjXTWcqw@comcast.com>
Source record: 117174
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Other than ground proximity, the impedance also depends on whether the dipole is in a straigh line, or if the ends slope down, as in an inverted V. Don't bother with a tuner on a 20 m dipole. You will loose more power in going through the tuner than any possible improvement.

Tam/WB2TT
<st599@ecs.soton.ac.uk> wrote in message
news:3ECE38E7.697E2C6@ecs.soton.ac.uk...
> > First catch your 73 ohm dipole. You'll need some free space to put it
in.
> > Seriously though, you won't get a 73 ohm resistive dipole for 20 metres
> > unless you have some very tall non conducting poles. Real world 20 m
> > dipoles will be much closer to 50 ohms. Try modeling with the free
> > version of EZNEC over a real ground and get a feel for the impedances
> > you will get in practice. That's Roy Lewallen's excellent antenna
> > modeling software at :- http://www.eznec.com/
>
> Many Thanks
>
> None of the textbooks I've read, have ever said that ground proximity is
> a parameter.
>
> 73 de
>
> Simon M3CYT

4272. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:06:57 UTC
From: G6XCD <look@this.con>
Message-ID: <1053723942.66702.0@iris.uk.clara.net>
Source record: 117173

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:28690-3ECE4E63-339@storefull-2315.public.lawson.webtv.net...
> Eric, G6XCD wrote:
> "---which turns out to be a pair of folded driveen elements from an old
> 10XY."
>
> Know not what a 10XY is. There is a plumber`s delight 8-element tippable
> array in the 15th edition pf the Editors and Engineers "Radio Handbook"
> on page 489.
>
> The Radio Handbook array uses a pair of folded dipole driven elements on
> 2m.
>
> Spacing of the two yagis in this array is about 3/4 wavelength.
>
> Length of each RG-59 (75-ohms) yagi drive cable is 40 inches or about
> 3/4 wavelength, considering its velocity factor. So, each cable is a
> Q-section between its folded element and the paralleling point where it
> should match a 50-ohm common-point impedance. Ideally each Q-section
> should present 100-ohms.
>
> SWR is said to be within 2:1 from 144 MHz to 148 MHz. Gain is said to
> exceed 10 db.
>
> Best regards, Richard Harrison, KB5WZI
>

Many thanks for your reply Richard.

Sometimes names escape me at critical moments and I start using names which are more familiar.

A 10XY is simply a 10 element crossed yagi of which I appear to have most of the driven end in kit form. I was forced to dispose of my books and magazines - and all the information they contained - during my last house move. Unfortunately the main city library was unable to help, and I haven't been able to find enough information on the web, hence me bringing my rudimentary questions to this group

Good DX and 73

Eric, G6XCD

4273. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:11:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lr1tcv4p9ki5hp08p709mihd2a4bs95kn3@4ax.com>
Source record: 117175

On Fri, 23 May 2003 13:05:02 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Where is the necessary accompanying constructive interference occurring?
>>
>> This question reveals how you consistently fail at Conservation of
>> Energy.
>
>Asking a question qualifies as a failure? I feel sorry
>for any students of yours.

Yes they (or some part of 220) agree with you. One class dunked me into the Pacific in jubilation (yeah, I am sure some here would've paid dearly to hold my head under, but then they wouldn't have made the cut anyway to attend class.) However, these same students exhibited a higher than average, cumulative score following my instruction when compared to other instructors with the same material and the same calibre of student. [minimum IQ of 115] Promotion followed that drenching within a month.

What galled them most was I was a Radar type (ETR) teaching Communications types (ETN). A couple of years after that, I was promoted again to ET1 (no distinctions observed at that grade and above). This last galled my Air Force instructors at Fleet Electronic Calibration Laboratory school in Denver. They were subordinate in rank to a then 23 year old E5 when they had been with the Air Force for 16 years (they had a severe top loading of Army transferees at the 1947 creation of the Air Force). I graduated there with honors and a 94.45% average (I was loafing after 3 years of teaching).

Teaching was 20 hours a week formal classroom instruction mixed with 20 hours a week laboratory instruction 50 weeks a year. [Something like 40,000 student-classroom-hours of instruction.] Add such military duties as Master At Arms and that is another 1 or 2 days a week (4 section duty), and then remedial study in the evenings. If you failed once, you repeated (with luck). If you failed twice (or lacked luck), you were shipped to yankee station.

They paid attention and passed - such is motivation. My career was directly tied to their achievement through the results of standardized testing - such was my motivation. It worked for us all to the satisfaction of the Navy.

Anyone recall the R-390? URC-32? First 6 weeks of ETN.

73's
Richard Clark, KB7QHC

4274. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:17:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE9005.2060205@ieee.org>
Source record: 117176

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:
>>>This question reveals how you consistently fail at Conservation of
>>>Energy.
>>
>>Asking a question qualifies as a failure? I feel sorry
>>for any students of yours.
>
> Yes they (or some part of 220) agree with you.

You failed a lot of students who asked a question?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4275. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:38:26 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305231338.111e1d40@posting.google.com>
Source record: 117177

Roy Lewallen <w7el@eznec.com> wrote in message news:<vcsmqr3ut5d04d@corp.supernews.com>...
> Art Unwin KB9MZ wrote:
> >
> > The most efficient radiator(db per unit length) is the straight
> > radiator which contains a loop at it center which is made resonant at
> > the required frequency by virtue of an added lumped reactance. Though
> > one feeds the dipole via a delta match beyond the loop/dipole joints
> > it is the LOOP oscillation that determines the radiation frequency as
> > a whole regardless of dipole length. . .
>
> Can you show that this is true with theory, modeling, or measurement?
>
> Roy Lewallen, W7EL

Ofcourse Roy. But more to the point, can you point to the most
efficient radiator per unit length ? Show me an antenna where you have
more area under the current curve per unit length that is in phase. It
has long been desired to have dipoles in collinear form and the low
efficiency ends replaced with something that provides more area under
the current curve.
What in your opinion is the most efficient antenna per unit length? It
sure would make for an instructive dialogue as opposed to a
destructive one since your antenna knoweledge knows no bounds. Perhaps
the area under the current curve which I point to is an invalid
measuring stick that destroys my statement at its onset.
Art

4276. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:39:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECE9528.2030600@ieee.org>
Source record: 117178

Jim Kelley wrote:
> Must I really use all those words, in addition
> to the equation, in order for you to be able to understand? No. I
> really think you're just being an obstinent bastard.

Actually, what you must do is explain this assertion of yours from
a few days ago.

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Your assertions are clear proof that you do NOT believe that the constructive
interference has to equal the destructive interference. You obviously do NOT
agree with _Optics_, by Hecht unless you have changed your mind. While you
are at it, please explain the meaning of "destructive irradiance" from your
following assertion:

> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.

Is this some sort of assertion that destructive irradiance (whatever that
is) doesn't have to equal constructive irradiance (whatever that is)?

> Give me an everlovin' break, Cecil. I have 75 posts in my outbox that
> indicate otherwise. Not to mention the abuse I've taken from you about
> this.

I haven't seen nearly that number of postings on this newsgroup from you,
Jim. Perhaps there is something wrong with your method of posting. They
are not showing up on my news-server.

>>In any case, discussing the
>>above is a moot point if reflections from a mismatched load in
>>a Z0-matched system do not exist.
>
> And of course that's not what I've been discussing.

Yes, I have noticed that. Why are you avoiding that earlier assertion
of yours. If you don't believe the wave reflection model, just come
right out and say so.

> Would you a least try to understand what I've been saying?

I understand exactly what you asserted earlier - that reflected energy
doesn't exist in a system with a mismatched load if there exists a
Z0-match elsewhere. Do you want me to dig up that posting of yours?

> I've been very clear that some energy is reflected.

No you haven't. But let's assume that you have changed your mind
from your earlier assertions and just neglected to tell anyone
about it. How does the reflected energy, headed toward the source,
get its direction changed?

> Think about the equations I wrote out for you.

What equations?

>>If you can prove that they don't exist, I will retire from the
>>argument.
>
> How about you actually try discussing the things I actually write,
> instead of making up your own stuff to argue about?

You really want me to dig up your postings where you asserted that
no energy is reflected from a mismatched load if there exists a
Z0-match point in the rest of the system? Are you now willing to
admit that you were wrong about that? If so, we can proceed.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4277. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:45:44 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305231345.3d0b53c7@posting.google.com>
Source record: 117179

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<6nmscvotp35roje9ilqehkone8pir8vd0t@4ax.com>...
> On Fri, 23 May 2003 15:57:14 GMT, Dave Shrader
> <david.shrader@attbi.com> wrote:
>
> >Wait just one minute!!!
> >
> >Since when is the former Mexican state of Texas, before 1776, or the
> >Republic of Texas [circa 1830-1840 AD] considered one of the British
> >Colonies.

When I visited the Alamo and read the names on the commarative plaque
of its defense I was quite struck to see the amount of names that were
of British stock. Does that count for anything ?
Art an XG

> >
> >How does W5DXP, AKA Cecil, qualify as a "Yank"? According to the great
> >American Hero, John Wayne, he may qualify as a Texican!! [Assuming his
> >ancestors died at the Alamo.]
>
> Well, Texican -- some of us would say Texian.
>
> Our land was a part of New Spain, and then Mexico, and there were a
> lot of Spaniards and Mexicans that came up from the South, but from
> the North, quite a few Germans and French settled in these parts, so
> we had our share of "Yanks." Here in the Alamo city, if a street
> doesn't have a Spanish name, it generally has a German moniker.
>
> Bob
> k5qwg
>
> >
> >We, the true Yanks, Tories and Whigs of New England, New York, New
> >Jersey, Delaware, Virginia, Maryland, Georgia may have reservations
> >about allowing a Texican to share our rebellious, revolutionary and
> >bloodthirsty heritage. The Alamo was not involved in THE REVOLUTION! Was
> >it??
> >
> >Besides, no one at the Alamo had relatives who came over on the Mayflower!
> >
> >With tongue firmly in cheek, I am Deacon Dave, W1MCE.
> >
> >PS: My maternal grandparents migrated from Canada and my paternal great
> >grandparents jumped ship from Nova Scotia. Oh well! That means I'm not a

> >true Yank, Whig or Tory either <glum>.
> >
> >+++
> >
> > >W5DXP wrote:
> >
> ><SNIP> the IEEE is ... <SNIP>
> >> The organization that defines the words we use on this newsgroup,
> >> at least for us Yanks in The Colonies. :-)
> >> --
> >> 73, Cecil, W5DXP
> >>

4278. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:51:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lf4tcv49skfvp6lvispq1f1bfdc00f6hsa@4ax.com>
Source record: 117180

On Fri, 23 May 2003 16:17:58 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>
>>>Richard Clark wrote:
>>>>This question reveals how you consistently fail at Conservation of
>>>>Energy.
>>>
>>>Asking a question qualifies as a failure? I feel sorry
>>>for any students of yours.
>>
>> Yes they (or some part of 220) agree with you.
>
>You failed a lot of students who asked a question?
In my quizzes, yes. This constituted only 10% of their score where
standardized testing covered the remaining 90%. A mad-man such as
myself was insulated from wiping out divisions - you didn't serve, so
you don't have the same benefit. ;-)

I was mild in comparison to the Turks. Failure for one of their
students resulted in a short trip to sea, where their superiors
exercised the tradition of cutting off a hand. The all Vietnamese
class was instructed by their head officer - they stood at attention
throughout the entire class. Failures there resulted in the
Vietnamese attache asking the Old Man permission to use the football
field for an execution. That was turned down (that's why the Turks
went to sea).

When students persistently asked vacant questions such as yours, they
got to see the chaplain before the Old Man cut them orders to a tin
can off the coast of 'Nam. Here you do have a benefit, by virtue of
that same lack of service. ;-)

My worst student almost didn't make the grade because he was too busy
taking an NRI correspondence course to catch up. Failure, by and
large, was a GPA of less than 80%. Absolutely no one failed any
course.

The Navy had no interest in low achievers except for chipping paint
and mail buoy watch.

73's
Richard Clark, KB7QHC

4279. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:52:20 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <SNwza.9728$eo1.787991@news20.bellglobal.com>
Source record: 117185

"W5DXP" <Cecil.A.Moore@ieee.org> a crit dans le message de
news:3ECE1D23.20707@ieee.org...
> PO wrote:
> > Ratio of R ... SWR is 50/150 so 3:1 SWR. Current and Voltage are in
phase
> > and you will find high power energy at every Voltage Peak every 180
degree
> > Maximas .....along the transmission line from the load.... assuming 0
Loss.
>
> Here were the questions. Did you answer them? Is there a reflected wave?
> Is there any energy in that reflected wave? Is that system matched or not?

answer:1-No 2-Yes 3-Yes 4-No
>
> > ? Is your transmission line 150 Ohms Bal or unBal.
>
> Balanced, but why does it matter?

My turn to ask you a question :-)

--
PO
Remove "tool"
toolbox640@sympatico.ca

> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4280. Re: SGC 239 Box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:52:50 UTC
From: jder8745@aol.com
Message-ID: <20030523175250.20242.00000148@mb-m01.aol.com>
Source record: 117181

Roy,

I'm gonna use it camping. It'll be outside in daylight hours no more than 30 hours a year. Maybe more or less depending on propogation

Thanks for your input.

K9CUN Jack

4281. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire ant + simple ATU.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:56:24 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ece9910$0$48916$edfadb0f@dtext02.news.tele.dk>
Source record: 117182

Hello Eric

> Part 2 is a request for suggestions to make a simple long wire HF antenna
> for an SWL station. I have around 5 metres from the high anchor point at

For a good low noise SWL antenna, go for the T2FD like this one

http://www.wellbrook.uk.com/UMBT2FD.html

and if you want an excelent preselector for the SW bands, build one of these

http://www.bavarian-contest-club.de/projects/presel/list.htm

then you are ready to work the SW bands.

Regards Max

4282. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 21:58:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <196tcv8fnn5dcpvfbtuh0c87qa9bfui93k@4ax.com>
Source record: 117183

On 23 May 2003 14:45:44 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<6nmscvotp35roje9ilqehkone8pir8vd0t@4ax.com>...
>> On Fri, 23 May 2003 15:57:14 GMT, Dave Shrader
>> <david.shrader@attbi.com> wrote:
>>
>> >Wait just one minute!!!
>> >
>> >Since when is the former Mexican state of Texas, before 1776, or the
>> >Republic of Texas [circa 1830-1840 AD] considered one of the British
>> >Colonies.
>
>When I visited the Alamo and read the names on the commarative plaque
>of its defense I was quite struck to see the amount of names that were
>of British stock. Does that count for anything ?
>Art an XG

Not if in fact they were Scots or Irish.

73's
Richard Clark (Scottish descent), KB7QHC

4283. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:13:08 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ece9b69.3757799@news1.eircom.net>
Source record: 117184
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 23 May 2003 11:11:03 +0100, st599@ecs.soton.ac.uk wrote:

>VSWR = (1+0.1869918699)/(1-0.1869918699) = 1.46

>
>Now I'd prefer not to have nearly 20% of my output power coming back at
>my PA.

errrr....(scratches head)
1. why are you worried about 1:1.4 ratio ?
2. i know you ''only'' have 10watts to play with but others on here
will swear that they can work the world on 10watts and i doubt
that they all have 1:1 ratios

<wondering out loud>
but whats practically wrong with adjusting the physical length of
the wire for lowest X:Y ratio (unless it brings the j value in ???)

4284. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:17:40 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ece9d5e.4259228@news1.eircom.net>
Source record: 117186
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 23 May 2003 15:59:06 +0100, "Brian Reay"
<brian.reay@bigfoot.com> wrote:

>You stopped being the "Colonies" when you stopped paying our taxes. You
>can't sneak back in now.

and dont try to hand back those boxes of tea either !

all the bags will be soggy by now !!

little known secret:
the batch was the first batch of tea-bags and what did they do?

threw 'em in the harbour/harbor,,thats what they did!

4285. Re: Mobile Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:22:16 UTC
From: Rich <rk911@ANTISPAM.yahoo.com>
Message-ID: <4j7tcvolf7p2es04e6a3erg9knob8ivq2i@4ax.com>
Source record: 117187

On Fri, 23 May 2003 16:21:43 -0400, Bill <n4wc@arrl.net> wrote:

>I heard someone on 40 ssb the other day refer to his mobile antenna
>as an "illegal" antenna. I think he said it was too tall? Are there
>various states' statutes that regulate mobile antenna height/length?
>This assumes the vehicle is moving on a public thoroughfare at the time.
>
>If a mobile antenna meets a certain legal (assumption) height could it
>be legally longer in the horizontal plane?
>Ignorance is sometimes not blissful.
>
>73 Bill Cook N4WC

the only way i can think of that would make a mobile antenna illegal
is if it was too tall for highway or interstate underpasses. i'm sure
there is some legal limit on how tall a vehicle can be...i know the
width and lengths are regulated so i assume the heighth is as well.
one other possibility is if the antenna presents some sort of hazard
to other motorists. but i'm not aware of any fcc regs that goven
mobile antenna height.

73,
rich, n9dko

4286. Re: Which is better -- roof mount or ground mount?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:28:20 UTC
From: Rich <rk911@ANTISPAM.yahoo.com>
Message-ID: <5t7tcvspners11vro8nmv6ah4du7soo1dp@4ax.com>
Source record: 117188

On Fri, 23 May 2003 13:29:34 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>-----BEGIN PGP SIGNED MESSAGE-----
>Hash: SHA1
>
>There is a three-story house with a peaked roof. The top of the peak
>is forty feet above ground level. Zoning laws in this location have a
>maximum height of forty feet, with an additional allowance of fifteen
>feet for antenna masts. The surrounding lots include some houses of
>similar size, some commercial buildings of lesser height and a couple
>of parking lots. There is a location on the lot where a single tower
>can be placed legally and safely and without offending the
>sensibilities of SWMBO. This location is fifteen feet from the house
>towards the other houses but not towards the parking lots or
>commercial buildings.
>
>I would like to operate on 80m-10m CW and SSB, 2m voice and APRS.
>Would it be best to put all three antennas on the roof, or to get a
>tower for one or more antennas? I am attempting to optimize
>performance without going overboard on costs.
>
>Jack.

jack, unless you want to argue prb-1 issues with your governing body,
it seems to me you're looking at a tower or wire antennas. my
cushcraft r5 is longer than 15 feet and unless you want a mobile type
screwdriver antenna i don't think you're gonna find a smaller hf
antenna. at least i didn't see any in dayton last week. your 2m
stuff can easily be done on a 15' mast on the roof or clamped on the
chimney or on the facia of the house.

have you considered arguing that the zoning laws are over restrictive?

73,
rich, n9dko

4287. Re: 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:30:16 UTC
From: Chuck / KE4ETH <chuck_hawks@hotmail.com>
Message-ID: <SBCza.44406$wy4.41069@fe07.atl2.webusenet.com>
Source record: 117221

"Jeff" <kb1hol@REMOVETHIS.arrl.net> wrote in message
news:kb1hol-5F4D11.13573923052003@news.mindspring.com...
> Hello!
>
> I have constructed a roll up J-pole antenna from 450ohm ladder line for
> 2 meters. It works quite well with a 1.4-1.2 SWR across the bandwidth.
>
> My question is what are the power limits for this antenna? I have seen
> that the same antenna made with 300ohm "twin lead" is suggested to keep
> under 10 watts on VHF. What about the heavier 450ohm ladder line that
> I've made this antenna with? Could it handle 25 watts? What about 65W?

For what it's worth. I have been using a 300-Ohm twinlead J-Pole for almost 10 years. It's mounted in a PVC pipe about 30 feet above ground level. I have had no problems powering it with my Kenwood TM-261A with 50 Watts.

Just my 2 cents worth

Chuck
KE4ETH

4288. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:39:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vct8ppqhs3k6e0@corp.supernews.com>
Source record: 117189

Before we go on to the next questions, where can I find the proof, or evidence, that the antenna you describe is the most efficient radiator? If it was posted on this newsgroup, I must have missed it. But I can find it easily on Google if you can give me a few key words from the posting or the date. If it's published elsewhere, please point me to where I can look it up. Is the evidence in the form of a theoretical derivation, a model, or measured results?

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vcsmqr3ut5d04d@corp.supernews.com>...
>
>>Art Unwin KB9MZ wrote:
>>
>>>The most efficient radiator(db per unit length) is the straight
>>>radiator which contains a loop at it center which is made resonant at
>>>the required frequency by virtue of an added lumped reactance. Though
>>>one feeds the dipole via a delta match beyond the loop/dipole joints
>>>it is the LOOP oscillation that determines the radiation frequency as
>>>a whole regardless of dipole length. . .
>>
>>Can you show that this is true with theory, modeling, or measurement?
>>
>>Roy Lewallen, W7EL
>
>
> Ofcourse Roy. But more to the point, can you point to the most
> efficient radiator per unit length ? Show me an antenna where you have
> more area under the current curve per unit length that is in phase. It
> has long been desired to have dipoles in collinear form and the low
> efficiency ends replaced with something that provides more area under
> the current curve.
> What in your opinion is the most efficient antenna per unit length? It
> sure would make for an instructive dialogue as opposed to a
> destructive one since your antenna knoweledge knows no bounds. Perhaps
> the area under the current curve which I point to is an invalid
> measuring stick that destroys my statement at its onset.
> Art

4289. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:40:09 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305231440.433fd3e4@posting.google.com>
Source record: 117190
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Brian Reay" <brian.reay@bigfoot.com> wrote in message
news:<balcv7$10qs7$1@ID-140397.news.dfncis.de>...
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ECE332D.2020607@ieee.org...
> > Reg Edwards wrote:
> > > My reasoning is not bound by anybody else's quite arbitrary opinions.
> Who's
> > > the IEEE anyway?
> >
> > The organization that defines the words we use on this newsgroup,
> > at least for us Yanks in The Colonies. :-)
>
> You stopped being the "Colonies" when you stopped paying our taxes. You
> can't sneak back in now.
>
> We may like to come and join you, on the other hand ;-)

With or without Thatcher?

>
> --
> 73
> Brian
> G8OSN
> www.g8osn.org.uk

w3rv
>
> and
>
> www.qsl.net/g8osn for FREE training material for the UK Foundation and
> Intermediate Licences

4290. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:50:12 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <se8tcvo3sme3k13l8ck0o7ddepkd2neotf@4ax.com>
Source record: 117191

On Fri, 23 May 2003 17:54:04 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Fri, 23 May 2003 12:33:42 -0400, Russ <carlzomer@hotmail.com>
>wrote:
>>
>>You still haven't answered the question, regardless of my support
>>amongst the dead. I take it that you are also in favor of banning
>>automobiles, swimming pools and physicians, who are responsible for
>>over 100,000 needless deaths in the US alone as a result of "medical
>>misadventures".
>>
>>Russ
>
>Well Russ,
>
>There's your problem:
>> I take it that you are also....
>is symptomatic of poor perception. I am also in favor of allowing
>sleazy arms dealers to mix freely with snipers against the wall
>counting bullets. Is that an example of gun control you are against?
>
Gun control isn't about guns, it is about control. It is inherently
racist. If you care to do actual research, instead of spouting
slogans and stereotyping people about whom you know nothing, look up
the origins of the earliest gun control laws in the period from 1865
to about 1910. I notice that you are not against using violence
against those with whom you disagree. As I have said in other
newgroups, the lefties are haters, pure and (especially) simple.

>Right Whiners don't mind taking the profit, they just don't like the
>blindfold-optional party afterwards. During cocktails they usually
>compare their prospects with the nobility of the Save the Whales
>crowd. It is amazing about their 11th hour conversions to eliminate
>Capital Punishment.
>
Do you often find yourself straying from the topic? What, exactly,
does this have to do with whether you have answered a simple question.

>Yesterday a kid was caught in school with a Mac-10, with a full 32
>round clip (maybe 34). He was also drunk. Again, the classic triad
>hallmarks of a Perp: gun, familiar setting, alcohol. No strangers
>involved. No masked assailants. No mention of it being unlicensed,
>but certainly its possession by the boy was. What is your magic
>number of dead kids when it becomes an issue for supporting a lower

>sniper-liablities law proposal?
>
Since the "kid" has already broken at least two federal laws and one state law, please explain how more laws would have prevented this (possibly bogus - lack of citation) incident. Give examples and take as much time as you need.

>The logic of the Right Whiners would have it that every
>American has the duty to be armed as is proper of a free and
>democratic society. Now that this same crowd is in charge of bringing
>that same freedom and democracy to Iraq I ponder the implications of
>just which way the wind blows for them in the east. After-all, much
>of the inflamed Moslem world already practices this form of democracy
>and it has worked for years hasn't it? Where is our security in that?
>
Please give examples, citing the relevant law for each Moslem country, whereby the freedom to bear arms is granted to the people.

>How long before we find the administration driving for a program to
>hand out rifles to Guantanamo releasee's? After-all, we were ahead of
>the curve in supplying them before they arrived. They may also get a
>cake and a complementary bible inscribed by George.
>
This is a classic case of a straw-man argument. Please tell us all how it relates to the topic at hand. Since we have wasted enough of the bandwidth of this particular group, this will be my last post on the off-topic unless you can give me a compelling reason to continue it here. Please take your specious reasoning, propaganda and straw-man arguments to talk.politic.guns where they will be resoundingly thrashed. You, being emotionally challanged, will not notice. So long.

Russ

>73's
>Richard Clark, KB7QHC

4291. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:51:39 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECEA5FB.E320D5DE@cwis.net>
Source record: 117192
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

When you are speaking with someone from Texas,
nothing is a very long reach to talking about the
Alamo, long-neck beer, guns, or females in tight
blue-jeans. I can appreciate the blue-jeans...
'Doc

4292. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:54:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECEA690.CAFC68A8@cwis.net>
Source record: 117193

I wonder why I 'smell' a rat??
'Doc

4293. Re: Which is better -- roof mount or ground mount?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:55:19 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <868ysxi888.fsf@duchess.twilley.org>
Source record: 117194

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Rich" == Rich <rk911@ANTISPAM.yahoo.com> writes:

[...]

Rich> jack, unless you want to argue prb-1 issues with your governing
Rich> body, it seems to me you're looking at a tower or wire antennas.

The peak is at forty feet, but the rest of the roof isn't. I could
mount a 15ft antenna like the Diamond CP6A somewhere other than the
peak -- there appears to be a handy chimney -- but I'm not sure about
putting two 2m antennas next to each other and/or next to the HF
antenna.

Rich> my cushcraft r5 is longer than 15 feet and unless you want a
Rich> mobile type screwdriver antenna i don't think you're gonna find
Rich> a smaller hf antenna. at least i didn't see any in dayton last
Rich> week. your 2m stuff can easily be done on a 15' mast on the
Rich> roof or clamped on the chimney or on the facia of the house.

See above as to my question with regard to adjacency concerns.

Rich> have you considered arguing that the zoning laws are over
Rich> restrictive?

Well, I haven't purchased the property yet, and I'm not convinced that
the zoning laws are all that restrictive. Hams are exempt from the
local telecommunications ordinance which limits the locations and
numbers of towers and requires collocation of antennas, so that's
pretty darned nice of them. If I can find a way to use an antenna
like the Diamond, then I'll be happy. If not, then I'll have to
consider a conditional use permit, complete with Polaroids and expert
witnesses. Only if that fails will I consider fighting the laws
themselves. It's my opinion that I should first try to work within
them before trying to change them.

Rich> 73, rich, n9dko

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

```
iD8DBQE+zqbeGPFSfAB/ezgRArreAJ9x2YuDwYaQcZkqKFYQcFDA98+mhwCgsZS2
AsMYgi9CwJyoTLTG0v/Kwlg=
=6EEn
-----END PGP SIGNATURE-----
```

4294. Re: Was: Re: Suggestion for Cecil,..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:57:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vp9tcv819pjj1t069kku06q02en276tlds@4ax.com>
Source record: 117195

On Fri, 23 May 2003 18:50:12 -0400, Russ <carlzomer@hotmail.com>
wrote:

>Since we have wasted enough of
>the bandwidth of this particular group, this will be my last post on
>the off-topic unless you can give me a compelling reason to continue
>it here.
Adios Ossama

4295. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 22:58:49 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECEA76E.5070904@attbi.com>
Source record: 117196

When I visited the Alamo and read the names on the commarative plaque
> of its defense I was quite struck to see the amount of names that were
> of British stock. Does that count for anything ?
> Art an XG
>

The Royal Brits couldn't raise enough taxes over the 50 year time span
to buy boat tickets home. :-)

Don't you just love REVISIONIST HISTORY??

DD

4296. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:01:51 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305231501.6db83c63@posting.google.com>
Source record: 117197

derswede@aol.comspam.com (AA) wrote in message
news:<20030523142351.04155.00000206@mb-m15.aol.com>...
> << > I'm planning on building a 300 Watt broadcast VHF antenna for
> >good penetration of the concrete and metal in the middle of the city,
> >something will good horizontal gain, or a very low angle of
> >radiation. >>
>
> Heh....how about an EH antenna? Works <<great>>
>
> Heh.
>

Never heard of this until you mentioned it.

How much horizontal gain over a 5/8ths?

Do you have a website that shows a nice design?

Slick

4297. cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:08:45 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3ECEA9EA.7070200@tampabay.rr.com>
Source record: 117198

hey guys
i have converted a cushcraft 617-6B to a A50S-6
using the spacing and element lenghts for the A50S the only differnce is
i am using a Tmatch instead of the gamma match
would anyone know how to tune the Tmatch to handle the closer spacing of
the A50S
using the Tmatch with the element lenght from either antennas plans the
SWR is lowest SWR is 1.7:1 at 52.000
any info will be a great help
thanks

4298. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:10:42 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305231510.44835ec9@posting.google.com>
Source record: 117200

tdonaly@aol.com (Tdonaly) wrote in message
news:<20030523103524.07518.00000190@mb-m22.aol.com>...
>
> Around here, it's against the law to help in the commission of a crime.
> Tom Donaly, KA6RUH

Oh, i would never put 300 watts into it. This is only for the
furthering of my RF education.

I'm only gonna feed/test it with less than 1/10 of a watt, which
is the part 15 legal limit.

And I'm also building a 300 watt transmitter, but i'm only gonna
run it into my Cantenna dummy load, to warm my bed at night!

:^)

There are always a few goody-two shoes Hams out there.

I wonder how righteous you Hams will be when the FCC takes all
your precious spectrum away and sells it to the highest bidder.

It's only a matter of time at the rate we are using up the bands.

Slick

4299. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:12:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ECEAAC9.D78ED3C0@uci.edu>
Source record: 117199

W5DXP wrote:
>
> Jim Kelley wrote:
> > Must I really use all those words, in addition
> > to the equation, in order for you to be able to understand? No. I
> > really think you're just being an obstinent bastard.
>
> Actually, what you must do is explain this assertion of yours from
> a few days ago.
>
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.

The magnitude of I (irradiance, intensity, power) is equal to 4*I1 or
4*I2
when I1 equals I2 and theta equals zero degrees. When theta equals zero
degrees, the interference between the two waves is called constructive.
I'm looking at the damn thing right here in Hecht. And, it comes right
out of the general equation. Do YOU think Hecht (and everyone else) is
wrong? How many more times will you require that I answer this
question?

> Your assertions are clear proof that you do NOT believe that the constructive
> interference has to equal the destructive interference.

:-) I believe the correct way of looking at it is exactly how
Melles-Griot states it.

> You obviously do NOT
> agree with _Optics_, by Hecht unless you have changed your mind.

I'm obviously just applying the equations from Hecht. It's not like I
have a secret agenda or some bizzarro science I'm trying to promote.

> While you
> are at it, please explain the meaning of "destructive irradiance" from your
> following assertion:
>
> > If I1 and I2 = 25 (like your "lost power" for example), then the
> > destructive irradiance on one side of the discontinuity is zero, and the
> > constructive irradiance on the other side of the discontinuity is 100.

I=I1+I2-(2*SQRT(I1*I2)). It is an irradiance equation in which I1 and
I2 destructively interfere. Sorry. I thought it was obvious.

But you picked the wrong thing to nail me with, Cecil. Turns out the
last part of the paragraph is probably wrong. :-) Those two waves don't

constructively interfere toward the load. Their relative phase is
wrong. P1 and P2 have the proper relative phase to constructively
interfere. And, it just happens to produce the right answer.

> Is this some sort of assertion that destructive irradiance (whatever that
> is) doesn't have to equal constructive irradiance (whatever that is)?

Irradiance is the 'thing' which is most analogous to 'power' in our
problem. It's proportional to E^2, the square of the electric field just
as power is proportional to E^2. Do you want me to say that
2*SQRT(I1*I2)=2*SQRT(I1*I2)? Okay, 2*SQRT(I1*I2)=2*SQRT(I1*I2). What
do you think that proves? It is simply a term which algebraically sums
with I1+I2. It is not a solution by itself. Direction of propagation
is not an implication of the sign of that term. The sign only indicates
whether 'I' will be less than or greater than I1+I2.

> Why are you avoiding that earlier assertion
> of yours.

I won't avoid it if you tell me which one you're talking about, and it's
something I actually DID say. Quotes are nice.

> If you don't believe the wave reflection model, just come
> right out and say so.

The wave reflection model? Or Cecil's energy reflection due to
destructive interference model? I don't think anybody believes in the
latter one. Certainly no one on sci.physics.electromag believed it.
(Are we about to hear about Gallileo and Copernicus again?)

> I understand exactly what you asserted earlier - that reflected energy
> doesn't exist in a system with a mismatched load if there exists a
> Z0-match elsewhere. Do you want me to dig up that posting of yours?

Sure. If you wouldn't mind. I'm happy to edit, ammend, or correct any
misstatments that I may have made. If only you were so cooperative.
Clearly P2 is reflected energy.

> How does the reflected energy, headed toward the source,
> get its direction changed?

Rho^2 is the only mechanism that is substantiated in the literature.
That's at least a _supportable_ assertion, doncha think?

> You really want me to dig up your postings where you asserted that
> no energy is reflected from a mismatched load if there exists a
> Z0-match point in the rest of the system? Are you now willing to
> admit that you were wrong about that? If so, we can proceed.

I've maintained from the beginning that no energy is transferred from
one point to another by waves that cancel. We could proceed just fine
using the text that has been presented just since yesterday if you
really wanted to. Go back to my response to your post with the subject
line "Interference", and point out the errors you find in that, and the

subsequent posts. If you wouldn't mind temporarily overlooking my frequent grammatical and spelling errors for the time being, and just concentrating on technical issues that would be helpful too.

vy 73 once again, from ac6xg

4300. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:12:40 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305231512.35a9f9d0@posting.google.com>
Source record: 117201

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<bn2scv8f6qe19m0bpo0fg5nfmi76v8hgse@4ax.com>...
>
> You might want to contact the FCC, and ask for The Department of VHF
> Antenna Design. They have some great antenna gurus over there, and
> they are more than happy to help out folks such as you.
>
> Bob
> k5qwg
>

While i'm over there, i'll ask them when they expect to take over
all those nice juicy Ham frequencies and sell them off to the highest
bidder, just like they have with the broadcast band.

Slick

4301. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:15:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305231515.5546a999@posting.google.com>
Source record: 117202

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305230850.391d160e@posting.google.com>...
> radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0305222018.eb3a20c@posting.google.com>...
> > Hello,
> >
> > I'm planning on building a 300 Watt broadcast VHF antenna for
> > good penetration of the concrete and metal in the middle of the city,
> > something will good horizontal gain, or a very low angle of
> > radiation.
> >
> > A friend suggested a stacked dipole, but then changed his mind
> > when i suggested that the height of the antenna would be limited (the
> > mast length limited).
> >
> > It was then suggested that a super J-pole be used, as the mast
> > length would not matter as much.
> >
> > The super J-pole would give how much more gain over a 5/8ths?
> >
> > Any other suggested designs?
>
> > Dr Slick I have limited experience with VHF but it would appear that you require gain
but have space restriction, so here is some thought.
> The most efficient radiator(db per unit length) is the straight
> radiator which contains a loop at it center which is made resonant at
> the required frequency by virtue of an added lumped reactance. Though
> one feeds the dipole via a delta match beyond the loop/dipole joints
> it is the LOOP oscillation that determines the radiation frequency as
> a whole regardless of dipole length.
> This ofcourse can be placed either vertically or horizontally.
> In your case it would be imperitive to ensure that your signal was
> extremely free of interference to existing transmissions, this can be
> achieved with slight variation of the lumped reactances. I see that in
> another thread that you have got involved with stubs. The loop acts in
> a similar way except it not only provides added useful radiation but
> allows for collinear construction to suit the available space. I see
> no reason why such a design cannot be used to advantage in array form
> as well as custom designed for signal bandwidth if so required.
> All the above can be analysed via complex circuitry where the
> radiators
> are reduced to lumped electrical form.
> Have fun
> Art

Art, My BS filter is starting to quiver again...:(But lucky for you, I'm too tired to worry about it today. Have a swell weekend. Good golf, good tennis, or whatever makes you happy. MK

4302. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:17:08 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305231517.68d75cef@posting.google.com>
Source record: 117203

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19444-3ECE2B46-380@storefull-2313.public.lawson.webtv.net>...
> Doc, W5LZ wrote:
> "What, exactly is a "super J-pole"?"
>
> It`s found on page 16-24 of the 19th edition of the ARRL Antenna Book.
>
> Gain is said to be around 3 db over a 5/8-wave antenna.
>

I have heard something a bit less than 3 dB, but that would be
nice if this would be the case. I'll let you know.

> Length of the super-J is 1 and 1/4-wave, including the 1/4-wave shorted
> stub line matching section at the bottom. A tad more vertical height is
> added by the width of a 1/4-wave stub added to invert phase between the
> (2) 1/2-wave sections, to keep them in-phase.
>
> Best regards, Richard Harrison, KB5WZI

Thanks Rich. At broadcast frequencies, this big boy will be
around 13 feet or so. I'm gonna use 3/4" copper for the added
strength.

Slick

4303. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:36:38 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305231536.a799ed@posting.google.com>
Source record: 117204

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<g6lrcvclfufggj51jdnee91ald4qjqkgp0@4ax.com>...
> >
> > Richard, you asked me what i meant (where are the sources and
> >loads), and i spelled it out for you. Just trying to be nice,
>
> That is the price of engaging in technical discussion - completeness.
> The complete picture revealed nothing remarkable - that is the payoff.
>

For YOU, it was nothing new. Guess what? Other people read this
forum other than you.

If you think know everything about antennas and RF, then why do you
even read this NG? And if you are complaining about "nothing
remarkable", then ADD SOMETHING REMARKABLE YOURSELF.

> >azzhole...
>
> The vulgar hardly illuminates your path, and is a more notable
> characteristic than your niceness. Navy training has built my
> vocabulary along that line considerably further than your limited
> repertoire, and out of boredom I won't challenge your amateur status.
> [You would have to have the experience of Henry Miller, or the style
> of e.e. cummings to make an impression.]
>

Ok, i must have hurt your feelings by trying to answer what i
thought was a question from you. Do you believe me when i say that i
was trying to further an interesting discussion? Swear to God, this
was my only intention.

Who said that Fate would punish us for our kindness? Lordy, can't
people talk about something in peace? If you find the thread "nothing
remarkable", then you can skip it! What a concept!

> >
> > It's new for me, i've never consider 1/8 wave stubs in parallel,
> >and maybe it's new for someone else.
>
> And now you have an author referenced, the best available for your
> subject material. Others have probably noted this at least twice in
> these threads from me already, and several many times in my more than
> several many years here.
>

If it will help make you feel mentally superior, I will state that
i am NOT an expert on the subject of impedance matching using
transmission lines.

> >
> >> If you were going to the expense to do it right (by using a network
> >> analyzer); then you would probably find more interest in what role you
> >> play in being part of the fields (you are resistive, I presume, and
> >> Cecil would be reactive).
> >>
> >
> > I suppose this is the kind of jokes you tell on the air?
> >
> And widely appreciated too. Posting is an exercise of YOUR choice of
> where to go.
>

"The vulgar hardly illuminates your path, and is a more notable
characteristic than your niceness."

> I offered that you could recoup something interesting to all: the
> introduction of lossy variables by operators, and the equipment they
> use; you decided to focus on jokes. Both were there, a function of my
> being able to approach a topic stylistically from more than one
> perspective. Your choice abandoned the technical, and it offered
> nothing humorous. [Scatological commentary never is, unless you write
> for South Park. I would suggest you refrain from submitting scripts
> to them, though. Cartman is vastly more entertaining and may have
> more experience with large radiating alien probes. :-)]
>

I suppose you think you are an iteresting writer as well, eh?

> Now, if you want to pursue the technical AND blast away, goferit.
> Most of us have the capacity to absorb petty assaults without
> responding in kind. OR You can just gust on, but you don't have the
> bandwidth. OR If you want to stick with the technical, then skip the
> fulminations and those that irritate you. Any of the three are
> guaranteed their particular results, you choose which.
>
> 73's
> Richard Clark, KB7QHC

Richard, i don't have a beef with you, regardless of what you
think.

Slick

4304. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-23 23:43:06 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <DPOdnQTbKtGOL1OjXTWcoA@crocker.com>
Source record: 117205

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3ECEA9EA.7070200@tampabay.rr.com...
> hey guys
> i have converted a cushcraft 617-6B to a A50S-6
> using the spacing and element lenghts for the A50S the only differnce is
> i am using a Tmatch instead of the gamma match
> would anyone know how to tune the Tmatch to handle the closer spacing of
> the A50S
> using the Tmatch with the element lenght from either antennas plans the
> SWR is lowest SWR is 1.7:1 at 52.000
> any info will be a great help
> thanks
>

well, with a T match you can adjust usually 3 or 4 things depending on how it is constructed. adjusting the length of the driven element will move the minimum swr point up or down in frequency without changing its value too much. Adjusting the shorting strap location and/or the capacitor (if it has one) will adjust the minimum swr value, but usually won't move it much in frequency. yes, there is interaction in the adjustments, but unless you make large adjustments in a setting it usually won't affect the others too much. and of course the 4'th adjustment is the spacing between the driven element and the T rods, this is usually fixed by the construction method but if it is adjusted the effects are similar to the shorting strap and capacitor adjustments. my normal method is to adjust the driven element length to get the dip roughly where i want it then alternate between the capacitor/shorting strap and element length until it looks right... if you do it right each iteration should result in smaller and smaller adjustments.

4305. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 00:32:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECEBDB8.9020407@ieee.org>
Source record: 117206

PO wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>Is that system matched or not?
>
> 4-No

I suggest that neither you nor anyone else can tell if
the *system* is matched from just the information given. If
there is a properly tuned antenna tuner at the transmitter,
the *system* is matched.
--
73, Cecil http://www.qsl.net/w5dxp

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4306. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 00:52:48 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0305231652.367d0ef7@posting.google.com>
Source record: 117207
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"The Mary Millington Experience" <bms@groundcontrolhq.co.uk> wrote in message
news:<balhdp$97q$1@sparta.btinternet.com>...
> How did we get from 20m dipoles to The Alamo

Welp going west from Real America on I40 ya come to Memphis then hang a left . . .

. . .

>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ECE46A1.60600@ieee.org...
> > Dave Shrader wrote:
> > > The Alamo was not involved in THE REVOLUTION! Was it??
> >
> > Of course it was, Dave. It was part of THE REVOLUTIONARY
> > WAR for Texas independence from Mexico.
> > --
> > 73, Cecil, W5DXP
> >

4307. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 01:01:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECEC468.9060101@ieee.org>
Source record: 117208

Jim Kelley wrote:
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>>The magnitude of destructive interference is zero, and the magnitude of
>>>constructive interference when I1 = I2 is equal to 4*I1.
>>
> I'm looking at the damn thing right here in Hecht. And, it comes right
> out of the general equation. Do YOU think Hecht (and everyone else) is
> wrong?

You didn't say "irradiance" above, you said "interference". Does Hecht say the destructive interference can be zero while the constructive interference equals 4*I1? If so, exactly where? I can't seem to find it.

> I'm obviously just applying the equations from Hecht. It's not like I
> have a secret agenda or some bizzarro science I'm trying to promote.

Please quote the Hecht equations that say if I1=I2, -2Sqrt(I1*I2) = zero while +2Sqrt(I1*I2) = 4*I1 I can't seem to find those equations.

> Irradiance is the 'thing' which is most analogous to 'power' in our
> problem.

Yep, and powers do not interfere. Voltages interfere and currents interfere. Saying "destructive irradiance" is like saying "destructive power". What does it mean? Please furnish a definition.

> I won't avoid it if you tell me which one you're talking about, and it's
> something I actually DID say. Quotes are nice.

OK, here it is again in quotes, you said: "The magnitude of destructive interference is zero, and the magnitude of constructive interference when I1 = I2 is equal to 4*I1."

> Certainly no one on sci.physics.electromag believed it.

On the contrary. They said my ideas were perfectly consistent with a classical wave analysis which is exactly what the wave reflection model is.

>>How does the reflected energy, headed toward the source,
>>get its direction changed?
>
> Rho^2 is the only mechanism that is substantiated in the literature.
> That's at least a _supportable_ assertion, doncha think?

Let's say Rho^2 is 0.25. That's 25% of the reflected energy turned
around by Rho^2. How does the other 75% of the reflected energy get
turned around so it is not incident upon the source?

> I've maintained from the beginning that no energy is transferred from
> one point to another by waves that cancel.

Exactly. One of the reflected waves that cancel comes from the load.
Therefore, you say no reflected energy is transferred from the load.
That's exactly what I thought you had said. Now you say it again.
If you can prove that, my entire argument falls apart.

Remember the thought experiment with you sitting in the room with a
50 ohm load fed by a 150 ohm feedline. You cannot tell if the system
is matched or not so how do you know whether to allow any energy in
the reflected wave or not?
--
73, Cecil http://www.qsl.net/w5dxp

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4308. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 01:51:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECED00D.72B6D73E@cwis.net>
Source record: 117209

"Dr. Slick" said in part;

> I wonder how righteous you Hams will be when the FCC takes all
> your precious spectrum away and sells it to the highest bidder.

I have a feeling that I won't care. It'll be long after
I'm gone, and probably you too.
Talking about it doesn't mean you will 'do' it, so it isn't
illegal. 'Doing' it without proper licensing would be illegal
but I seriously doubt if you will (with or without licensing).
Making fun of people who do obey the law says more about you
than about those who obey the law. If that's how you want to be
thought of, more power to you, knock your self out. As long as
you accept responsibility for your actions, I don't care what
you
do. I also won't have any sympathy if you're caught...
'Doc

4309. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 02:06:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECED39D.7000506@ieee.org>
Source record: 117210

Jim Kelley wrote:
> If I1 and I2 = 25 (like your "lost power" for example), then the
> destructive irradiance on one side of the discontinuity is zero, and the
> constructive irradiance on the other side of the discontinuity is 100.
> Seems to suggest what might actually be going on.

Jim, here's the posting where you introduced the concept of destructive
irradiance and constructive irradiance. Please define those terms.
--
73, Cecil http://www.qsl.net/w5dxp

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4310. Re: @@@ Yagi Antenna Design is Still Empirical @@@

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 02:13:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECED53A.60305@ieee.org>
Source record: 117211

Jim Kelley wrote:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Here's the posting from 5-9-2003 in which you claim the destructive
interference is zero while the constructive interference is 4*I1.
That's in direct contradiction to _Optics_, by Hecht.
--
73, Cecil http://www.qsl.net/w5dxp

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4311. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 02:36:17 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ApadnfQpcKU-R1OjXTWcqw@comcast.com>
Source record: 117212

Dennis,

The only adjustment you have is to move the clamps of the T match closer or further from the boom. You say you are using the element lengths for the 50.6. If you can't get that to work, use the 617 driven element, exactly as it came. The T match should have been adjusted for about 50.2 MHz. Be sure to use the piece of RG 11 that came with the antenna. It is your 4:1 balun.

I don't quite understand if you are trying to use the thing at 52 MHz, or if that is where the best SWR is, but the 617 and the T match were never intended to work at 52 MHz.

Tam/WB2TT
"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3ECEA9EA.7070200@tampabay.rr.com...
> hey guys
> i have converted a cushcraft 617-6B to a A50S-6
> using the spacing and element lenghts for the A50S the only differnce is
> i am using a Tmatch instead of the gamma match
> would anyone know how to tune the Tmatch to handle the closer spacing of
> the A50S
> using the Tmatch with the element lenght from either antennas plans the
> SWR is lowest SWR is 1.7:1 at 52.000
> any info will be a great help
> thanks
>

4312. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 02:52:50 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305231852.1e7b9975@posting.google.com>
Source record: 117213

Roy Lewallen <w7el@eznec.com> wrote in message news:<vct8ppqhs3k6e0@corp.supernews.com>...
> Before we go on to the next questions, where can I find the proof, or
> evidence, that the antenna you describe is the most efficient radiator?
> If it was posted on this newsgroup, I must have missed it. But I can
> find it easily on Google if you can give me a few key words from the
> posting or the date. If it's published elsewhere, please point me to
> where I can look it up. Is the evidence in the form of a theoretical
> derivation, a model, or measured results?
>
> Roy Lewallen, W7EL

Roy this thread is looking for suggestions for an antenna. I chose to
suggesting go for a max radiation per unit length. What was the
antenna you had in mind to suggest? If you have an antenna in mind Dr
Slick would like to hear it. If it is a candidate for max efficiency
per unit length I also would like to see it for comparison purposes.
Actually I am not quite clear of the space restrictions that apply,
that really is the next question.
Art.

>
> Art Unwin KB9MZ wrote:
> > Roy Lewallen <w7el@eznec.com> wrote in message
news:<vcsmqr3ut5d04d@corp.supernews.com>...
> >
> >>Art Unwin KB9MZ wrote:
> >>
> >>>The most efficient radiator(db per unit length) is the straight
> >>>radiator which contains a loop at it center which is made resonant at
> >>>the required frequency by virtue of an added lumped reactance. Though
> >>>one feeds the dipole via a delta match beyond the loop/dipole joints
> >>>it is the LOOP oscillation that determines the radiation frequency as
> >>>a whole regardless of dipole length. . .
> >>
> >>Can you show that this is true with theory, modeling, or measurement?
> >>
> >>Roy Lewallen, W7EL
> >
> >
> > Ofcourse Roy. But more to the point, can you point to the most
> > efficient radiator per unit length ? Show me an antenna where you have
> > more area under the current curve per unit length that is in phase. It
> > has long been desired to have dipoles in collinear form and the low
> > efficiency ends replaced with something that provides more area under
> > the current curve.

> > What in your opinion is the most efficient antenna per unit length? It
> > sure would make for an instructive dialogue as opposed to a
> > destructive one since your antenna knoweledge knows no bounds. Perhaps
> > the area under the current curve which I point to is an invalid
> > measuring stick that destroys my statement at its onset.
> > Art

4313. Re: Outbacker for OOB use

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:02:38 UTC
From: David <davidaanderson@shaw.ca>
Message-ID: <ihBza.62886$Vi5.1723467@news1.calgary.shaw.ca>
Source record: 117214

I sold my Outbacker and now use a Hustler.

The Hustler is better by at least one DB on75/ 80 meters.

David

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EC99CC3.3030101@ieee.org...
> WP20032 wrote:
> >>During mobile shootout measurements on 75m, the Outbacker scored
> >>8dB lower than a good bugcatcher or screwdriver, i.e. the bugcatchers
> >>and screwdrivers radiated 84% more power than the Outbacker.
>
> > I also use an Outbacker, because of its small size. However, I never
operate
> > below 20m. Do you have any numbers for comparison on higher bands?
>
> Mobile shootouts are usually done on 75m. I don't know of any
> comparisons performed on the higher bands.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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4314. Re: RS antenna rotor?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:29:17 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <hGBza.46455$Lm2.3706364@twister.southeast.rr.com>
Source record: 117215

Didnt see it or am really familar with the rotor but I did this by putting
36 volts across the variable resistor inside the rotor. Voltage out read 0
to 36.0 more or less.Bet it is the same thing.

"Tom Coates" <tecoates@comcast.net> wrote in message
news:g4-cnX_JS8NKEFijXTWcqw@comcast.com...
> There's an article in the QST that arrived yesterday about adapting two of
> them for EME and satellite work. The author says that RS rotors are easily
> obtainable at hamfests for a fraction of the new price because the
controls
> are unsuitable for ham use. He describes the design and construction
detail
> of an azimuth indicator (built around an inexpensive digital voltmeter
> module) that reads in degrees.
>
> Perhaps someone with direct experience can comment on this.
>
> Tom, N3IJ
>
>
> "Dr. John" <frellyou@privacy.net> wrote in message
> news:r83ubvoac03r61k99uvbnp6o29i4r1am34@4ax.com...
> > Who knew Radio Shack has a antenna rotor for $70+ $15 control cable?
> >
> > If it weren't for the complex nature of setting one up and the fact that
I
> have nowhere to put it at
> > the moment (apartment), I would buy the darn thing. No way I'm getting a
> $600 unit from the candy
> > store.
> >
> > John
>
>

4315. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:34:40 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vctq3f9162i81a@corp.supernews.com>
Source record: 117217

Art
Is this a dipole with a parallel-resonant circuit in parallel?
Resonant tank antennas ROCK.
I want to understand the best way to maximize the 1:1 SWR bandwidth and minimize the tank circuit loss.
The sad part is experimentation has been suppressed for two decades because of misunderstandings.
The fault is not Walter Maxwell's, but everyone elses.
Walt documented the loss-related SWR broadening.
The interesting thing about bazookas is RESONANCE.
Build an antenna dammit.
Measure it.
I managed to find the money for a 75S-1 ($350) in 1963 when I was in the 8th grade.

Sad thing is yearling calves sell in 2003 for the same $$$ they did in 1957.

Anyway.....
The Collins played well with my HT 37.
I took the General at the FCC office in Dallas when I was 14 years old.
I had a 50 foot tower with a big 2 meter collinear array.

KMA
H
NQ5H
So

Art
Is the antenna singing?
Is it resonant?
Does it sing on it's own with just a tickle?
That is what makes the difference.

LOSS SUCKS!!

(Sang to the tune "Love Sucks")
Unless it's Cecil's "virtual loss" .....
Then it blows.....

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message news:85ed38d.0305231852.1e7b9975@posting.google.com...
> Roy Lewallen <w7el@eznec.com> wrote in message news:<vct8ppqhs3k6e0@corp.supernews.com>...
> > Before we go on to the next questions, where can I find the proof, or
> > evidence, that the antenna you describe is the most efficient radiator?

> > If it was posted on this newsgroup, I must have missed it. But I can
> > find it easily on Google if you can give me a few key words from the
> > posting or the date. If it's published elsewhere, please point me to
> > where I can look it up. Is the evidence in the form of a theoretical
> > derivation, a model, or measured results?
> >
> > Roy Lewallen, W7EL
>
> Roy this thread is looking for suggestions for an antenna. I chose to
> suggesting go for a max radiation per unit length. What was the
> antenna you had in mind to suggest? If you have an antenna in mind Dr
> Slick would like to hear it. If it is a candidate for max efficiency
> per unit length I also would like to see it for comparison purposes.
> Actually I am not quite clear of the space restrictions that apply,
> that really is the next question.
> Art.
>
>
>
> >
> > Art Unwin KB9MZ wrote:
> > > Roy Lewallen <w7el@eznec.com> wrote in message
news:<vcsmqr3ut5d04d@corp.supernews.com>...
> > >
> > >>Art Unwin KB9MZ wrote:
> > >>
> > >>>The most efficient radiator(db per unit length) is the straight
> > >>>radiator which contains a loop at it center which is made resonant at
> > >>>the required frequency by virtue of an added lumped reactance. Though
> > >>>one feeds the dipole via a delta match beyond the loop/dipole joints
> > >>>it is the LOOP oscillation that determines the radiation frequency as
> > >>>a whole regardless of dipole length. . .
> > >>
> > >>Can you show that this is true with theory, modeling, or measurement?
> > >>
> > >>Roy Lewallen, W7EL
> > >
> > >
> > > Ofcourse Roy. But more to the point, can you point to the most
> > > efficient radiator per unit length ? Show me an antenna where you have
> > > more area under the current curve per unit length that is in phase. It
> > > has long been desired to have dipoles in collinear form and the low
> > > efficiency ends replaced with something that provides more area under
> > > the current curve.
> > > What in your opinion is the most efficient antenna per unit length? It
> > > sure would make for an instructive dialogue as opposed to a
> > > destructive one since your antenna knoweledge knows no bounds. Perhaps
> > > the area under the current curve which I point to is an invalid
> > > measuring stick that destroys my statement at its onset.
> > > Art

4316. Re: SWR on vertical goes out of whack... why?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:35:06 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <KLBza.46483$Lm2.3705816@twister.southeast.rr.com>
Source record: 117216

"Q" <mmelendez@celeridad.net> wrote in message
news:6298a68d.0305230944.2f19ee9@posting.google.com...
> "Jimmy" <Gfender@carolina.rr.com> wrote in message
news:<0faxa.36982$Lm2.2465911@twister.southeast.rr.com>...
>
> > He may have his antenna mounted on the slope of the roof. If so his
> > impedance could be around 25 0hms. We are only assuming it is mounted on
the
> > peak
>
> No, it's basically at the peak. Roof slope is 15%, north and south.
>
> ---
> Mario
Then there is something more basically wrong with your antenna. SWR should
be very close to 1 to 1 when its dry. Maybe the radiator is the wrong
length. Have you done any prunning or just calculate,cut and stick it up

4317. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:40:16 UTC
From: PO <toolbox640@sympatico.ca>
Message-ID: <NQBza.4477$jM5.496826@news20.bellglobal.com>
Source record: 117219

I am sorry to tell you that what ever you do to make your transmitter feel good you still have 3 to 1 missmatch between ANTENNA and FEEDLINE

And you still have power returning on the line back to your TUNER that transform the heat wave....

IF you dont believe me just put 5 kw in your feedline and you will see the bubles every 180 degres on your transmission line ... but at TX nice needle 1:1 thats all

IF you use your feedline as part of the antenna well WELCOME to REC.RADIO.AMATEUR.FEEDLINE group :-)

--
PO
Remove "tool" in
toolbox640@sympatico.ca

"W5DXP" <Cecil.A.Moore@ieee.org> a crit dans le message de news:3ECEBDB8.9020407@ieee.org...
> PO wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
> >>Is that system matched or not?
> >
> > 4-No
>
> I suggest that neither you nor anyone else can tell if
> the *system* is matched from just the information given. If
> there is a properly tuned antenna tuner at the transmitter,
> the *system* is matched.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4318. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 03:41:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vctqg44a3j6gc4@corp.supernews.com>
Source record: 117218

So there is no evidence, after all. Thanks, you've answered my original question.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vct8ppqhs3k6e0@corp.supernews.com>...
>
>>Before we go on to the next questions, where can I find the proof, or
>>evidence, that the antenna you describe is the most efficient radiator?
>>If it was posted on this newsgroup, I must have missed it. But I can
>>find it easily on Google if you can give me a few key words from the
>>posting or the date. If it's published elsewhere, please point me to
>>where I can look it up. Is the evidence in the form of a theoretical
>>derivation, a model, or measured results?
>>
>>Roy Lewallen, W7EL
>
>
> Roy this thread is looking for suggestions for an antenna. I chose to
> suggesting go for a max radiation per unit length. What was the
> antenna you had in mind to suggest? If you have an antenna in mind Dr
> Slick would like to hear it. If it is a candidate for max efficiency
> per unit length I also would like to see it for comparison purposes.
> Actually I am not quite clear of the space restrictions that apply,
> that really is the next question.
> Art.
>
>
>
>
>>Art Unwin KB9MZ wrote:
>>
>>>>Roy Lewallen <w7el@eznec.com> wrote in message
news:<vcsmqr3ut5d04d@corp.supernews.com>...
>>>
>>>
>>>>>Art Unwin KB9MZ wrote:
>>>>
>>>>
>>>>>>The most efficient radiator(db per unit length) is the straight
>>>>>radiator which contains a loop at it center which is made resonant at
>>>>>the required frequency by virtue of an added lumped reactance. Though
>>>>>one feeds the dipole via a delta match beyond the loop/dipole joints

>>>>>it is the LOOP oscillation that determines the radiation frequency as
>>>>>a whole regardless of dipole length. . .
>>>>
>>>>Can you show that this is true with theory, modeling, or measurement?
>>>>
>>>>Roy Lewallen, W7EL
>>>
>>>
>>>Ofcourse Roy. But more to the point, can you point to the most
>>>efficient radiator per unit length ? Show me an antenna where you have
>>>more area under the current curve per unit length that is in phase. It
>>>has long been desired to have dipoles in collinear form and the low
>>>efficiency ends replaced with something that provides more area under
>>>the current curve.
>>>What in your opinion is the most efficient antenna per unit length? It
>>>sure would make for an instructive dialogue as opposed to a
>>>destructive one since your antenna knoweledge knows no bounds. Perhaps
>>>the area under the current curve which I point to is an invalid
>>>measuring stick that destroys my statement at its onset.
>>>Art

4319. Need Hygain 18V instructions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 04:01:43 UTC
From: jldaly_73@yahoo.com
Message-ID: <52a1b0c2.0305232001.6ec7d030@posting.google.com>
Source record: 117220

I have a Hygain 18V vertical antenna that I want to set up again but have misplaced the instructions. Does anyone know where a downloadable "freeware" copy might be found. I've looked on bama's website but it is not listed. Thanks for any help. 73 John WA9WHD

4320. Converting a G5RV to Horizontal Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 05:05:23 UTC
From: Niittymaa Family <niittyma@sympatico.ca>
Message-ID: <I4Dza.9847$eo1.856105@news20.bellglobal.com>
Source record: 117224

I have a commercial G5RV with the usual 102' dipole, length of 300 ohm twin lead, 4:1 balun and about 100' of RG8X co-ax.

Could this be converted to a 40-10M horizontal loop by cutting off the 2 end insulators and adding a 40' copper wire closed loop addition and hanging it up about 25' in a hexagon shape? I would trim the total length to center around 7.1Mhz and maximize the multiples.

Also, could the coax be shortened to about 20-30' and the whole thing fed through a MFJ 948 tuner for multi-band operation?

One final thing, I'm not sure of the 4:1 balun is a voltage type or current type - would this make a difference?

Thanks for any comments and other ideas..... Al

4321. Re: 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 05:07:13 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bamum3$18kki$1@ID-134747.news.dfncis.de>
Source record: 117222

I had a "Walking Stick" made with 450 ohm line in
a 1" PVC pipe. When at camp regularly used rope
to pull into tree and ran 70 watts to it w/o a
problem.

73 es cul

wb3fup
a Salty Bear

"Chuck / KE4ETH" <chuck_hawks@hotmail.com> wrote
in message
news:SBCza.44406$wy4.41069@fe07.atl2.webusenet.com...
>
> "Jeff" <kb1hol@REMOVETHIS.arrl.net> wrote in
message
>
news:kb1hol-5F4D11.13573923052003@news.mindspring.com...
> > Hello!
> >
> > I have constructed a roll up J-pole antenna
from 450ohm ladder line for
> > 2 meters. It works quite well with a 1.4-1.2
SWR across the bandwidth.
> >
> > My question is what are the power limits for
this antenna? I have seen
> > that the same antenna made with 300ohm "twin
lead" is suggested to keep
> > under 10 watts on VHF. What about the heavier
450ohm ladder line that
> > I've made this antenna with? Could it handle
25 watts? What about 65W?
>
>
> For what it's worth. I have been using a 300-Ohm
twinlead J-Pole for almost
> 10 years. It's mounted in a PVC pipe about 30
feet above ground level. I
> have had no problems powering it with my Kenwood
TM-261A with 50 Watts.
>
> Just my 2 cents worth
>
> Chuck

> KE4ETH
>
>
>

4322. Re: Need Hygain 18V instructions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 05:10:26 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bamus4$1gcrv$1@ID-134747.news.dfncis.de>
Source record: 117223

Try this

http://www.hy-gain.com/products.php?prodid=AV-18VS

73 es cul

wb3fup
a Salty Bear

"John Daly" <jldaly_73@yahoo.com> wrote in message
news:52a1b0c2.0305232001.6ec7d030@posting.google.com...
> I have a Hygain 18V vertical antenna that I want
to set up again but
> have misplaced the instructions. Does anyone
know where a downloadable
> "freeware" copy might be found. I've looked on
bama's website but it
> is not listed. Thanks for any help. 73 John
WA9WHD

4323. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 05:34:32 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <ban098kkt0@208.207.71.160>
Source record: 117225

Art, haven't you learned by now that the very last thing you want to be here is an authority,
among all these really *heavy* authorities?
So you couch your statements as questions; like "Isn't it (this and that, so on and on.....).?"

That way you're never tagged as being all wet, and you get it all 'splained to you! :-)

Dick

Roy Lewallen wrote:

> So there is no evidence, after all. Thanks, you've answered my original
> question.
>
> Roy Lewallen, W7EL
>
> Art Unwin KB9MZ wrote:
> > Roy Lewallen <w7el@eznec.com> wrote in message
news:<vct8ppqhs3k6e0@corp.supernews.com>...
> >
> >>Before we go on to the next questions, where can I find the proof, or
> >>evidence, that the antenna you describe is the most efficient radiator?
> >>If it was posted on this newsgroup, I must have missed it. But I can
> >>find it easily on Google if you can give me a few key words from the
> >>posting or the date. If it's published elsewhere, please point me to
> >>where I can look it up. Is the evidence in the form of a theoretical
> >>derivation, a model, or measured results?
> >>
> >>Roy Lewallen, W7EL
> > >
> > >
> > > Roy this thread is looking for suggestions for an antenna. I chose to
> > > suggesting go for a max radiation per unit length. What was the
> > > antenna you had in mind to suggest? If you have an antenna in mind Dr
> > > Slick would like to hear it. If it is a candidate for max efficiency
> > > per unit length I also would like to see it for comparison purposes.
> > > Actually I am not quite clear of the space restrictions that apply,
> > > that really is the next question.
> > > Art.
> > >
> > >
> > >
> > >
> >>Art Unwin KB9MZ wrote:

> >>
> >>>Roy Lewallen <w7el@eznec.com> wrote in message
news:<vcsmqr3ut5d04d@corp.supernews.com>...
> >>>
> >>>
> >>>>Art Unwin KB9MZ wrote:
> >>>>
> >>>>
> >>>>>The most efficient radiator(db per unit length) is the straight
> >>>>>radiator which contains a loop at it center which is made resonant at
> >>>>>the required frequency by virtue of an added lumped reactance. Though
> >>>>>one feeds the dipole via a delta match beyond the loop/dipole joints
> >>>>>it is the LOOP oscillation that determines the radiation frequency as
> >>>>>a whole regardless of dipole length. . .
> >>>>
> >>>>Can you show that this is true with theory, modeling, or measurement?
> >>>>
> >>>>Roy Lewallen, W7EL
> >>>
> >>>
> >>>Ofcourse Roy. But more to the point, can you point to the most
> >>>efficient radiator per unit length ? Show me an antenna where you have
> >>>more area under the current curve per unit length that is in phase. It
> >>>has long been desired to have dipoles in collinear form and the low
> >>>efficiency ends replaced with something that provides more area under
> >>>the current curve.
> >>>What in your opinion is the most efficient antenna per unit length? It
> >>>sure would make for an instructive dialogue as opposed to a
> >>>destructive one since your antenna knoweledge knows no bounds. Perhaps
> >>>the area under the current curve which I point to is an invalid
> >>>measuring stick that destroys my statement at its onset.
> >>>Art

4324. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 05:41:43 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <ban0mnldt0@208.207.71.160>
Source record: 117226
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:

> So the ATU manufacturers have finally got the hams where the want them,
> where they're convinced that you need an ATU for a dipole.
>
> You don't. Unless you're operating the dipole a long way from its
> resonant frequency (say, at the bottom end of the 3.5 MHz band with a
> skinny dipole resonant at the top). I don't know how many dipoles I've
> built since I got my first ticket in 1957, but it's a bunch. And I've
> never needed an ATU for one.
>
> Hams have already been convinced that they need an ATU to protect their
> transmitters from the evil reflected power that will flow out of the
> feedline to smoke the rig. Now they're getting convinced that they need
> an ATU for a simple dipole. No wonder MFJ is doing so well -- too bad
> they don't sell stock.

I thought it was the RF that never left the rig because of mismatch that fried your finals, not the reflected. I use a tuner because I like for my rig to be matched at its output. What happens after that isn't of any concern to the rig.

And you're beginning to sound like I talk about baluns! My experience with them (not RF choke baluns) has been more negative than otherwise, mostly due to those large frequency excursions..

Dick

4325. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 07:21:42 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <qu6ucvo3t0g46rbj48a0k9tupb0fbg4ajt@4ax.com>
Source record: 117227

On 22 May 2003 14:12:47 -0400, Steve Miller <millersg@qrt.dma.org>
wrote:

>Roger Halstead <rdhalste@tm.net> wrote:
>
>: OK, I see what you are getting at now.
>
>: For wind and gravity the beams are mounted at the Center of gravity
>: and not length. Particularly with the 6-meter antenna there is more
>: aerodynamic drag aft of the physical center than forward.
>: Unfortunately this gives an asymmetrical load when winds come from the
>: side.
<and now I understand a bit more>

I understand the dynamics, but never thought of any thing so simple as
adding a weight to the end of the antenna. Thanks.
>
>Anyway, it sounds like your system will be quite durable after the
>next upgrade. Even so, let's hope those 70+ MPH winds are far & few
>between!

Unfortunately we have lots of gusty winds up here, both in the
thunderstorm season and the snow season.

A couple years back I was taxiing a Bonanza toward the hanger. I knew
a gust front was coming through right ahead of a bunch of snow squalls
and wanted to get the plane in the hanger before the weather turned.

I was only about half way to the hanger when I saw the gust front
coming across the filed. It was really roiling up the snow. I stood
on the brakes to hold the plane (on dry asphalt). When that gust front
hit it turned that 3,100# plane 90 degrees so I was pointed across
the taxiway. I could hear the tires squeal as it brought me around.

More typical gusts are in the 60 MPH range, but we get at least
several in the 70 MPH range each year. We all just hope we don't get
the gusts AND ice which unfortunately do tend to go together.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

>
>73,
>Steve N8SM

4326. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 07:42:15 UTC
From: Airy R Bean <SPAM@trap>
Message-ID: <3ecf2549$1_3@mk-nntp-1.news.uk.worldonline.com>
Source record: 117229
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

I haven't used it for some time, but my original
2M TX, produced to a standard, normal design
has a 75 Ohm Antenna connector.

I don't think that your analysis below is correct.

Roy Lewallen <w7el@eznec.com> wrote in message
news:vcsm9k7u89s8c@corp.supernews.com...
> Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
> through one wavelength of 50 ohm transmission line. The forward power on
> that line is 100 watts and the reverse power on that line is zero,
> right? The transmitter sees 50 ohms and operates normally.

4327. Re: One tough rotor!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 07:44:25 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <hd7ucv83cltigu6umu7vvjinmhjmd3lbps@4ax.com>
Source record: 117228

On Mon, 19 May 2003 19:23:14 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:
First, Thanks for the well thought out post Mac.

>Dear Neighbor:
> As is true of so many things, it depends. It depends on what the
>goal is (or are) and the resources available. In your case, you have
>the huge advantage of being able to perform tower work. That sort of
>work costs me thousands and makes the cost of the antennas a minor part
>of the total cost. Resources are not just money.

Welll...so far I'm able to climb, but I don't know for how many more
years. Both a bad back and age are lurking in the wings, but I hope
to be able to keep climbing for a good many years. If I couldn't, I
certainly wouldn't have the antenna system I have now.

> As to goals:
>1. Most contest stations care little about HF bands other than 160,
>80/75, 40, 20, 15, & 10 meters. Single band beams or even tribanders
>can fill the bill. LPDAs are seen as having poor value.

I'm not much of a contester, but years back I had mono band beams on
40, 20, 15 and 10. Big mono banders, at least by the standards back
then. Now...they probably wouldn't be called so big.
KLM 4L on 40, 5L on 15, and a Wilson 7L on 10.

>2. The DXer tends to be interested also in the in-between bands. A
>LPDA fits this sort of interest to a T.

I'm not an ardent DXer but I do a fair amount. Like CW too.

>3. Indigenous (sp?) weather plays a role in goals. How long does one
>wish the antenna to stay up? In some cases it is a matter of "how long
>does one want the tower to stay up." If one is not on salt water, the

I wish both to stay up for many years, but from a practical stand
point, I seriously doubt that the VHF and UHF antennas will stay up 10
years. There's just too much movement up there.

The TH5 might stay up as long as the tower.
I've never lost a tower yet, although I have lost quite a few
antennas...usually from ice and wind combined.

>major factors are: the probability distribution of wind pressure and the
>probability of ice. In our area, excepting a tornado hit, ice is likely
>to be the major factor. LPDA are available built to survive different

Unfortunately ice is fairly common here in Central Michigan although it;s usually a number of years between the big ones.

>amounts of ice/wind. Assuming good engineering, the "stronger" the
>antenna the greater is its profile to the wind. In other words, an
>antenna that has a long expected (remember, probability distribution)
>life might cause its tower to fail before the antenna fails.

The tower installation is rated for over 100 MPH winds. It has 6,600# test guys at the top and 4,400# test for the two lower sets. The guy anchors weigh 17,000# each and the tower sets in a yard and a half of concrete (which isn't much)

>
>The Hy-Gain LPDA appear to be competent, but have a significantly
>greater wind load than the beam antenna you are now using. Ouch. My
>approach is to start with the tower and work out what sort of load on
>the tower I can live with. You have a lot of load on your tower.

Most of the load is in the form of leverage distributed between two thrust bearings. The only direct wind load is the TH-5 at the top. I really have to be concerned with resonances with that kind of distribution.

I've been up to 80 feet with 50 MPH winds and other than being uncomfortable, the tower wasn't moving. I couldn't feel any movement induced by the leverage on top and I was right at the bottom thrust bearing.

>
> As an example: The LPDA I have on one tower is not-strong because I
>want to be sure that the antenna goes before the tower. With the about
>7mm of ice we had last month, the ends of the elements were pointing
>almost straight down! A little more ice or some wind and the antenna
>would have started to shed. At the same time, a significantly stronger

You should have seen my KLMs with *3 inches*. The elements were huge. The power line behind the house had so much load it was about three feet off the ground between the poles.

>LPDA on another tower showed much less deflection. The other tower is
>not up to its max. load so, since the cost of the antenna in my case is
>only a small part of the total cost, its antennas may be stronger.

The current tower is a Rohn 45G which also has torque arms at the top and middle sets.

>
> Another point: LPDA can cover an octave with almost no fuss. (One
>still needs to be careful about boom resonance and, most important,
>interaction with other antennas.) Covering more than an octave is a bit
>tricky. A lot of things tend to interact as the spread increases. (I
>predict that the BIG HyGain needs its own tower in order to have a clean
>pattern and few big SWR bumps.) The issue tends to involve goals wrt to

>40 and 30 m. (Some people have no use for 30m. As part of a major
>propagation simulation some years ago, I noted that the most common
>(mode) frequency useful for a large number of circuits, over a long
>period of time, was about 10 MHz. If one does not care to use 30m, a
>separate antenna for 40 m + a 20 to 10 LPDA can be close to optimum.)

Unfortunately the only way I'd be able to get a second tower would be to shorten the first which is right in the center of the lot. Although I don't need that kind of height for either a tribander, or a 40 meter mono bander, I wanted it for the VHF/UHF arrays.

Now if I could only get the lot behind me, but he'd have to subdivide about 10 acres which would involve streets and water lines and doesn't want to go through the paper work to just add it to the description of my two lots.

>
> I have gone on too long about a favored subject. Think about your
>goals and tower capacity. Drop me a line when your ship comes in. 73
>Mac N8TT

Nah, I enjoyed the dissertation <:-))
When my ship comes in, I'll probably be out flying.
I did get the 300 HP Lycombing IO-540 K1A5 home yesterday. I'm not going to have any work done on it until I;m ready to use it which may be a ways off...I hope to get the G-III ready to fly within a year, but that's asking a lot.

73

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

4328. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 07:56:51 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <ban8j2$1k8i0$1@ID-185765.news.dfncis.de>
Source record: 117230
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"'Doc" <w5lz@cwis.net> wrote in message news:3ECEA5FB.E320D5DE@cwis.net...
>
>
> When you are speaking with someone from Texas,
> nothing is a very long reach to talking about the
> Alamo, long-neck beer, guns, or females in tight
> blue-jeans. I can appreciate the blue-jeans...
> 'Doc

Only the blue jeans, not the females?
:>(
--
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

4329. Re: Mobile Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 09:11:48 UTC
From: Mark Keith <nm5k@wt.net>
Message-ID: <3ECF3754.2DD@wt.net>
Source record: 117231

Rich wrote:
>
> On Fri, 23 May 2003 16:21:43 -0400, Bill <n4wc@arrl.net> wrote:
>
> >I heard someone on 40 ssb the other day refer to his mobile antenna
> >as an "illegal" antenna. I think he said it was too tall? Are there
> >various states' statutes that regulate mobile antenna height/length?
> >This assumes the vehicle is moving on a public thoroughfare at the time.
> >
> >If a mobile antenna meets a certain legal (assumption) height could it
> >be legally longer in the horizontal plane?
> >Ignorance is sometimes not blissful.
> >
> >73 Bill Cook N4WC
>
> the only way i can think of that would make a mobile antenna illegal
> is if it was too tall for highway or interstate underpasses. i'm sure
> there is some legal limit on how tall a vehicle can be...i know the
> width and lengths are regulated so i assume the heighth is as well.
> one other possibility is if the antenna presents some sort of hazard
> to other motorists. but i'm not aware of any fcc regs that goven
> mobile antenna height.
>
> 73,
> rich, n9dko

As a general rule, you are supposed to be able to clear any overpasses, etc. Here in TX, that height is generally accepted to be 13.6 ft. In other words, we are under the same restrictions as a tractor-trailer. But I cheat a little bit. My antenna would be illegal technically. Probably by a foot or two. But it bends backwards a bit when driving, so I can clear stuff that I wouldn't sitting still. Also, it's just thin stinger whip at the top, and will just slap against whatever it hits with no damage. My antenna is 13 ft tall in itself if I'm using my extra 3 ft bottom mast. And it's mounted at about the 4 ft or so level. That would qualify as an illegal antenna in this state if the cops wanted to get picky. "17+ ft" So even in the "stock" 10 ft height used for driving, I'm a bit over 14 ft. But thats so close I don't worry about it. I just have to keep an eye out for low tree branches...Won't kill my antenna, but it puts stress on the mount if I whack one. I try to avoid it. MK
--
http://web.wt.net/~nm5k

4330. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 09:25:17 UTC
From: Mark Keith <nm5k@wt.net>
Message-ID: <3ECF3A7D.7067@wt.net>
Source record: 117232
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Alexander Schewelew wrote:
>
> > I quite agree, that's why I asked how to match a 73 ohm half wave dipole
> > to a 50 transmission line.
> It is very simple:
> Balun 1:1(not necessory) plus Stub Match: L1=1.87m and Ls=2.73 Short 50Ohm
> Vf=0.66
>
> 73!
>
> Alex

It can even be simpler than that. Just offset the feedpoint a wee bit to
get a perfect match. IE: psuedo gamma match. No extra parts needed. VF
not an issue. Not zipped up. :/ MK

http://web.wt.net/~nm5k

4331. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 11:51:43 UTC
From: Paul Rosete <prosete@worldnet.att.net>
Message-ID: <j1Jza.170324$ja4.8581375@bgtnsc05-news.ops.worldnet.att.net>
Source record: 117233

NBC Ch. 15
ABC Ch. 41

Both the NBC and ABC antennas are located on the same tower at a height of 453m and running at 500kw power. It's about a 12 mile straight line distance from my house to the local antenna farm.

Paul

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message news:fDidnUkMbMnfHVOjRTvU3Q@comcast.com...
> Paul,
>
> Two things come to mind,
>
> 1. The NBC station is a temporary lashup with low power, or
>
> 2. The NBC station is at one end or another of the band, like channel 14 or
> 69, where your antenna gain might be less.
>
> You might want to post what the actual channels are, and how far away they
> are.
>
> Tam/WB2TT
> "Paul Rosete" <prosete@worldnet.att.net> wrote in message
> news:%Koza.168957$ja4.8470138@bgtnsc05-news.ops.worldnet.att.net...
> > [If this is the wrong nsg for this question, please let me know where to
> > post it]
> >
> > I installed a yagi antenna on my roof to pick up OTA local dtv signals
> > (decoded thru an add-on module to my sat receiver). All local stations'
> > digital transmits are located to my northeast and within the 64 to 69
> degree
> > compass headings from my house.
> >
> > The problem I'm having is that some channels come in at peak strength (in
> > the upper 90% range) while others, even those sharing the same degree
> > heading, come in so low that the signal is unstable and constantly blacks
> > out. Example: my local NBC and ABC are both situated at the 64 degree
> > heading but NBC's signal strength comes up no higher than low 60 percent
> > range, so that it's lost continuously, while the ABC station peaks out at

> 95
> > to 98 percent in the strength meter.
> >
> > What causes this disparity in strength when both stations' broadcast
> > antennas are co-located in the same general area? What can I do about it
> to
> > improve the low signal strength?
> >
> > Here's what I've tried so far:
> >
> > Raised the antenna by an extra 15 feet. No change.
> > Rotated the antenna both away from and toward the stations' tower
> location.
> > No change.
> > Replaced it with a Terk 55, including signal amplifier, and found no
> change.
> > Even rotated the Terk 360 degrees with no change in signal strengths.
> >
> > My antenna has a clear line of sight with no obstacles in the way. No
> hills,
> > mountains, buildings, or other solid structures. Just a flat, wooded
> > trerrain.
> >
> > Any help appreciated.
> >
> > Paul
> >
> >
>
>

4332. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 11:59:06 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ECF5E4C.2020404@attbi.com>
Source record: 117234

Roy, I don't think they understood your original question.

The most efficient radiator is one that is 100% efficient. That is, it
radiates all the power with zero losses [Hmmm ...].

Deacon Dave, W1MCE
+ + +

Roy Lewallen wrote:
> So there is no evidence, after all. Thanks, you've answered my original
> question.
>
> Roy Lewallen, W7EL
>
> Art Unwin KB9MZ wrote:
>
>> Roy Lewallen <w7el@eznec.com> wrote in message
>> news:<vct8ppqhs3k6e0@corp.supernews.com>...
>>
>>> Before we go on to the next questions, where can I find the proof, or
>>> evidence, that the antenna you describe is the most efficient
>>> radiator?
[SNIP]

4333. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 12:04:46 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3ECF5FCD.30003@tampabay.rr.com>
Source record: 117235

hi tam
well what i am doing is i picked up a good deal on a used 617-6B but it is to big to use as it is so i cut the boom down to 20 and used the spacing and element lenghts from the tech sheet of a A50S-6
but my SWR is really high over a 2:1 at 50.1 its lower around 51.800
i attempted to adjust the element lenght as well as adjust the shorting straps on the Tmatch with little luck the coax balun is still in place and i assume good havent tested it yet
thanks for the help and hope this clears things up

4334. Scantenna vs Discone: Some Thoughts On

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 13:32:12 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bans8j$3q2$1@slb1.atl.mindspring.net>
Source record: 117236

Hello:

The Scantenna ST2 seems to be a most popular antenna, and item for
discussion.
So, let me add a bit.

I have recently bought a Scantenna ST2 in hopes of replacing my
R/S Discone, which, while it does a decent job, leaves a bit to be desired.

Have been making a somewhat unscientific comparison
between the discone, and the Scantenna, both mounted in my attic.

I am using identical lengths and type of coax down to my receiver.
Comparisons were made by simply switching receiver inputs, and
monitoring S meter deflections, as well as subjective listening.

To be accurate, should note that both coax's are 50 ohm, as is the discone
and receiver,
while the Scantena has a 75 ohm output.
For my listening-only, I doubt that this is a problem, but. ?

First, the scantenna is sold as having a quoted range of 30 MHz - 1.3 Ghz.
The box also has on it that it is apparently optimized for:

30 - 50
148 - 174
450 - 470
470 - 512
800 - 912

I agree with all the posters who feel that the Scantenna is "generally"
superior.

However, it seems to me that it is superior Only in the mentioned ranges
that they say
it is optimized for.

The R/S Discone outperforms, substantially, the Scantenna in the commercial
aviation
bands, e.g. 110 to approx 135.

This seems to be the case for airborne planes, as well as for ATIS and
control tower communication
I can hear from an airport about 10 miles away.

I was somewhat surprised that the Discone does better for receiving the
airport tower.

Have tried with the Scantenna horiz. support mast grounded, as well as un-grounded, and have
noticed no difference. I also tried attenuating the signals, to be sure there is no receiver overload.

Has anyone else noticed that the Scantenna seems poorer relative to a Discone on the commercial
aviation bands, both for tower and airborne ?

Would be most interested in anyone's comments.

Bob

4335. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 14:41:46 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <bao0ma$1ljsm$1@ID-34767.news.dfncis.de>
Source record: 117237
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Mark Keith" <nm5k@wt.net> schrieb im Newsbeitrag
news:3ECF3A7D.7067@wt.net...
> Alexander Schewelew wrote:
> >
> > > I quite agree, that's why I asked how to match a 73 ohm half wave
dipole
> > > to a 50 transmission line.
> > It is very simple:
> > Balun 1:1(not necessory) plus Stub Match: L1=1.87m and Ls=2.73 Short
50Ohm
> > Vf=0.66
> >
> > 73!
> >
> > Alex
>
> It can even be simpler than that. Just offset the feedpoint a wee bit to
> get a perfect match. IE: psuedo gamma match. No extra parts needed. VF
> not an issue. Not zipped up. :/ MK
>
> http://web.wt.net/~nm5k

It is not correct!!!

The offset of the feedpoin get a heigher impedans and does not get a perfect
match.
You can exam it with MMANA, NEC, EZNEC and other programms.

Alexander

4336. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 14:49:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECF8665.1080204@ieee.org>
Source record: 117238

PO wrote:
> I am sorry to tell you that what ever you do to make your transmitter feel
> good you still have 3 to 1 missmatch between ANTENNA and FEEDLINE

That's exactly my point. Just by knowing what happens at a mismatched load, one cannot tell if the *system* is matched or not. The percentage of reflected power at the load end is *identical* in a mismatched system and in a matched system.

If reflected energy is allowed to reach the transmitter, the system is not matched.

If reflected energy is not allowed to reach the transmitter the system is matched. An antenna tuner provides a system Z0-match (or Zg-match).

The point is that the percentage of energy reflected from the mismatched load is exactly the same whether the *system* is matched or not. If one doesn't know whether reflected energy reaches the transmitter or not, one doesn't know whether the system is matched or not.
--
73, Cecil http://www.qsl.net/w5dxp

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4337. Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 14:51:37 UTC
From: helmsman <helmsman@DELETEmindspring.com>
Message-ID: <6k1vcvkcmjrv4hii87k2icduca7jkdck6o@4ax.com>
Source record: 117239

Doe's anyone have a clue what the take off angle for the "Spider
antenna Dipole" is ??
TIA
.
Boycott anything made in france and vacation somewhere else.

4338. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 14:59:40 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <c3GdncxQEM92FVKjXTWcog@comcast.com>
Source record: 117240

Paul,

At 12 miles you should be able to pick up either station with a wet noodle. Only thing that comes to mind is that your antenna gain is way down at channel 15. You might take a look at the antenna manufacturer's web site and see if they post gain figures as a function of frequency. Also, if you are using a VHF/UHF splitter, temporarily bypass that, and run the whole composit signal into your decoder. The filter might affect the low channels.

Tam/WB2TT
"Paul Rosete" <prosete@worldnet.att.net> wrote in message
news:j1Jza.170324$ja4.8581375@bgtnsc05-news.ops.worldnet.att.net...
> NBC Ch. 15
> ABC Ch. 41
>
> Both the NBC and ABC antennas are located on the same tower at a height of
> 453m and running at 500kw power. It's about a 12 mile straight line
distance
> from my house to the local antenna farm.
>
> Paul
>

4339. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 15:00:33 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECF8911.B22E8E03@cwis.net>
Source record: 117241

helmsman,
Greater than 2 degrees, less than 90 degrees.
Depends on height, what bands are covered, the
environment, the color of insulation on the wire
used to make the antenna.
'Doc

4340. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 15:08:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECF8AF8.9060603@ieee.org>
Source record: 117242
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Dick Carroll; wrote:
> I thought it was the RF that never left the rig because of mismatch that fried your
> finals, not the reflected.

That concept is a shortcut that works. The effects of an actual mismatch
and a virtual mismatch are the same. But a virtual mismatch is *caused*
by reflected waves, i.e. the virtual impedance is the *effect* of
superposing forward waves with reflected waves.

Think about it, Dick. If you have 50 ohm coax feeding a 50 ohm load,
there are no reflected waves and the transmitter is happy. Switch
the load to 500 ohms and the transmitter is still happy until those
newly reflected waves reach the transmitter. When the reflected waves
superpose with the forward waves inside the transmitter is when
the problem first manifests itself. There will be either an over-
voltage condition caused by the reflected waves or an over-current
condition caused by the reflected waves. Depending on phase, both
over-voltage and over-current can exist at the same time.

It is the arrival of the reflected waves that causes the problem
in the above example.

The protection circuitry in a transmitter protects against both
an actual impedance mismatch and a virtual impedance mismatch
caused by superposition of forward and reflected waves.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4341. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 15:20:31 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <83SdnSMLiKleEFKjXTWcpw@comcast.com>
Source record: 117243

Dennis,

As a sanity check, make sure the cables are hooked up right. The previous owner may have sold it because he messed up. There are 3 UHF connectors on the antenna. The feedline is connected to the one that has 2 wires on it: one going to one side of the T match, the other going to one of the other two connectors. The third connector connects to the opposite side of the T match. The RG11 coax connects the two connectors that are free after you connect the feedline, and should be something like 77 inches long, assuming solid dialectric, or about 87 inches for foam. These are not exact numbers, just be sure it is not 1/2 of these. I would check the RG11 with an ohmmeter to be sure you have continuety between the two ends; both the center conductor and shield, and that there is no short. While you are at it, you might as well check the feedline also.

I have a Cushcraft 2m beam that went to an SWR of 3:1. Turned out the connector on the match was not making ground contact to the shell. On the 2m beam, if you over tighten the coax, you start to unscrew the connector from the match.

BTW, Cushcraft has the instruction sheets for their antennas online.

Hope you get it working. We need more 6m ops.

Tam/WB2TT
"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message
news:3ECF5FCD.30003@tampabay.rr.com...
> hi tam
> well what i am doing is i picked up a good deal on a used 617-6B but it
> is to big to use as it is so i cut the boom down to 20 and used the
> spacing and element lenghts from the tech sheet of a A50S-6
> but my SWR is really high over a 2:1 at 50.1 its lower around 51.800
> i attempted to adjust the element lenght as well as adjust the shorting
> straps on the Tmatch with little luck the coax balun is still in place
> and i assume good havent tested it yet
> thanks for the help and hope this clears things up
>

4342. Re: Converting a G5RV to Horizontal Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 15:25:47 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bao2skttp1@slb4.atl.mindspring.net>
Source record: 117244

Why destroy the G5RV when all you need do is put up a seperate antenna?

If you try to use the G5RV the 300 ohm will have to go, the 4 to 1 will have to go. All you will have left is 102' of wire.

A horizontal loop is calculated by 1005/FMHZ . If for single band (40 meter) only, use 50 ohm coax and a 1/4wave Q section of 70 ohm coax. (246 x (VF)/FMHZ) VF = Velocity factor of the 70 ohm coax.

For multiband use. Feed with ladderline to a tuner or the line to a 4 to 1 balun outside the shack. A short piece of 50 ohm coax to the tuner in the shack.

Dan/W4NTI

"Niittymaa Family" <niittyma@sympatico.ca> wrote in message news:I4Dza.9847$eo1.856105@news20.bellglobal.com...
> I have a commercial G5RV with the usual 102' dipole, length of 300 ohm twin
> lead, 4:1 balun and about 100' of RG8X co-ax.
>
> Could this be converted to a 40-10M horizontal loop by cutting off the 2 end
> insulators and adding a 40' copper wire closed loop addition and hanging it
> up about 25' in a hexagon shape? I would trim the total length to center
> around 7.1Mhz and maximize the multiples.
>
> Also, could the coax be shortened to about 20-30' and the whole thing fed
> through a MFJ 948 tuner for multi-band operation?
>
> One final thing, I'm not sure of the 4:1 balun is a voltage type or current
> type - would this make a difference?
>
> Thanks for any comments and other ideas..... Al
>
>

4343. Re: 450ohm rollup J-Pole Question!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 15:51:03 UTC
From: Jeff <kb1hol@REMOVETHIS.arrl.net>
Message-ID: <kb1hol-B98E2D.11510324052003@news.mindspring.com>
Source record: 117245

In article <kb1hol-5F4D11.13573923052003@news.mindspring.com>,
Jeff <kb1hol@REMOVETHIS.arrl.net> wrote:

> Hello!
>
> I have constructed a roll up J-pole antenna from 450ohm ladder line for
> 2 meters. It works quite well with a 1.4-1.2 SWR across the bandwidth.

I want to thank everyone who responded to this question. I think it'll
handled 65W just fine under "normal" use. Just have to be sure not to
string it near a metal area in a wall or outside of the building so it
detunes. I think I've got my apartment antenna solution!

73s
Jeff
KB1HOL
--
--
J. Rogers KB1HOL
KB1HOLatARRLdotNET

4344. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:08:14 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <p2adnf_rf_7FBFKjXTWcqg@comcast.com>
Source record: 117246

Whoops, no wires. I looked at the 617 assembly instructions, and see there are no actual wires on the connectors. The T rods connect directly to the connectors. If you don't have it, the manual is at http://www.cushcraft.com/amateur/support/instruction-manuals.htm . I would make sure that stuff is all making good contact.

Tam/WB2TT

4345. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:10:24 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bao5h7drs1@newsg4.svr.pol.co.uk>
Source record: 117247

My Realistic DX 302 (22 years old), has a good Preselector and works well
for removing 'some' of that noise.

Melvyn (G7ONH)

Mark Keith <nm5k@wt.net> wrote in message
news:25eb70d7.0305221856.69aa7e6e@posting.google.com...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<baimnpreo1@hercules.btinternet.com>...
> > A tuner doesn't help. But a pre-selector does.
> >
> > Similar circuits. Different L and C's.
> >
> > SELECTIVITY, not conjugate matching, is the keyword.
> > ---
> > Reg.
>
> Dunno, my tuner plays "preselector" ok. Probably not as good as a real
> preselector, but it does cut the crud in my receiver. One case is
> using my IC-706 on 160m. I get some BC spurs across that band. The MW
> field strength here is very strong from a couple of locals. It seems
> the filter is borderline at stopping the MW signals. My tuner totally
> knocks that stuff out. A preselector is better, but a regular tuner
> can reduce out of band signals down to a level usually managable by
> the radio in many cases. MK

4346. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire ant + simple ATU.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:15:33 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bao5qt$8mi$1@newsg2.svr.pol.co.uk>
Source record: 117248

WELCOME BACK Eric.
I came back a year ago too after a few years off.
You'll find it's changed somewhat in certain area's...M3's etc :-)
Enjoy!

73....Melvyn (G7ONH)

G6XCD <look@this.con> wrote in message
news:1053697825.51642.0@iris.uk.clara.net...
>
> Following a long layoff from Amateur Radio, and being 'blessed' with
serious
> memory problems, I find I've forgotten far too much of the little I
managed
> to learn in order to take the exam.
>
> I decided it was time to stop 'feeling sorry' for myself and make a
comeback
> on 2M to begin with and (hopefully) 6M and 70cms later.
>
> Since rotatable beams and collinears are out of the question, until
> circumstances permit, I'm forced to use what I have available, which turns
> out to be a pair of folded driven elements from an old 10XY. I made
coaxial
> baluns to match these when I bought the beam back in 1984 and I recall
> seeing details in the VHF/HUF Handbook for stacking these vertically, but
I
> can't remember how to calculate the spacings or phasing to bring a pair
back
> to a 50 ohm feedpoint, though I do remember seeing some form of
> phasing/stacking harness being commercially available for side by side
> phasing. I never got one though, I made a spare boom and took the easy
way
> out by treating them as two seperate H&V yagis with independent feeds.
>
> I have the folded dipoles, reflectors and a few directors with assorted
> clamps and bolts. I can make another boom from square section TV antenna
> boom of the right shape and size, so it may not be impossible to make up
two
> 2 or 3 ele yagis. Since the mast must be erected below the roof apex
level
> and I can only erect one vertical tubular mast, could the dipoles be
stacked

> or used back to back on the same mast with some shack end switching or
plug
> swapping?? It occurs that more information on the folded dipole may be
> needed to be assured of the impedance. These are mounted with a bolt and
> saddle through the dipole centre to the boom, so the element is DC
grounded
> to the boom and to the mast. The coax balun is around 19 inches of RG58
and
> is coiled inside the connector box which is insulated from the boom and
> other fittings
>
> I don't have a clue about how to calculate the stand-off required to
prevent
> any interaction from the steel tube mast, so I would appreciate any help
to
> give me a quick start and a couple of ounces of gain. The rig is QRP all
> modes 5W output max
>
> Part 2 is a request for suggestions to make a simple long wire HF antenna
> for an SWL station. I have around 5 metres from the high anchor point at
> the north to a convenient feed point, and a further 30 or 35 metres of
free
> space to run down to another anchor point about 2 metres above ground at
the
> south end, so I guess I'm looking for some kind of sloping windom or none
> symetrical dipole or just an end fed long wire. The receiver covers
500KHz
> to 80MHz in all modes and my interest is the usual amateur bands with some
> commercial broadcast DX thrown in for fun. I'm getting some useable
results
> on 10 and 20M by using an old 11 Metre whip and a couple of short radials,
> but it's very inefficient. The Rx ideally wants 50ohms at the antenna and
> I'm limited to bonding an earth/ground to the central heating piping.
I've
> saved earlier posts which cover ladder and twin feed to coax matching, and
> I'm sure I can home brew a length of ladder or buy 300 ohm slotted twin,
> which should save some ink.
>
> Suggestions here would be much appreciated. Also welcome would be
> suggestions about a simple ATU for 'peaking' each band. I've seen some
> cheap Zetagi Brand AMU's advertised for 11 metres which could possibly
> benefit from a few extra turns on the coil and a banana plug or croc clip
> switch to extend the band coverage, unless there's something ready made
> which would be a better choice
>
> Sorry this is long winded. Perhaps some judicious use of the delete key
> could split replies into two or three segments?
>
> good DX & 73
>

> Eric, G6XCD
>
>

4347. Re: Attach Ground to fence post?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:22:36 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bao683gst1@news8.svr.pol.co.uk>
Source record: 117249

Radio is all about EXPERIMENTATION...try it - what have you got to lose?
Always remember that Earth is Earth, but some gardens are more
conductive than others, due to the minerals in the ground.
A good old Copper Rod will suffice or a Alluminum Barrel buried in the
ground - any good conductor will do. Copper is the best, as we can't
normally afford to used Gold or Silver :-))

73...Melvyn (G7ONH)

Wedgew <wedgew@rochester.rr.com> wrote in message
news:3ECE40FC.7060408@rochester.rr.com...
> Another question about grounding. I've read that 1 solution is to drive
> a copper rod into the ground and use a thick wire to connect it to
> the rig.
> Just outside my window is my backyard chain link fence with posts dug
> in evry 9-10 feet. It would be an easy matter to hook up a heavy gauge
> wire to the fence. ?worth while? Good idea? , bad Idea?
>

4348. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:25:44 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <067vcv8asfe2s3shc76rnbffbrno92aj5t@4ax.com>
Source record: 117251

On 23 May 2003 16:12:40 -0700, radio913@aol.com (Dr. Slick) wrote:

>Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<bn2scv8f6qe19m0bpo0fg5nfmi76v8hgse@4ax.com>...
>>
>> You might want to contact the FCC, and ask for The Department of VHF
>> Antenna Design. They have some great antenna gurus over there, and
>> they are more than happy to help out folks such as you.
>>
>> Bob
>> k5qwg
>>
>
> While i'm over there, i'll ask them when they expect to take over
>all those nice juicy Ham frequencies and sell them off to the highest
>bidder, just like they have with the broadcast band.
>
>Slick

I've been a ham since the late Fifties and our frequencies haven't
been sold yet. Pirates like you, tho', come and go. Mostly go...

Bob
k5qwg

4349. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:35:32 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305240835.68fb20ff@posting.google.com>
Source record: 117250

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:<vctq3f9162i81a@corp.supernews.com>...

> Art
> Is this a dipole with a parallel-resonant circuit in parallel?
> Resonant tank antennas ROCK.

Adam I do not know what the meaning of the word ROCK is or its intent.
I have similar problems with dissertations that finish up with the
the single sentence of ...."Not" that confuses me with all that
preceded it
is now possibly debunked. So I will not follow up on the Maxwell thing
which
may well bring forth several hundred posts and rapid gunfire.

> I want to understand the best way to maximize the 1:1 SWR bandwidth and
> minimize the tank circuit loss.
> The sad part is experimentation has been suppressed for two decades because
> of misunderstandings.
> The fault is not Walter Maxwell's, but everyone elses.
> Walt documented the loss-related SWR broadening.
> The interesting thing about bazookas is RESONANCE.
> Build an antenna dammit.
> Measure it.
> I managed to find the money for a 75S-1 ($350) in 1963 when I was in the
> 8th grade.
>
> Sad thing is yearling calves sell in 2003 for the same $$$ they did in
> 1957.
>
> Anyway........
> The Collins played well with my HT 37.
> I took the General at the FCC office in Dallas when I was 14 years old.
> I had a 50 foot tower with a big 2 meter collinear array.
>
> KMA
> H
> NQ5H
> So
>

> Art
> Is the antenna singing?

By singing I presume that you are asking if it works to advantage, the
answer is yes.

> Is it resonant?
Yes
> Does it sing on it's own with just a tickle?

Interesting comment.
If you go back into the archives of radio and look up the subject of Tickling with respect to spark gap transmissions there is plenty of relevance in the subject of antennas.
The importance of resonance in the old days was the back EMF imposed on a coupled circuit by the small amount of energy that reaches a resonant circuit which essentialy makes both circuits resonant (a resistive impedance.) In some cases you will see where the signal aperture (current versus frequency graph) can be reshaped to a wider double humped form when the coupling is not quite ideal but does effectively widen the frequency responce of the total circuitry such that it takes on the shape of a wider filter(band pass) which the circuitry can be made to represent.
You may have seen the thread on SWR previously which shows the overiding importance of removing reactance for driving purposes. Those who have been to University to get a degree (I havent) can well see the advantaqges of such an arrangement by drawing it up as a double mesh circuit (complex circuitry analysis) and introduce a third meshed circuit that will provide for a loss less feed system by making the whole having an impedance of ones choice which is normally that provided by the trensmitter (generator).
Already I have gone on to much but that is a reflection of my interest in antennas from a different stand point,sorry about that. Fortunately I have leaned not to be sucked in any more by not responding to snotty questions as I have done in past years.
Virtual loss!!! I haven't entered that thread because that would be overestimating my abilities and knoweledge . Actually I would use that term to describe the paper losses that I suffered for my I.R.A., Hi.
Art

> That is what makes the difference.
>
> LOSS SUCKS!!
>
> (Sang to the tune "Love Sucks")
> Unless it's Cecil's "virtual loss" ....
> Then it blows.........
>
>
>
>
>
>
>
>
> "Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
> news:85ed38d.0305231852.1e7b9975@posting.google.com...

> > Roy Lewallen <w7el@eznec.com> wrote in message
> news:<vct8ppqhs3k6e0@corp.supernews.com>...
> > > Before we go on to the next questions, where can I find the proof, or
> > > evidence, that the antenna you describe is the most efficient radiator?
> > > If it was posted on this newsgroup, I must have missed it. But I can
> > > find it easily on Google if you can give me a few key words from the
> > > posting or the date. If it's published elsewhere, please point me to
> > > where I can look it up. Is the evidence in the form of a theoretical
> > > derivation, a model, or measured results?
> > >
> > > Roy Lewallen, W7EL
> >
> > Roy this thread is looking for suggestions for an antenna. I chose to
> > suggesting go for a max radiation per unit length. What was the
> > antenna you had in mind to suggest? If you have an antenna in mind Dr
> > Slick would like to hear it. If it is a candidate for max efficiency
> > per unit length I also would like to see it for comparison purposes.
> > Actually I am not quite clear of the space restrictions that apply,
> > that really is the next question.
> > Art.
> >
> >
> >
> > >
> > > Art Unwin KB9MZ wrote:
> > > > Roy Lewallen <w7el@eznec.com> wrote in message
> news:<vcsmqr3ut5d04d@corp.supernews.com>...
> > > >
> > > >>Art Unwin KB9MZ wrote:
> > > >>
> > > >>>The most efficient radiator(db per unit length) is the straight
> > > >>>radiator which contains a loop at it center which is made resonant at
> > > >>>the required frequency by virtue of an added lumped reactance. Though
> > > >>>one feeds the dipole via a delta match beyond the loop/dipole joints
> > > >>>it is the LOOP oscillation that determines the radiation frequency as
> > > >>>a whole regardless of dipole length. . .
> > > >>
> > > >>Can you show that this is true with theory, modeling, or measurement?
> > > >>
> > > >>Roy Lewallen, W7EL
> > > >
> > > >
> > > > Ofcourse Roy. But more to the point, can you point to the most
> > > > efficient radiator per unit length ? Show me an antenna where you have
> > > > more area under the current curve per unit length that is in phase. It
> > > > has long been desired to have dipoles in collinear form and the low
> > > > efficiency ends replaced with something that provides more area under
> > > > the current curve.
> > > > What in your opinion is the most efficient antenna per unit length? It
> > > > sure would make for an instructive dialogue as opposed to a

> > > > destructive one since your antenna knoweledge knows no bounds. Perhaps
> > > > the area under the current curve which I point to is an invalid
> > > > measuring stick that destroys my statement at its onset.
> > > > Art

4350. Want to buy Hustler resonators

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 16:41:15 UTC
From: rckchp@comcast.net
Message-ID: <6dc33f40.0305240841.6d8e57a1@posting.google.com>
Source record: 117252

Greetings,

I'm looking for (2) Hustler mobile antenna resonators. I need one for 12m and one for 17m.....low power versions OK (preferable). Email direct your offers.

Rich K2CPE

4351. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 17:23:03 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <$BrlPtF3p6z+EAue@ifwtech.co.uk>
Source record: 117253
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>Dick Carroll; wrote:
>> I thought it was the RF that never left the rig because of mismatch
>>that fried your
>> finals, not the reflected.
>
>That concept is a shortcut that works. The effects of an actual mismatch
>and a virtual mismatch are the same. But a virtual mismatch is *caused*
>by reflected waves, i.e. the virtual impedance is the *effect* of
>superposing forward waves with reflected waves.
>
The impedance created by standing waves on a transmission line is not "virtual" at all. In the steady state, and at a single frequency, it behaves exactly like a complex impedance created by 'lumped' components, i.e. an ordinary resistor and an inductor/capacitor. Your measuring equipment and your transmitter cannot tell the difference.

If the transmitter sees the same load, it doesn't know or care how that impedance was created. A load impedance is a load impedance.

That allows us to slice this whole problem neatly in two (and if a razor won't cut it, use an axe :-)

On one side of the cut are the transmission line, antenna, ATU etc. On the other side is your transmitter loaded by whatever impedance that setup creates.

The question for the transmitter is how it behaves into that load impedance. On the transmitter side of the cut, you don't have to think about reflections at all... and it's *much* simpler if you don't.

Different transmitters will deliver quite different amounts of power into mismatched loads, depending on the circuit details and on any protective features. If you take a selection of different "100W" transmitters, that will all deliver 100W into their common design impedance of 50 ohms, and connect each in turn to the same incorrect load, you'll find that they deliver widely varying amounts of power... and with widely varying levels of DC input power, efficiency and voltage/current stress on the PA components. It's just impossible to generalize.

So there are actually two separate questions: "How do reflections create a load impedance at the transmitter end of your feedline?" and "How does your particular transmitter behave into that load impedance?"

The first question has well-known answers that are completely general because all transmission lines and networks obey the same rules. If you know the load impedance at the far end of the line, and the characteristics of the line itself, you can always predict the impedance at the transmitter end. If you add an ATU, then provided you know its internal characteristics, you can still predict the impedance at the transmitter end with complete confidence.

The second question - "How does your particular transmitter behave into a particular load impedance?" - does *not* have general answers. As I've explained above, the answers depend on the transmitter design.

The trouble starts when you try to combine those two totally separate questions into the single question of "What happens to reflected power inside my transmitter?" The problem is that the transmission-line part of the question does have general answers, but the transmitter part does not. Therefore the combined question doesn't *have* a general answer, and it's a waste of time to look for one.

Well, maybe there are a couple of general answers... One is "Don't ask that question!" The other is "Where's my axe?"

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4352. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 17:29:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcvb07q1g3rq25@corp.supernews.com>
Source record: 117254
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

My analysis is correct in the statement of forward and reverse power and the impedance seen by the transmitter. I'd be very greatly surprised if you have an amateur transmitter designed for a 75 ohm nominal load, but I'd also be surprised if it wouldn't work properly when presented with a 50 ohm load.

But if you'd like, you can repeat the analysis for 75 ohms and reach the same conclusion.

Roy Lewallen, W7EL

Airy R Bean wrote:
> I haven't used it for some time, but my original
> 2M TX, produced to a standard, normal design
> has a 75 Ohm Antenna connector.
>
> I don't think that your analysis below is correct.
>
> Roy Lewallen <w7el@eznec.com> wrote in message
> news:vcsm9k7u89s8c@corp.supernews.com...
>
>>Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
>>through one wavelength of 50 ohm transmission line. The forward power on
>>that line is 100 watts and the reverse power on that line is zero,
>>right? The transmitter sees 50 ohms and operates normally.
>
>
>
>

4353. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 17:45:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vcvbu1suerfk3c@corp.supernews.com>
Source record: 117255

Art Unwin KB9MZ wrote:
>
> Hi Dick, Yes I have learned from the past. you will note that Roy
> tried to set me up again on this subject since he likes the game of
> darts. . .

No, Roy simply wanted to know if you have any evidence to support your claims. This is the same question I would and do ask of anyone who makes claims that contradict what I think to be true.

You have provided no evidence to support your claims, so I don't believe them. If you want me (and other skeptical people) to believe what you claim, you have to provide supporting evidence. It's as simple as that. You said that you do have evidence ("Of course Roy"), but you indeed do, you've chosen for reasons only you understand not to present it. That's your choice.

I'll let you get back to searching for an audience who will believe your claims without the need for any evidence. There are always plenty of such folks to be found, so I'm sure you'll succeed.

Roy Lewallen, W7EL

4354. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 17:57:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFB26F.8010400@ieee.org>
Source record: 117256
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Ian White, G3SEK wrote:
> W5DXP wrote:
>> That concept is a shortcut that works. The effects of an actual mismatch
>> and a virtual mismatch are the same. But a virtual mismatch is *caused*
>> by reflected waves, i.e. the virtual impedance is the *effect* of
>> superposing forward waves with reflected waves.
>>
> The impedance created by standing waves on a transmission line is not
> "virtual" at all. In the steady state, and at a single frequency, it
> behaves exactly like a complex impedance created by 'lumped' components,
> i.e. an ordinary resistor and an inductor/capacitor. Your measuring
> equipment and your transmitter cannot tell the difference.

Sorry Ian, a virtual impedance does NOT dissipate any power. Therefore,
it does NOT "behave exactly like a complex impedance created by 'lumped'
components." A virtual impedance is just a V/I ratio.

> If the transmitter sees the same load, it doesn't know or care how that
> impedance was created. A load impedance is a load impedance.

Since a transmitter is not conscious, I cannot disagree with you.
A transmitter doesn't know or care about anything. Hopefully, we
hams are more intelligent and more conscious than a transmitter.
I care about the details of what is happening. You are trying to
talk me out of caring about those details.

> The question for the transmitter is how it behaves into that load
> impedance. On the transmitter side of the cut, you don't have to think
> about reflections at all... and it's *much* simpler if you don't.

It's always simpler if you stick your head in the sand. It is *much*
simpler if we don't think about relativity or quantum physics at all.

> So there are actually two separate questions: "How do reflections create
> a load impedance at the transmitter end of your feedline?" and "How does
> your particular transmitter behave into that load impedance?"

I've already said that a virtual impedance and a non-virtual impedance
result in the same effects, so what exactly is your point?

> Well, maybe there are a couple of general answers... One is "Don't ask
> that question!"

If the human race had never asked questions, there would be no transmission
lines to ask questions about.

I am amazed at how many technical people say to me, "Don't ask questions.
We don't want or need to know the answers. We already know everything and
there is nothing left to be discovered."
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4355. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:08:14 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305241008.6daebc69@posting.google.com>
Source record: 117257

'Doc <w5lz@cwis.net> wrote in message news:<3ECED00D.72B6D73E@cwis.net>...
> "Dr. Slick" said in part;
>
> > I wonder how righteous you Hams will be when the FCC takes all
> > your precious spectrum away and sells it to the highest bidder.
>
>
> I have a feeling that I won't care. It'll be long after
> I'm gone, and probably you too.

Maybe I'm wrong, but I doubt this, because the spectrum is
extremely packed, and they need more frequencies.

> Talking about it doesn't mean you will 'do' it, so it isn't
> illegal. 'Doing' it without proper licensing would be illegal
> but I seriously doubt if you will (with or without licensing).
> Making fun of people who do obey the law says more about you
> than about those who obey the law. If that's how you want to be
> thought of, more power to you, knock your self out. As long as
> you accept responsibility for your actions, I don't care what
> you
> do. I also won't have any sympathy if you're caught...
> 'Doc

Have you heard of civil disobedience? Someone called Rosa
Parks, a black woman who refused to obey the law by not giving up her
bus seat to a white person and moving to the back of the bus.

The FCC was original created to ensure that the airwaves were to
be used for the public good. How is outlawing under 100 watt
community radio stations serving the public interest (they did this in
1976)? This is akin to saying that a town cannot have it's own local
newpaper.

Now you can read in the papers how the FCC is deregulating the
industry, and increasing the number of stations a single company can
own. Everything on the band is technically owned by a handful of
corporations.
And you wonder why they all play the same music/programming?

Slick

4356. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:27:42 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305241027.232dc448@posting.google.com>
Source record: 117258
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Alexander Schewelew" <dl1pbd@gmx.net> wrote in message
news:<bao0ma$1ljsm$1@ID-34767.news.dfncis.de>...
> "Mark Keith" <nm5k@wt.net> schrieb im Newsbeitrag
> news:3ECF3A7D.7067@wt.net...
> > Alexander Schewelew wrote:
> > >
> > > > I quite agree, that's why I asked how to match a 73 ohm half wave
> dipole
> > > > to a 50 transmission line.
> > > It is very simple:
> > > Balun 1:1(not necessory) plus Stub Match: L1=1.87m and Ls=2.73 Short
> 50Ohm
> > > Vf=0.66
> > >
> > > 73!
> > >
> > > Alex
> >
> > It can even be simpler than that. Just offset the feedpoint a wee bit to
> > get a perfect match. IE: psuedo gamma match. No extra parts needed. VF
> > not an issue. Not zipped up. :/ MK
> >
> > http://web.wt.net/~nm5k
>
> It is not correct!!!
>
> The offset of the feedpoin get a heigher impedans and does not get a perfect
> match.
> You can exam it with MMANA, NEC, EZNEC and other programms.
>
> Alexander

Not correct? I've probably tuned about 847 dipoles in that manner. I
do it every time I tune a dipole. I also usually have a near perfect
match with any dipole I use, regardless of the feedpoint impedance. I
can tune to have the meter read flat as a board if I want it to. Have
you ever actually tried this method? Also, I have already examined
this with all the above programs. But I did this years before those
programs even existed, so it probably doesn't count. :/ MK

4357. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:36:58 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305241036.41d0eff5@posting.google.com>
Source record: 117259

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305231515.5546a999@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305230850.391d160e@posting.google.com>...
>
> > The most efficient radiator(db per unit length) is the straight
> > radiator which contains a loop at it center which is made resonant at
> > the required frequency by virtue of an added lumped reactance. Though
> > one feeds the dipole via a delta match beyond the loop/dipole joints
> > it is the LOOP oscillation that determines the radiation frequency as
> > a whole regardless of dipole length.
> > This ofcourse can be placed either vertically or horizontally.
> > In your case it would be imperitive to ensure that your signal was
> > extremely free of interference to existing transmissions, this can be
> > achieved with slight variation of the lumped reactances. I see that in
> > another thread that you have got involved with stubs. The loop acts in
> > a similar way except it not only provides added useful radiation but
> > allows for collinear construction to suit the available space. I see
> > no reason why such a design cannot be used to advantage in array form
> > as well as custom designed for signal bandwidth if so required.
> > All the above can be analysed via complex circuitry where the
> > radiators
> > are reduced to lumped electrical form.
> > Have fun
> > Art
>
> Art, My BS filter is starting to quiver again...:(But lucky for you,
> I'm too tired to worry about it today. Have a swell weekend. Good
> golf, good tennis, or whatever makes you happy. MK

My BS filter is shaking too. (surprised it works after being
exposed to Cecil's BS!)

My real question is: is the height of the stacked dipole really
more critical than the height of the super-J-pole?

I've been told that the advantages of the higher horizontal gain
(lower angle of radiation) are lost if the stacked dipole is not above
a certain number of 1/2 wavelengths (or HAAT). So it was then
suggested that the Super-J-pole would be a better candidate, if the
mast height was limited.

Real-world experiences and thoughts are much appreciated (BS is
usually quite obvious, and doesn't impress the more intelligent people
of the world).

Slick

4358. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:51:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFBF46.8000401@ieee.org>
Source record: 117260
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Mark Keith wrote:
> Not correct? I've probably tuned about 847 dipoles in that manner. I
> do it every time I tune a dipole. I also usually have a near perfect
> match with any dipole I use, regardless of the feedpoint impedance. I
> can tune to have the meter read flat as a board if I want it to. Have
> you ever actually tried this method? Also, I have already examined
> this with all the above programs. But I did this years before those
> programs even existed, so it probably doesn't count. :/ MK

I suspect that the problem is that you forgot to say that sometimes
a series reactance is required to achieve a perfect match.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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4359. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:56:05 UTC
From: richardharrison@webtv.net
Message-ID: <24140-3ECFC045-658@storefull-2314.public.lawson.webtv.net>
Source record: 117262

Airy R. Bean wrote:
"I don`t think that your analysis below is correct."

Roy Lewallen wrote: "The forward power on that line is 100 watts and the reverse power on that line is zero, right?"

Roy, as usual, is exactly correct. Nearly all transmission line texts begin with the idea of a uniform line of a surge impedance (Zo) which extends from the transmitter to infinity. Such a line produces no reflection from the load at its far end. The load-end is just too far away. The same texts usually next say that the transmission line may be curtailed at any point, and there terminated with a resistor of Zo value in place of the rest of the line which stretches to infinity. Performance of the transmitter will remain unaltered by replacement of infinite line with a resistance of Zo`s value. This is because the termination resistor matches the impedance (Zo) of the transmission line The impedance presented to the transmitter is unaltered by replacement of any extension of an endless transmission line by its characteristic (surge) resistance value. There is no impedance discontinuity produced by a matched resistance across the far end of a transmission line, so there is no reflection to alter the impedance at the driving end of the transmission line.

Best regards, Richard Harrison, KB5WZI

4360. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 18:56:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFC066.7060104@ieee.org>
Source record: 117261

Dr. Slick wrote:
> My BS filter is shaking too. (surprised it works after being
> exposed to Cecil's BS!)

BS indeed! I have asked you to list a single point of disagreement between you and me. Since you refuse to do that, I am forced to conclude that you have changed your mind and now agree with me.
--
73, Cecil http://www.qsl.net/w5dxp

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4361. Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:19:19 UTC
From: "R. Scott" <washingtonham@yahoo.com>
Message-ID: <95lvcv4j8l5omatsn7nimq104q611h0arn@4ax.com>
Source record: 117263

What seems to be the concensus used.

Can the CB be replaced with a good 2 meter.

Going to mount my 2 meter on a GL1500 Goldwing
Im buying

Scotty N7HJ

4362. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:20:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dggvcv4fb5dn2hhdkis5ujcnh5guv4tf8g@4ax.com>
Source record: 117264

On 23 May 2003 16:36:38 -0700, radio913@aol.com (Dr. Slick) wrote:
>
> For YOU, it was nothing new. Guess what? Other people read this
>forum other than you.
>
> If you think know everything about antennas and RF, then why do you
>even read this NG? And if you are complaining about "nothing
>remarkable", then ADD SOMETHING REMARKABLE YOURSELF.

You not only did not acknowledge my contribution, you snipped it out.
However, they will be treated below and we will see if you have the
courage to embrace your desire to see me "add something remarkable,"
much less offer something to the untold masses who lurk these threads.

> Ok, i must have hurt your feelings by trying to answer what i
>thought was a question from you. Do you believe me when i say that i
>was trying to further an interesting discussion? Swear to God, this
>was my only intention.

Hurt my feelings? If this is your interpretation, it must've been a
goal betrayed by your lamentations.

> If it will help make you feel mentally superior, I will state that
>i am NOT an expert on the subject of impedance matching using
>transmission lines.

And the reference you were offered spans much more than that by being
more general.

>> I offered that you could recoup something interesting to all: the
>> introduction of lossy variables by operators, and the equipment they
>> use; you decided to focus on jokes. Both were there, a function of my
>> being able to approach a topic stylistically from more than one
>> perspective. Your choice abandoned the technical, and it offered
>> nothing humorous. [Scatological commentary never is, unless you write
>> for South Park. I would suggest you refrain from submitting scripts
>> to them, though. Cartman is vastly more entertaining and may have
>> more experience with large radiating alien probes. :-)]
>>
>
> I suppose you think you are an iteresting writer as well, eh?

I can spell too. Truth is, I am more interesting, and I can deliver
with or without profanity - you simply have profanity and not very
interesting stuff at that (and I hope you don't think that it would be
called effective, do you?).

Even more, one of two Arts degrees that I have is for writing. You would do well to pay attention to references from someone with both experience and education.

> Richard, i don't have a beef with you, regardless of what you
>think.
>
>
>Slick

Of course not, but you offer your best shoulder forward to the community here to exhibit your chip. Couching your posts with the troll bait of interest in illegal transmitters; your explicit love sonnets to the FCC; and the CB language tips your hand in a style deliberately tailored for confrontation. Absolutely none of that added commentary sprinkled through your participation adds to the technical content.

Now for fuller citations for your consideration.

For the general story behind matching as it relates to control theory (and is just as applicable to your pairing of disparate lumped circuits or their transmission line cousins) consult:

"Network Analysis and Feedback Amplifier Design"
H. W. Bode
This contains the fundament of every amplifier requirement of stability, gain, bandwidth, phase, and linearity. It seems by your several postings that you offer expertise on their construction but you seem wholly dis-interested in the topic technically.

For the employement of vulgar, I expand my references to exhibit style that outstrips yours:

"The Tropic of Cancer"
Henry Miller
or from
"The Tropic of Capricorn"
which may suit your taste (it suits mine):

"'What is it Jock? Just what is it you are trying to say?'
And Jock, with a last effort, raises himself wearily and says:
"'Just cunt ... cunt ... cunt.'
"That was always the opening theme, and the ending theme, with MacGregor. It was his way of saying - futility. The leitmotif was disease, because between fucks, as it were, he worried his head off, or rather he worried the head off his cock."

From the world of poetry comes my reference of e. e. cummings (yes, that is his preferred spelling):

i sing of Olaf glad and big
whose warmest heart recoiled at war:

a conscientious object-or

his wellbelovid colonel(trig
westpointer most succinctly bred)
took erring Olaf soon in hand;
but--though an host of overjoyed
noncoms(first knocking on the head
him)do through icy waters roll
that helplessness which others stroke
with brushes recently employed
anent this muddy toiletbowl,
while kindred intellects evoke
allegiance per blunt instruments--
Olaf(being to all intents
a corpse and wanting any rag
upon what God unto him gave)
responds,without getting annoyed
"I will not kiss your fucking flag"

straightway the silver bird looked grave
(departing hurriedly to shave)

but--though all kinds of officers
(a yearning nation's blueeyed pride)
their passive prey did kick and curse
until for wear their clarion
voices and boots were much the worse,
and egged the firstclassprivates on
his rectum wickedly to tease
by means of skilfully applied
bayonets roasted hot with heat--
Olaf(upon what were once knees)
does almost ceaselessly repeat
"there is some shit I will not eat"

our president,being of which
assertions duly notified
threw the yellowsonofabitch
into a dungeon,where he died

Christ(of His mercy infinite)
i pray to see;and Olaf,too

preponderatingly because
unless statistics lie he was
more brave than me:more blond than you.

And there you have a very small slice of far more effective
application of the traditional Anglo-Saxon. Your frustrated
repetition, in contrast, is mud-ordinary.

Again, this is about choices and you would stand to gain by ALL these
references. And take the chip off.

73's
Richard Clark, KB7QHC

4363. Re: Scantenna vs Discone: Some Thoughts On

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:34:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l8lvcvoka23kvtmocc6g5ohtjdl5sjm7cq@4ax.com>
Source record: 117265

On Sat, 24 May 2003 09:32:12 -0400, "Robert11" <rgsrose@tiac.net>
wrote:

>Hello:
>
...
>First, the scantenna is sold as having a quoted range of 30 MHz - 1.3 Ghz.
>The box also has on it that it is apparently optimized for:
>
> 30 - 50
> 148 - 174
> 450 - 470
> 470 - 512
> 800 - 912
>
>I agree with all the posters who feel that the Scantenna is "generally"
>superior.
>
>However, it seems to me that it is superior Only in the mentioned ranges
>that they say
>it is optimized for.
>
>The R/S Discone outperforms, substantially, the Scantenna in the commercial
>aviation
>bands, e.g. 110 to approx 135.
>
...
>
>Has anyone else noticed that the Scantenna seems poorer relative to a
>Discone on the commercial
>aviation bands, both for tower and airborne ?
>
>Would be most interested in anyone's comments.
>
>Bob
>

Hi Bob,

The clever marketeers have fed you the right bait. The frequency
ranges you offer are cited for match only. This is more useful
knowledge for transmission, OK for reception, but hides the lie.

These antennas (or at least the discone) are constructed with the
lowest most frequency in mind - and this creates a problem. As you

climb in frequency beyond a simple doubling of frequency, then the antenna becomes very large with respect to wavelength and physical size. The consequence of this is that at these higher frequencies these antennas' best reception angle is straight up. In other words, deaf at angles to the horizon where the traffic is (provided of course that is where your interest is).

Simply parallel antennas that exhibit simple quarterwave relationships in the bands you frequent. This can be done with stiff wire and a SO-239 bulkhead connector where the four holes are used to mount the radials. No magic involved, and you don't even have to be accurate.

73's
Richard Clark, KB7QHC

4364. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:40:27 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305241240.236b9cb6@posting.google.com>
Source record: 117266

"Paul Rosete" <prosete@worldnet.att.net> wrote in message
news:<j1Jza.170324$ja4.8581375@bgtnsc05-news.ops.worldnet.att.net>...
> NBC Ch. 15
> ABC Ch. 41
>
> Both the NBC and ABC antennas are located on the same tower at a height of
> 453m and running at 500kw power. It's about a 12 mile straight line distance
> from my house to the local antenna farm.

It does sound like the problem is on their end, not yours. Maybe the
NBC antenna is directional to a degree. If both are at the same site,
and at the same appx height, and run the same power, I'd think either
the NBC antenna is directional to another direction to some degree, or
they have problems with their setup and have abnormal losses
somewhere. The only thing you can really do is use a higher gain
antenna with a sharper pattern, and hope for the best. 12 miles is not
too far for the average UHF signal. An indoor antenna should pick that
up ok, unless they have a puny ERP overall. Many UHF stations are not
exactly powerhouses. MK

4365. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:43:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oamvcv4kabtjpkgl63sl0vbeq6tnq49ja5@4ax.com>
Source record: 117267

On Sat, 24 May 2003 13:56:38 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>BS indeed! I have asked you to list a single point of disagreement
>between you and me. Since you refuse to do that, I am forced to
>conclude that you have changed your mind and now agree with me.
there you go again!

4366. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 20:48:12 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305241248.528af68b@posting.google.com>
Source record: 117268

Dave Shrader <david.shrader@attbi.com> wrote in message
news:<3ECF5E4C.2020404@attbi.com>...
> Roy, I don't think they understood your original question.
>
> The most efficient radiator is one that is 100% efficient. That is, it
> radiates all the power with zero losses [Hmmm ...].
>
> Deacon Dave, W1MCE

I doubt Art's going to be able to beat the efficiency of even a simple
dipole fed with 213 coax on the HF bands. KISS prevails here. Also
Occums razorblade.
No loop needed. Losses in the 2-3%??? range for an average HF band.
You will notice that amount of loss at o"clock...Not zipped up. MK

4367. Re: Roof Mounted Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:02:08 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecfe0bd_4@news1.prserv.net>
Source record: 117119

Phil:

The leaks can be prevented if you think like a drop of water. Divert and seal. For an example of this, take a look at an installed plumbing vent seal, as well as one in the store. Understand how it works. Then you are set.

The real problem is making sure you have the structural integrity to support the forces which will be applied to the roof, both vertical up and down, and horizontal shear. If you have a 1/2" decking on top of 2x4 trusses, that won't support much without additional help. Even stick built roofs with shiplap or tongue and groove siding on 2X6 or 2X8 rafters is marginal for any full size tribander. Get mechanical guidance.

--
Crazy George
Remove NO and SPAM from return address
"K4NE" <phil.harder@adelphia.net> wrote in message
news:jDeza.113$Ci.220951@news2.news.adelphia.net...
> After a break from amateur radio to start a family, I am poised to jump
back
> into hamming. My station is ready to go except for antennas.
>
> My desire is to put up some sort of yagi for the high bands and wire
> antennas for the low. Here's the problem: I live on a small to medium
> sized city plot that is boardered by tall trees and power lines on three
of
> four sides. (The free side faces a city street.) The only clear space
for
> a tower/antenna is directly above the house. My thought was to install an
> eight foot tripod tower on the roof to support the yagi and wire antennas,
> but I hate the thought of mounting anything on a roof and having to deal
> with the possibility of leaks.
>
> Has anyone had experience with tripod towers? Are they worth the effort?
> Is there anyone that would talk me out of it?
>
> TNX
>
> Phil, K4NE
>
>

4368. Re: Need help with yagi dtv signal problem

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:10:49 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ecfe0be_4@news1.prserv.net>
Source record: 117120

"Paul Rosete" <prosete@worldnet.att.net> wrote in message
news:%Koza.168957$ja4.8470138@bgtnsc05-news.ops.worldnet.att.net...
> [If this is the wrong nsg for this question, please let me know where to
> post it]
>
> I installed a yagi antenna on my roof to pick up OTA local dtv signals

OK, Paul, right here is the problem. Either one of nomenclature or understanding. A yagi has a bandwidth on a good day of 6 or 7%. On UHF, that's maybe 2 adjacent channels, no more. You need one with a wiiiide bandwidth, which could be even an old bow tie, or something of the log periodic family. A "Yagi" ain't gonna cut it. Find someone who speaks UHF DTV Antenna, and find out what is being used in your area. All the changes you made with no improvement point to either: Wrong antenna, or Wrong receiver.
--
Crazy George
Remove NO and SPAM from return address

4369. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:11:13 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <wmaWWJEx$9z+EAcY@ifwtech.co.uk>
Source record: 117121
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>Ian White, G3SEK wrote:
>> W5DXP wrote:
>>> That concept is a shortcut that works. The effects of an actual mismatch
>>> and a virtual mismatch are the same. But a virtual mismatch is *caused*
>>> by reflected waves, i.e. the virtual impedance is the *effect* of
>>> superposing forward waves with reflected waves.
>>>
>> The impedance created by standing waves on a transmission line is not
>>"virtual" at all. In the steady state, and at a single frequency, it
>>behaves exactly like a complex impedance created by 'lumped'
>>components, i.e. an ordinary resistor and an inductor/capacitor. Your
>>measuring equipment and your transmitter cannot tell the difference.
>
>Sorry Ian, a virtual impedance does NOT dissipate any power. Therefore,
>it does NOT "behave exactly like a complex impedance created by 'lumped'
>components." A virtual impedance is just a V/I ratio.
>

You're confusing two different things.

On the one hand, I agree that a V/I ratio of itself doesn't necessarily involve power dissipation - but not all impedances are simply V/I ratios. If a load impedance presented to a transmitter contains a resistive component, it *must* dissipate power somewhere when the transmitter is turned on.

The only difference between a lumped-component load and one the same impedance created using a transmission line is that the power is delivered to the other end of the line and dissipated there instead (and some in the line itself).

>> If the transmitter sees the same load, it doesn't know or care how
>>that impedance was created. A load impedance is a load impedance.
>
>Since a transmitter is not conscious, I cannot disagree with you.
>A transmitter doesn't know or care about anything. Hopefully, we
>hams are more intelligent and more conscious than a transmitter.

Very well, if you dislike anthropomorphic metaphor, let me say instead that no (single-frequency, steady-state) measurement you can make on the transmitter will distinguish how the load impedance was created.

>I care about the details of what is happening. You are trying to
>talk me out of caring about those details.

>
No, I'm trying to talk you into splitting the problem into two separate,
manageable parts... but evidently without much success.

>> The question for the transmitter is how it behaves into that load
>>impedance. On the transmitter side of the cut, you don't have to think
>>about reflections at all... and it's *much* simpler if you don't.
>
>It's always simpler if you stick your head in the sand. It is *much*
>simpler if we don't think about relativity or quantum physics at all.
>
Within the bounds of this particular discussion, that is pragmatically
correct because neither will affect the results.

>> So there are actually two separate questions: "How do reflections
>>create a load impedance at the transmitter end of your feedline?" and
>>"How does your particular transmitter behave into that load impedance?"
>
>I've already said that a virtual impedance and a non-virtual impedance
>result in the same effects, so what exactly is your point?
>
>> Well, maybe there are a couple of general answers... One is "Don't
>>ask that question!"
>
>If the human race had never asked questions, there would be no transmission
>lines to ask questions about.
>
You have an inalienable right to ask any questions you like. But some
questions are based on false premises and therefore don't have *any*
valid answer... except perhaps to point out that asking them is
therefore a waste of time.

>I am amazed at how many technical people say to me, "Don't ask questions.
>We don't want or need to know the answers. We already know everything and
>there is nothing left to be discovered."

That is emphatically NOT what I'm saying. I do hope that most other
people can see that.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4370. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:22:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFE2AB.2030109@ieee.org>
Source record: 117122

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>BS indeed! I have asked you to list a single point of disagreement
>>between you and me. Since you refuse to do that, I am forced to
>>conclude that you have changed your mind and now agree with me.
>
> there you go again!

And there you go again! :-) Heck, I'll make the same challenge to
you. Please list a single point of technical disagreement between
you and me.
--
73, Cecil http://www.qsl.net/w5dxp

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4371. Re: Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:30:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECFE46C.2FC3E982@cwis.net>
Source record: 117123

"R. Scott",
That sort of depends on what you want to use it
for, doesn't it? If you are asking if it can be
done, sure, the same way you would any mobile. If
you mean can it replace the 'CB' for getting road
reports, etc. Then no, it can't.
'Doc

4372. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:32:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFE506.5060303@ieee.org>
Source record: 117124
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Ian White, G3SEK wrote:
> On the one hand, I agree that a V/I ratio of itself doesn't necessarily
> involve power dissipation -

Well then, your statement is wrong, by your own admission. A virtual
resistance does NOT "behave exactly like" a physical resistor.

> The only difference between a lumped-component load and one the same
> impedance created using a transmission line is that the power is
> delivered to the other end of the line and dissipated there instead ...

Ian, that proves they are not "exactly" alike which is my entire point.
The question then becomes: "What, exactly, is the difference?"

> Very well, if you dislike anthropomorphic metaphor, let me say instead
> that no (single-frequency, steady-state) measurement you can make on the
> transmitter will distinguish how the load impedance was created.

Of course not. That's why we make every measurement possible at the load -
to find out exactly what is happening in *reality*. Why do you advocate
putting on blinders when we are trying to discover something? Am I getting
too close to one of ham radio's sacred cows?

> You have an inalienable right to ask any questions you like. But some
> questions are based on false premises and therefore don't have *any*
> valid answer...

Well, thank God that my question, "What is happening in reality?", is
NOT one of those questions based on a "false premise" - unless you
believe that the concept of reality is a false premise.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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4373. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:35:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <56pvcvg8ln725os5fv3621ameqcvvf4dg9@4ax.com>
Source record: 117125

On Sat, 24 May 2003 16:22:51 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>And there you go again! :-) Heck, I'll make the same challenge to
>you. Please list a single point of technical disagreement between
>you and me.
Forgotten your apologies? Or do you really need an enumeration of
your transgressions visited in the past?

Repetition is your hallmark, so I avoid such practice here. Consult
the archives for your research.

73's
Richard Clark, KB7QHC

4374. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:41:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ECFE710.4090908@ieee.org>
Source record: 117126

Richard Clark wrote:
> Repetition is your hallmark, so I avoid such practice here. Consult
> the archives for your research.

To the best of my knowledge, you have never disagreed with anything technical that I have ever said. Since no evidence exists to the contrary, I suspect that you are in complete technical agreement with me. Again, I ask you to list just one technical point on which you and I disagree. Your diversionary avoidance of my request speaks volumes.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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4375. Re: Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:48:50 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <63qvcvcl240svr6aon6leq5ofch4o4ndgl@4ax.com>
Source record: 117127

Go here http://www.marc-hq.org/ for everything you ever wanted to know
about amateur radio and motorcycles, specifically the Gold Wing.
Looks like they have a new website. Look in the technical section.

Dick - W6CCD

On Sat, 24 May 2003 20:19:19 GMT, R. Scott <washingtonham@yahoo.com>
wrote:

>What seems to be the concensus used.
>
>Can the CB be replaced with a good 2 meter.
>
>Going to mount my 2 meter on a GL1500 Goldwing
>Im buying
>
>Scotty N7HJ

4376. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 21:52:57 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECFE9B9.D8A3F16B@cwis.net>
Source record: 117128

"Dr. Slick" wrote in part:

> Have you heard of civil disobedience?

Yes I have. In most cases it's just a play on words to
justify breaking the rules of society.

> The FCC was original created to ensure that the airwaves were to
> be used for the public good. How is outlawing under 100 watt
> community radio stations serving the public interest (they did this in
> 1976)? This is akin to saying that a town cannot have it's own local
> newpaper.

Big difference between a newspaper and a radio station. One
uses a resource (paper) not common to all users like radio the
spectrum is. If you will do some checking, 'community' radio
stations are still legal, still obtainable.

>
> Now you can read in the papers how the FCC is deregulating the
> industry, and increasing the number of stations a single company can
> own. Everything on the band is technically owned by a handful of
> corporations.
> And you wonder why they all play the same music/programming?

Nope, I don't wonder why 'they' all play the same stuff.
It's
called 'supply and demand'. People want to hear a particular
kind
of music and 'they' supply it for them. Simple. If you don't
like
that particular kind of music, complain. Money talks...
'Doc

4377. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 22:01:34 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ECFEBBE.BCB4C63@cwis.net>
Source record: 117129

Art,
It's a very simple question. No tricks. No
'hidden' meanings. And so far, no answer...
'Doc

4378. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 22:03:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <80rvcvg5d60t452gturnmsgt7uf7ie03n3@4ax.com>
Source record: 117130

On Sat, 24 May 2003 16:41:36 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Repetition is your hallmark, so I avoid such practice here. Consult
>> the archives for your research.
>
>To the best of my knowledge, you have never disagreed with anything
>technical that I have ever said. Since no evidence exists to the
>contrary, I suspect that you are in complete technical agreement
>with me. Again, I ask you to list just one technical point on
>which you and I disagree. Your diversionary avoidance of my
>request speaks volumes.
your poorer research skills fills those volumes

4379. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 22:16:26 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305241416.7a2d5002@posting.google.com>
Source record: 117131

Dave Shrader <david.shrader@attbi.com> wrote in message
news:<3ECF5E4C.2020404@attbi.com>...
> Roy, I don't think they understood your original question.
>
> The most efficient radiator is one that is 100% efficient. That is, it
> radiates all the power with zero losses [Hmmm ...].
>
> Deacon Dave, W1MCE

But Dave, Roy has done this aproach many times before but now he has
to do more than 'pretty please' before I will bite at that apple.
Frankly, if he could prove that he was a sincere American he could do
much better service for all by taking C Powells place at the U.N. or
speaking for the American/Israeli
consortium to the gullible Palestinians or for that matter show that
one doesn't have to be arrogant to 'old' Europe. Roy had no interest
in supplying a suggestion to Dr Slick, only in throwing darts.As for
your efficiency comment
efficiency means many things, I alluded to max radiation per unit
length, also refered to areas under the current curve. You went off on
a different tack by saying "to radiate all power with zero losses"
which is not the same thing.
In this thread the request was for a antenna in what apeared to a
restricted space . I see no reason to submit to darts because somebody
suffers from a NIH
syndrome or follows past experiences with new designs where there is
no longer
a necessity to do any work as ' all is known' to the Great Ones.
By responding on this thread of Dr Slick with a particular suggestion
I see no requisite that I must jump certain hurdles before being
allowed to supply a suggestion in this group. I prefer to allow other
readers to make their own judgements on the veracity of my comments
rather than bending my knee
before hand to the cabal or group of 'great ones'. After all this
hobby is meant to be enjoyable even tho some like to place 'carriers'
to annoy.
Have a great day.
Art

> + + +
>
> Roy Lewallen wrote:
> > So there is no evidence, after all. Thanks, you've answered my original
> > question.
> >

> > Roy Lewallen, W7EL
> >
> > Art Unwin KB9MZ wrote:
> >
> >> Roy Lewallen <w7el@eznec.com> wrote in message
> >> news:<vct8ppqhs3k6e0@corp.supernews.com>...
> >>
> >>> Before we go on to the next questions, where can I find the proof, or
> >>> evidence, that the antenna you describe is the most efficient
> >>> radiator?
> [SNIP]

4380. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 22:16:32 UTC
From: jgboyles@aol.com
Message-ID: <20030524181632.09847.00000212@mb-m26.aol.com>
Source record: 117132

>> The only difference between a lumped-component load and one the same
>> impedance created using a transmission line is that the power is
>> delivered to the other end of the line and dissipated there instead ..

>Ian, that proves they are not "exactly" alike which is my entire point.
>The question then becomes: "What, exactly, is the difference?"
Does any "glowing of the Anodes" or folding back of the solid state finals occurr depending on whether the xmtr is terminated with a mismatched antenna system, or a lumped constant RC or RL circuit? The lumped constant circuit is connected directly to the xmtr and there is no transmission line or antenna. Foldback or red hot anodes are my concern. Which load is worse, seeing as how they both produce the same r+-jx at the transmitter.

73 Gary N4AST

4381. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-24 22:44:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <90tvcvop16k64pmacpq467obsm8v285ind@4ax.com>
Source record: 117133

On 24 May 2003 15:16:26 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
...
>Frankly, if he could prove that he was a sincere American
...
>After all this
>hobby is meant to be enjoyable even tho some like to place 'carriers'
>to annoy. Have a great day.
>Art

My memory fails me in regard to your service to America. Have you
ever been a member of an Honor guard?

Memorial day approaches and your response should be measured by it.

73's
Richard Clark, KB7QHC, Volunteer and Veteran

4382. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 00:47:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED012A4.7040803@ieee.org>
Source record: 117134

JGBOYLES wrote:
> Does any "glowing of the Anodes" or folding back of the solid state finals
> occur depending on whether the xmtr is terminated with a mismatched antenna
> system, or a lumped constant RC or RL circuit?

No, those effects are the same but irrelevant to the discussion. The argument
is whether reflected waves hurt transmitters or not. Reflected waves *cause*
the (Vfor+Vref)/(Ifor+Iref) virtual impedances. So the answer is, yes,
reflected waves can hurt transmitters by *causing* an impedance mismatch.

Impedance mismatches can hurt transmitters.

Impedance mismatches can be caused by reflected waves.

Therefore, reflected waves can hurt transmitters.

Why is that simple logic so hard to comprehend?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4383. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 00:58:57 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305241658.403ef610@posting.google.com>
Source record: 117135

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<90tvcvop16k64pmacpq467obsm8v285ind@4ax.com>...
> On 24 May 2003 15:16:26 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
> ...
> >Frankly, if he could prove that he was a sincere American
> ...
> >After all this
> >hobby is meant to be enjoyable even tho some like to place 'carriers'
> >to annoy. Have a great day.
> >Art
>
> My memory fails me in regard to your service to America. Have you
> ever been a member of an Honor guard?
>
> Memorial day approaches and your response should be measured by it.
>
> 73's
> Richard Clark, KB7QHC, Volunteer and Veteran

I served in the military in the U.K. I registered in the draft
(USA)during the Vietnam war. The draft card given was such that for
some reason, possibly because of prior service or old age I was not
called to serve again. Don't bother me any more with your silly
questions since I will not respond.
Art

4384. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 01:42:38 UTC
From: richardharrison@webtv.net
Message-ID: <5450-3ED01F8E-74@storefull-2312.public.lawson.webtv.net>
Source record: 117137

Doc wrote:
"Is there "power" developed in a reactance?"

Develop means to cause growth or enhancement.

Reactance can be used to accumulate electricity for release all at once. For example, an inductor may store energy in its magnetic field. A neon lamp which needs more than 50 volts to fire may be connected across an inductor. When a 1.5-volt cell is connected to the combo, nothing happens to the neon until the cell is disconnected. At that instant the neon fires. Work can be done to separate the plates of a charged capacitor. E = q / C. Reducing C makes E rise because the q is constant.

Is power developed in the reactance (inductor)?
Or, is power developed in the capacitor? work was done to separate the plates which attract each other.

Power is in-phase voltage and current. In a pure reactance, current leads or lags the voltage by 90-degrees. No power is consumed in a pure reactance. The cosine of 90-degrees is zero.

There is only apparent power (not real power) in a pure reactance. But, there are no pure reactances, and loss is not in the reactance. It is in the associated resistance of the type found in a pure resistor. That is, the type that eats power.

Best regards, Richard Harrison, KB5WZI

4385. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 01:54:37 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305241754.2a7a496e@posting.google.com>
Source record: 117136

"AL KA5JGV" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:<rTVya.14362$ui.618034@twister.austin.rr.com>...
> In the previous post, Does a Tuner Help on Receive?, the majority seem to be
> in agreement that a tuner pumps up the noise equally with the signal. But
> what if one wanted to improve the signal to noise ratio. What does one do to
> improve it? How do you increase signal strength but not the noise? Or, how
> do I suppress noise and leave the signal strength as is? Are we just stuck
> with what we have?
>
> Al
> KA5JGV

Al,
Think about things a bit more. Your antenna is to provide a
particular signal
and NOT noise or signals thru out the band! Of course you have a
bandpass filter
in your receiver, but if you are plagued with noise then the filter is
not working as well as if it was right at the front end of your
system. Ideally the antenna itself should be designed to do the
desired filtering at the onset which means an antenna of high 'Q',
possibly a loop antenna which also can provide for variable frequency
use. The next best thing is to have your antenna both rotational and
directive which allows for rejection of noise on the same frequency
which comes from other than the desired direction. After the antenna
has received the signal, whether it includes noise or not, the 'sound
to noise'
ratio CANNOT be reduced unless later filtering is so selective it can
distinguish 'noise' from "voice' patterns. Talk of adding tuners and
the like CANNOT have a positive affect on the S/N ratio but there have
been some suggestions in the hobby that digitally modified signals can
help, maybe sombody will provide information regarding digitalised
signals for you.
One last thing I would like to add is that 'noise' can enter the
signal path by other ways other than your antenna, so ensure that
power used within the rig is free from transformer hum and other
extraneous noise together with receipt of signals that are beyond the
handling level of components within the radio such that distortions
and additional internal noise generation occurs.
Good luck
Art

4386. Re: INTEFERENCE FROM TV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 02:03:07 UTC
From: Brian Oakley <brianoakley@ispwest.com>
Message-ID: <bap86u0196b@enews3.newsguy.com>
Source record: 117138

or you could just unplug the tv :)

73

--
Brian Oakley

"Jesus invited us not to a picnic, but to a pilgrimage; not to a frolic, but
to a fight. He offered us, not an excursion, but an execution. Our Savior
said that we would have to be ready to die to self, sin, and the
orld." -Billy Graham

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:99adnTiNv9bt-l-jXTWcqA@comcast.com...
> The interference is quite possibly coming out the power cord of the TV. I
> would borrow the split ferrite that is on the VGA cable of your PC, and
put
> it on the TV line cord temporarily; as close as possible to the TV. If
that
> helps, but doesn't cure it, try an AC line filter, with the TV line cord
> looped up so that the filter is close to the TV. If you don't have a
filter
> on your VGA cable, it is probably in the box the TV came in!
>
> Tam/WB2TT
> "LMHODNETT" <lmhodnett@aol.com> wrote in message
> news:20030513192002.13815.00000381@mb-m28.aol.com...
> > When listening to HF our tv causes severe shrill noises on many
> frequencies.
> > It becomes virtually impossbile to copy and station other than an
> extremely
> > strong one. I was told to try a high pass filter on the tv. This did
not
> > work. I then put it on my receiver. It did work, but it blocked all
> ability
> > to receive anything. Could someone suggest what I might do to correct
> this
> > problem, besides buy a new tv?? Please correspond to my e-mail address.
> >
> > Thnaks,
> >
> > Larry
>
>

4387. Re: Roof Mounted Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 02:57:23 UTC
From: Headhamster <headhamster@earthlink.net>
Message-ID: <niWza.15587$Io.1335289@newsread2.prod.itd.earthlink.net>
Source record: 117139

I had a 10 ft section of Rohn 25 mounted on my roof with a small tribander and a satellite array on it for over 10 years with no problems. I used the roof mount base section (which I still have if you're interested). I used Karnak roof sealer in a caulk tube to seal over the feet. I then placed a top section of Rohn into the base and guyed it out to three anchors which were also sealed. I used phylistran Kevlar guys to avoid any problem with the guys detuning the antennas. The whole thing worked great and cost a lot less than those roof towers you'll see advertised.
My brother used the same idea at his QTH but he mounted 30 ft on his roof guyed out to the house. He only had a pair of VHF beams on his.
Both setups stood up well through some very large storms in our area.

Rich

4388. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 04:12:01 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305242012.6ad346f@posting.google.com>
Source record: 117140

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305241248.528af68b@posting.google.com>...
> Dave Shrader <david.shrader@attbi.com> wrote in message
news:<3ECF5E4C.2020404@attbi.com>...
> > Roy, I don't think they understood your original question.
> >
> > The most efficient radiator is one that is 100% efficient. That is, it
> > radiates all the power with zero losses [Hmmm ...].
> >
> > Deacon Dave, W1MCE
>
> I doubt Art's going to be able to beat the efficiency of even a simple
> dipole fed with 213 coax on the HF bands. KISS prevails here. Also
> Occums razorblade.
> No loop needed. Losses in the 2-3%??? range for an average HF band.
> You will notice that amount of loss at o"clock...Not zipped up. MK

Mark, you have to remember that a 1/2 wave dipole is a radiator chosen
as a 'datum' to which other radiators can be compared to.
If one refers to 'efficiency' one must be carefull as to what
parameters are used. In the case of efficiency of 'radiation per unit
length' just adding a capacity hat to the ends of a dipole increases
its efficiency per unit length. The ultimate 'efficiency per unit
length' is when current is a maximum thru out its length which
basically means 'point' radiation which some have apothasized as being
possible.
With respect to your comment regarding 2-3% losses, this is sometimes
very hard to achieve at the 160 meter level as well as when you get in
the S band.
So when refering to 'efficiency' values one must be carefull to not
mixing apples with oranges when taking a position, whether for or
against in any discussion. Especially in this forum where an
oportunity to throw a dart or missile is never allowed to pass by
some of its judgemental members.

Regards
Art
on the subject.

4389. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 04:33:50 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305242033.2c59e821@posting.google.com>
Source record: 117141

'Doc <w5lz@cwis.net> wrote in message news:<3ECFE9B9.D8A3F16B@cwis.net>...
> "Dr. Slick" wrote in part:
>
> > Have you heard of civil disobedience?
>
> Yes I have. In most cases it's just a play on words to
> justify breaking the rules of society.
>

Not in Rosa Parks case, and not in Berkeley Liberation Radio or
Free Radio San Francisco's case. Enough political discussion and
community involvement to avoid the "vanity station" label.

>
> > The FCC was original created to ensure that the airwaves were to
> > be used for the public good. How is outlawing under 100 watt
> > community radio stations serving the public interest (they did this in
> > 1976)? This is akin to saying that a town cannot have it's own local
> > newpaper.
>
> Big difference between a newspaper and a radio station. One
> uses a resource (paper) not common to all users like radio the
> spectrum is. If you will do some checking, 'community' radio
> stations are still legal, still obtainable.
>

Not really, unless you have BIG BUCKS. Even then, the broadcast
band is so packed in most urban areas, you could only get a station
out in Nevada or Utah.

The FCC has tried to permit some under-100 watt stations, in an
effort to save face, but they have only given out a few licenses with
their ridiculous 2nd adjacent channel spacing.

You need to do some research, this is my area. Don't copy Cecil
and pretend that you know everything!

And a newspaper and a radio station are both simply media sources,
and can be compared.

> >
> > Now you can read in the papers how the FCC is deregulating the
> > industry, and increasing the number of stations a single company can
> > own. Everything on the band is technically owned by a handful of
> > corporations.
> > And you wonder why they all play the same music/programming?

>
> Nope, I don't wonder why 'they' all play the same stuff.
> It's
> called 'supply and demand'. People want to hear a particular
> kind
> of music and 'they' supply it for them. Simple. If you don't
> like
> that particular kind of music, complain. Money talks...
> 'Doc

Not completely true, people eat what is fed to them, to a certain degree, and pirate radio has formats like playing entire albums, that you will NEVER see on licensed radio.

When is the last time you have called a radio station and they put you one the air without screening you? some college stations still do this, but it is never heard of in the corporate radio world, they are too busy beaming a syndicated show by satellite. How local is THAT?

Money talks, yes. But only to a certain degree.

But oh, yeah...can't wait to keep my bed warm with that 300 watts into the dummyload immersed in mineral oil (Cantenna).

Slick

4390. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 04:36:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd0i2qtb5s8rbf@corp.supernews.com>
Source record: 117142

There is absolutely no difference to the transmitter between a lumped load and any combination of transmission line and load impedance that produce the same impedance at the transmitter. In fact, if you put the lumped components into a box and a transmission line/load presenting the same impedance into another box, there's no test you can devise (restricting yourself to steady state and a single frequency) which can distinguish which box contains which. And there's no way the transmitter can tell the difference or can react differently to the two loads.

Roy Lewallen, W7EL

JGBOYLES wrote:
>>>The only difference between a lumped-component load and one the same
>>>impedance created using a transmission line is that the power is
>>>delivered to the other end of the line and dissipated there instead ..
>
>
>>Ian, that proves they are not "exactly" alike which is my entire point.
>>The question then becomes: "What, exactly, is the difference?"
>
> Does any "glowing of the Anodes" or folding back of the solid state finals
> occurr depending on whether the xmtr is terminated with a mismatched antenna
> system, or a lumped constant RC or RL circuit? The lumped constant circuit is
> connected directly to the xmtr and there is no transmission line or antenna.
> Foldback or red hot anodes are my concern. Which load is worse, seeing as
> how they both produce the same r+-jx at the transmitter.
>
> 73 Gary N4AST

4391. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 04:39:53 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305242039.378b1a9c@posting.google.com>
Source record: 117143

Bob Miller <bxmiller@texas.netNOSPAM> wrote in message
news:<067vcv8asfe2s3shc76rnbffbrno92aj5t@4ax.com>...
> >>
> >
> > While i'm over there, i'll ask them when they expect to take over
> >all those nice juicy Ham frequencies and sell them off to the highest
> >bidder, just like they have with the broadcast band.
> >
> >Slick
>
> I've been a ham since the late Fifties and our frequencies haven't
> been sold yet. Pirates like you, tho', come and go. Mostly go...
>
> Bob
> k5qwg

Just wait and see, Bob...they are running out of spectrum at 1
Ghz and higher.

Of course we come and go...Have you heard of guerilla warfare? :)

BTW, the Unites States government also does pirate radio
too...broadcasting into communist countries with pro-capitalism
propaganda, or anti-Saddam rhetoric, whatever the need.

Why let Uncle Sam have all the fun?

:^)

Slick

4392. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 05:46:18 UTC
From: John DeGood <nu3e@arrl.net>
Message-ID: <3ED058AA.9030803@arrl.net>
Source record: 117144

> Looking for a HF antenna to put in my attic.

I use a trap dipole in my attic. Attributes:

1) coax feed
2) no tuner (or minimal tuning) required on different bands
3) 40 meters or even 80 meters can fit in most attics

See: <http://users.tellurian.com/jdegood/coaxtrap/>

73,

John NU3E

4393. Re: Suggestion for Cecil, how about rho11, rho22, tau12 & tau21...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 06:54:39 UTC
From: tdonaly@aol.com
Message-ID: <20030525025439.13378.00000305@mb-m25.aol.com>
Source record: 117145

Richard Clark quoted,
>
>
>For the employement of vulgar, I expand my references to exhibit style
>that outstrips yours:
>
> "The Tropic of Cancer"
> Henry Miller
>or from
> "The Tropic of Capricorn"
> which may suit your taste (it suits mine):
>
> "'What is it Jock? Just what is it you are trying to say?'
> And Jock, with a last effort, raises himself wearily and says:
> "'Just cunt ... cunt ... cunt.'
> "That was always the opening theme, and the ending theme,
> with MacGregor. It was his way of saying - futility. The
> leitmotif was disease, because between fucks, as it were,
> he worried his head off, or rather he worried the head
> off his cock."
>
>From the world of poetry comes my reference of e. e. cummings (yes,
>that is his preferred spelling):
>
> i sing of Olaf glad and big
> whose warmest heart recoiled at war:
> a conscientious object-or
>
> his wellbelovid colonel(trig
> westpointer most succinctly bred)
> took erring Olaf soon in hand;
> but--though an host of overjoyed
> noncoms(first knocking on the head
> him)do through icy waters roll
> that helplessness which others stroke
> with brushes recently employed
> anent this muddy toiletbowl,
> while kindred intellects evoke
> allegiance per blunt instruments--
> Olaf(being to all intents
> a corpse and wanting any rag
> upon what God unto him gave)
> responds,without getting annoyed
> "I will not kiss your fucking flag"

>
> straightway the silver bird looked grave
> (departing hurriedly to shave)
>
> but--though all kinds of officers
> (a yearning nation's blueeyed pride)
> their passive prey did kick and curse
> until for wear their clarion
> voices and boots were much the worse,
> and egged the firstclassprivates on
> his rectum wickedly to tease
> by means of skilfully applied
> bayonets roasted hot with heat--
> Olaf(upon what were once knees)
> does almost ceaselessly repeat
> "there is some shit I will not eat"
>
> our president,being of which
> assertions duly notified
> threw the yellowsonofabitch
> into a dungeon,where he died
>
> Christ(of His mercy infinite)
> i pray to see;and Olaf,too
>
> preponderatingly because
> unless statistics lie he was
> more brave than me:more blond than you.
>
>And there you have a very small slice of far more effective
>application of the traditional Anglo-Saxon. Your frustrated
>repetition, in contrast, is mud-ordinary.
>
>Again, this is about choices and you would stand to gain by ALL these
>references. And take the chip off.
>
>73's
>Richard Clark, KB7QHC
>

Well done, Richard. If Slick wants to shoot someone, he needs ammunition, and
if he wants to curse someone, he needs words.
73,
Tom Donaly, KA6RUH

4394. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 07:39:30 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305242339.71a9094@posting.google.com>
Source record: 117146

"Melvyn T Phillips" <melvyn@g7onh.fsnet.co.uk> wrote in message
news:<bao5h7drs1@newsg4.svr.pol.co.uk>...
> My Realistic DX 302 (22 years old), has a good Preselector and works well
> for removing 'some' of that noise.
>
> Melvyn (G7ONH)

My cleanest receivers are older and use preselectors, or are ham band
only like my IC-730. But with the new "wideband" radios's, the filters
are all electronically switched as you dial around. They generally
lack in performance to my older radios with preselectors. IE: my
wideband 706mk2g will pick up some crud on 160m from the local AM-BC
stations. My TS-830 does not have that problem. Neither do my old
drakes. I can cut it out with the tuner when using the 706 though. But
needless to say, when I'm on 160m, I'm usually on my old 830. My
drakes are semi retired. I don't use them much anymore, and every time
I turn them on, I notice a new capacitor that is flaking out. They all
must be reaching their predetermined service limits...:/ They are
getting old. My R4 "#0058" was built in 65. My 2C about 68-69. The
T4XB around there somewhere...
I oughta totally overhaul them. The R4 is still a very good receiver
even being nearly 40 years old. MK

4395. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 07:48:14 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3ED0753E.70002@oda.com.au>
Source record: 117147
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

st599@ecs.soton.ac.uk wrote:
> Hi
>
> I'm currently having a couple of problems looking at the design for the
> 20m dipole I'm going to build.
>

You might find the approach employed for a 7MHz dipole interesting. It
is extendable to 20m, or any band for that matter. You should not assume
a 70 ohm feedpoint resistance for dipoles unless they are in free space,
or at least several wavelengths above ground.

http://www.vk1od.net/7MDipole/7MDipole.htm

Owen

4396. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 07:57:17 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305242357.519737d1@posting.google.com>
Source record: 117148

radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0305241036.41d0eff5@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message
>
> My real question is: is the height of the stacked dipole really
> more critical than the height of the super-J-pole?

I see no real difference between them. A collinear is a collinear. I'm
not really familiar with the "super J-pole", but I assume it's some
type of "dual" 5/8's , maybe built plumbers delight, that also has a
phasing stub between the elements. You could build one "one piece"
from copper. The only difference between it and the stacked dipoles
are the element lengths, and possibly the spacing of the
elements/antennas. Close spacing is not optimum.
With both antennas, the higher the better. What is probably more
important than anything is the feedline decoupling. I've seen a well
decoupled 1/4 wave ground plane beat a "collinear" if the collinear
had no decoupling.
>
> I've been told that the advantages of the higher horizontal gain
> (lower angle of radiation) are lost if the stacked dipole is not above
> a certain number of 1/2 wavelengths (or HAAT). So it was then
> suggested that the Super-J-pole would be a better candidate, if the
> mast height was limited.

It's possible. In theory, the stacked 5/8's have a bit more gain than
the stacked 1/2 waves. But all this goes out the window with poor
decoupling. With good decoupling, there should be very little
noticable difference between the two. MK

4397. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 08:17:26 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305250017.1ffd9713@posting.google.com>
Source record: 117149
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP <Cecil.A.Moore@ieee.org> wrote in message
>
> I suspect that the problem is that you forgot to say that sometimes
> a series reactance is required to achieve a perfect match.

Well, I hate to really say specifically, as with any given antenna the impedance componants will vary. But I imagine that is the case most of the time with a normal 1/2 wave dipole. It makes a difference which end you vary usually. I imagine due to common mode currents.
If adding or subtracting from one end doesn't work, the other side usually will.
I do know this simple method works though, if you have the time for the tweaking.
It also works when adjusting elements that are coupling to other elements or metal in the area. It's weird to add wire to go up the band...:/ I've seen that happen more than once tuning 40 legs that are coupling to 80 legs, or guy wires.
I've only had one time that I couldn't get a decent match using this method, and that was trying to tune a dipole mounted about 10 ft over a large mobile home. The metal in the area was just too much and seemed to act as a reflector of sorts. I probably could have tuned it eventually, but after about an hour, I gave up, and told him to move it farther from the mobile home. MK

4398. Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 08:36:57 UTC
From: Per Brix <"oz5abo tdcadsl.dk">
Message-ID: <3ed080a9$0$24672$edfadb0f@dread14.news.tele.dk>
Source record: 117150

Hi

I am running with a 2x20 meters dipole feeding it with a open 300 Ohm wire/feeder. This is running into my shack to the ATU.

Running 100W I am wondering how much radiation there is in the shack and how risci this is?

Who knows anything about the riscs?

73/oz5abo, Per

4399. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 08:49:17 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED0838D.163C2856@cwis.net>
Source record: 117151

Per,
The risks are insignificant.
'Doc

4400. Re: Converting a G5RV to Horizontal Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 08:58:22 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED085AE.1E9F34F5@cwis.net>
Source record: 117152

Al,
The savings would be very minimal and you will be
destroying a usable antenna in the process. Put up
the largest loop you can for the area you have to put
it up in. Feed it with some kind of 'twin-lead' or
ladder line through your tuner. The more area you have
inside the loop, the better off you are, and as with
any antenna, the higher the better.
'Doc

4401. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 09:27:59 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED08C9F.D901F015@cwis.net>
Source record: 117153

"Dr. Slick",
Sounds like a ~lot~ of 'sour grapes' on your part.

>
> Not in Rosa Parks case, and not in Berkeley Liberation Radio or
> Free Radio San Francisco's case. Enough political discussion and
> community involvement to avoid the "vanity station" label.
>
Still 'horse hockey', a 'get around' for the dissatisfied.
Since when does "enough political discussion" make ANYTHING
true/right?

>
> Not really, unless you have BIG BUCKS. Even then, the broadcast
> band is so packed in most urban areas, you could only get a station
> out in Nevada or Utah.
>
Well, if there isn't any 'room', then that's just too bad,
isn't it.

> The FCC has tried to permit some under-100 watt stations, in an
> effort to save face, but they have only given out a few licenses with
> their ridiculous 2nd adjacent channel spacing.
>
Sounds like 'they' made a mistake, doesn't it? Not
granting anymore
licenses for something that doesn't work seems like a good
idea to me.

> You need to do some research, this is my area. Don't copy Cecil
> and pretend that you know everything!
>
I'm not copying Cecil, I certainly don't know everything
(neither
does Cecil, ask him, he'll tell you that too), and I've 'been
there,
done that', don't need or have any desire to do it again.

> And a newspaper and a radio station are both simply media sources,
> and can be compared.
>
Yes, they are both 'media sources', but one of them does
not use
a 'public resource' to impart information. Apples /
oranges.

> Not completely true, people eat what is fed to them, to a
> certain degree, and pirate radio has formats like playing entire
> albums, that you will NEVER see on licensed radio.
>
So? Just a difference in format (entire albums).

> When is the last time you have called a radio station and they
> put you one the air without screening you? some college stations
> still do this, but it is never heard of in the corporate radio world,
> they are too busy beaming a syndicated show by satellite. How local
> is THAT?
>
If YOU were responsible for the content of what you
transmitted,
would you NOT screen calls? Little bit silly, wouldn't you
think?

> Money talks, yes. But only to a certain degree.
>
Uh huh... And if you had that 'certain degree' in one
hand, and
'good intentions' in the other, which would YOU bet on??
'Doc

4402. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 09:36:12 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED08E8C.B941152@cwis.net>
Source record: 117154

Art,
The point being that you "ignored" the question. But
you're pretty good at ignoring questions, even simple ones
that should be no trouble to answer. If you think that
this makes you more 'believable', you're mistaken...
'Doc

4403. Re: Recommendation for HF attic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 09:58:48 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305250158.11f69875@posting.google.com>
Source record: 117155

John DeGood <nu3e@arrl.net> wrote in message news:<3ED058AA.9030803@arrl.net>...
> > Looking for a HF antenna to put in my attic.
>
> I use a trap dipole in my attic. Attributes:
>
> 1) coax feed
> 2) no tuner (or minimal tuning) required on different bands
> 3) 40 meters or even 80 meters can fit in most attics
>
> See: <http://users.tellurian.com/jdegood/coaxtrap/>
>
> 73,
>
> John NU3E

I had just enough for a full 40m dipole here. I ran it through the eaves of the rafters up near the peak of the roof. But I fed mine with about 20 ft of 300 ohm line going to my tuner. That way, it's good for 40-10 use. But I don't actually use it much for transmitting. It's mainly a receive antenna when I'm too scared to hook up my outdoor antenna due to T-storms in the area. I can use it for xmit if I really need to. I also have a 2m ground plane hung up there. I'm so paranoid about lightning, I even unhook those, once I actually hear thunder.
MK

4404. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 10:38:06 UTC
From: Airy R Bean <SPAM@trap>
Message-ID: <3ed0a282_2@mk-nntp-1.news.uk.worldonline.com>
Source record: 117156
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Your analysis was wrong for the simple reason that it omitted
to consider the source impedance of the TX, when discussing
"feeding a 50 ohm load through one wavelength of 50
ohm transmission line"

Roy Lewallen <w7el@eznec.com> wrote in message
news:vcvb07q1g3rq25@corp.supernews.com...
> My analysis is correct in the statement of forward and reverse power and
> the impedance seen by the transmitter. I'd be very greatly surprised if
> you have an amateur transmitter designed for a 75 ohm nominal load, but
> I'd also be surprised if it wouldn't work properly when presented with a
> 50 ohm load.

4405. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:09:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED0A47F.9020101@ieee.org>
Source record: 117157

Roy Lewallen wrote:
> There is absolutely no difference to the transmitter between a lumped
> load and any combination of transmission line and load impedance that
> produce the same impedance at the transmitter.

That's true, Roy, but that is not the argument. The argument is whether
the following statement is true or false:

"Reflected waves cannot cause damage to a transmitter."

This is a false statement since an impedance mismatch can cause damage
to a transmitter and reflected waves can cause the impedance mismatch.

For a transmitter connected to a transmission line, the impedance seen
by the transmitter is a function of forward voltage, reflected voltage,
forward current, and reflected current. To deny that reflected waves
have any effect on a transmitter is shear nonsense and simply a failure
to recognize the *cause* of a virtual impedance. Here are the causal steps.

1. Given an active source driving a transmission line, energy is
reflected from a mismatched load.

2. Barring a match in the rest of the system, some of that reflected
energy becomes incident upon the source.

3. The impedance seen by the source is a function of forward and
reflected voltages and currents and can damage the source.
--
73, Cecil http://www.qsl.net/w5dxp

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4406. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:16:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED0A5F9.3000602@ieee.org>
Source record: 117158

Per Brix wrote:
> Running 100W I am wondering how much radiation there is in the shack and how
> risci this is?

You cannot know how much radiation there is in the shack without
measuring it directly or indirectly.
--
73, Cecil http://www.qsl.net/w5dxp

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------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4407. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:21:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED0A721.4020205@ieee.org>
Source record: 117159

'Doc wrote:
> I'm not copying Cecil, I certainly don't know everything
> (neither does Cecil, ask him, he'll tell you that too), ...

I'll have you know as of this date and time, I know as much as
I can possibly know. Of course, as of this date and time, I also
know as little as I can possibly know. Dr. Slick thinks those
statements are a contradiction. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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4408. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:27:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED0A8A1.7030303@ieee.org>
Source record: 117160
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Airy R Bean wrote:
> Your analysis was wrong for the simple reason that it omitted
> to consider the source impedance of the TX, when discussing
> "feeding a 50 ohm load through one wavelength of 50
> ohm transmission line"

If no reflections are allowed to reach the transmitter, the
transmitter source impedance doesn't matter except for reasons
of efficiency. A 10 ohm transmitter can deliver 100 watts to a
50 ohm load. A 1000 ohm transmitter can deliver 100 watts to a
50 ohm load. What is important is the impedance into which a
transmitter is designed to function properly.
--
73, Cecil http://www.qsl.net/w5dxp

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4409. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:29:38 UTC
From: Walter127@city.net
Message-ID: <3ED0A922.2448A08C@city.net>
Source record: 116995

You can check at the following: http://www.spiderantenna.com/info/htlm

helmsman wrote:
>
> Doe's anyone have a clue what the take off angle for the "Spider
> antenna Dipole" is ??
> TIA
> .
> Boycott anything made in france and vacation somewhere else.

4410. Re: Converting a G5RV to Horizontal Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 11:34:01 UTC
From: KC1DI <elbc2@gwi.net>
Message-ID: <aba1dvonva397boqhgj5e1e7mkqr5daagl@4ax.com>
Source record: 117161

On Sat, 24 May 2003 01:05:23 -0400, "Niittymaa Family"
<niittyma@sympatico.ca> wrote:

>I have a commercial G5RV with the usual 102' dipole, length of 300 ohm twin
>lead, 4:1 balun and about 100' of RG8X co-ax.
>
>Could this be converted to a 40-10M horizontal loop by cutting off the 2 end
>insulators and adding a 40' copper wire closed loop addition and hanging it
>up about 25' in a hexagon shape? I would trim the total length to center
>around 7.1Mhz and maximize the multiples.
>
>Also, could the coax be shortened to about 20-30' and the whole thing fed
>through a MFJ 948 tuner for multi-band operation?
>
>One final thing, I'm not sure of the 4:1 balun is a voltage type or current
>type - would this make a difference?
>
>Thanks for any comments and other ideas..... Al

As others have said why convert the G5RV.. just go to the store (home
Depot) sell 500 ft of 14ga wire for about 20 bucks. buy a length of
ladder line even 300 ohm tv twin lead will work put up the biggest
loop you can as high as you can feed it through the tuner and you'll
have a great multiband antenna..

Mine is 520' around fed with 300 ohm line works all bands 160m thru 10
m. with an MFJ 901b tuner..

73 Dave kc1di

4411. Re: cushcraft A50S-6

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 12:06:50 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3ED0B1CB.9090705@tampabay.rr.com>
Source record: 117162

hey tom
thanks for the thoughts
will do all that when i take it down again first i have to trim a tree
so i can turn it...grin
i have been a op on 6 for many years
missed you on the opening last night (saturday night) was open to the
north i worked maine new york NJ and several others last night
not a bad opening
73

4412. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 12:17:08 UTC
From: Airy R Bean <SPAM@trap>
Message-ID: <3ed0b5f1_2@mk-nntp-1.news.uk.worldonline.com>
Source record: 117163
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

You don't know what's inside the TX. There may be a length
of (75 Ohm in this case) transmission line from the PA stage to the
antenna socket.

W5DXP <Cecil.A.Moore@ieee.org> wrote in message
news:3ED0A8A1.7030303@ieee.org...
> Airy R Bean wrote:
> > Your analysis was wrong for the simple reason that it omitted
> > to consider the source impedance of the TX, when discussing
> > "feeding a 50 ohm load through one wavelength of 50
> > ohm transmission line"
>
> If no reflections are allowed to reach the transmitter, the
> transmitter source impedance doesn't matter except for reasons
> of efficiency.

4413. Re: Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 12:35:00 UTC
From: charles@nospam.com
Message-ID: <charles-2505030736250001@192.168.0.2>
Source record: 117164

Scotty,
I have a GL1500 with a Yaesy FT90 and am using the Diamond NR770HJ and it works perfectly. This antenna requires no ground plane and is great for a motorcycle. No I did not replace the CB antenna as I use it when riding with the "club", but added it as a third antenna.

Hope this helps.

Charles

In article <95lvcv4j8l5omatsn7nimq104q611h0arn@4ax.com>, R. Scott <washingtonham@yahoo.com> wrote:

> What seems to be the concensus used.
>
> Can the CB be replaced with a good 2 meter.
>
> Going to mount my 2 meter on a GL1500 Goldwing
> Im buying
>
> Scotty N7HJ

4414. Re: SGC 239 Box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 12:38:22 UTC
From: Karl <k0tbt@mn.rr.com>
Message-ID: <fN2Aa.11125$jT4.275490@twister.rdc-kc.rr.com>
Source record: 117165

I have mine in a Rubbermaid container. It's placed inside, wedged with some bits of extruded foam insulation, and has required holes drilled into the sides of the container. Remember from SGC's manual that they state to keep the tuner in the shade. Place a scrap of plywood on top of the container and add a brick or two to keep it down (wind wise). I use a piece about two foot square to provide plenty of shade even at low sun angles and a couple of patio stones. It's been on the roof of my apartment building for over a year now (in Minnesota) and it's holding up well.

73
Karl K0TBT
"JDer8745" <jder8745@aol.com> wrote in message
news:20030522111210.09550.00000109@mb-m11.aol.com...
> Howdy,
>
> Looking for info on a recommended plastic Tupperware box for the SGC 239
Tuner.
>
> tnx es 73 de Jack K9cun

4415. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:05:42 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ED0BFA6-643@storefull-2315.public.lawson.webtv.net>
Source record: 117168

Airy R. Bean wrote:
"Your analysis was wrong for the simple reason that it omitted the source impedance of the TX when discussing:
"feeding a 50 ohm load through one wavelength of 50 ohm transmission line"

Source impedance has no effect on SWR. Mismatch between Zo of the line and ZL (the load impedance) determines SWR.

A 50-ohm load on a 50-ohm line produces an SWR of 1:1, that is, no standing waves.

An exact wavelength of transmission line repeats the impedance ppresented at one of its ends to the opposite end of the line. To the transmitter it`s as if the line didn`t exist, regardless of the Zo of the transmission line.

There is no truth in Airy`s statement.

Best regards, Richard Harrison, KB5WZI

4416. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:13:11 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305250513.4509438b@posting.google.com>
Source record: 117166

'Doc <w5lz@cwis.net> wrote in message news:<3ED08E8C.B941152@cwis.net>...
> Art,
> The point being that you "ignored" the question. But
> you're pretty good at ignoring questions, even simple ones
> that should be no trouble to answer. If you think that
> this makes you more 'believable', you're mistaken...
> 'Doc

Well done doc that should earn you some brownie points to go
with the brown on your nose.
Jaro.

4417. Enclosures from a masthead preamp??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:14:28 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <Nk3Aa.15009$pK2.21149@news.indigo.ie>
Source record: 117167

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
Where would I get a weather proof enclosure for a preamp I'm building for a
UHF UFO antenna. Are the moxes you see on Maplin or Farnell any good for
this??

Cheers,
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtDBsiGakPXr24F/EQJ4swCeM97j1E5Zm+6109LcT/EZ9Ontjl4AnjCs
fJ+FlCHHBphnrcqBwFiilYhu
=lqoT
-----END PGP SIGNATURE-----
```

4418. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:25:00 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <Ku3Aa.588$ik4.19148@news20.bellglobal.com>
Source record: 117069

"Per Brix"
> Who knows anything about the risks?

You will certainly harm your health from worrying about it. Therefore you
should probably redesign your installation simply to put your mind at ease.

4419. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:25:39 UTC
From: richardharrison@webtv.net
Message-ID: <28690-3ED0C453-645@storefull-2315.public.lawson.webtv.net>
Source record: 117070

Airy R. Bean wrote:
"There may be a length of (75 Ohm in this case) transmission line from the PA stage to the antenna socket."

Source impedance presented to the antenna socket depends on much more than a length of coax in the case.

Most amateur transmitters are designed to perform with a 50-ohm load.

A transmitter designed for 75 ohms would not be seriously stressed by a 50-ohm load in most cases.

Best regards, Richard Harrison, KB5WZI

4420. Re: Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 13:53:08 UTC
From: "R. Scott" <washingtonham@yahoo.com>
Message-ID: <msi1dvk52nif1qqet65o36d638ruhmolcd@4ax.com>
Source record: 117071

>Scotty,
>I have a GL1500 with a Yaesy FT90 and am using the Diamond NR770HJ and it
>works perfectly. This antenna requires no ground plane and is great for a
>motorcycle. No I did not replace the CB antenna as I use it when riding
>with the "club", but added it as a third antenna.
>
>Hope this helps.
>
>Charles

Thanks Charles, Ill look into that one. Will have to see what kind of
mounting I have available. I think Ill buy the luggage rack for the
back and a mount there. Then to figure out where to put the FT1500.

Scotty N7HJ
Everett, Washington

4421. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 14:28:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED0D2F8.9060401@ieee.org>
Source record: 117072
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Airy R Bean wrote:
> You don't know what's inside the TX. There may be a length
> of (75 Ohm in this case) transmission line from the PA stage to the
> antenna socket.

What I was trying to imply is that you are asking the wrong
question. The *internal* impedance of the transmitter doesn't
matter. The question you need to ask is: "What *external*
impedance is the transmitter designed to drive?"
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4422. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 14:33:59 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <bvk1dvotkoeraonqnp0odakf89nknt5vgc@4ax.com>
Source record: 117075

On Sun, 25 May 2003 10:36:57 +0200, "Per Brix" <oz5abo(at)tdcadsl.dk>
wrote:

>Hi
>
>I am running with a 2x20 meters dipole feeding it with a open 300 Ohm
>wire/feeder. This is running into my shack to the ATU.
>
>Running 100W I am wondering how much radiation there is in the shack and how
>risci this is?
>
>Who knows anything about the riscs?
>
>73/oz5abo, Per
>

I believe the University of Texas has a web site that helps determine
dangerous levels of radiation. Perhaps someone else has the url.

Bob
k5qwg

4423. Re: Gold Wing 2 meter Antennas.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 14:37:10 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <rvk1dv05bgift2q7r5sco43f6ee9gppgv4@4ax.com>
Source record: 117073

Be sure you run a ground from one of the luggage rack screws down to
the bike ground. Should find a ground plate inside the trunk for one
of the existing antennas. I used a small chrome mount used by
truckers to mount antennas on their mirror supports. Works perfectly
on a luggage rack. I used a Diamond, but Comet also makes some good
antennas for motorcycle application.

Dick - W6CCD

On Sun, 25 May 2003 13:53:08 GMT, R. Scott <washingtonham@yahoo.com>
wrote:

>>Scotty,
>>I have a GL1500 with a Yaesy FT90 and am using the Diamond NR770HJ and it
>>works perfectly. This antenna requires no ground plane and is great for a
>>motorcycle. No I did not replace the CB antenna as I use it when riding
>>with the "club", but added it as a third antenna.
>>
>>Hope this helps.
>>
>>Charles
>
>Thanks Charles, Ill look into that one. Will have to see what kind of
>mounting I have available. I think Ill buy the luggage rack for the
>back and a mount there. Then to figure out where to put the FT1500.
>
>Scotty N7HJ
>Everett, Washington

4424. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 14:44:42 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baqksq$60n$1@titan.btinternet.com>
Source record: 117074
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Cecil wrote -

The *internal* impedance of the transmitter doesn't
> matter. The question you need to ask is: "What *external*
> impedance is the transmitter designed to drive?"
========================

Cec, at last you've got the idea. The conjugate match has been abandoned.
Keep spreading the gospel. ;o)

Reg.

4425. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 15:09:39 UTC
From: tdonaly@aol.com
Message-ID: <20030525110939.02066.00000241@mb-m17.aol.com>
Source record: 117076

Cecil wrote,
>
>'Doc wrote:
>> I'm not copying Cecil, I certainly don't know everything
> > (neither does Cecil, ask him, he'll tell you that too), ...
>
>I'll have you know as of this date and time, I know as much as
>I can possibly know. Of course, as of this date and time, I also
>know as little as I can possibly know. Dr. Slick thinks those
>statements are a contradiction. :-)
>--
>73, Cecil http://www.qsl.net/w5dxp
>

So you know as much, and as little as it's possible for
you to know. I think that's a fair statement.
73,
Tom Donaly, KA6RUH

4426. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 15:19:35 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED0DF07.B288E89F@cwis.net>
Source record: 117077

jaro,
If I collected 'brownie points', you'd probably
be correct. My question is, who should I collect
them from? Second question is, why should I bother?
Third question is, why should you care? Last part
is, what I said is still true, isn't it?
'Doc
- <(the 'brown spot' on your radio dial)> -

4427. Scantenna ST2: Anyone Have Any Gain Plots/Graphs For ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 15:40:57 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <baqo62$ak6$1@slb1.atl.mindspring.net>
Source record: 117078

Hi,

Might anyone have any vertical & horiz gain plots/graphs for the Scantenna ST2.

Or, any info. on what it "might" look like ?

Also, actual numbers for gain vs orientation ?

Tried mfg., but no luck.

Bob

4428. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 16:04:18 UTC
From: richardharrison@webtv.net
Message-ID: <5449-3ED0E982-268@storefull-2312.public.lawson.webtv.net>
Source record: 117083

Reg, G4FGQ wrote:
"The conjugate match has been abandoned."

Not when maximum power out is demanded.

Best regards, Richard Harrison, KB5WZI

4429. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 16:09:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd1qkkaifvpu5b@corp.supernews.com>
Source record: 117079
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

But the source impedance of the transmitter has no effect whatever on the load impedance seen by the transmitter, the SWR, or the "reflected power". So in what way does it need to be "considered"? How would it modify the analysis?

Since you continue to believe my analysis to be incorrect, please post an analysis you believe is correct.

Roy Lewallen, W7EL

Airy R Bean wrote:
> Your analysis was wrong for the simple reason that it omitted
> to consider the source impedance of the TX, when discussing
> "feeding a 50 ohm load through one wavelength of 50
> ohm transmission line"
>
> Roy Lewallen <w7el@eznec.com> wrote in message
> news:vcvb07q1g3rq25@corp.supernews.com...
>
>>My analysis is correct in the statement of forward and reverse power and
>>the impedance seen by the transmitter. I'd be very greatly surprised if
>>you have an amateur transmitter designed for a 75 ohm nominal load, but
>>I'd also be surprised if it wouldn't work properly when presented with a
>>50 ohm load.
>
>
>
>
>
>

4430. Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 16:11:33 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ed0eb36$1_2@news.vo.lu>
Source record: 117081

Hi,

I am using a 6m long Fritzel GP 404 vertical antenna. It uses i.e. 1 radial 10m long attached at its base to work on the 40m band (1 radial per band, from factory). This radial is screwdrived on the mast. This is thus an asymetric antenna.
Some say that when placed at ground level a GP does not request to be grounded.
But others say that for the 40m band, when such an GP is placed at ground level, it requests to be grounded to get good results (low loss, low qrm, etc).
First question: who is right ?

My first objective is to reduce QRM (man-made). I think that grounding the system can help. Right or false ?

I use this installation at home but also for portable operations. What could be the easiest but efficient way to ground this system (at least when used at home) ? I know that I can connect radials to a copper bar 2.5m long that I 'd place into the ground. But this is practically impossible as the soil is only 30-50cm tick.

I cannot ask my electrical eng. to install a true electrical ground as the installation is not permanent (worst, this installation works in my parents' house, and they will never accept that someone modifies their electical circuit simply to "do radio")...

What is your solution ?

Thanks for advices

Thierry
ON1SKY, LX3SKY

4431. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 16:11:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd1qpi4j8u26d0@corp.supernews.com>
Source record: 117080

W5DXP wrote:
> Roy Lewallen wrote:
>
>> There is absolutely no difference to the transmitter between a lumped
>> load and any combination of transmission line and load impedance that
>> produce the same impedance at the transmitter.
>
>
> That's true, Roy, but that is not the argument. The argument is whether
> the following statement is true or false:
>
> "Reflected waves cannot cause damage to a transmitter."
> . . .

That's strictly your argument Cecil. I don't believe anyone but you has proposed that.

Sorry, I won't play that game. But you seem to be able to find plenty of takers, so I'm sure I won't be missed.

Roy Lewallen, W7EL

4432. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 16:14:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd1quu97l5mu4f@corp.supernews.com>
Source record: 117082
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Yes, there might be. What would that do? How about if the transmission line is one wavelength long? What if it's one millimeter long? Would one mm of 75 ohm transmission line cause the transmitter to respond dramatically differently to a 450 ohm load, a 50 ohm load, or a 75 ohm load than if it weren't there?

What difference would it make if the transmission line were outside the transmitter instead of inside?

Roy Lewallen, W7EL

Airy R Bean wrote:
> You don't know what's inside the TX. There may be a length
> of (75 Ohm in this case) transmission line from the PA stage to the
> antenna socket.
>
> W5DXP <Cecil.A.Moore@ieee.org> wrote in message
> news:3ED0A8A1.7030303@ieee.org...
>
>>Airy R Bean wrote:
>>
>>>Your analysis was wrong for the simple reason that it omitted
>>>to consider the source impedance of the TX, when discussing
>>>"feeding a 50 ohm load through one wavelength of 50
>>>ohm transmission line"
>>
>>If no reflections are allowed to reach the transmitter, the
>>transmitter source impedance doesn't matter except for reasons
>>of efficiency.
>
>
>

4433. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 17:36:19 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <flv1dvsh3kaijiq49lh6cq0e8n5agppgta@4ax.com>
Source record: 117084

On Sun, 25 May 2003 03:49:17 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Per,
> The risks are insignificant.
> 'Doc

I personally know several ameteur radio OMs with are 80 years or more
in best health and still active on all bands.

There is no risk, it's good for your health.

w.

4434. Re: Roof Mounted Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:00:14 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251000.4787e98a@posting.google.com>
Source record: 117085

"K4NE" <phil.harder@adelphia.net> wrote in message
news:<jDeza.113$Ci.220951@news2.news.adelphia.net>...
> After a break from amateur radio to start a family, I am poised to jump back
>snip.
>
> Has anyone had experience with tripod towers? Are they worth the effort?
> Is there anyone that would talk me out of it?
>
> TNX
>
> Phil, K4NE

I will take a shot at that Phil !
Many houses have electrical wires up in the attic so they can provide
a psuedo
ground plain which reduces your effective height of your antenna.
Since the wires in the attic form a partial ground plain we can be
sure that of the antenna return current will instead enter the whole
system not only in your own house but also of your neighbors. You will
be asked time to time to limit your transmissions to times where the
local teenagers are finished listening to their music. I would also
add that any transmissions could possibly overload the TV that your
wife is looking at. On the otherside of the coin is YOU probably will
hear birdies across the bands if a computor is used. Also if you live
alone alongside the street that you refer to and there are no
neighbors to worry about, then your only concerns are structual or
lawsuits if sometime your antenna system emulates an aeronaughtical
mobile system under windy conditions.
Good luck.
Art

4435. Trade: ATB-34 for 6 Mtr Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:02:40 UTC
From: "Richard W. Solomon, W1KSZ" <w1ksz@tiac.net>
Message-ID: <nd12dvo98ruqnt7v648eam9nc4oh4ltk0a@4ax.com>
Source record: 117086

I have an ATB-34 (Cushcraft) that I will swap for a 6 Mtr Beam
3, 4 or ?? el. Pick-up in Lexington, MA.

73, Dick, W1KSZ

4436. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:06:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4ot1dv028utr4ovp1k2v89rmsme5tmpa0p@4ax.com>
Source record: 117087

On 24 May 2003 17:58:57 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Richard Clark <kb7qhc@attbi.com> wrote in message
news:<90tvcvop16k64pmacpq467obsm8v285ind@4ax.com>...
>> On 24 May 2003 15:16:26 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
>> wrote:
>> ...
>> >Frankly, if he could prove that he was a sincere American
>> ...
>> >After all this
>> >hobby is meant to be enjoyable even tho some like to place 'carriers'
>> >to annoy. Have a great day.
>> >Art
>>
>> My memory fails me in regard to your service to America. Have you
>> ever been a member of an Honor guard?
>>
>> Memorial day approaches and your response should be measured by it.
>>
>> 73's
>> Richard Clark, KB7QHC, Volunteer and Veteran
>
>I served in the military in the U.K. I registered in the draft
>(USA)during the Vietnam war. The draft card given was such that for
>some reason, possibly because of prior service or old age I was not
>called to serve again. Don't bother me any more with your silly
>questions since I will not respond.
>Art

Hi Art,

WE ALL had draft cards, I surrendered mine at Boot Camp.

So I suppose asking if you ever served on an Honor Guard (even for the
UK) was silly, in your ethics.

Another silly question. Ever visit the cemetery to spend a moment
with those who fought to get you over here? Probably not or you would
have volunteered that. But I am sure you stop by Starbucks at the
Mall to commemorate the sales offered.

Another silly question. Ever fulfill your obligation of service
outside of military duty? I can imagine that is the height of silly
questions because if you were not called for the various vague
possibilities you offer, that was known as "deferment." Deferment

means (and this is the legal expectation of the written law) that you have promised to do it later.

Another silly question. Do it when?

Silly questions abound like the patrimony of those names listed at the Alamo. I know you had to study American history as a condition of citizenship, but there's little evidence of it with your Alamo observation. Those fellows were not on the continent because they had any endearing ties to jolly old England (swings like a pendulum do). Most of our forebears were EJECTED from England's dominions and had to scrape out a living here. You simply chose to come here once they had accomplished that, as you have immodestly proclaimed.

Another silly, related question. Have you looked at the list of those Brits who fell in Iraq? No utterances in their behalf have ever been offered here by you and another poster who enjoys jabbing Americans. No one demands it, it just looks odd with the contrast.

But this all pales in the shadow of the foolish utterance you've offered:
>he [Roy] could do much better service for all
>by taking C Powells place at the U.N.

This last is so very typical of you, Art. You ask, nay demand, others perform acts that you haven't, or wouldn't do yourself, and somehow if they fail to respond quickly enough, you chastise them for cowardice, stupidity, venality (the list goes on to no obvious awareness of the irony of your position).

There's a host of silly questions. Your refusal to not answer will be consistent even if you post many responses (also consistent).

By-the-by, has Google contacted you about your other pernicious past-times? Reference their #2205723, #2216520, #2214083, #2217501, #2216425...

>Hi,
>
>We have received your report of possible Google Group abuse.
>
>We appreciate the time you take to help Google keep the newsgroups as
>abuse free as possible.
>
>Sincerely,
>
>The Google Groups Team
>
>**********

I don't wanting you blaming Roy for that too.

73's
Richard Clark, KB7QHC

4437. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:11:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED1075D.9020500@ieee.org>
Source record: 117088
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
> Cecil wrote -
>> The *internal* impedance of the transmitter doesn't
>>matter. The question you need to ask is: "What *external*
>>impedance is the transmitter designed to drive?"
>
> Cec, at last you've got the idea. The conjugate match has been abandoned.
> Keep spreading the gospel. ;o)

Most of my mental exercises that I post here were used on yours
truly first. Take the 50 ohm load in the center of the room fed
by a 150 ohm transmission line coming through a hole in the wall.
Given all the passive measurements one can make, one cannot
determine if that system is conjugately matched or not. If one
cannot determine if the system is conjugately matched or not,
what does it matter?
--
73, Cecil http://www.qsl.net/w5dxp

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4438. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:12:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED1079B.3010600@ieee.org>
Source record: 117089

Tdonaly wrote:
> So you know as much, and as little as it's possible for
> you to know. I think that's a fair statement.

Fair, yes, but is it a contradiction? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4439. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:14:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED10821.2050405@ieee.org>
Source record: 117090

Richard Harrison wrote:
> Reg, G4FGQ wrote:
>> "The conjugate match has been abandoned."
>
> Not when maximum power out is demanded.

How about when maximum efficiency is demanded? Why
can't ham radios achieve the efficiencies of the
60 Hz power companies?
--
73, Cecil http://www.qsl.net/w5dxp

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4440. Re: Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:32:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tj22dvc818dbv4v3amgc9g8qhj6eaopo50@4ax.com>
Source record: 117091

On Sun, 25 May 2003 18:11:33 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

>Hi,
>
>I am using a 6m long Fritzel GP 404 vertical antenna. It uses i.e. 1 radial
>10m long attached at its base to work on the 40m band (1 radial per band,
>from factory). This radial is screwdrived on the mast. This is thus an
>asymetric antenna.
>Some say that when placed at ground level a GP does not request to be
>grounded.
>But others say that for the 40m band, when such an GP is placed at ground
>level, it requests to be grounded to get good results (low loss, low qrm,
>etc).
>First question: who is right ?

Experience dominates the issue of right or wrong. This kind of
experience suggests they had no choice and turned their problem into a
definition.

>
>My first objective is to reduce QRM (man-made). I think that grounding the
>system can help. Right or false ?

Some, but not all, and not nearly as much as a horizontal dipole.

>
>I use this installation at home but also for portable operations. What could
>be the easiest but efficient way to ground this system (at least when used
>at home) ? I know that I can connect radials to a copper bar 2.5m long that
>I 'd place into the ground. But this is practically impossible as the soil
>is only 30-50cm tick.

Don't even bother. At home it is a good idea, but you already have
one free from your power company. The more effective measure would be
to add a transmission line choke (1:1 Current BalUn).

>
>I cannot ask my electrical eng. to install a true electrical ground as the
>installation is not permanent (worst, this installation works in my parents'
>house, and they will never accept that someone modifies their electical
>circuit simply to "do radio")...

This is a little confusing.

>
>What is your solution ?

>
>Thanks for advices
>
>Thierry
>ON1SKY, LX3SKY

73's
Richard Clark, KB7QHC

4441. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:36:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED10D48.2010308@ieee.org>
Source record: 117093

Roy Lewallen wrote:
> W5DXP wrote:
>> The argument is whether the following statement is true or false:
>>
>> "Reflected waves cannot cause damage to a transmitter."
>> . . .
> That's strictly your argument Cecil. I don't believe anyone but you has
> proposed that.

I haven't proposed that, Roy. From things you posted earlier, I inferred
that was what you were saying. Please forgive if I misinterpreted your
posting.

So are we agreed that reflected waves are indeed capable of causing
damage to a transmitter?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4442. Re: Health riscs by using open feeder in the Shack

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:37:11 UTC
From: "Dr. John" <frellyou@privacy.net>
Message-ID: <7932dv81pjso4cm4ajk06g750vhvbo22sf@4ax.com>
Source record: 117092

On Sun, 25 May 2003 09:25:00 -0400, "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
belch-spoke these
words:

>"Per Brix"
>> Who knows anything about the risks?
>
>You will certainly harm your health from worrying about it. Therefore you
>should probably redesign your installation simply to put your mind at ease.
>
>

Hahahaha, but into what? The undending cycle of "what are the risks of this installation?
etc..."

John

4443. Re: Improving the Signal to Noise Ratio

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:39:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f832dvgvokrtqtrobkrdme551adrjl25pk@4ax.com>
Source record: 117094

On 25 May 2003 00:39:30 -0700, nm5k@wt.net (Mark Keith) wrote:

>every time
>I turn them on, I notice a new capacitor that is flaking out. They all
>must be reaching their predetermined service limits...:/

Hi Mark,

Borrow a variac and connect your rig to it. Turn on the set at
quarter power and let it sit for a day or two. Advance the variac by
a small amount and wait. Repeat this until the variac is set to line
level after a few days to a week (depending on how much adjustment you
make).

Electrolytics should be fine after that or have demonstrated their
morbidity.

73's
Richard Clark, KB7QHC

4444. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:46:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <r-acnYT_EK8OkkyjXTWcpg@comcast.com>
Source record: 117095

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED0A47F.9020101@ieee.org...
..... The argument is whether
> the following statement is true or false:
>
> "Reflected waves cannot cause damage to a transmitter."
>
> This is a false statement since an impedance mismatch can cause damage
> to a transmitter and reflected waves can cause the impedance mismatch.
>
Cecil,

The question was whether a 20 meter dipole requires a 1.5:1 balun. If you look at the SWR curve for a dipole over real ground, there is very little difference whether it is seeing 50 or 75 Ohms, the reasonable answer is no.

As for reflected power, where do you draw the line? Is 1.1:1 bad? How about 1.5, or 2? Rather than looking at a transmitter as a black box, it is more instructive to look at what is inside. If a transistor manufacturer says the device is good at Vcc=15V, and SWR =3:1 at all phase angles, then that is the answer. (I think somebody else alluded to this about 50 messages back)

Tam/WB2TT

4445. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:52:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lk32dv8roojbm95h5p4vgm9kgt74ue6s4t@4ax.com>
Source record: 117096

On 24 May 2003 21:33:50 -0700, radio913@aol.com (Dr. Slick) wrote:

>> Yes I have. In most cases it's just a play on words to
>> justify breaking the rules of society.
>>
>
> Not in Rosa Parks case, and not in Berkeley Liberation Radio or
>Free Radio San Francisco's case. Enough political discussion and
>community involvement to avoid the "vanity station" label.
>
This speaks to the ignorance of pirate radio, really, and attempts to
dress it up in the mantle of civil rights.

I was DXing pirates at least 35 years ago. Radio Caroline being one.
However as to your Berkeley reference, ever listen to "The Voice of
the Purple Pumpkin?"

They destroyed Power distribution towers by dynamite in the hills
above. Not quite the respectability of civil disobedience. I also
read the "Berkeley Barb" there is more than radio to offer a message.
It survived the vanity of pirate radios by years.

73's
Richard Clark, KB7QHC

4446. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 18:58:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <th42dvg3c5ta6n5tvadfmkpetgqgr41htc@4ax.com>
Source record: 117097

On Sun, 25 May 2003 13:12:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Tdonaly wrote:
>> So you know as much, and as little as it's possible for
>> you to know. I think that's a fair statement.
>
>Fair, yes, but is it a contradiction? :-)
we can expect one from you any moment.

4447. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:06:17 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bar479$s1r$1@sparta.btinternet.com>
Source record: 117099

> Reg, G4FGQ wrote:
> "The conjugate match has been abandoned."
>
"Richard Harrison" wrote:
> Not when maximum power out is demanded.
>
==========

Dear Richard, I'm disappointed.

At great risk of triggering another futile 6-month-long dispute and a spate of lost tempers may I be forgiven by saying -

Maximimum (also undistorted) power output obviously occurs when, at peak collector current, the collector voltage swings down to 1 or 2 volts relative to the emitter. Otherwise something is in danger of blowing up.

What the load resistance may be at that particular level of base-drive bears no relation to what the internal resistance of the collector(s), and hence what the internal resistance of the transmitter may be.

Nobody knows what the internal resistance is, least of all the operator who is twiddling the knobs on the tuner to obtain so-called minimum swr.

Even the designer doesn't care. He is concerned only with ensuring the transistor's maximum voltage, current and power ratings are not exceeded. For PA design purposes, either audio or at HF, the starting point is those three transistor ratings. Along with the various transformations at RF they set volts and currents at all points in the radiating system.

Conjugate matches are not relevant. The whole notion is so trivial it does't bear thinking about.

I think it was Everitt who, once only, casually, very briefly, made the mistake of descibed the glaringly obvious idea in a chapter on elementary network analysis and then forgot about it. What I've said here has already magnified the thing out of all importance to its usefulness.

Others, more recently, with time on their hands, hoping to bolster reputations plus a few bucks from publishers, have magnified the 2-word phrase (with others) into whole books on the subject.

Incidentally the internal resistance of a PA can be described as indeterminate. It can be calculated at a particular drive level. It varies non-linearly over the modulation cycle. But most importantly, it cannot be used in connection with Conjugate Matching because internal resistance of an ordinary PA varies with load resistance. This invalidates the basic

assumption of a linear fixed-ratio of generator to load resistance, the generator usually being fixed.

However, it cannot be denied, its entertainment value has been at least as great as the topics of swr and reflections. Have fun! I do!

Reg.

4448. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:06:37 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <j9CcnXsJwJnWiUyjXTWcog@comcast.com>
Source record: 117098

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:5449-3ED0E982-268@storefull-2312.public.lawson.webtv.net...
> Reg, G4FGQ wrote:.....................................
> "The conjugate match has been abandoned."
>
> Not when maximum power out is demanded.
>

Yes, but this has to be consistent with the power that the source can dissipate; also, its maximum voltage and current ratings. Else, generators in power stations would be glowing cherry red, and batteries would self destuct in 5 seconds.

The one place where conjugate matching sounds like a natural, antenna to receiver input, does not quite work either. When matched for lowest noise figure, you could very well end up with an SWR more like 1.5:1.

Let's look at a real example. A 6146 tube has a plate dissipation of 25 W. At conjugate match the output would be precisly 25W. If you did NOT conjugate match you could get 2 or 3 times that output. So, which is maximum power out?

Tam/WB2TT
>

4449. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:11:04 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305251111.23f47bc3@posting.google.com>
Source record: 117100

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305242357.519737d1@posting.google.com>...
> radio913@aol.com (Dr. Slick) wrote in message
news:<1d15af91.0305241036.41d0eff5@posting.google.com>...
> > nm5k@wt.net (Mark Keith) wrote in message
> >
> > My real question is: is the height of the stacked dipole really
> > more critical than the height of the super-J-pole?
>
> I see no real difference between them. A collinear is a collinear. I'm
> not really familiar with the "super J-pole", but I assume it's some
> type of "dual" 5/8's , maybe built plumbers delight, that also has a
> phasing stub between the elements. You could build one "one piece"
> from copper. The only difference between it and the stacked dipoles
> are the element lengths, and possibly the spacing of the
> elements/antennas. Close spacing is not optimum.
> With both antennas, the higher the better. What is probably more
> important than anything is the feedline decoupling. I've seen a well
> decoupled 1/4 wave ground plane beat a "collinear" if the collinear
> had no decoupling.

Could you explain what you mean by "decoupling"?

> >
> > I've been told that the advantages of the higher horizontal gain
> > (lower angle of radiation) are lost if the stacked dipole is not above
> > a certain number of 1/2 wavelengths (or HAAT). So it was then
> > suggested that the Super-J-pole would be a better candidate, if the
> > mast height was limited.
>
> It's possible. In theory, the stacked 5/8's have a bit more gain than
> the stacked 1/2 waves. But all this goes out the window with poor
> decoupling. With good decoupling, there should be very little
> noticable difference between the two. MK

Could you explain what you mean by "decoupling"?

Slick

4450. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:29:36 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305251129.377423e4@posting.google.com>
Source record: 117101

'Doc <w5lz@cwis.net> wrote in message news:<3ED08C9F.D901F015@cwis.net>...
> "Dr. Slick",
> Sounds like a ~lot~ of 'sour grapes' on your part.
>

How so? I control the spectrum in MY town, I've GOT the grapes
already!

> >
> > Not in Rosa Parks case, and not in Berkeley Liberation Radio or
> > Free Radio San Francisco's case. Enough political discussion and
> > community involvement to avoid the "vanity station" label.
> >
> Still 'horse hockey', a 'get around' for the dissatisfied.
> Since when does "enough political discussion" make ANYTHING
> true/right?
>

Never said they were "right", I disagree a lot with what is said
on the air, but what IS right is allowing the community to have it's
own station and it;s own voice.

> >
> > Not really, unless you have BIG BUCKS. Even then, the broadcast
> > band is so packed in most urban areas, you could only get a station
> > out in Nevada or Utah.
> >
> Well, if there isn't any 'room', then that's just too bad,
> isn't it.
>

Point is, there IS room for a 40 watter in most areas, even the
crowded areas, but there is NOT room for a 1000 watter, for obvious
reasons.

> > The FCC has tried to permit some under-100 watt stations, in an
> > effort to save face, but they have only given out a few licenses with
> > their ridiculous 2nd adjacent channel spacing.
> >
> Sounds like 'they' made a mistake, doesn't it? Not
> granting anymore
> licenses for something that doesn't work seems like a good
> idea to me.
>

it does work, though. do your research.

> > You need to do some research, this is my area. Don't copy Cecil
> > and pretend that you know everything!
> >
> I'm not copying Cecil, I certainly don't know everything
> (neither
> does Cecil, ask him, he'll tell you that too), and I've 'been
> there,
> done that', don't need or have any desire to do it again.
>

Done what? Been a pirate? I doubt it.

> > And a newspaper and a radio station are both simply media sources,
> > and can be compared.
> >
> Yes, they are both 'media sources', but one of them does
> not use
> a 'public resource' to impart information. Apples /
> oranges.
>

I disagree. They are both sources of media.

> > Not completely true, people eat what is fed to them, to a
> > certain degree, and pirate radio has formats like playing entire
> > albums, that you will NEVER see on licensed radio.
> >
> So? Just a difference in format (entire albums).
>

Diversity of thought is important in a great country. One format
only encourages totalitarian thinking in my opinion.

> > When is the last time you have called a radio station and they
> > put you one the air without screening you? some college stations
> > still do this, but it is never heard of in the corporate radio world,
> > they are too busy beaming a syndicated show by satellite. How local
> > is THAT?
> >
> If YOU were responsible for the content of what you
> transmitted,
> would you NOT screen calls? Little bit silly, wouldn't you
> think?
>

Not at all. I never screen anyone before i put them on the air.
"Screening" implies that you want to make sure the caller will say
what you want them too. If i disagreed, we would duke it out on the
air, like any great democracy should be (of course, i could always
hang up on them...hehe).

> > Money talks, yes. But only to a certain degree.
> >
> Uh huh... And if you had that 'certain degree' in one

> hand, and
> 'good intentions' in the other, which would YOU bet on??
> 'Doc

Depends on the situation. Do you think it's ok to invade other
countries just for oil?

Slick

4451. TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:42:56 UTC
From: "Henry B." <hbienert@cox.net>
Message-ID: <419Aa.79755$_e6.21320@news2.east.cox.net>
Source record: 117102

After just a few days of lurking,this newsgroup seems to be the place where I can find some answers for my TV antenna problems.I'm buying a camp in Zip 39426 and a web site http://www.antennaweb.org/aw/welcome.asp recommneded that in order to get the stations I want (about 60 miles away and downhill from me)I needed a "blue" zone antenna set at 200 degrees.What rooftop commercial antenna should I get?Can I make my own?I'm familiar with Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks

--
Hank

4452. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:47:38 UTC
From: richardharrison@webtv.net
Message-ID: <14601-3ED11DDA-282@storefull-2316.public.lawson.webtv.net>
Source record: 117104

Cecil, W5DXP wrote:
"Take the 50 ohm load in the center of the room fed by a 150 ohm transmission line coming through a hole in the wall. Given all the passive measurements one can make, one cannot determine if that system is conjugately matched or not."

Rot! All one need do is verify that no substitute load can extract more power.

Best regards, Richard Harrison, KB5WZI

4453. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 19:56:52 UTC
From: "Henry B." <hbienert@cox.net>
Message-ID: <8e9Aa.80218$_e6.43202@news2.east.cox.net>
Source record: 117103

...and I'm NOT seeking DTV signals just channels 4,6,8,12,26,38
Thanks again

--
Hank
"Henry B." <hbienert@cox.net> wrote in message
news:419Aa.79755$_e6.21320@news2.east.cox.net...
> After just a few days of lurking,this newsgroup seems to be the place
where
> I can find some answers for my TV antenna problems.I'm buying a camp in
Zip
> 39426 and a web site http://www.antennaweb.org/aw/welcome.asp
> recommneded that in order to get the stations I want (about 60 miles away
> and downhill from me)I needed a "blue" zone antenna set at 200
degrees.What
> rooftop commercial antenna should I get?Can I make my own?I'm familiar
with
> Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks
>
> --
> Hank
>
>

4454. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:24:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED12685.80409@ieee.org>
Source record: 117106

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Take the 50 ohm load in the center of the room fed by a 150 ohm
> transmission line coming through a hole in the wall. Given all the
> passive measurements one can make, one cannot determine if that system
> is conjugately matched or not."
>
> Rot! All one need do is verify that no substitute load can extract more
> power.

That's not a passive measurement, Richard. Please stick to the
stated boundary conditions.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4455. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:25:10 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305251225.23e46fee@posting.google.com>
Source record: 117105

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305242012.6ad346f@posting.google.com>...

> >
> > I doubt Art's going to be able to beat the efficiency of even a simple
> > dipole fed with 213 coax on the HF bands. KISS prevails here. Also
> > Occums razorblade.
> > No loop needed. Losses in the 2-3%??? range for an average HF band.
> > You will notice that amount of loss at o"clock...Not zipped up. MK
>
> Mark, you have to remember that a 1/2 wave dipole is a radiator chosen
> as a 'datum' to which other radiators can be compared to.

What difference does that make? Besides, only some "people" uses a
dipole as a reference.

> If one refers to 'efficiency' one must be carefull as to what
> parameters are used. In the case of efficiency of 'radiation per unit
> length' just adding a capacity hat to the ends of a dipole increases
> its efficiency per unit length.

I don't care about "unit length". That means nothing to me. Adding a
cap hat only improves the efficiency of a "short" dipole.

The ultimate 'efficiency per unit
> length' is when current is a maximum thru out its length which
> basically means 'point' radiation which some have apothasized as being
> possible.

I dunno know about that. Max efficiency is when the largest amount of
power fed an antenna is actually radiated by said antenna.
> With respect to your comment regarding 2-3% losses, this is sometimes
> very hard to achieve at the 160 meter level as well as when you get in
> the S band.

Who said anything about the "S" band? I said HF. Also, you have it
backwards. With a coax fed dipole, you would have the highest
efficiency on 160m when referring to feedline losses. You would lose
the most on 10m.

> So when refering to 'efficiency' values one must be carefull to not
> mixing apples with oranges when taking a position, whether for or
> against in any discussion. Especially in this forum where an
> oportunity to throw a dart or missile is never allowed to pass by
> some of its judgemental members.

Efficiency is efficiency. I haven't thrown anything. I'm just stating the obvious. Apples and oranges? The original post was about collinear verticals.
MK

4456. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:28:05 UTC
From: richardharrison@webtv.net
Message-ID: <24142-3ED12755-252@storefull-2314.public.lawson.webtv.net>
Source record: 117107

Cecil, W5DXP wrote:
"How about when maximum efficiency is demanded."

Short answer is, "per cycle" losses are higher at HF.

Ham radios don`t achieve the efficiencies of power company generators operating at low frequencies because iron loss and skin effect copper loss increase at HF. Also, very large, low-loss HF machines are too costly and would be regarded with askance by regulators. Hams want all the power available, unlike the power company in normal circumstances. For the power company, fuel consumption is often important to its "bottom line". Power companies worry about "all-day" efficiency. Their circuits must be energized 24-7, and the equipment while idling is losing power from its excitation and idling losses. This is an area requiring careful attention for cost control.

Best regards, Richard Harrison, KB5WZI

4457. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:52:21 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED12D05.F0D9C3B7@cwis.net>
Source record: 117108

"Dr. Slick" wrote:

> How so? I control the spectrum in MY town, I've GOT the grapes
> already!
>
Sure you do.

> > Still 'horse hockey', a 'get around' for the dissatisfied.
> > Since when does "enough political discussion" make ANYTHING
> > true/right?
> >
>
> Never said they were "right", I disagree a lot with what is said
> on the air, but what IS right is allowing the community to have it's
> own station and it;s own voice.
>
Odd, that was the impression you gave. As for a
'community'
radio station, I've never seen or heard of one. Every one
I've
ever seen/heard of was a commercial concern.

> > Well, if there isn't any 'room', then that's just too bad,
> > isn't it.
> >
>
> Point is, there IS room for a 40 watter in most areas, even the
> crowded areas, but there is NOT room for a 1000 watter, for obvious
> reasons.
>
And radio stations only come in 1000 watt size or
larger? I
don't think so...

> > Sounds like 'they' made a mistake, doesn't it? Not
> > granting anymore
> > licenses for something that doesn't work seems like a good
> > idea to me.
> >
>
> it does work, though. do your research.
>
First you say is doesn't work, then you say it does
work. What's next, It might work?

> Done what? Been a pirate? I doubt it.
>
Nope, done the 'small' station thing. Never been a
pirate, doubt that I ever will.

> > Yes, they are both 'media sources', but one of them does
> > not use
> > a 'public resource' to impart information. Apples /
> > oranges.
> >
>
> I disagree. They are both sources of media.
>
I did say that they were both sources of public media.
I
then said that one of them does NOT use a public resource
(the
radio spectrum). What "public resource" does a newspaper
use?

> Diversity of thought is important in a great country. One format
> only encourages totalitarian thinking in my opinion.

So? What do you do when there is only one radio
station
in a particular community? Should that one station be
forced
to change it's format to one YOU approve of? Or should
there
be a second station established but only if it uses a
different
format? The market supplies the demand for the format.

> Not at all. I never screen anyone before i put them on the air.
> "Screening" implies that you want to make sure the caller will say
> what you want them too. If i disagreed, we would duke it out on the
> air, like any great democracy should be (of course, i could always
> hang up on them...hehe).
>
I may have to change what I said about screening
calls. I
also concider 'bleeping' a caller as screening. As far
as telling
a caller what he should say, no, I don't agree with that
either, IF
it pertains to the subject at hand.

> > Uh huh... And if you had that 'certain degree' in one
> > hand, and
> > 'good intentions' in the other, which would YOU bet on??
> > 'Doc
>
> Depends on the situation. Do you think it's ok to invade other

> countries just for oil?

Same answer as your's, it just depends on the
situation,
which has what to do with what we're talking about?
(But, not
a bad try at deflecting the topic.) Which also says
somthing
about your use of 'cheap shots'. Ethics??
'Doc

4458. Re: Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:54:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED12D9A.61F232FC@cwis.net>
Source record: 117109

Thierry,
Move...
'Doc

4459. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 20:56:00 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251256.43b4c103@posting.google.com>
Source record: 117110

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<4ot1dv028utr4ovp1k2v89rmsme5tmpa0p@4ax.com>...
> On 24 May 2003 17:58:57 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >Richard Clark <kb7qhc@attbi.com> wrote in message
news:<90tvcvop16k64pmacpq467obsm8v285ind@4ax.com>...
> >> On 24 May 2003 15:16:26 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> >> wrote:
> >> ...
> >> >Frankly, if he could prove that he was a sincere American
> ...
> >> >After all this
> >> >hobby is meant to be enjoyable even tho some like to place 'carriers'
> >> >to annoy. Have a great day.
> >> >Art
> >>
> >> My memory fails me in regard to your service to America. Have you
> >> ever been a member of an Honor guard?
> >>
> >> Memorial day approaches and your response should be measured by it.
> >>
> >> 73's
> >> Richard Clark, KB7QHC, Volunteer and Veteran
> >
> >I served in the military in the U.K. I registered in the draft
> >(USA)during the Vietnam war. The draft card given was such that for
> >some reason, possibly because of prior service or old age I was not
> >called to serve again. Don't bother me any more with your silly
> >questions since I will not respond.
> >Art
>
> Hi Art,
>
> WE ALL had draft cards, I surrendered mine at Boot Camp.
>
> So I suppose asking if you ever served on an Honor Guard (even for the
> UK) was silly, in your ethics.
>
> Another silly question. Ever visit the cemetery to spend a moment
> with those who fought to get you over here? Probably not or you would
> have volunteered that. But I am sure you stop by Starbucks at the
> Mall to commemorate the sales offered.
>

> Another silly question. Ever fulfill your obligation of service
> outside of military duty? I can imagine that is the height of silly
> questions because if you were not called for the various vague
> possibilities you offer, that was known as "deferment." Deferment
> means (and this is the legal expectation of the written law) that you
> have promised to do it later.
>
> Another silly question. Do it when?
>
> Silly questions abound like the patrimony of those names listed at the
> Alamo. I know you had to study American history as a condition of
> citizenship, but there's little evidence of it with your Alamo
> observation. Those fellows were not on the continent because they had
> any endearing ties to jolly old England (swings like a pendulum do).
> Most of our forebears were EJECTED from England's dominions and had to
> scrape out a living here. You simply chose to come here once they had
> accomplished that, as you have immodestly proclaimed.
>
> Another silly, related question. Have you looked at the list of those
> Brits who fell in Iraq? No utterances in their behalf have ever been
> offered here by you and another poster who enjoys jabbing Americans.
> No one demands it, it just looks odd with the contrast.
>
> But this all pales in the shadow of the foolish utterance you've
> offered:
> >he [Roy] could do much better service for all
> >by taking C Powells place at the U.N.
>
> This last is so very typical of you, Art. You ask, nay demand, others
> perform acts that you haven't, or wouldn't do yourself, and somehow if
> they fail to respond quickly enough, you chastise them for cowardice,
> stupidity, venality (the list goes on to no obvious awareness of the
> irony of your position).
>
> There's a host of silly questions. Your refusal to not answer will be
> consistent even if you post many responses (also consistent).
>
> By-the-by, has Google contacted you about your other pernicious
> past-times? Reference their #2205723, #2216520, #2214083, #2217501,
> #2216425...
>
> >Hi,
> >
> >We have received your report of possible Google Group abuse.
> >
> >We appreciate the time you take to help Google keep the newsgroups as
> >abuse free as possible.
> >
> >Sincerely,
> >

> >The Google Groups Team
> >
> >**********
>
> I don't wanting you blaming Roy for that too.
>
> 73's
> Richard Clark, KB7QHC

If Google thought I was guilty of abuse I am sure that they would
contact me.
If a newsgroup was not reviewed from time to time for abuse then there
would be total chaos. I am glad that Google is protecting its turf
since it makes it so pleasant for those who use it. Seems like you
have been upset with everybody of late,did you take a hit? It is not
to late to change. When I complained about misuse of the newsgroup you
aplauded me for taking a stand against injustice saying that you were
going to report the goings on to Google, never thought that would
backfire on you. Take a rest from hitting out at everybody and use the
newsgroup for the purposes that Google supplied it for.
Now, regarding all those other silly questions

4460. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 21:08:09 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED130B9.B95916DA@cwis.net>
Source record: 117111

Richard,
Rats! I wish you'd have let Art answer that one.(LOL)
'Doc

4461. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 21:13:45 UTC
From: richardharrison@webtv.net
Message-ID: <28869-3ED13209-778@storefull-2317.public.lawson.webtv.net>
Source record: 117114

Reg, G4FGQ wrote:
"Conjugate matches are not relevant."

I agree that conjugate matches are not required and often are not sought. The point is they are required to obtain all available power.

I have a reference, "Transmission Lines, Antennas, and Wave Guides" by King, Mimno, and Wing, all members of the War Training Staff of Cruft Laboratory at Harvard University, engaged in the pre-radar training of Army and Navy officers in 1945. On page 43 it says:
"If a dissipationless network is inserted between a constant-voltage generator of internal impedance Zg, and a load impedance ZR such that maximum power is delivered to the load, at every pair of terminals the impedance looking in opposite directions are conjugates of each other.

To secure maximum power output from a generator whose emf and whose internal impedance are constant (assume a tank or a linear amp), the load must have an impedance equal to the conjugate of the generator`s internal impedance.

Best regards, Richard Harrison, KB5WZI

4462. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 21:35:35 UTC
From: helmsman <helmsman@DELETEmindspring.com>
Message-ID: <qcd2dvgn0be87g8q0v0he2leqbngv98ib7@4ax.com>
Source record: 117112

On Sun, 25 May 2003 19:42:56 GMT, "Henry B." <hbienert@cox.net> wrote:

>After just a few days of lurking,this newsgroup seems to be the place where
>I can find some answers for my TV antenna problems.I'm buying a camp in Zip
>39426 and a web site http://www.antennaweb.org/aw/welcome.asp
>recommneded that in order to get the stations I want (about 60 miles away
>and downhill from me)I needed a "blue" zone antenna set at 200 degrees.What
>rooftop commercial antenna should I get?Can I make my own?I'm familiar with
>Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks

What ever antenna you get, put it up as high as possible. TV signals
are line of sight "the higher you are the further they can see".
For every 5 ft you raise your antenna it will "see" an additional
3.1 miles. :')

.
Boycott anything made in france and vacation somewhere else.

4463. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 21:38:41 UTC
From: richardharrison@webtv.net
Message-ID: <28870-3ED137E1-298@storefull-2317.public.lawson.webtv.net>
Source record: 117113

Cecil, W5DXP wrote:
"That`s not a passive measurement--."

What? My Bird wattmeter is passive. It has no power other than that being measured. Just as a simple voltmeter or ammeter is passive. Even a Simpson 260 can be argued as not passive when measuring a resistance because it is supplying a current to the device under test. Not so with my Bird 43. All the power is from the system under test. None is supplied by the wattmeter. That is passive.

All I proposed was a variable passive load to determine a maximum output point. Just read the dials of the load to find the requirements for maximum output. The transmitter`s impedance is the conjugate. The Bird tells when maximum is reached.

Best regards, Richard Harrison, KB5WZI

4464. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 21:58:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1sd2dv49qf4r27hh23cg4dqki7atonmdob@4ax.com>
Source record: 117115

On 25 May 2003 13:56:00 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>>
>> By-the-by, has Google contacted you about your other pernicious
>> past-times? Reference their #2205723, #2216520, #2214083, #2217501,
>> #2216425...
>>
>> >Hi,
>> >
>> >We have received your report of possible Google Group abuse.
>> >
>> >We appreciate the time you take to help Google keep the newsgroups as
>> >abuse free as possible.
>> >
>> >Sincerely,
>> >
>> >The Google Groups Team
>> >
>> >**
>>
>> I don't wanting you blaming Roy for that too.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>If Google thought I was guilty of abuse I am sure that they would
>contact me.
>If a newsgroup was not reviewed from time to time for abuse then there
>would be total chaos. I am glad that Google is protecting its turf
>since it makes it so pleasant for those who use it. Seems like you
>have been upset with everybody of late,did you take a hit? It is not
>to late to change. When I complained about misuse of the newsgroup you
>aplauded me for taking a stand against injustice saying that you were
>going to report the goings on to Google, never thought that would
>backfire on you. Take a rest from hitting out at everybody and use the
>newsgroup for the purposes that Google supplied it for.

Your comprehension of the lines above is -uh- slow.

>Now, regarding all those other silly questions

Um, yas? Hit the send button too soon? Still writing into the
bit-bucket?

As I suggested (and now confirmed), you offer more responses than answers. I don't suppose you want someone here to do that job for you too, do you? May I volunteer? :-)

73's
Richard Clark, KB7QHC

4465. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 22:10:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd2fpjm20gbo23@corp.supernews.com>
Source record: 117116

Yes, you misinterpreted my posting.

I now return you to your regularly scheduled programming. . .

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> W5DXP wrote:
>>
>>> The argument is whether the following statement is true or false:
>>>
>>> "Reflected waves cannot cause damage to a transmitter."
>>> . . .
>>
>> That's strictly your argument Cecil. I don't believe anyone but you
>> has proposed that.
>
>
> I haven't proposed that, Roy. From things you posted earlier, I inferred
> that was what you were saying. Please forgive if I misinterpreted your
> posting.
>
> So are we agreed that reflected waves are indeed capable of causing
> damage to a transmitter?

4466. Help receiving distant radio station

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 22:23:20 UTC
From: Pat <pgrant@voyager.net>
Message-ID: <vd2gsalvr3npeb@corp.supernews.com>
Source record: 117117

Not sure if this is the right place, but maybe someone can help? Since we've moved I haven't been able to receive my favorite station (FM). Sometimes in the early evening on my way home from work I can get it until I'm almost home. I moved the radio to the 2nd floor and strung the 20' wire up the wall toward the ceiling, taping it in place. That didn't work. I've asked for help at Radio Shack and other stores. I've also asked if add-on antennas would help; no one seems to have any answers. I guess FM radio is line-of-sight, but lately I've noticed that in my husband's F-150, I can get this station. There must be something I can do!

Thanks...

4467. Re: Help receiving distant radio station

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 22:37:04 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <j6ydnde4I6M92EyjXTWcoA@crocker.com>
Source record: 117118

it will depend on the radio. if it has a jack for an external antenna you
can get one of the commercially available fm antennas or just use a vhf tv
antenna.

"Pat" <pgrant@voyager.net> wrote in message
news:vd2gsalvr3npeb@corp.supernews.com...
> Not sure if this is the right place, but maybe someone can help? Since
> we've moved I haven't been able to receive my favorite station (FM).
> Sometimes in the early evening on my way home from work I can get it until
> I'm almost home. I moved the radio to the 2nd floor and strung the 20'
wire
> up the wall toward the ceiling, taping it in place. That didn't work.
I've
> asked for help at Radio Shack and other stores. I've also asked if add-on
> antennas would help; no one seems to have any answers. I guess FM radio is
> line-of-sight, but lately I've noticed that in my husband's F-150, I can
get
> this station. There must be something I can do!
>
> Thanks...
>
>

4468. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 22:38:46 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <barglp$2qatr$1@ID-134747.news.dfncis.de>
Source record: 117019

There is a publication from on of the industry groups that rates antennas and groups them into color zones. The closest space to locate information, and cross reference it to product recommendations, is your local Radio Shack. If it is company store they will have a book that shows the local zones, and then tells which of their antennas, or antenna/amplifier combinations fits each color class.

73 es cul

wb3fup
a Salty Bear

"Henry B." <hbienert@cox.net> wrote in message news:419Aa.79755$_e6.21320@news2.east.cox.net...
> After just a few days of lurking,this newsgroup seems to be the place where
> I can find some answers for my TV antenna problems.I'm buying a camp in Zip
> 39426 and a web site http://www.antennaweb.org/aw/welcome.asp
> recommneded that in order to get the stations I want (about 60 miles away
> and downhill from me)I needed a "blue" zone antenna set at 200 degrees.What
> rooftop commercial antenna should I get?Can I make my own?I'm familiar with
> Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks
>
> --
> Hank
>
>

4469. Re: Want to buy Hustler resonators

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-25 23:55:15 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED15793.4000608@attbi.com>
Source record: 117020

I have the 17 meter. It's yours!

I'll mail it Tuesday or Wednesday to your QRZ address.

Glad to have someone use it!

Deacon Dave, W1MCE

rich a. wrote:
> Greetings,
>
> I'm looking for (2) Hustler mobile antenna resonators. I need one for
> 12m and one for 17m.....low power versions OK (preferable). Email
> direct your offers.
>
> Rich K2CPE

4470. Re: Converting a G5RV to Horizontal Loop

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 00:37:04 UTC
From: Niittymaa Family <niittyma@sympatico.ca>
Message-ID: <KkdAa.368$ME.129585@news20.bellglobal.com>
Source record: 117022

Dan, Doc and Dave,

Thanks for your input - in hindsight it does seem a waste to destroy a functional G5RV - it became "spare" when I replaced it with an inverted 110' dipole fed by 450 ohm ladder-line. This inverted antenna works MUCH better than my original G5RV on most bands but there are clear nulls (20-17-15 Meters) that I would like to fill using the 40M+ loop. I have looked at the various published loop patterns and can (hopefully) orient the loop to fill the nulls in the inverted dipole.

I'll go with your suggestions and get up as much wire as I can fed by ladder-line and a knife switch to switch the feeders to the tuner or find a balun and convert the ladder-line to terminate with a short length of 50 ohm coax (<30 feet) to one of the tuner's coax SO239 inputs.

Thanks for your comments..... Al (VA3KAI)

"Niittymaa Family" <niittyma@sympatico.ca> wrote in message news:I4Dza.9847$eo1.856105@news20.bellglobal.com...
> I have a commercial G5RV with the usual 102' dipole, length of 300 ohm twin
> lead, 4:1 balun and about 100' of RG8X co-ax.
>
> Could this be converted to a 40-10M horizontal loop by cutting off the 2 end
> insulators and adding a 40' copper wire closed loop addition and hanging it
> up about 25' in a hexagon shape? I would trim the total length to center
> around 7.1Mhz and maximize the multiples.
>
> Also, could the coax be shortened to about 20-30' and the whole thing fed
> through a MFJ 948 tuner for multi-band operation?
>
> One final thing, I'm not sure of the 4:1 balun is a voltage type or current
> type - would this make a difference?
>
> Thanks for any comments and other ideas..... Al
>
>

4471. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 00:41:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED162BF.8000002@ieee.org>
Source record: 117021

Richard Harrison wrote:
> All I proposed was a variable passive load to determine a maximum output
> point.

Changing the load is certainly NOT a passive measurement! Please feel free to try again within the boundary conditions - only passive measurements allowed.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4472. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 00:47:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baro7ijlv1@titan.btinternet.com>
Source record: 117023

> I have a reference, "Transmission Lines, Antennas, and Wave Guides" by
> King, Mimno, and Wing, all members of the War Training Staff of Cruft
> Laboratory at Harvard University, engaged in the pre-radar training of
> Army and Navy officers in 1945.
==========

I've never heard of K.M.&W. But in 1940 I lived within 3 miles of the top-secret laboratory at Birmingham (the original) University where Randall and Boot were putting the final touches to the 3000 MHz, 50KW, Cavity Magnetron they had just invented. It was presented by Churchill, complete with magnet, to Roosevelt and thence to Harvard University where they proceded to copy it. Presumably you had to write your own maintenance manuals.

I think that gives me precedence.

Incidentally Winston threw in other goodies such as Loran to make weight. I flew with both on board. The planes were flying boats. There were never any parachutes - not even when flying over mountainous regions.

Reg

4473. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:04:27 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305251704.1ef9163d@posting.google.com>
Source record: 117024

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305251256.43b4c103@posting.google.com>...
> Richard Clark <kb7qhc@attbi.com> wrote in message Take a rest from hitting out at
everybody and use the
> newsgroup for the purposes that Google supplied it for.

Google has nothing to do with this newsgroup "usenet", except that
their site is one point that you can access usenet. And they also
archive posts, which they seemed to have assumed from "deja-news".
They can regulate how their people using their system operate, but
other than that, they have nothing to do with it. I use google myself
quite a bit, but I'm not going to regulate what I say because of it.
If they decide at some point they don't like what I say, I'll just
quit posting from google, and use my own ISP's server. It's no
biggie...MK

4474. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:19:25 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251719.20c6ebf@posting.google.com>
Source record: 117025

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3ECFE2AB.2030109@ieee.org>...
> Richard Clark wrote:
> > W5DXP <Cecil.A.Moore@ieee.org> wrote:
> >
> >>BS indeed! I have asked you to list a single point of disagreement
> >>between you and me. Since you refuse to do that, I am forced to
> >>conclude that you have changed your mind and now agree with me.
> >
> > there you go again!
>
> And there you go again! :-) Heck, I'll make the same challenge to
> you. Please list a single point of technical disagreement between
> you and me.

Cecil, looking at the history of this thread. It is generally either
Doc
or Clark who tire people out and get the last word when people leave
the side threads. Maybe you had better re-allocate your time since
most people walk away from them. Actually I see the same trend often
in other threads, they always succeed in pushing people away when
people tumble to their intentions.
I mean it, take a look at the side bar and see where all the side
threads end
and think again about the impossibilities of proving any points with
these two
while they are in their present frame of mind.
Stand firm with the others, I like Reg put my money behind you because
you are allowing all to wriggle but not allowing them to flee from
their errors via change of parameters being discussed. You have the
stamina of Jove.
Best regards, while they are attacking you I get a rest,thanks a lot.
Art

4475. Re: Help receiving distant radio station

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:21:26 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vd2r0ph815jtb3@corp.supernews.com>
Source record: 117026

If your FM radio has an antenna input find out if it's 300 ohm, usually a pair of screws an inch or so apart like the old TVs used, or a coax fitting like the new TVs use. Yu can make a folded dipole for 300 ohms by using 300 ohm TV twin lead. Cut a piece about 4 feet long, short both ends and one side in the middle make a cut expose enough wire to connect a lead-in, whatever length you need.. The finished unit will look like the3 letter T with horizontal part being the top of the T and the vertical part being the lead in. Soldering the conncections will help but a good twist connection could last if you can't solder. If the top of the T is oriented horizontally you'll get best reception by being bradside to the general vicinty of the station you want. You might want to try orienting the antenna vertically also. If your radio has a coax fitting youcan buy a 300 to 50 ohm balun at Radio Shack. If this ant doesn't do it then you can buy a 3 or 4 element yagi. If your radio doesn't have an antenna input you'll need someone who knows radios to open it up and see how it's wired or buy an radio with a connection. Try another radio also because yours may lack the required sensitivity especially its a low cost set for city use.
good luck
hank wd5jfr
"Pat" <pgrant@voyager.net> wrote in message
news:vd2gsalvr3npeb@corp.supernews.com...
> Not sure if this is the right place, but maybe someone can help? Since
> we've moved I haven't been able to receive my favorite station (FM).
> Sometimes in the early evening on my way home from work I can get it until
> I'm almost home. I moved the radio to the 2nd floor and strung the 20'
wire
> up the wall toward the ceiling, taping it in place. That didn't work.
I've
> asked for help at Radio Shack and other stores. I've also asked if add-on
> antennas would help; no one seems to have any answers. I guess FM radio is
> line-of-sight, but lately I've noticed that in my husband's F-150, I can
get
> this station. There must be something I can do!
>
> Thanks...
>
>

4476. Re: Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:25:50 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305251725.962210d@posting.google.com>
Source record: 117027

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:<3ed0eb36$1_2@news.vo.lu>...
> Hi,
>
> I am using a 6m long Fritzel GP 404 vertical antenna. It uses i.e. 1 radial
> 10m long attached at its base to work on the 40m band (1 radial per band,
> from factory). This radial is screwdrived on the mast. This is thus an
> asymetric antenna.
> Some say that when placed at ground level a GP does not request to be
> grounded.
> But others say that for the 40m band, when such an GP is placed at ground
> level, it requests to be grounded to get good results (low loss, low qrm,
> etc).
> First question: who is right ?

Door #2. The need for radials increase as you approach the ground. To
equal 4 radials on an antenna at 1/2 wave up, you would need about 120
radials on the ground. At an 1/8 wave, about 60. At a 1/4 wave, about
10. All these have about the same appx amount of ground losses.
>
> My first objective is to reduce QRM (man-made). I think that grounding the
> system can help. Right or false ?

False, if the noise is picked up by the antenna. If you suffer from
shack noise ingress problems, the answer is better decoupling, not
grounding. Grounding can help a "few" situations I'm sure, but
overall, it's fairly useless. Here, whether I use a ground make no
difference in my noise level. But my antennas are all "complete" or if
an rf ground is needed, it's under the antenna where it should be.

>
> I use this installation at home but also for portable operations. What could
> be the easiest but efficient way to ground this system (at least when used
> at home) ? I know that I can connect radials to a copper bar 2.5m long that
> I 'd place into the ground. But this is practically impossible as the soil
> is only 30-50cm tick.

Why not use the antenna elevated? The ground is the worst place to
mount a vertical. Most all that do, or mount too low, and fail to use
the proper number of radials per height in wavelength, always complain
they don't work. Ignore warnings of 120 radials on the ground being a
"wives tale". It's not, if you want top notch performance. But I will
say, as a compromise, usually 60 will be very good. But it also
depends on the ground quality. Of course, you can use much less and
"operate" just fine, but it's not going to be a world beater.

>
> I cannot ask my electrical eng. to install a true electrical ground as the
> installation is not permanent (worst, this installation works in my parents'
> house, and they will never accept that someone modifies their electical
> circuit simply to "do radio")...

You already have a "true" electrical ground. That is for safety. The
ground you refer to with radials, rod, etc, is an "rf" ground. It
should be under the antenna.
>
> What is your solution ?

Use antennas that don't require a ground system to operate efficiently
if you can't swing the radials, etc.
MK

4477. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:34:16 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vd2ros8ajhec67@corp.supernews.com>
Source record: 117028

If all the station towers are in the same direction you won't need a rotor. Next call the stations and find out their transmit power. The higher the channel and the lower the power the less the reach. Radio shack used to make a decent multichannel yagi but if they don't someone on this site mught have the answer. The topography between your site and the towers will have an effect, deleterious if there's mountains. At 60 miles with good conditions you might be able to get a snowy signal with properly oreinted rabbit ears but I kind of doubt it. You can buy extendable roof mount mast kits in 10 foot increments that go to about 40 feet. Over 10 feet you'll have to guy. Back in the late 1950s I installed hundreds of 30 and 40 foot masts with 10 and 12 element channel 2 yagis to get a 100 microvolt signal from a 100 miles away. Most houses in the valley needed 50 feet but cost was a limiting factor so they lived with a snowy siganl and people up high could get away with a 20 footer and get over 200 microvolts.
good luck
hank wd5jfr

"Henry B." <hbienert@cox.net> wrote in message
news:8e9Aa.80218$_e6.43202@news2.east.cox.net...
> ...and I'm NOT seeking DTV signals just channels 4,6,8,12,26,38
> Thanks again
>
> --
> Hank
> "Henry B." <hbienert@cox.net> wrote in message
> news:419Aa.79755$_e6.21320@news2.east.cox.net...
> > After just a few days of lurking,this newsgroup seems to be the place
> where
> > I can find some answers for my TV antenna problems.I'm buying a camp in
> Zip
> > 39426 and a web site http://www.antennaweb.org/aw/welcome.asp
> > recommneded that in order to get the stations I want (about 60 miles
away
> > and downhill from me)I needed a "blue" zone antenna set at 200
> degrees.What
> > rooftop commercial antenna should I get?Can I make my own?I'm familiar
> with
> > Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks
> >
> > --
> > Hank
> >
> >
>

>

4478. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:44:44 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251744.3245f642@posting.google.com>
Source record: 117029

'Doc <w5lz@cwis.net> wrote in message news:<3ED130B9.B95916DA@cwis.net>...
> Richard,
> Rats! I wish you'd have let Art answer that one.(LOL)
> 'Doc

Richard surprised me too. His reply was so complete with full
technical details
where as I, mindfull of your limited understanding of power and
reactance,
was trying to fathom a way to respond such that any simplton could
understand. He gives great credit to your level of understanding.
Next time you have what appears to be a simple question make a thread
and ask for help, that whats the newsgroup is all about. There is no
discredit applied when a ham seeks help since the same question may
have interest to all.
(see who started this thread)
Make a copy of Richard's response, which was quite good, so that you
can remember when your next 'newby' comes along, as it is more
informative than
..... "well it depends" .... or... " that would be telling" .....
if they challenge your answers as they have done in the past.
Art

4479. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 01:53:25 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305251753.33c554b4@posting.google.com>
Source record: 117030

'Doc <w5lz@cwis.net> wrote in message news:<3ED12D05.F0D9C3B7@cwis.net>...
> "Dr. Slick" wrote:
>
> > How so? I control the spectrum in MY town, I've GOT the grapes
> > already!
> >
> Sure you do.
>

It sounds like YOU have the sour grapes now. It's an intoxicating
power to set up your own radio station...err, for educational purposed
only, of course.

:)

> >
> > Never said they were "right", I disagree a lot with what is said
> > on the air, but what IS right is allowing the community to have it's
> > own station and it;s own voice.
> >
> Odd, that was the impression you gave. As for a
> 'community'
> radio station, I've never seen or heard of one. Every one
> I've
> ever seen/heard of was a commercial concern.
>

Where do you live approximately? The SF Bay Area is teeming with
pirate activity, if you look around.

> >
> > Point is, there IS room for a 40 watter in most areas, even the
> > crowded areas, but there is NOT room for a 1000 watter, for obvious
> > reasons.
> >
> And radio stations only come in 1000 watt size or
> larger? I
> don't think so...
>

Well, that's why the FCC was wrong to outlaw under-100 watts.
EVERY high school should have it's own 15 watt station...it would give
the teens something to do and give them a voice, and they might think
twice before bringing the guns to school if we gave them some respect
and responsibility.

> >
> > I disagree. They are both sources of media.
> >
> I did say that they were both sources of public media.
> I
> then said that one of them does NOT use a public resource
> (the
> radio spectrum). What "public resource" does a newspaper
> use?
>

Paper, space on the corner of the street for the newpaper rack,
rubber bands, gasoline for delivery. The public roads that are used
to delivery the paper.

>
> So? What do you do when there is only one radio
> station
> in a particular community? Should that one station be
> forced
> to change it's format to one YOU approve of? Or should
> there
> be a second station established but only if it uses a
> different
> format? The market supplies the demand for the format.
>

I don't totally agree with this. There is MUCH debate even among
the micro-powered broadcasters, as to what the rules should be:
non-profit, types of programing, commercials, etc.

What we do agree on, is that every town should have at least one
community radio station, that is run locally, and doesn;t have a show
beamed in by satellite.

> >
> I may have to change what I said about screening
> calls. I
> also concider 'bleeping' a caller as screening. As far
> as telling
> a caller what he should say, no, I don't agree with that
> either, IF
> it pertains to the subject at hand.
>

But the problem is that's what screening callers is all about:
programming directors try to weed out the controversial callers so
that they don't piss off their advertisers.

> >
> > Depends on the situation. Do you think it's ok to invade other
> > countries just for oil?
>

> Same answer as your's, it just depends on the
> situation,
> which has what to do with what we're talking about?
> (But, not
> a bad try at deflecting the topic.) Which also says
> somthing
> about your use of 'cheap shots'. Ethics??
> 'Doc

I don't think this is an un-related issue at all. If you are saying the only "Ethical" thing to do is to follow the money, and just do what will get us the most money, then i think pure Capitalism will go against Ethical behaviour. This is why we don't live in a 100% Capitalist system of survival of the fittest, because then the growing masses of the poor would revolt.

Social Security is called that for a reason, you know.

Slick

4480. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 02:03:07 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305251803.27dbb1b6@posting.google.com>
Source record: 117031

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<lk32dv8roojbm95h5p4vgm9kgt74ue6s4t@4ax.com>...
> On 24 May 2003 21:33:50 -0700, radio913@aol.com (Dr. Slick) wrote:
>
> >> Yes I have. In most cases it's just a play on words to
> >> justify breaking the rules of society.
> >>
> > > Not in Rosa Parks case, and not in Berkeley Liberation Radio or
> > >Free Radio San Francisco's case. Enough political discussion and
> > >community involvement to avoid the "vanity station" label.
> > >
> > This speaks to the ignorance of pirate radio, really, and attempts to
> > dress it up in the mantle of civil rights.
> >

I disagree. Even vanity stations that just play music are a
political statement of sorts. "I'm gonna go on the air even though i
don't have enough money to bribe the FCC" Just the knowledge and
ability to go on the air is empowering, even if you aren't politically
motivated, RIGHT NOW.

And it can be a organizing force, especially in a town like
Berkeley and SF.

> I was DXing pirates at least 35 years ago. Radio Caroline being one.
> However as to your Berkeley reference, ever listen to "The Voice of
> the Purple Pumpkin?"
>
> They destroyed Power distribution towers by dynamite in the hills
> above. Not quite the respectability of civil disobedience. I also
> read the "Berkeley Barb" there is more than radio to offer a message.
> It survived the vanity of pirate radios by years.
>

There are always a few bad apples.

ANNOUNCEMENT: BERKELEY LIBERATION RADIO IS STILL ON THE AIR AFTER
5 YEARS, 104.1 FM IN THE BERKELEY AREA.

SO IS SAN FRANCISCO LIBERATION ON 93.7 FM.

SO IS FREE RADIO SANTA CRUZ 96.3 FM.

ALL HAVE BEEN VISITED BY THE FCC COUNTLESS TIMES.

:^)

Slick

4481. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 02:31:42 UTC
From: richardharrison@webtv.net
Message-ID: <19445-3ED17C8E-356@storefull-2313.public.lawson.webtv.net>
Source record: 117032

Cecil, W5DXP wrote:
"Changing the load is certainly NOT a passive measurement!"

We are being treated to a sequel. The original is obviously "Alice in Wonderland". Cecil is demanding that words mean just what he says they mean.

My dictionary says---Passive:
"1. An inert component which may control, but does not create or amplify energy. 2. Pertaining to a general class of device that operates on signal power alone."

A variable load impedance and a Bird Model 43 both generate no energy, contain no batteries, and operate on signal power alone. Both could be pictured in an electronics dictionsary to exemplify passive devices.

Best regards, Richard Harrison, KB5WZI

4482. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 03:22:39 UTC
From: richardharrison@webtv.net
Message-ID: <24142-3ED1887F-273@storefull-2314.public.lawson.webtv.net>
Source record: 117033

Reg, G4EGQ wrote:
"I think that (the 1940, 3000 MHz, 50 KW cavity Magnetron and Loran) gives me precedence."

Radar and Loran were priceless contributions to the war effort.

Brittain surely didn`t share its Radar technology with the Germans, so they must have developed their own.

Not to detract from other WW-2 technical achievements, but some claim that the advancement that most shortened the European war was the proximity anti-aircraft artillery fuze. It turned near-misses into downed aircraft. The enemy didn`t have it. We all know what ended the Pacific war, it was the A-bomb. I didn`t have anything to do with either weapon.

The most powerful RF source is not the magnetron but it is the klystron.

Best regards, Richard Harrison, KB5WZI

4483. Re: Help receiving distant radio station

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 03:47:27 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251947.5dfd984@posting.google.com>
Source record: 117034

"David Robbins" <k1ttt@arrl.net> wrote in message
news:<j6ydnde4I6M92EyjXTWcoA@crocker.com>...
> it will depend on the radio. if it has a jack for an external antenna you
> can get one of the commercially available fm antennas or just use a vhf tv
> antenna.
>
> "Pat" <pgrant@voyager.net> wrote in message
> news:vd2gsalvr3npeb@corp.supernews.com...
> > Not sure if this is the right place, but maybe someone can help? Since
> > we've moved I haven't been able to receive my favorite station (FM).
> > Sometimes in the early evening on my way home from work I can get it until
> > I'm almost home. I moved the radio to the 2nd floor and strung the 20'
> wire
> > up the wall toward the ceiling, taping it in place. That didn't work.
> I've
> > asked for help at Radio Shack and other stores. I've also asked if add-on
> > antennas would help; no one seems to have any answers. I guess FM radio is
> > line-of-sight, but lately I've noticed that in my husband's F-150, I can
> get
> > this station. There must be something I can do!
> >
> > Thanks...
> >
> >
Pat, if your husband can get it on his radio so should you. First I
would ensure that the radio antenna is firmly connected, this can be
done by tuning to a station that you can hear and then add an
extension to the antenna to see if it becomes noticably loader. If it
doesn't get loader I would repeat the experiment but with the added
extention to the antenna in a horizontal plane because horizontal
antennas are what is best for FM signals. If it still doesn't get
louder then I would suspect that the internal radio antenna joint has
gone bad.
If the radio did get louder then redo your added antenna on the second
floor
but form it in a shape of a horizontal dipole (tee shaped) facing in
the direction of the required station that means that you need to
connect a second wire to a metal fasteng screw in the hope it provides
a ground connection for the other half of the dipole. If there is
another antenna connection available try that also incase the original
antenna connection was loose.
I think you have enough tenacity to get this problem solved.
Best of luck.
Art

4484. Outbacker?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 03:54:30 UTC
From: Carl Walthall <motorola1@insightbb.com>
Message-ID: <WdgAa.735867$Zo.156709@sccrnsc03>
Source record: 117035

Hi All

Has anyone used a Outbacker for a apartment base ant? Can you tell me what was needed for the radials?

Thanks carl

4485. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire ant + simple ATU.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 03:59:32 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305251959.4e18158f@posting.google.com>
Source record: 117036

"Melvyn T Phillips" <melvyn@g7onh.fsnet.co.uk> wrote in message
news:<bao5qt$8mi$1@newsg2.svr.pol.co.uk>...
> WELCOME BACK Eric.
> I came back a year ago too after a few years off.
> You'll find it's changed somewhat in certain area's...M3's etc :-)
> Enjoy!
>
> 73....Melvyn (G7ONH)
>
> G6XCD <look@this.con> wrote in message
> news:1053697825.51642.0@iris.uk.clara.net...
> >
> > Following a long layoff from Amateur Radio, and being 'blessed' with
> serious
> > memory problems,

Welcome back, being ' blessed' with memory problems means you can hide
your own easter eggs next year like the rest of us.
Cheers
Art

I find I've forgotten far too much of the little I
> managed
> > to learn in order to take the exam.
> >
> > I decided it was time to stop 'feeling sorry' for myself and make a
> comeback
> > on 2M to begin with and (hopefully) 6M and 70cms later.
> >
> > Since rotatable beams and collinears are out of the question, until
> > circumstances permit, I'm forced to use what I have available, which turns
> > out to be a pair of folded driven elements from an old 10XY. I made
> coaxial
> > baluns to match these when I bought the beam back in 1984 and I recall
> > seeing details in the VHF/HUF Handbook for stacking these vertically, but
> I
> > can't remember how to calculate the spacings or phasing to bring a pair
> back
> > to a 50 ohm feedpoint, though I do remember seeing some form of
> > phasing/stacking harness being commercially available for side by side
> > phasing. I never got one though, I made a spare boom and took the easy
> way
> > out by treating them as two seperate H&V yagis with independent feeds.

> >
> > I have the folded dipoles, reflectors and a few directors with assorted
> > clamps and bolts. I can make another boom from square section TV antenna
> > boom of the right shape and size, so it may not be impossible to make up
> two
> > 2 or 3 ele yagis. Since the mast must be erected below the roof apex
> level
> > and I can only erect one vertical tubular mast, could the dipoles be
> stacked
> > or used back to back on the same mast with some shack end switching or
> plug
> > swapping?? It occurs that more information on the folded dipole may be
> > needed to be assured of the impedance. These are mounted with a bolt and
> > saddle through the dipole centre to the boom, so the element is DC
> grounded
> > to the boom and to the mast. The coax balun is around 19 inches of RG58
> and
> > is coiled inside the connector box which is insulated from the boom and
> > other fittings
> >
> > I don't have a clue about how to calculate the stand-off required to
> prevent
> > any interaction from the steel tube mast, so I would appreciate any help
> to
> > give me a quick start and a couple of ounces of gain. The rig is QRP all
> > modes 5W output max
> >
> > Part 2 is a request for suggestions to make a simple long wire HF antenna
> > for an SWL station. I have around 5 metres from the high anchor point at
> > the north to a convenient feed point, and a further 30 or 35 metres of
> free
> > space to run down to another anchor point about 2 metres above ground at
> the
> > south end, so I guess I'm looking for some kind of sloping windom or none
> > symetrical dipole or just an end fed long wire. The receiver covers
> 500KHz
> > to 80MHz in all modes and my interest is the usual amateur bands with some
> > commercial broadcast DX thrown in for fun. I'm getting some useable
> results
> > on 10 and 20M by using an old 11 Metre whip and a couple of short radials,
> > but it's very inefficient. The Rx ideally wants 50ohms at the antenna and
> > I'm limited to bonding an earth/ground to the central heating piping.
> I've
> > saved earlier posts which cover ladder and twin feed to coax matching, and
> > I'm sure I can home brew a length of ladder or buy 300 ohm slotted twin,
> > which should save some ink.
> >
> > Suggestions here would be much appreciated. Also welcome would be
> > suggestions about a simple ATU for 'peaking' each band. I've seen some
> > cheap Zetagi Brand AMU's advertised for 11 metres which could possibly

> > benefit from a few extra turns on the coil and a banana plug or croc clip
> > switch to extend the band coverage, unless there's something ready made
> > which would be a better choice
> >
> > Sorry this is long winded. Perhaps some judicious use of the delete key
> > could split replies into two or three segments?
> >
> > good DX & 73
> >
> > Eric, G6XCD
> >
> >

4486. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 04:03:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED19215.9090303@ieee.org>
Source record: 117037

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Changing the load is certainly NOT a passive measurement!"

> My dictionary says---Passive:
> "1. An inert component which may control, but does not create or amplify
> energy. 2. Pertaining to a general class of device that operates on
> signal power alone."

Nothing was said about passive *components*. The only thing allowed is
passive *measurements*. In general, that means you cannot take an action
- like changing the load. From Webster's: "passive - not involving
active participation". Changing the load is active participation.

Are you trying to tell us that you don't know what it means to limit
your participation to passive measurements?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4487. MFJ-1786?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 04:31:16 UTC
From: Carl Walthall <motorola1@insightbb.com>
Message-ID: <oMgAa.111835$rt6.38298@sccrnsc02>
Source record: 117038

I just purchased a MFJ-1786 for use in my apartment. I have place it on the my balcony and in the living room but cant get my SWR below 3:1. I have also mounted it both vertical and horizontal with the same results. Can someone tell me what the problem is?

Thanks Carl

4488. Tactical Mesh Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 06:20:38 UTC
From: jtaastu@yahoo.com
Message-ID: <Xns9387DACFC828jtaastu@24.28.95.158>
Source record: 117039

Greeting

I'm posting this here since I have not had luck seaching on google and thought perhps someone here would know. I am looking for the proper name (and name of manufacturer) of what I think is called a tactical mesh antenna. This is the little antenna that Jeff Goldblum puts on his father's car in the movie Independence Day. I have seen antennas like this in movies before, however I am not sure whether they are real or just a product of Hollywood. As for why I want this.. curiosity more than anything else. I found one link (http://www.sfwx.com/softworks/meshdish.htm) but these seem to be much larger than I am looking for. Any help would be welcome. Thanks!

4489. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 06:38:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tgd3dvgh854876rn3hik9q1lr96ml760id@4ax.com>
Source record: 117040

On Sun, 25 May 2003 23:03:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Are you trying to tell us that you don't know what it means to limit
>your participation to passive measurements?

Richard's too tough for your acolyte grinder, Cecil.

4490. Re: MFJ-1786?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 08:11:28 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1053936763.884663@halkan.kabelfoon.nl>
Source record: 117041

"Carl Walthall" <motorola1@insightbb.com>

> I just purchased a MFJ-1786 for use in my apartment. I have place it on
the
> my balcony and in the living room but cant get my SWR below 3:1. I have
also
> mounted it both vertical and horizontal with the same results. Can someone
> tell me what the problem is?
>
> Thanks Carl

Carl,

The most common problem is the reflection against metal objects or concrete walls. Use the loop in vertical position and try moving the antenna in an other position. You can also try to shape the pick-up loop inside the antenna. The manual tells about it. The trouble is that the pick-up loop inside the hardcover of the 1786 isn't a faraday type. There is no electrical shortcut because of the fact that the coax also carries the 12 Volt for the tuning motor. So there is a capacitor to split RF and DC.
I experimented with a homemade pick-up loop made out of RG-58 coax and there was no trouble anymore to get the loop SWR 1:1.

The 1786 will tune but you have to keep it away from reflecting materials. Try to tune it with low-power. On my homepage you can have a look at the picture of my MFJ 1788 on my balcony. My AEA Isoloop 10-30 MHz tunes perfectly SWR 1:1 in each position. This antenna has a faraday pick-up loop
and
a seperate DC cable for the tuning motor.
--
73, Norbert (PA7NR)
Homepage : http://www.qsl.net/pa7nr/index.html

4491. Re: Help receiving distant radio station

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 10:44:35 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <basr6l$36gc3$1@ID-134747.news.dfncis.de>
Source record: 117042

You can buy the antenna assembled from radio shack
for less than $5.00 (42-2385). I know the twin
lead will not cost that much, if you can buy the
ten foot needed, but generally need to buy 50 or
100 feet, and the antenna assembled is less. They
also sell an "outdoor" omni-directional antenna
for $15. (15-2164), and a 5 element directional
antenna for less than $30 (15-2163). The outdoor
antennas can be put up in attics.

73 es cul

wb3fup
a Salty Bear

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
message news:vd2r0ph815jtb3@corp.supernews.com...
> If your FM radio has an antenna input find out
if it's 300 ohm, usually a
> pair of screws an inch or so apart like the old
TVs used, or a coax fitting
> like the new TVs use. Yu can make a folded
dipole for 300 ohms by using 300
> ohm TV twin lead. Cut a piece about 4 feet
long, short both ends and one
> side in the middle make a cut expose enough wire
to connect a lead-in,
> whatever length you need.. The finished unit
will look like the3 letter T
> with horizontal part being the top of the T and
the vertical part being the
> lead in. Soldering the conncections will help
but a good twist connection
> could last if you can't solder. If the top of
the T is oriented
> horizontally you'll get best reception by being
bradside to the general
> vicinty of the station you want. You might want
to try orienting the
> antenna vertically also. If your radio has a
coax fitting youcan buy a 300
> to 50 ohm balun at Radio Shack. If this ant
doesn't do it then you can buy
> a 3 or 4 element yagi. If your radio doesn't
have an antenna input you'll

> need someone who knows radios to open it up and
see how it's wired or buy an
> radio with a connection. Try another radio also
because yours may lack the
> required sensitivity especially its a low cost
set for city use.
> good luck
> hank wd5jfr
> "Pat" <pgrant@voyager.net> wrote in message
> news:vd2gsalvr3npeb@corp.supernews.com...
> > Not sure if this is the right place, but maybe
someone can help? Since
> > we've moved I haven't been able to receive my
favorite station (FM).
> > Sometimes in the early evening on my way home
from work I can get it until
> > I'm almost home. I moved the radio to the 2nd
floor and strung the 20'
> wire
> > up the wall toward the ceiling, taping it in
place. That didn't work.
> I've
> > asked for help at Radio Shack and other
stores. I've also asked if add-on
> > antennas would help; no one seems to have any
answers. I guess FM radio is
> > line-of-sight, but lately I've noticed that in
my husband's F-150, I can
> get
> > this station. There must be something I can
do!
> >
> > Thanks...
> >
> >
>
>

4492. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 12:03:17 UTC
From: "Chris Kirby"
Message-ID: <sj04dvk2stvo063cfja012915edmo6iclj@4ax.com>
Source record: 117043
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

RVMJ <RVMJ@Safety-&-Arming.Clara.co.uk> wrote:

>Airy R Bean wrote:
>
>>I haven't used it for some time, but my original
>>2M TX, produced to a standard, normal design
>>has a 75 Ohm Antenna connector.
>
>Wasn't there a kit radio that had a standard antenna connector that
>was neither 50 Ohms nor SO239?

The little grey receive convertors and preamplifiers made by "Solid State Modules" of Huddersfield (later S.E.M of the Isle of Man) came with Belling Lee 75ohm connectors.

I think their varactor tripler 2m to 70cm was the same.

73, Chris

4493. Re: Tactical Mesh Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 12:15:23 UTC
From: G&R <spam@limbo.hell>
Message-ID: <vznAa.680$ME.207636@news20.bellglobal.com>
Source record: 117044

Yes I have seen one at DAYTON this year with an outside vendor.

Don't recall the name though.

"jtaastu" <jtaastu@yahoo.com> wrote in message
news:Xns9387DACFC828jtaastu@24.28.95.158...
> Greeting
>
> I'm posting this here since I have not had luck seaching on google and
> thought perhps someone here would know. I am looking for the proper name
> (and name of manufacturer) of what I think is called a tactical mesh
> antenna. This is the little antenna that Jeff Goldblum puts on his
father's
> car in the movie Independence Day. I have seen antennas like this in
movies
> before, however I am not sure whether they are real or just a product of
> Hollywood. As for why I want this.. curiosity more than anything else. I
> found one link (http://www.sfwx.com/softworks/meshdish.htm) but these seem
> to be much larger than I am looking for. Any help would be welcome.
Thanks!

4494. Looking for Isoloop manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 12:33:18 UTC
From: Max <ts850_guy@cogeco.ca>
Message-ID: <6OnAa.689$ME.209878@news20.bellglobal.com>
Source record: 117046

Anyone have a copy of the schematic they can scan and e-mail me. I am particularly interested in the description of the pickup loop.

Thanks,
Max

4495. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 12:37:51 UTC
From: richardharrison@webtv.net
Message-ID: <27058-3ED20A9F-734@storefull-2318.public.lawson.webtv.net>
Source record: 117045

Cecil, W5DXP wrote:
"Nothing was said about passive components. The only thing allowed is passive measurements."

Passive measurememnts are made with passive instruments. Active measurements are made with active instruments.

An r-f impedance bridge is an active instrument. A bridge-generator is used to supply the sensed energy. An ohmmeter is an active instrument. It supplies d-c to a resistance to determine ohms.

My definitions are from a radio-electronics dictionary which is relevant here.. The definition of active is:
"1. Controlling power from a separate supply. 2. Requiring a power supply separate from the controls." (There are no other definitions for "active" in this book.)

The dictionary definitions for active apply to the r-f impedance bridge and ohmmeter. They do not apply to a wattmeter, voltmeter, ammeter, or a variable impedance r-f load. These are passive components/devices I proposed te determine the state of match or mismatch of a 50-ohm load to a 159-ohm transmission line.

I excluded any instrument which required any supply of power other than that being sensed, or which imposed any power on the system being measured. That satisfied Cecil`s stated requirement of "passive" which was all he said.

Now he implies that was not what he meant. What counts is what is said and that is available in his posting. Cecil is wrong but as usual refuses to admit it.

Best regards, Richard Harrison, KB5WZI

4496. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:03:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED21EA5.7010402@ieee.org>
Source record: 117047

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Are you trying to tell us that you don't know what it means to limit
>>your participation to passive measurements?
>
> Richard's too tough for your acolyte grinder, Cecil.

The "passive measurements only" boundary condition was a popular
one used by my professors at Texas A&M 50 years ago. I didn't
invent the concept.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4497. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:05:38 UTC
From: "Henry B." <hbienert@cox.net>
Message-ID: <SapAa.84619$_e6.34420@news2.east.cox.net>
Source record: 117048

Should I assume therefore that Radio Shack which I assumed was low quality
is indeed a valuable source?

--
Hank
"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:barglp$2qatr$1@ID-134747.news.dfncis.de...
> There is a publication from on of the industry
> groups that rates antennas and groups them into
> color zones. The closest space to locate
> information, and cross reference it to product
> recommendations, is your local Radio Shack. If it
> is company store they will have a book that shows
> the local zones, and then tells which of their
> antennas, or antenna/amplifier combinations fits
> each color class.
>
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "Henry B." <hbienert@cox.net> wrote in message
> news:419Aa.79755$_e6.21320@news2.east.cox.net...
> > After just a few days of lurking,this newsgroup
> seems to be the place where
> > I can find some answers for my TV antenna
> problems.I'm buying a camp in Zip
> > 39426 and a web site
> http://www.antennaweb.org/aw/welcome.asp
> > recommneded that in order to get the stations I
> want (about 60 miles away
> > and downhill from me)I needed a "blue" zone
> antenna set at 200 degrees.What
> > rooftop commercial antenna should I get?Can I
> make my own?I'm familiar with
> > Terk 35 and the 120" long Radio Shack
> products.Any ideas? Thanks
> >
> > --
> > Hank
> >
> >
>

>

4498. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:08:03 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <in74dvkcg4ssn0if58ubnqf2r0g0bk6he6@4ax.com>
Source record: 117050

On Mon, 26 May 2003 14:05:38 GMT, "Henry B." <hbienert@cox.net> wrote:

>Should I assume therefore that Radio Shack which I assumed was low quality
>is indeed a valuable source?

The internet is also a good source. Go to Google.com or one of the
search engines, and enter "tv reception color zones". There are
several sites that cover the various zones.

Bob
k5qwg

4499. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:10:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED22064.9010700@ieee.org>
Source record: 117049

Richard Harrison wrote:
> The dictionary definitions for active apply to the r-f impedance bridge
> and ohmmeter. They do not apply to a wattmeter, voltmeter, ammeter, or a
> variable impedance r-f load.

When my professors at Texas A&M said "Passive measurements only!", they
would have been very upset with me if I had tried to change the load.
I'm sorry that you and I don't share the same concepts. What I meant
by that expression was perfectly obvious to me and I assumed everyone
shared the same definition that I was taught 50 years ago.

If I had known there was any question about the meaning of "Passive
measurements only!", I would have better defined what I meant by
that phrase. Changing the load is NOT passive! Changing the load
is ACTIVE! Changing any of the boundary conditions is ACTIVE!
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4500. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:39:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0994dv489ivpcmgr970klkf378gq770obg@4ax.com>
Source record: 117051

On Mon, 26 May 2003 09:03:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Are you trying to tell us that you don't know what it means to limit
>>>your participation to passive measurements?
>>
>> Richard's too tough for your acolyte grinder, Cecil.
>
>The "passive measurements only" boundary condition was a popular
>one used by my professors at Texas A&M 50 years ago. I didn't
>invent the concept.

Cecil, it's arguable that you even learned it and your portrayal of
Texas A&M is clouded by poor examples of their syllabus.

It is fine to complain of a violation of the Boundary, but to tack a
name to it adds nothing and certainly does not legitimize the original
argument that is nothing more than a tautology.

73's
Richard Clark, KB7QHC

4501. Re: What is the best small space VERTICAL antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:40:58 UTC
From: airwavesmith@aol.com
Message-ID: <20030526104058.04226.00000317@mb-m15.aol.com>
Source record: 117052

You can get the BB3 screwdriver base at HRO

4502. Re: Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:44:01 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vd4a1oreke0b69@corp.supernews.com>
Source record: 117053

I lived on a small lot in Denver, Colorado and had to use a vertical Hygain
...
It was very disappointing from a noise standpoint..
Later I moved to Farmington, New Mexico and had the same problem..
Farmington is the high desert and the soil was sand and rocks
Then back to the Denver area (clay soil) and a new house, with no lawn, it
was late fall and sod wouldn't be available till spring..
I started with about 10 radials and ended with over 100...
With each addition of 10 radials the noise level seemed to go down just a
bit..
Enough to encourage me to put down more radials..
I got a good deal on a big spool of wire so the radials were cheap and I
fanned out, then finally sod layed over..
The sod layers thought I was crazy but I made sure they didn't cut any
radials as they trimmed the sod to fit..
I did notice a slight improvement after the sod was laid...
Then I moved to Tulsa and immediatley installed my verticals...
My spool of wire was still in storage so I got on the air with only a ground
rod..
To my amazement there was very little noise, I thought something was wrong
with the receiver..
Later I was able to put up a 140 ft dipole and layed a few radials, less
than 10!
I continually compared the 2 antennas for noise on receive...
Both were reasonably quiet and I was happy..
Generally the dipole was quiter but not always...
I had a 13KV line in the back yard that concerned me becasue the trees
weren't trimed and I expected noise..
The 3 previous QTHs had underground electric..
After some thought my conclusion is that it's the conductivity of the soil,
relative humididty and perhaps altitude..
I also recall that atmsopheric noise is vertically polarized...
Denver and Farmington are very dry, over 5000 feet in altitiude, and have
poor soil conductivity...
Whereas Tulsa is 700 feet elevavtion, humid and has good soil, it's called
Green Country becasue with all thde moisture there are many trees..
What I'd do before I got carried away with radials is cobble up a small
dipole and check the nosie level and hear how much a dipole picks up vs your
vertical..
If the dipole is much quieter my guess is you won't do much better adding
radials, if possible find a another place..
Let us know and good luck..
hank wd5jfr

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
news:3ed0eb36$1_2@news.vo.lu...
> Hi,
>
> I am using a 6m long Fritzel GP 404 vertical antenna. It uses i.e. 1
radial
> 10m long attached at its base to work on the 40m band (1 radial per band,
> from factory). This radial is screwdrived on the mast. This is thus an
> asymetric antenna.
> Some say that when placed at ground level a GP does not request to be
> grounded.
> But others say that for the 40m band, when such an GP is placed at ground
> level, it requests to be grounded to get good results (low loss, low qrm,
> etc).
> First question: who is right ?
>
> My first objective is to reduce QRM (man-made). I think that grounding the
> system can help. Right or false ?
>
> I use this installation at home but also for portable operations. What
could
> be the easiest but efficient way to ground this system (at least when used
> at home) ? I know that I can connect radials to a copper bar 2.5m long
that
> I 'd place into the ground. But this is practically impossible as the soil
> is only 30-50cm tick.
>
> I cannot ask my electrical eng. to install a true electrical ground as the
> installation is not permanent (worst, this installation works in my
parents'
> house, and they will never accept that someone modifies their electical
> circuit simply to "do radio")...
>
> What is your solution ?
>
> Thanks for advices
>
> Thierry
> ON1SKY, LX3SKY
>
>
>
>

4503. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 14:50:47 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305260650.4a2e6ff5@posting.google.com>
Source record: 117054

'Doc <w5lz@cwis.net> wrote in message news:<3ED12D05.F0D9C3B7@cwis.net>...
>
>
> Same answer as your's, it just depends on the
> situation,
> which has what to do with what we're talking about?
> (But, not
> a bad try at deflecting the topic.) Which also says
> somthing
> about your use of 'cheap shots'. Ethics??
> 'Doc

Now there is the pot calling the kettle black. When it comes to
cheap shots on this group you are second to none.

Jaro.

4504. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:20:32 UTC
From: richardharrison@webtv.net
Message-ID: <14600-3ED230C0-826@storefull-2316.public.lawson.webtv.net>
Source record: 117058

Cecil, W5DXP wrote:
"Take a 50 ohm load in the center of the room fed by a 150 ohm transmission line coming through a hole in the wall. Given all the passive measurements one can make, one cannot determine if that system is conjugately matched or not."

Reviewing responses in this and related threads, I found a response which assumed prima facie evidence of a mismatch in the junction of 150-ohm and 50-ohm transmission lines.

This junction does not guarantee mismatch between the 150-ohm line and the 50-ohm load. The 150-ohm feedline can look like a wide range of impedances to the 50-ohm load, including a match. The incompatibility of the two impedances does guarantee reflections within the 150-ohm line.

Recall that in a conjugate match, "at every pair of terminals the impedance looking in opposite directions are conjugates of each other". I.E., looking at the 50-ohm load, one sees 50 ohms, and looking at the 150-ohm feeder, one also sees 50 ohms. This peculiar result is from transformations in the system between the source and the load which produce the 50 ohms seen as a source from the 150-ohm line.

Cecil knows all the above, but some reader does not as indicated by his post that assumed that the load wasn`t seeing a 50-ohm source.

Best regards, Richard Harrison, KB5WZI

4505. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:35:54 UTC
From: tdonaly@aol.com
Message-ID: <20030526113554.07698.00000250@mb-m29.aol.com>
Source record: 117055

Richard Clark wrote,
>
>>Richard Clark wrote:
>>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>>Are you trying to tell us that you don't know what it means to limit
>>>>your participation to passive measurements?
>>>
>>> Richard's too tough for your acolyte grinder, Cecil.
>>
>>The "passive measurements only" boundary condition was a popular
>>one used by my professors at Texas A&M 50 years ago. I didn't
>>invent the concept.
>
>Cecil, it's arguable that you even learned it and your portrayal of
>Texas A&M is clouded by poor examples of their syllabus.
>
>It is fine to complain of a violation of the Boundary, but to tack a
>name to it adds nothing and certainly does not legitimize the original
>argument that is nothing more than a tautology.
>
>73's
>Richard Clark, KB7QHC
>
Hi, Richard,
Cecil didn't say what he meant by his "passive measurements only boundary condition" until after Richard Harrison disagreed with him. This is simply the assertion of a made-up rule. Cecil may not have originated the concepts of "passive measurements" and ad hoc "boundary conditions" but he certainly misused them in his argument. Accusing people of violating conditions they didn't agree to, or even have any knowledge of, beforehand, is a form of cheating. Texas A&M must have had some interesting teachers 50 years ago if they all acted like Cecil.
73,
Tom Donaly

4506. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:39:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gr94dvc6a6m6puoc801l6ig46r9m9grlv1@4ax.com>
Source record: 117056

On Mon, 26 May 2003 07:37:51 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Cecil, W5DXP wrote:
>"Nothing was said about passive components. The only thing allowed is
>passive measurements."

Obfuscation, at a minimum. Why you legitimize this canard to pursue
it is a mystery.

>
>Passive measurememnts are made with passive instruments. Active
>measurements are made with active instruments.

You are not clearing the fog introduced by Cecil with this
acknowledgement used to refine the argument.

>
>An r-f impedance bridge is an active instrument. A bridge-generator is
>used to supply the sensed energy. An ohmmeter is an active instrument.
>It supplies d-c to a resistance to determine ohms.

The bridge-generator is a forced application to respond to the
obfuscation and to force an argument that has no real life of its own.
You are following Cecil's illogic into the swamp without acknowledging
the rising water.
>
>My definitions are from a radio-electronics dictionary which is relevant
>here.. The definition of active is:
>"1. Controlling power from a separate supply. 2. Requiring a power
>supply separate from the controls." (There are no other definitions for
>"active" in this book.)

The principle of these two meanings are clearly associated with
"control" which reveal this has nothing to do with differentiating
instrumentation nor their power needs.

Active in the sense of number 1 offered by your reference means that
there is a loop of control (as stated, inferentially) by which some
device or assemblage of components impart a condition of operation
upon other elements. The sense of number 2 offered by your source
fulfills the opposite half of number 1 in that it describes the circle
of control from the perspective of the load (not as a heat burden
load, but as a logical load - that is, the effected circuit).

You need to expand your definition to add another for the Dictionary's
meaning of "control." Dictionary games are dangerously recursive.

Without this, your example of the Bird being a passive device because it does not conform to "active" is simply not true. The Bird is powered by the signal being measured. This, in an absolute sense, suffers by necessarily introducing error into an otherwise errorless circuit (a Newtonian version of Heisenberg's Principle). Now, if this Bird were permanently in place, then that would be another matter since then (and only then) it is the circuit (if only a peripheral part and not a foreign intrusion) and it does not upset Boundary conditions by adding its own perturbations (the perturbations exist, true, but as a built-in, they always exist within the boundaries).

>
>The dictionary definitions for active apply to the r-f impedance bridge
>and ohmmeter. They do not apply to a wattmeter, voltmeter, ammeter, or a
>variable impedance r-f load. These are passive components/devices I
>proposed te determine the state of match or mismatch of a 50-ohm load to
>a 159-ohm transmission line.
>
>I excluded any instrument which required any supply of power other than
>that being sensed, or which imposed any power on the system being
>measured. That satisfied Cecil`s stated requirement of "passive" which
>was all he said.

Basically this is all untrue, and it legitimizes Cecil's agenda in a failed proof against it. Your failure can now be removed and Cecil could easily take your initial unwarranted legitimization to the bank.

The passivity you describe is not in contrast to activity suggested. What you describe is a "vampire tap" and its nature of passivity is that it works through the offices of the source. By the nature of its only path to being operational at all, it would be more accurate to call it "symbiotic."

To illustrate this further, you force this reading upon the RF Bridge as being an active device which clearly does not impart ANY control upon the circuit being monitored when the device is balanced. This is the hallmark of bridges in that they become transparent to the system and do not perturb its function by inclusion. For a bridge to become an active participant in the control sense, it must have another connection from the detector back to the source - this is fully descriptive of the common ALC which derives its control aspect from a bridge, but is not inherent in the bridge itself. The ALC is the active (controlling) aspect which would cease to work without this remote (bridge) power.

>
>Now he implies that was not what he meant. What counts is what is said
>and that is available in his posting. Cecil is wrong but as usual
>refuses to admit it.

Hi Richard,

More to the matter, you are correct on this last by half, and half again. For Cecil, whatever said last is the argument, and that was then, this is now (something new now being said).

The errant nonsense of this Active/Passive issue is that Boundaries are described only for one to be changed, not for all to be held immutable. It is a tautology that if the Boundaries do not change, there is nothing new to measure. If there is nothing new to measure, you are engaged in a pointless activity and are passively ignorant. The entire point of measurement is to introduce a controlled difference to see its evidence. If you do not perceive the difference, something is wrong pure and simple.

73's
Richard Clark, KB7QHC

4507. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:41:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k9d4dvsqg2ajtnfvuhueh0fs1add9dutp9@4ax.com>
Source record: 117057

On Mon, 26 May 2003 09:10:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>When my professors at Texas A&M said "Passive measurements only!", they
>would have been very upset with me if I had tried to change the load.
>I'm sorry that you and I don't share the same concepts. What I meant
>by that expression was perfectly obvious to me and I assumed everyone
>shared the same definition that I was taught 50 years ago.

Cecil,

You simply learned the words and missed the instruction.

73's
Richard Clark, KB7QHC

4508. Re: Looking for Isoloop manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:46:46 UTC
From: norbert <pa7nrNOSPAMMM@hotmail.com>
Message-ID: <1053964081.553379@halkan.kabelfoon.nl>
Source record: 117059

"Max" <ts850_guy@cogeco.ca> schreef in bericht
news:6OnAa.689$ME.209878@news20.bellglobal.com...
> Anyone have a copy of the schematic they can scan and e-mail me. I am
> particularly interested in the description of the pickup loop.
>
> Thanks,
> Max
>
>

Max,

Check the following URL:

http://www1.iwvisp.com/DrPepper/aea_isoloop/

There is a manual and a review of the AEA Isoloop.

The construction of the pick-up loop is equal to the drawing on the
following internet site (look under "coupling loop").

http://www.qsl.net/mnqrp/Loop/Mag_Loops.htm

--
73, Norbert (PA7NR)
Homepage : http://www.qsl.net/pa7nr/index.html

4509. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 15:47:37 UTC
From: richardharrison@webtv.net
Message-ID: <14600-3ED23719-828@storefull-2316.public.lawson.webtv.net>
Source record: 117060

Cecil, W5DXP wrote:
"If I had known there was any question about the meaning of "passive measurements only", I would have better defined what I meant by that phrase."

OK, but I don`t read minds.

Passive measurements don`t imply inaction by the instrument operator. Observation is an action. Set up and attachment are actions. Necessary adjustments like zero and span, are actions, etc. All measurements require action.

It is always the instruments which are either active or passive.

Best regards, Richard Harrison, KB5WZI

4510. Re: 1. Stacking 2M folded dipoles 2. simple HF receive only wire ant + simple ATU.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 16:38:47 UTC
From: Savage <look@that.junk>
Message-ID: <Xns9387B3BA7FA9Dlookthisjunk@195.8.68.217>
Source record: 117061

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in
news:85ed38d.0305251959.4e18158f@posting.google.com:

>> >
>> > Following a long layoff from Amateur Radio, and being 'blessed'
>> > with
>> serious
>> > memory problems,
>
> Welcome back, being ' blessed' with memory problems means you can hide
> your own easter eggs next year like the rest of us.
> Cheers
> Art
>
>

Many thanks Art

The Easter eggs are the least of my problems. Carrying the 400 page 'crib
sheet' when I want to work portable leaves precious little room for more
important things, such as a flask of tea and a couple of sandwiches <hi hi>

Good DX and 73

Eric, G6XCD

4511. need help tuning uhv-4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 16:46:44 UTC
From: wess@gtii.com
Message-ID: <vd4h6srmmpd1da@corp.supernews.com>
Source record: 117062

Help,

I garage doored my uhv-4 antenna and it separated into 3 sections.
The instructions that came with the thing are poorly translated asian
into incoherrent english. Lucky for me nothing broke though the top
loading coil needed some tender rounding out with pliers.

So if someone can walk me though tuning this thing back up, you would
make my day.

73, wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4512. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 16:55:41 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305260855.1bb1838e@posting.google.com>
Source record: 117063

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<4ot1dv028utr4ovp1k2v89rmsme5tmpa0p@4ax.com>...
> On 24 May 2003 17:58:57 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >Richard Clark <kb7qhc@attbi.com> wrote in message
news:<90tvcvop16k64pmacpq467obsm8v285ind@4ax.com>...
> >>
> >>
> >> My memory fails me in regard to your service to America. Have you
> >> ever been a member of an Honor guard?
> >>
> >> Memorial day approaches and your response should be measured by it.
> >>
> >> 73's
> >> Richard Clark, KB7QHC, Volunteer and Veteran
> >
> >I served in the military in the U.K. I registered in the draft
> >(USA)during the Vietnam war. The draft card given was such that for
> >some reason, possibly because of prior service or old age I was not
> >called to serve again. Don't bother me any more with your silly
> >questions since I will not respond.
> >Art
>
> Hi Art,
>
> WE ALL had draft cards, I surrendered mine at Boot Camp.
>
> So I suppose asking if you ever served on an Honor Guard (even for the
> UK) was silly, in your ethics.
>
> Another silly question. Ever visit the cemetery to spend a moment
> with those who fought to get you over here?

Hi Richard

Any English man of Arts generation has no need to go to a cemetary
to remember the price paid in blood for our freedom, for unlike the US
that price was not restricted to eligable males,it was also paid by
wives and mothers,brothers and sisters,aunts and uncles,grandmothers
and grandfathers. The memorys of those times in the UK can "never" be
erased by those who lived through them.
>
.
>

> Another silly, related question. Have you looked at the list of those
> Brits who fell in Iraq?
>
More to the point is have you? How many fell to "friendly" fire
and how many fell to Iraqi fire?. You may be surprised at the answer,i
include the freeing of Kuwait.
To any Englishman of our generation the debt we owe the US is
imeasurable and can "never" be repaid. The remark made above was not
made to score a point
it was made to point out we are still repaying that debt.

As someone who left school at fifteen I have no doubt that with your
litarary skills that i could not hope to emulate you will chew me up
and spit me over the floor,but what i have said comes from the
heart,and i ask you to think more carefully before you make your
observations
Jaro.

4513. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:16:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED24C0B.3020801@ieee.org>
Source record: 117064

Richard Clark wrote:
> Cecil, it's arguable that you even learned it and your portrayal of
> Texas A&M is clouded by poor examples of their syllabus.

I am certain that, given the "passive measurements only" boundary
conditions, my professors would not have allowed me to change the load.

I was wrong in my assumption that everyone shares my definition
of "passive measurements only". Disagreements between knowledgeable
people are often only semantic. If I had known there was any
disagreement about definitions, I would have defined what I meant
in a more detailed manner.
--
73, Cecil http://www.qsl.net/w5dxp

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4514. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:33:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ffj4dvs30jom0ck304g2ctccpbp53sl8v3@4ax.com>
Source record: 117065

On Mon, 26 May 2003 12:16:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Cecil, it's arguable that you even learned it and your portrayal of
>> Texas A&M is clouded by poor examples of their syllabus.
>
>I am certain that, given the "passive measurements only" boundary
>conditions, my professors would not have allowed me to change the load.
>
>I was wrong in my assumption that everyone shares my definition
>of "passive measurements only". Disagreements between knowledgeable
>people are often only semantic. If I had known there was any
>disagreement about definitions, I would have defined what I meant
>in a more detailed manner.

That is the purpose of the Boundary statement: to say it up front
rather than responding to the pressure of "opinion."

As for your speculation of what, or what not, would have been allowed
by your professors; that adds absolutely nothing and actually taints
them. You are leveraging their authority for rhetorical gain. They
would have told you in no uncertain terms that it is in the CHANGE of
boundaries and the perceived results that follow that are where
principles are revealed.

Your misuse of this, demanding stasis, are simply applied as
tautologies which devolve to vacant repetition.

73's
Richard Clark, KB7QHC

4515. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:34:39 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED2502F.D8E9F5E@cwis.net>
Source record: 117066

jaro,
Thank you for your thoughts. Keep trying.
'Doc

4516. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:38:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED2510B.507@ieee.org>
Source record: 117068

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Take a 50 ohm load in the center of the room fed by a 150 ohm
> transmission line coming through a hole in the wall. Given all the
> passive measurements one can make, one cannot determine if that system
> is conjugately matched or not."
>
> Reviewing responses in this and related threads, I found a response
> which assumed prima facie evidence of a mismatch in the junction of
> 150-ohm and 50-ohm transmission lines.

> Cecil knows all the above, but some reader does not as indicated by his
> post that assumed that the load wasn`t seeing a 50-ohm source.

It seems we still have a semantic problem. I would say reflected waves at the load *are* prima facie evidence of a mismatch *at the load*. By making passive measurements only at the load, without changing any system parameters, one cannot say whether there exists a system mismatch or not. That realization, a number of years ago, was an epiphany for me.

Another example: You are in a room. A 150 ohm transmission line enters the room through a hole on the left and exists the room through a hole on the right. A directional wattmeter reads 133.33 watts forward and 33.33 watts reflected. You are not allowed to touch the system. Is the system matched or not? I can't tell, can anyone else?

Note that a boundary has been drawn to define a closed system. The room is the boundary. The system is that length of transmission line. If system matches are so important, isn't it interesting that we cannot tell if there is a system match above or a system mismatch?

There's a moral there: The ratio of reflected power to forward power at the load is the same for any system condition, matched or mismatched.

My SG-500 amp is designed to operate into 50 ohms and designed to tolerate a 6:1 SWR which means that it can tolerate more than 250 watts of reflected power.
--
73, Cecil http://www.qsl.net/w5dxp

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4517. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:38:52 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305260938.e5e8ca5@posting.google.com>
Source record: 117067

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305251704.1ef9163d@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305251256.43b4c103@posting.google.com>...
> > Richard Clark <kb7qhc@attbi.com> wrote in message Take a rest from hitting out at
everybody and use the
> > newsgroup for the purposes that Google supplied it for.
>
> Google has nothing to do with this newsgroup "usenet", except that
> their site is one point that you can access usenet. And they also
> archive posts, which they seemed to have assumed from "deja-news".
> They can regulate how their people using their system operate, but
> other than that, they have nothing to do with it. I use google myself
> quite a bit, but I'm not going to regulate what I say because of it.
> If they decide at some point they don't like what I say, I'll just
> quit posting from google, and use my own ISP's server. It's no
> biggie...MK

Mark, the enquiry came about I believe when one of the posters
introduced ethnic cruelty in their attacks on Chip (Dr Cohen) and the
talk of the FINAL SOLUTION because he was Jewish. Richard Harrison was
the only one to dissassociate himself from that remark, presumably all
others invoved in the attack missed that particular posting. I agree
with your position with respect to free speech but the perpetration of
a hate crime in what is a continual attack on various people (Cecil
at this point is the one placed in the barrel by the Cabal) which
proved succesful in driving Chip away is not a civilised way of doing
things and in such cases go beyond the bounds of free speech. I do
hope that some day Chip will come back and rejoin us so we can put it
behind us.
Regards
Art

4518. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:43:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED2523F.2000407@ieee.org>
Source record: 116969

Tdonaly wrote:
> Cecil didn't say what he meant by his "passive measurements only boundary
> condition" until after Richard Harrison disagreed with him. This is simply
> the assertion of a made-up rule. Cecil may not have originated the concepts
> of "passive measurements" and ad hoc "boundary conditions" but he
> certainly misused them in his argument.

If I did, it was without knowing it. I assumed that everyone knew my accepted definition of "passive measurements only". If that was a wrong assumption, I apologize. It's not the first time that semantics have lead to an arguments.

When my profs said "passive measurements only" it meant that we were to keep our hands off the experiment and only observe the measuring instruments. "Hands on" was considered an "action", the exact opposite of passive involvement.
--
73, Cecil http://www.qsl.net/w5dxp

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4519. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:47:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED2533D.7010702@ieee.org>
Source record: 116970

Richard Clark wrote:
> You simply learned the words and missed the instruction.

Actually, what "passive measurements only" meant in the lab at
Texas A&M is that students were allowed to observe the readings
of the instruments but were not allowed to touch the experiment.
--
73, Cecil http://www.qsl.net/w5dxp

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4520. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:53:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l5k4dv0c2d36rjguncvq4ija245hsoc8fa@4ax.com>
Source record: 116971

On 26 May 2003 09:55:41 -0700, jaroslavlipka@msn.com (jaroslav lipka) wrote:

>Hi Richard
>
> Any English man of Arts generation has no need to go to a cemetary
>to remember the price paid in blood for our freedom, for unlike the US
>that price was not restricted to eligable males,it was also paid by
>wives and mothers,brothers and sisters,aunts and uncles,grandmothers
>and grandfathers. The memorys of those times in the UK can "never" be
>erased by those who lived through them.

This is stated in complete ignorance. The performance of acts is what takes one to paradise. The extreme Muslim factions prove this by faith at every opportunity.

Oh ye of little faith....

>> Another silly, related question. Have you looked at the list of those
>> Brits who fell in Iraq?
>>
> More to the point is have you?

Yes, have you? You offer no testimony, no enumeration. Strange you should attempt to gain the high ground by sitting in the vale. Is the climb that difficult? Do you really care?

> How many fell to "friendly" fire
>and how many fell to Iraqi fire?. You may be surprised at the answer,i
>include the freeing of Kuwait.

Obviously you were surprised, and again no enumeration of facts, just the rhetorical equivocation.

> To any Englishman of our generation the debt we owe the US is
>imeasurable and can "never" be repaid.

Yes it can, it has and not through joining in the looting of Iraq. Your sense that there is a debt owed is an impoverished statement. Basically you have ceded your rights by this backward acknowledgement.

>The remark made above was not
>made to score a point
> it was made to point out we are still repaying that debt.

And no doubt you would appreciate a receipt. Saying no score was being counted is a self-fulfilling contradiction.

>
> As someone who left school at fifteen I have no doubt that with your
>litarary skills that i could not hope to emulate you will chew me up
>and spit me over the floor,but what i have said comes from the
>heart,and i ask you to think more carefully before you make your
>observations
> Jaro.

Hi Jaro,

You would be better off to pick up school where you left it and serve us all better than remaining in abject ignorance relying on beating yourself up over issues of payback. Were you one of the many who watched the Protests from the comfort of the Pub?

What price for another pint of Lager - same as a book?

Fight for your own freedom or you will find us demanding a higher price for doing it for you at our convenience.

73's
Richard Clark, KB7QHC

4521. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 17:56:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED25549.1050207@ieee.org>
Source record: 116972

Richard Harrison wrote:
> Passive measurements don`t imply inaction by the instrument operator.

In the EE lab at Texas A&M it implied "NO TOUCHING!"

> Observation is an action.

Observation is a passive occurrence. You are merely passively
collecting information. Shirely, you can see the difference.
If I passively observe someone speeding, is that the same thing
as me actively speeding?

> Set up and attachment are actions. Necessary
> adjustments like zero and span, are actions, etc.

Those are active occurrences, the opposite of passive observation.
Again, during certain lab lectures, only the instructors were
allowed to touch the experiment.

Again, I apologize for your different definition of which I was
completely ignorant.
--
73, Cecil http://www.qsl.net/w5dxp

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4522. No. Virginia - Tower and Beam for Free

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 18:02:32 UTC
From: petee100@aol.com
Message-ID: <20030526140232.01957.00000456@mb-m17.aol.com>
Source record: 116973

73s to W2ZLM. Marty passed away some months ago after 50+ years on the air. This weekend we took down his tower and beam and would like to find a good home for it other than the junkyard. Here's the deal:

Tower - Crank-up about 45 feet. Purchased new circa 1966. A bit rusty but structurally sound. Nothing a wire brush and some galvanized paint wouldn't fix. Needs new crank cables. Solid steel post (~10 feet long) intact. (Boy that was tough digging up.)

Rotor - About 15 years old. Still works. Control box intact.

Beam - Mosley TA-33 for 10-15-20 meters. Also circa 1966. Works fine but is in pieces. Most of the hardware should be intact but it might need a couple of u-bolts or something.

Everything is now laying in a yard in Falls Church, VA. We still have the original owner's manuals. If someone will haul it away they can have it for free.

Let me know via email if you're interested and we can arrange to have you come over and look it over.

Pete Enghauser N4ACQ

4523. Replicating antenna traps on old beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 18:16:41 UTC
From: Sander Wissing <zsl103@icon.co.za>
Message-ID: <batlm2oig1@ctb-nnrp2.saix.net>
Source record: 116974

Hi all,

I have come into the possession of an old TET antenna. This beam uses traps on all 4 elements, but unfortunatedly I am missing 2 traps, one on the reflector, one on the front director.

Is there any feasible way of replicating the traps I have? I have an MFJ 259B antenna analyzer. What (and how :)) do I measure on the existing traps to make sure the new ones come out to do the same job?

The, admittedly very rough, idea so far is to wind the new traps using copper wire on PVC cores, trying to duplicate the whatever measurement (inductance?).

Any and all help appreciated!

Thanks
Sander Wissing

4524. Re: Best but simple way to ground a GP ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 18:54:21 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ed262dd$1_1@news.vo.lu>
Source record: 116975

Hi Henry,

I am quasi full agree with your observations.
My 40m longwire tied 5m up capture much less QRM than my Fritzel vertical (reason: QRM is mainly vertical polarized).
Currently I cannot change my antenna system. Maybe in few months if I buy a hax-beam. So I have to use the vertical and compare its performance (at leats in RX) with the longwire.

I understand that there is not much way to decrease my level of QRM.

A prof. electrical eng. told me that below a height of lamba/2 or so, a GP , it is erected at ground level of a few meter up 2-10m), will display quasi the same results. The one exception is clearing the height of ground obstacles, including heavy shrubbery and small trees. Sometimes, just getting above the ground growth can show a benefit, since the ionized salts in such growth can absorb some RF. However, if you are generally in the clear, then a 2-meter base height will not show a significant advantage over ground mounting.
So I can as well erect my vertical at ground level. The parcel is quite wide (100m x 50m) with only a few apple trees and fir trees 20 m away.

Cannot do better, and I do not want to place my GP on the chimney (too visible) nor buying a beam and place it 10m up.

Thanks for comments.

Thierry

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message news:vd4a1oreke0b69@corp.supernews.com...
>
> I lived on a small lot in Denver, Colorado and had to use a vertical Hygain
> ...
> It was very disappointing from a noise standpoint..
> Later I moved to Farmington, New Mexico and had the same problem..
> Farmington is the high desert and the soil was sand and rocks
> Then back to the Denver area (clay soil) and a new house, with no lawn, it
> was late fall and sod wouldn't be available till spring..
> I started with about 10 radials and ended with over 100...
> With each addition of 10 radials the noise level seemed to go down just a
> bit..
> Enough to encourage me to put down more radials..
> I got a good deal on a big spool of wire so the radials were cheap and I
> fanned out, then finally sod layed over..

> The sod layers thought I was crazy but I made sure they didn't cut any
> radials as they trimmed the sod to fit..
> I did notice a slight improvement after the sod was laid...
> Then I moved to Tulsa and immediatley installed my verticals...
> My spool of wire was still in storage so I got on the air with only a
ground
> rod..
> To my amazement there was very little noise, I thought something was wrong
> with the receiver..
> Later I was able to put up a 140 ft dipole and layed a few radials, less
> than 10!
> I continually compared the 2 antennas for noise on receive...
> Both were reasonably quiet and I was happy..
> Generally the dipole was quiter but not always...
> I had a 13KV line in the back yard that concerned me becasue the trees
> weren't trimed and I expected noise..
> The 3 previous QTHs had underground electric..
> After some thought my conclusion is that it's the conductivity of the
soil,
> relative humididty and perhaps altitude..
> I also recall that atmsopheric noise is vertically polarized...
> Denver and Farmington are very dry, over 5000 feet in altitiude, and have
> poor soil conductivity...
> Whereas Tulsa is 700 feet elevavtion, humid and has good soil, it's called
> Green Country becasue with all thde moisture there are many trees..
> What I'd do before I got carried away with radials is cobble up a small
> dipole and check the nosie level and hear how much a dipole picks up vs
your
> vertical..
> If the dipole is much quieter my guess is you won't do much better adding
> radials, if possible find a another place..
> Let us know and good luck..
> hank wd5jfr
>
> "Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
> news:3ed0eb36$1_2@news.vo.lu...
> > Hi,
> >
> > I am using a 6m long Fritzel GP 404 vertical antenna. It uses i.e. 1
> radial
> > 10m long attached at its base to work on the 40m band (1 radial per
band,
> > from factory). This radial is screwdrived on the mast. This is thus an
> > asymetric antenna.
> > Some say that when placed at ground level a GP does not request to be
> > grounded.
> > But others say that for the 40m band, when such an GP is placed at
ground
> > level, it requests to be grounded to get good results (low loss, low
qrm,

> > etc).
> > First question: who is right ?
> >
> > My first objective is to reduce QRM (man-made). I think that grounding
the
> > system can help. Right or false ?
> >
> > I use this installation at home but also for portable operations. What
> could
> > be the easiest but efficient way to ground this system (at least when
used
> > at home) ? I know that I can connect radials to a copper bar 2.5m long
> that
> > I 'd place into the ground. But this is practically impossible as the
soil
> > is only 30-50cm tick.
> >
> > I cannot ask my electrical eng. to install a true electrical ground as
the
> > installation is not permanent (worst, this installation works in my
> parents'
> > house, and they will never accept that someone modifies their electical
> > circuit simply to "do radio")...
> >
> > What is your solution ?
> >
> > Thanks for advices
> >
> > Thierry
> > ON1SKY, LX3SKY
> >
> >
> >
> >
>
>

4525. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 19:05:54 UTC
From: James Kirkland <jkirkland@houston.rr.com>
Message-ID: <mAtAa.24615$%e.1735572@twister.austin.rr.com>
Source record: 116976

Good grief guys, doesn't anyone read the post . . . the gentleman has already visited antennaweb and determined that he needs a blue zone antenna. If you don't know about this, it is a system that the Consumer Electronics Association helped to come up with to make antenna selection an easier job. There are maps for each TV market and colored zones based on distance to transmitter and geography. Most retailers of antennas have the kit for their local area.

Hank, you can't build one in my opinion for the performance you can get out of just buying one unless maybe you are after a single channel antenna and have a lot of time and test equipment. Fry's, Radio Shack, Best Buy, home centers - get one with the blue zone label. Spend a little more and get the next model better if you have the room for it. The advice to place it as high as possible is good, use good quality coax cable, weatherproof the connections (electrical tape and scotchcoat or something similar) and be careful erecting it. The feed line should be as short as possible. I'm not a big fan of preamps unless all of the signals are weak. Talk to some of the local installers for their recommendations. The digital stuff doesn't really mean anything IMHO except marketing, a good antenna is a good antenna. Watchout though that some antennas sold as digital antennas are UHF only.

Marty WA5TMN

"Henry B." <hbienert@cox.net> wrote in message
news:419Aa.79755$_e6.21320@news2.east.cox.net...
> After just a few days of lurking,this newsgroup seems to be the place
where
> I can find some answers for my TV antenna problems.I'm buying a camp in
Zip
> 39426 and a web site http://www.antennaweb.org/aw/welcome.asp
> recommneded that in order to get the stations I want (about 60 miles away
> and downhill from me)I needed a "blue" zone antenna set at 200
degrees.What
> rooftop commercial antenna should I get?Can I make my own?I'm familiar
with
> Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks
>
> --
> Hank
>
>

4526. Help with R5 mount to side of house. Unistrut??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 19:14:11 UTC
From: empea_3@yahoo.com
Message-ID: <f2ebe2ab.0305261114.2071d118@posting.google.com>
Source record: 116977

Hello ALL;

I have had an R5 for a while and now want to mount it to the side of my house. The only problem is that the overhang for the gutters is about 18-24".

A friend said to use Unistrut. I can only think of building 2 squares, 2 feet on a side, and mounting them a few feet apart...horizontally. Then the normal U-Bolt can be used with the mast held a few feet from the wall of the house?
Does this sound OK, or am I missing a better design? It seems like a lot of weight for the 3 or 4 bolts to hold the "square" to the house plus the antenna.

Also, I went to Home Depot and all I see is a very heavy material called Powerstrut. I assume that is NOT what I want.

TIA es 73,

Dave W6TGE

4527. Re: Help with R5 mount to side of house. Unistrut??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 19:27:05 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <Rt6dnRDfmK4r90-jXTWcoA@ctc.net>
Source record: 116978

> I have had an R5 for a while and now want to mount it to the side of
> my house. The only problem is that the overhang for the gutters is
> about 18-24".
>
> A friend said to use Unistrut. I can only think of building 2 squares,
> 2 feet on a side, and mounting them a few feet apart...horizontally.
> Then the normal U-Bolt can be used with the mast held a few feet from
> the wall of the house?
> Does this sound OK, or am I missing a better design? It seems like a
> lot of weight for the 3 or 4 bolts to hold the "square" to the house
> plus the antenna.
>
> Also, I went to Home Depot and all I see is a very heavy material
> called Powerstrut. I assume that is NOT what I want.
>

Go to an electrical supply place and ask for the unistrut. They come in 10 foot lengths. They are in the shape of a flat bottom U and the top lips fold back over slightly. There are two sizes , one about 1/2 inch deep and the other is much deeper. The distance across teh U portion is about 1 1/2 inches. There are special adaptor plates (can't think of the name) that will fit in the U shaped portion and will have a threaded bolt hole in them The plates are about 1/4 inch think and about 1/2 inch wide and 1 1/2 inches long.. The plates also have a spring on them to hold them in place tuil the tension of the bolt takes over.

4528. Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 19:55:36 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <260520031255342159%nospam@nospam.come>
Source record: 116979

Would using Noalox on a copper to copper grounding connection that will be exposed to the elements or burried underground be beneficial or harmful, particularly after the connection has aged? I would guess a fresh copper to copper connextion without Noalox will have lower resistance than one with Noalox, but I wonder what the situation would look like after a few months or years of exposure.

4529. question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 20:22:07 UTC
From: "Wolfgang K. Meister" <oe1mww@qsl.net>
Message-ID: <1bt4dvcaql2j41l8hmholll0v54ssud9mn@4ax.com>
Source record: 116980

Hi all,

I want to build a portable dipole, consisting of two legs, each
150cm tube plus 135 telescopic antenna, so in total each leg will be
around 280cm. There are several options to tune such an antenna:

a.) loading coils somewhere in the middle of each leg
software is available for calculating the coils, or use
infos like Buddypole etc.
b.) center loading coil (using midload.exe by G4FGQ)
c.) tuning with 2 coax stubs using a T-connector
MMANA gives info in 'Options' 'Options and Setup' 'Line Match2'

I am preferring methode c.) because of the ease to transport and
assemble the portable dipole.

Any comments or hints - is c.) the best way for my needs?

73's de Wolfgang, OE1MWW

4530. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:03:06 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305261303.2240536@posting.google.com>
Source record: 116981

Roy Lewallen <w7el@eznec.com> wrote in message news:<vcvbu1suerfk3c@corp.supernews.com>...
> Art Unwin KB9MZ wrote:
> >
> > Hi Dick, Yes I have learned from the past. you will note that Roy
> > tried to set me up again on this subject since he likes the game of
> > darts. . .
>
> No, Roy simply wanted to know if you have any evidence to support your
> claims. This is the same question I would and do ask of anyone who makes
> claims that contradict what I think to be true.
>
> You have provided no evidence to support your claims, so I don't believe
> them. snip
> You said that you do have evidence ("Of course Roy"), but you indeed do,
> you've chosen for reasons only you understand not to present it. That's
> your choice.

Yes it is my choice, because my explanations in the past involved mesh
or complex circuits that apparently when you were in college you
didn,t bother to absorb.
In the past I explained that a coupled reasonant circuit has the
distinct effect on that to which it is coupled such that the whole
assembly can become resonant
as well as to provide phase change to form a collinear radiation
pattern
regardless of radiator length to which it is coupled.
You have problems with that which I tried to overcome but failed. You
feel that your job in life is to review all new data and aprove or you
will attack what you see as an attempt to defraud hams. Well I choose
now not to bend my knee to you.
You know I have a couple of patents based on this principle which I
wrote up myself (I know patents are cheap to those who do not own
one). This principle has been espoused by many people thru the years
including Terman and all other communication books that are
available.Various other attemps have been made to popularise this
aproach with antennas but without success. Certainly Moxon did his
best to bring it to the fore but those who knew all have pushed him
away favoring his other ideas. Unfortunately G6XN chose to describe
this as a particular 'phenomina' when he labeled it 'the disapearing
inductance' when he presented in to a academic antenna group some
thirty years ago rather than where it should have resided in complex
field analysis or passive feed back systems.
Yes there have been mathematical analysis plus actual models portrayed
overseas

particularly in RADCOM of the U.K. who comments on all new aproaches to antennas with out pre judgement or arrogance as all other countries do
which is not the line followed by QST since they have not been brought to the likes of you on bended knee. Ofcourse you can say because they don't do this then they have no proof thus available for attack as you have done with many aproaches of late. Well I gave you all the basics one should know and you chose to poo hoo which is fine and free speech allows you to villify anything that you want to. Since I quoted something from Terman in the past which you laughed at
as being totally wrong ,until I declared where I got the quote from suggests
that you feel all is now known about antennas because you got one of the first copies of antenna computor studies from the Government which allownd you to make money, lots of money from hams.
Rest assured that I am patenting a three mesh form of antenna that allows for
loss less feeding methods with a rotatable antenna for 160 meters which probably find favor as the sunspot cycle deteriates. At that time I expect the likes of you to state 'I knew that all the time' as with all non patent associates or that it wasn't quite explained to me to my liking'. If you have any friends over in the U.K. such as Pat Hawker,G3VA, Moxon G6XN, Dodd G3LDO all of which are involved in Radcom including Ian White who I suspect is not interested in others in the publication. You might want to ask for further information or better still, maybe one of our G readers will inform Pat Hawker how the greats over this side of the pond disregard all the new especially if NIH since we know all there is to know about antennas. If he actually does view this newsgroup to determine why coupling is viewed with derision over this side please let me know. I would love to see Roy's comments 'which brings in money' as to why such thoughts are such trash or people that even consider them are all wet.
Roy, I will no longer come to you on bended knee which leaves you free to mock as much as you want. By the way Ian apears to be your fried, ask for any one of the four 'rewrite' books that have been compiled on Radcom past issues or a copy of Moxon's book or better still the book on all the antennas that have come to the notice of Radcom during the past thirty years, but then you probably know all of them that is worth knowing. And then you can comb any of Termans books to see if he ever used coupling in his antennas especially in the spark gap era
so you can entertain us where Terman is wrong again. Another thought is to bone up on filter calculations and how those same circuits can be applied to antennas which would give you enough info for the next 209 years to bring forward new aproaches generated by US over here. You could reasilily do this without cut and paste efforts from all prior books.
Have fun and I wonder who is the next choice after Cecil for the vitriolic comments of the greats in this group.

Hope you had a great memorial day, and Cecil, stick in there no
matter how long it takes, you have admirers out here by standing up to
the know alls and their cheap and snide comments to get you to follow
Chip and his predecesors.
Gee, I am so pumped up I could jump in the ring with you Cecil but you
apparently do not need the help.

>
> I'll let you get back to searching for an audience who will believe your
> claims without the need for any evidence. There are always plenty of
> such folks to be found, so I'm sure you'll succeed.
>
> Roy Lewallen, W7EL

I wasn't going to write all this but I wanted to be sure to have all
your comments on the record regarding coupled antennas for future
reference tho there are enough derogatory comments of yours in the
archives unless you have had them pulled..
Art Unwin KB9MZ..... XG
No requirement to respond or make excuses that are insincere, leave
Doc and
Clarky to throw some jabs for you, fron Clark it should be 'poetry
in motion',
Oscar Wilde style, whose lifestyle he tries to emulate in every way.

Fini

4531. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:25:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <eh15dv0f9658h4joubt7llbepktog3so2c@4ax.com>
Source record: 116982

On 26 May 2003 14:03:06 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Clark it should be 'poetry
>in motion',
>Oscar Wilde style, whose lifestyle he tries to emulate in every way.
>
The usual Hate Britain ethic to make a point, hmmm?

4532. Re: question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:33:33 UTC
From: jgboyles@aol.com
Message-ID: <20030526173333.14580.00000291@mb-m02.aol.com>
Source record: 116983

>I want to build a portable dipole

>options to tune such an antenna:

>a.) loading coils somewhere in the middle of each leg
> software is available for calculating the coils, or use
> infos like Buddypole etc.
>b.) center loading coil (using midload.exe by G4FGQ)

>.) tuning with 2 coax stubs using a T-connector
> MMANA gives info in 'Options' 'Options and Setup' 'Line Match

Hi Wolfgang, It depends on what frequency you want to use your portable dipole. If you wish to use a 6m long dipole on 4 MHZ, then you have problems, you can do it, but the results can be less than satisfactory. A 6m long dipole will work much better on 14 MHZ and up. And the loading and matching will be a bit easier. So, what frequency do you wish to operate?
73 Gary N4AST

4533. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:39:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <el15dvg6jn65qkkoc1bc4t6nal82jlt2hk@4ax.com>
Source record: 116984

On Mon, 26 May 2003 12:47:41 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> You simply learned the words and missed the instruction.
>
>Actually, what "passive measurements only" meant in the lab at
>Texas A&M is that students were allowed to observe the readings
>of the instruments but were not allowed to touch the experiment.

What you are trying to say is instruction through meter readings.
Science Fair kinda stuff which the Navy abandoned as quickly as
possible for technical training as it offered a very "passive"
participation that got in the way of learning.

This form of instruction was confined to the first two of six weeks of
"BEEP" school (Basic Electricity & Electronics) that was required
before formal Electronics Technician training. The reason for this
was the course was designed as a common ground for various strikers as
Electrician's Mates, Sonar Technician, Fire Controlman, Interior
Communicationsman and a host of other specialties. By the third week
we were allowed to try and electrocute ourselves in the most
imaginative ways possible when we were introduced to reactance. None,
that I can recall, attempted it by kissing a microphone.

73's
Richard Clark, KB7QHC

4534. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:43:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qe25dvsf4nj7jqgrf8mk66ejl2r8l0j8uq@4ax.com>
Source record: 116985

On Mon, 26 May 2003 12:38:19 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>By
>making passive measurements only at the load, without changing any system
>parameters, one cannot say whether there exists a system mismatch or not.

However, by your definition, you are not responsible (passivity) for
the placement of the various meters or indicators, and are therefore
forced into presumptions that are not always meaningful because you
lack the initiative to make an "action."

Thus the failure of education.

73's
Richard Clark, KB7QHC

4535. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:45:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3m25dv42pbratev97vplramsik7llg0ebp@4ax.com>
Source record: 116986

On 26 May 2003 10:38:52 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Mark, the enquiry came about I believe when one of the posters
>introduced ethnic cruelty in their attacks on Chip (Dr Cohen) and the
>talk of the FINAL SOLUTION because he was Jewish.

FYI:

Google #2417532

73's
Richard Clark, KB7QHC

4536. Re: Help with R5 mount to side of house. Unistrut??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 21:49:51 UTC
From: Dave <empea_3@yahoo.com>
Message-ID: <Xns938796E34203Dempea3yahoocom@216.148.227.77>
Source record: 116987

Thanks Ralph. Do you think it is strong enough for my plan?

"Ralph Mowery" <rmowery@ctc.net> wrote in
news:Rt6dnRDfmK4r90-jXTWcoA@ctc.net:

>> I have had an R5 for a while and now want to mount it to the side of
>> my house. The only problem is that the overhang for the gutters is
>> about 18-24".
>>
>> A friend said to use Unistrut. I can only think of building 2
>> squares, 2 feet on a side, and mounting them a few feet
>> apart...horizontally. Then the normal U-Bolt can be used with the
>> mast held a few feet from the wall of the house?
>> Does this sound OK, or am I missing a better design? It seems like a
>> lot of weight for the 3 or 4 bolts to hold the "square" to the house
>> plus the antenna.
>>
>> Also, I went to Home Depot and all I see is a very heavy material
>> called Powerstrut. I assume that is NOT what I want.
>>
>
> Go to an electrical supply place and ask for the unistrut. They come
> in 10 foot lengths. They are in the shape of a flat bottom U and the
> top lips fold back over slightly. There are two sizes , one about 1/2
> inch deep and the other is much deeper. The distance across teh U
> portion is about 1 1/2 inches. There are special adaptor plates
> (can't think of the name) that will fit in the U shaped portion and
> will have a threaded bolt hole in them The plates are about 1/4 inch
> think and about 1/2 inch wide and 1 1/2 inches long.. The plates
> also have a spring on them to hold them in place tuil the tension of
> the bolt takes over.
>
>

4537. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 22:30:52 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305261430.30a5403b@posting.google.com>
Source record: 116988

I can't fully understand Clark's poetic attemts to make his comments
flowery but I do see he question the allies casualties.
When we invaded Afganistan more than half of our Canadian allies were
killed in action by friendly fire ie American fire.
When the British went into Iraq as allies of America half of the
casualties in action was from friendly fire i.e.American fire
including two British aircraft.
America is not the only country who suffered casualties and it is my
opinion there are many veterans in this user group who don't flaunt
their service or bravery such as you who when getting drafted decided
to volenteer not only for the money but also to remove yourself from
the jungles in war time. Don't blame you for that as in the service
you learn not to volunteer but I do object you slandering countries
outside the U.S. because they do not have the numbers that the U.S.
has. Take pride in your ancestry together with the roots of the
countries that they came from and don't assume you are the only hero
in this world. Your other comments I just can't fathom out as I am not
a theatre goer.
Art....XG.

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<l5k4dv0c2d36rjguncvq4ija245hsoc8fa@4ax.com>...
> On 26 May 2003 09:55:41 -0700, jaroslavlipka@msn.com (jaroslav lipka)
> wrote:
>
> >Hi Richard
> >
> > Any English man of Arts generation has no need to go to a cemetary
> >to remember the price paid in blood for our freedom, for unlike the US
> >that price was not restricted to eligable males,it was also paid by
> >wives and mothers,brothers and sisters,aunts and uncles,grandmothers
> >and grandfathers. The memorys of those times in the UK can "never" be
> >erased by those who lived through them.
>
> This is stated in complete ignorance. The performance of acts is what
> takes one to paradise. The extreme Muslim factions prove this by
> faith at every opportunity.
>
> Oh ye of little faith....
>
> >> Another silly, related question. Have you looked at the list of those
> >> Brits who fell in Iraq?
> >>
> > More to the point is have you?

>
> Yes, have you? You offer no testimony, no enumeration. Strange you
> should attempt to gain the high ground by sitting in the vale. Is the
> climb that difficult? Do you really care?
>
> > How many fell to "friendly" fire
> >and how many fell to Iraqi fire?. You may be surprised at the answer,i
> >include the freeing of Kuwait.
>
> Obviously you were surprised, and again no enumeration of facts, just
> the rhetorical equivocation.
>
> > To any Englishman of our generation the debt we owe the US is
> >imeasurable and can "never" be repaid.
>
> Yes it can, it has and not through joining in the looting of Iraq.
> Your sense that there is a debt owed is an impoverished statement.
> Basically you have ceded your rights by this backward acknowledgement.
>
> >The remark made above was not
> >made to score a point
> > it was made to point out we are still repaying that debt.
>
> And no doubt you would appreciate a receipt. Saying no score was
> being counted is a self-fulfilling contradiction.
>
> >
> > As someone who left school at fifteen I have no doubt that with your
> >litarary skills that i could not hope to emulate you will chew me up
> >and spit me over the floor,but what i have said comes from the
> >heart,and i ask you to think more carefully before you make your
> >observations
> > Jaro.
>
> Hi Jaro,
>
> You would be better off to pick up school where you left it and serve
> us all better than remaining in abject ignorance relying on beating
> yourself up over issues of payback. Were you one of the many who
> watched the Protests from the comfort of the Pub?
>
> What price for another pint of Lager - same as a book?
>
> Fight for your own freedom or you will find us demanding a higher
> price for doing it for you at our convenience.
>
> 73's
> Richard Clark, KB7QHC

4538. Re: Help with R5 mount to side of house. Unistrut??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:01:54 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <dxmdnVef7ui9AE-jXTWcog@ctc.net>
Source record: 116989

"> Thanks Ralph. Do you think it is strong enough for my plan?
>
>
If the unistrut is attached to the wall, I would think you would pull the
wall down before you had problems with the unistrut .

4539. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:03:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <a365dv0v74td1vn069672cvos5vicrl483@4ax.com>
Source record: 116990

On 26 May 2003 15:30:52 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>I can't fully understand Clark's poetic attemts to make his comments
...
>I just can't fathom out as I am not
>a theatre goer.
>Art....XG.

Would it be simpler if I worked up as a cartoon?

Face it, Art, your beginnings:
>I can't fully understand
>I just can't fathom
are enough admission and attend nearly every other post you offer.

My source of information for Britain's effort is the Manchester
Guardian. I suppose you follow the Wall Street Journal to watch your
Haliburton stock. As you stumble over poetry and theatre (Americans
spell it theater) you seem particularly shy of communication skills
much less just knowing exactly where you stand on issues.

Did you visit any grave site? I've returned from flanders field in
comparison to your best effort to support the lads, however they may
have fallen prey to injury or death.

One remarkable and poignant headstone proclaims:

Arthur
Donovan
Brady
SGT
US Army
Persian Gulf
Apr 27 1969
Jun 11 1992

I AM SAFE
ITS ONLY CHANGE

Is this too flowery for your taste? Do you ignore it as poetry? You
still have time to show us you care. Or you can pop the cap off
another brew and tune in the race to drown out the voices who ask
where were you when protest counted? Bravery indeed.

73's
Richard Clark, KB7QHC, Veteran

4540. Re: Help with R5 mount to side of house. Unistrut??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:09:27 UTC
From: Dave <empea_3@yahoo.com>
Message-ID: <Xns9387A4620C6FAempea3yahoocom@216.148.227.77>
Source record: 116991

Thanks Ralph. I believe that making these "squares" and attaching each 2' square to the house with 3 or 4 Bolts should be OK.

"Ralph Mowery" <rmowery@ctc.net> wrote in news:dxmdnVef7ui9AE-jXTWcog@ctc.net:

>
> "> Thanks Ralph. Do you think it is strong enough for my plan?
>>
>>
> If the unistrut is attached to the wall, I would think you would pull
> the
> wall down before you had problems with the unistrut .
>
>
>

4541. Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:09:53 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86he7hs3su.fsf@duchess.twilley.org>
Source record: 116992

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

The other day I saw a car dealership with some large helium balloons
with banners attached. The balloons were easily a hundred feet in the
air and were approximately three to five feet across. I did some
research online and found that a four-foot helium balloon has a lift
of approximately twenty-eight ounces, and that 22AWG copper wire
weighs approximately 500 feet per pound. The tensile strength of
22AWG copper wire is roughly 20 pounds, so there's a sizable safety
margin even if string was used and it broke.

Assuming a safe site (no power lines or other obstructions), is there
any reason not to use this type of antenna? Transmission would have
to cease any time balloon adjustment would be required but other than
that, I can't see any problems so I thought I'd ask here.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+0p7GGPFSfAB/ezgRArtEAKCt5GlmNOF+EtZDqwSdcYRGZGbF9ACfaDbV
bN/+T9xs0MdZdajPvsAkB14=
=7oLj
-----END PGP SIGNATURE-----
```

4542. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:20:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED2A145.7040004@ieee.org>
Source record: 116993

Jack Twilley wrote:
> Assuming a safe site (no power lines or other obstructions), is there
> any reason not to use this type of antenna?

When an end-fed antenna is a number of wavelengths long, it
becomes approximately end-fired. So you antenna idea should
make a pretty good NVIS antenna. Question is: Do you want an
NVIS antenna?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4543. Re: Replicating antenna traps on old beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:31:24 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <SKOcnTnr0aJMPk-jXTWcqA@comcast.com>
Source record: 116994

Sander,

Not familiar with that antenna, but worst case you should be able to make it a 3 element by modifying the exiting front director trap so it is identical to the existing reflector trap. Of course, you could also fabricate 2 new traps.

Tam/WB2TT
"Sander Wissing" <zsl103@icon.co.za> wrote in message news:batlm2oig1@ctb-nnrp2.saix.net...
> Hi all,
>
> I have come into the possession of an old TET antenna. This beam uses traps
> on all 4 elements, but unfortunatedly I am missing 2 traps, one on the
> reflector, one on the front director.
>
> Is there any feasible way of replicating the traps I have? I have an MFJ
> 259B antenna analyzer. What (and how :)) do I measure on the existing traps
> to make sure the new ones come out to do the same job?
>
> The, admittedly very rough, idea so far is to wind the new traps using
> copper wire on PVC cores, trying to duplicate the whatever measurement
> (inductance?).
>
> Any and all help appreciated!
>
> Thanks
> Sander Wissing
>
>

4544. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:48:53 UTC
From: Brad & Michelle Kathrins <mbkathrins@cox.net>
Message-ID: <FJxAa.270680$vU3.264437@news1.central.cox.net>
Source record: 116996

Jack,

In either last month's CQ magazine or the previous issue, they talked about just that subject. They used helium balloons to loft a 160m dipole. Said it worked great.

Brad

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message news:86he7hs3su.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

The other day I saw a car dealership with some large helium balloons with banners attached. The balloons were easily a hundred feet in the air and were approximately three to five feet across. I did some research online and found that a four-foot helium balloon has a lift of approximately twenty-eight ounces, and that 22AWG copper wire weighs approximately 500 feet per pound. The tensile strength of 22AWG copper wire is roughly 20 pounds, so there's a sizable safety margin even if string was used and it broke.

Assuming a safe site (no power lines or other obstructions), is there any reason not to use this type of antenna? Transmission would have to cease any time balloon adjustment would be required but other than that, I can't see any problems so I thought I'd ask here.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+0p7GGPFSfAB/ezgRArtEAKCt5GlmNOF+EtZDqwSdcYRGZGbF9ACfaDbV
bN/+T9xs0MdZdajPvsAkB14=
=7oLj
-----END PGP SIGNATURE-----

4545. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-26 23:58:16 UTC
From: Jim Pennino <jimp@specsol.com>
Message-ID: <bau9modnk1@mail.specsol.com>
Source record: 116997

Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1

> The other day I saw a car dealership with some large helium balloons
> with banners attached. The balloons were easily a hundred feet in the
> air and were approximately three to five feet across. I did some
> research online and found that a four-foot helium balloon has a lift
> of approximately twenty-eight ounces, and that 22AWG copper wire
> weighs approximately 500 feet per pound. The tensile strength of
> 22AWG copper wire is roughly 20 pounds, so there's a sizable safety
> margin even if string was used and it broke.

> Assuming a safe site (no power lines or other obstructions), is there
> any reason not to use this type of antenna? Transmission would have
> to cease any time balloon adjustment would be required but other than
> that, I can't see any problems so I thought I'd ask here.

> Jack.
> - --
> Jack Twilley
> jmt at twilley dot org
> http colon slash slash www dot twilley dot org slash tilde jmt slash
> -----BEGIN PGP SIGNATURE-----
> Version: GnuPG v1.2.2 (FreeBSD)

> iD8DBQE+0p7GGPFSfAB/ezgRArtEAKCt5GlmNOF+EtZDqwSdcYRGZGbF9ACfaDbV
> bN/+T9xs0MdZdajPvsAkB14=
> =7oLj
> -----END PGP SIGNATURE-----

I'll assume you're interested in 80M and below.

A few things to consider; you also have to lift the weight of the balloon, round balloons lean a lot in the wind (the blimp shaped things do better), the helium will slowly leak out of the balloon requiring refill (OK for field day or a 160M contest, but this is hardly a permanent antenna), such antennas tend to build big static charges you have to bleed off, and even balloon grade helium isn't exactly cheap.

There are a couple of recent articles on the subject on the ARRL web site and a bunch more on the web.

Check this out for some practical info:

http://www.hard-core-dx.com/nordicdx/antenna/special/baloon.html

--
Jim Pennino

4546. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:04:46 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <baua2ucpe1@hercules.btinternet.com>
Source record: 116998

You can perform wonders with a 5/8ths wave vertical or sloper on 160 meters.
Easy to tune up. You will not an extensive ground system.

4547. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:05:35 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305261605.253ee7eb@posting.google.com>
Source record: 116999

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305260938.e5e8ca5@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305251704.1ef9163d@posting.google.com>...
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
>
> Mark, the enquiry came about I believe when one of the posters
> introduced ethnic cruelty in their attacks on Chip (Dr Cohen) and the
> talk of the FINAL SOLUTION because he was Jewish.

I've never seen this post you refer of. I can't even find it in googles archives.

Richard Harrison was
> the only one to dissassociate himself from that remark, presumably all
> others invoved in the attack missed that particular posting.

I guess everyone else did also. I've never seen it.

> I agree
> with your position with respect to free speech but the perpetration of
> a hate crime

I see no sign that anyone around here has participated in "hate crimes".

>in what is a continual attack on various people (Cecil
> at this point is the one placed in the barrel by the Cabal)

???? I'd have to let Cecil comment on that one... Also the size barrel used...

>which
> proved succesful in driving Chip away is not a civilised way of doing
> things and in such cases go beyond the bounds of free speech.

I thought Chip was resting...

> I do
> hope that some day Chip will come back and rejoin us so we can put it
> behind us.

Put what behind us? I don't want anything sneaking up behind me. MK

4548. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:12:23 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bauah6$dd2$1@hercules.btinternet.com>
Source record: 117001

> > Boycott anything made in france and vacation somewhere else.

==========

Fickle, ungrateful, narrow-minded lot. Didn't the French buy you the Statue
of Liberty?

4549. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:12:42 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305261612.1e798a20@posting.google.com>
Source record: 117000

radio913@aol.com (Dr. Slick) wrote in message
>
> Could you explain what you mean by "decoupling"?

Decoupling the feedline from the antenna to reduce common mode
currents from flowing on the shield of the coax. The currents skew the
pattern upwards off the horizon and you will lose the gain at low
angles you are trying to achieve. MK

4550. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:18:21 UTC
From: AMHAM <amham@connectnet.net>
Message-ID: <f9yAa.24634$Pc5.24122@fed1read01>
Source record: 117002

Jack -- see URL:
http://www.qsl.net/g4vgo/index.htm

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
news:86he7hs3su.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

The other day I saw a car dealership with some large helium balloons
with banners attached. The balloons were easily a hundred feet in the
air and were approximately three to five feet across. I did some
research online and found that a four-foot helium balloon has a lift
of approximately twenty-eight ounces, and that 22AWG copper wire
weighs approximately 500 feet per pound. The tensile strength of
22AWG copper wire is roughly 20 pounds, so there's a sizable safety
margin even if string was used and it broke.

Assuming a safe site (no power lines or other obstructions), is there
any reason not to use this type of antenna? Transmission would have
to cease any time balloon adjustment would be required but other than
that, I can't see any problems so I thought I'd ask here.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+0p7GGPFSfAB/ezgRArtEAKCt5GlmNOF+EtZDqwSdcYRGZGbF9ACfaDbV
bN/+T9xs0MdZdajPvsAkB14=
=7oLj
-----END PGP SIGNATURE-----

4551. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 00:25:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kob5dvcj8ttk0c1dqjf9cqgvnj07uf6okd@4ax.com>
Source record: 117003

Apology

This acknowledges that there may be family members embarrassed, shocked, or indignant by the inclusion of the commemoration I inappropriately offered.

I would like that family to understand that in the field of white markers, my happening upon that one remarkable recitation of hope and strength, a personal message to anyone standing before it to read, was very compelling by its unique appeal. Of the thousand or so markers, I found two who shared death in the same conflict of the first Gulf War. Among those same thousand were a very large number of infant deaths that offered stark reason to reveal my unconsidered feelings of parents all the more meaningful. There were more than several markers that evoked feelings of uncelebrated service, but for their final comment made in stone. I can well feel that the family finds that this final form of communication is enough. I shall defer to the family and the implicit privacy of their grief which may be now raised anew by myself, recent conflict, or both.

This action out of my emotional response does not constitute permission nor a greater authority to pursue it. If my celebration of that stirring message of strength from their son brings them pain, I am truly sorry for having attempted it.

Richard Clark, KB7QHC

4552. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 01:51:10 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305261751.7ab73f38@posting.google.com>
Source record: 117004

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<eh15dv0f9658h4joubt7llbepktog3so2c@4ax.com>...
> On 26 May 2003 14:03:06 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >Clark it should be 'poetry
> >in motion',
> >Oscar Wilde style, whose lifestyle he tries to emulate in every way.
> >
> The usual Hate Britain ethic to make a point, hmmm?

What ever you like to call it Richard I will take you on any time you
want if you desire for Brtain to be invaded after Iraq or question the
patriotism
of any Englishman unless they supply proof to you. Britain has always
been the twin to America since we are of the same stock. You made a
point regarding America fighting British battles, well the U.K. and
the Commonwealth declared war on Germany Sept3 1939 finally somebody
had declared war on Germany. Many came to our aid even from America
where polls showed more than 90% were against joining in the war,
until Pearl Harbor came which forced the U.S. into the war.
Those in the UK are fully aware and greatfull for the sacrifices made
by all arms of the American forces since they had been under the
shadows and violence of war for many years and being from the dockside
of London I can personally attest to that when the family home were
flattened. The U.K. may be a small country and does include Scotland
and Ireland which when descibed at the Alamo
you stated that they were not of British stock. So in future if you
want a response from me, question why I didn't make the final
sacrifice for the U.S.A where you became a citizen by accident of
birth, or attack the actions of the U.K. in our lifetime. Frankly, I
believe I have seen more heroism and the awfullnes of war that you
will ever see. One of the things that gave me great joy was that money
collected by a fortress flying group who invited me to their reunion
was used for a memorial in the rose gardens of the Abbey of Bury St
Edmunds (Magna Carta origination)where no memorial type things are
allowed. All they did was to ask, and they got their wishes because
the U.K. has never forgotten. St Pauls Cathedral in London has a
portion turned over to the U.S. in memory of sacrifices made and where
the pages listing the dead are turned every day. So you have found a
way for me to respond to you and your acid words, as for anything you
say against my roots you certainly will feel the lashing of my tongue.
Art KB9MZ......XG.

4553. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 02:22:02 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED2CBCA.37F7B59D@cwis.net>
Source record: 117005

Jack,
Ought to work okay. A few things on the practical
side. Forget the #22 wire, might work just fine as an
antenna but not for a tether. A few healthy tugs on the
#22 wire and it's history, the wind can give a balloon
quite a 'tug'. If you get a chance, stop at that car
dealership and see the size line holding those balloons.
'Doc

4554. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 02:23:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ldi5dvob929pok3s5dh9cahlchvtkvf76n@4ax.com>
Source record: 117006

On 26 May 2003 18:51:10 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Richard Clark <kb7qhc@attbi.com> wrote in message
news:<eh15dv0f9658h4joubt7llbepktog3so2c@4ax.com>...
>> On 26 May 2003 14:03:06 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
>> wrote:
>>
>> >Clark it should be 'poetry
>> >in motion',
>> >Oscar Wilde style, whose lifestyle he tries to emulate in every way.
>> >
>> The usual Hate Britain ethic to make a point, hmmm?
>
>What ever you like to call it Richard I will take you on any time you
>want if you desire for Brtain to be invaded after Iraq

What an odd response, but in keeping with your theme above.

And as ALWAYS nothing said about the current state of affairs with
your comfortably snuggling into the past.

Your usual vituperation is growing weaker by impotent exasperation
(more poetry for you, bloke). Or would you prefer more e.e. cummings?
I shan't employ Shakespeare here for fear (not really) of your
desecration of yet another English tradition. How about Johnson?
"Patriotism is the last refuge of the scoundrel."
(No, not Lyndon Baines, Samuel - lest you draw a blank).

73's
Richard Clark, KB7QHC

4555. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 02:40:03 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305261840.547abb6e@posting.google.com>
Source record: 117007

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<th42dvg3c5ta6n5tvadfmkpetgqgr41htc@4ax.com>...
> On Sun, 25 May 2003 13:12:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
> >
> >Fair, yes, but is it a contradiction? :-)
> we can expect one from you any moment.

Some lower intelligence people like Cecil seem to think that just
because they got in the last word, that automatically means that they
won the argument.

This is only the case in their own minds, of course.

Also, people like Cecil have confused verbosity with IQ. Like,
just because they have the time to write a lot of messages means that
they must be very smart or have important things to say. The opposite
is usually the case: The more words you have to use to say the same
thing, the stupider you are.

So I wouldn't want to brag about wasting my life away proving that
2+2=4
on a +1000 postings thread.

Keep on typing Cecil...the more you type, the stupider you are.

We are waiting on every word, everyone is taking turns.

Dr. Slick

4556. Re: Resistive SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 02:45:13 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED2D139.DDA9F0FF@cwis.net>
Source record: 117008

Art,
Just thank Richard for answering the question you
couldn't... for whatever reason. You might also take
a good look at that answer, it does pertain to the
original topic...
'Doc

4557. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 02:57:36 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <AuAAa.87249$5M.6794484@twister.southeast.rr.com>
Source record: 117009

I've used a tuner before where best TX did not coincide with best rx
"Ken" <cprstn54zz@att.net> wrote in message
news:72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com...
> As you tune your antenna for SWR=1.0, the received signal becomes
> significantly louder.
>
> Does this mean that a tuned antenna will give you better reception?
> Or will a decent radio be able to pull the same quality signal from
> the same antenna without the tuner?
>
> Ken KC2JDY
>
> Ken
> (to reply via email
> remove "zz" from address)

4558. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 03:07:16 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <baukp4$5us$1@208.206.142.65>
Source record: 117010

Reg Edwards wrote:

> > > Boycott anything made in france and vacation somewhere else.
>
> ==========
>
> Fickle, ungrateful, narrow-minded lot. Didn't the French buy you the Statue
> of Liberty?

'Twas French schoolkids contributing their pocket change, not the French government.

4559. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 03:25:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED2DAAF.5040200@ieee.org>
Source record: 117011

Dr. Slick wrote:
> Some lower intelligence people like Cecil seem to think that just
> because they got in the last word, that automatically means that they
> won the argument.

My last word to you was a challenge to produce something technical
upon which we disagree. Since you have refused to do so, I can only
assume that you don't disagree with me any longer.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4560. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 03:49:33 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030526234933.14935.00000362@mb-m12.aol.com>
Source record: 117012

A tuner will help with receive. I recently strung up a G5RV antenna. Using an MFJ antenna analyzer, I found the best settings for my antenna tuner on each band. When I didn't have the tuner set properly for the best SWR, the receive suffered. Once I tuned it to the proper settings, the RX increased dramatically, from S1 to S9 in some cases.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

4561. KK5YY SK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 04:37:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd5qt38ohc9886@corp.supernews.com>
Source record: 117013

I just got word via a forwarded QRP-List posting that Jerry Schmitt, KK5YY, passed away. The posting was an announcement of the memorial service, and I don't have any details about his death. Jerry, who for a living was a scientist at Los Alamos, was an occasional poster on this newsgroup. This comes as a particular shock to me since I had a good chat with him at Dayton just over a week ago.

Roy Lewallen, W7EL

4562. Re: question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 05:15:28 UTC
From: "Wolfgang K. Meister" <no.mail@please.com>
Message-ID: <n1t5dv4g60mga4l1ulpbv399s1shhlip2s@4ax.com>
Source record: 117014

On 26 May 2003 21:33:33 GMT, jgboyles@aol.com (JGBOYLES) wrote:

>bit easier. So, what frequency do you wish to operate?
>73 Gary N4AST

oh yes, I forgot to mention this - sorry!
I am planning to use this dipole for 14.2 and 18.145 Mhz

73's Wolfgang OE1MWW

4563. naval radar antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 08:44:09 UTC
From: Paul <pa57dg@hotmail.com>
Message-ID: <tzFAa.35896$lK4.1114534@twister1.libero.it>
Source record: 117015

hi folk,
i'm looking for some technical guide on how work antennas used in naval radar; something about the shape, working type, power, and something about the differences from the past till now, and the future of this kind of antennas;

thank you so much
Paul

4564. Satellite V/UHF Moxon Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 10:45:04 UTC
From: Joe O <jenjoeo@zianet.com>
Message-ID: <3ed34179$1@news.zianet.com>
Source record: 117017

I am beginning to build the antennas designed by L.B. Cebik, W4RNL as described in the Aug 2001 QST.
I am interested in hearing from anyone who has actually built these antennas.
To strengthen the wind survivability, I am using 1/4 inch copper tubing for both antennas.

Joe, KI5FJ

4565. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 10:48:38 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED34286.A3C1DE75@uwe.ac.uk>
Source record: 117016
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
>
> Egad, here we go again. Sigh, I guess it's worth one more try.
>
> Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
> through one wavelength of 50 ohm transmission line. The forward power on
> that line is 100 watts and the reverse power on that line is zero,
> right? The transmitter sees 50 ohms and operates normally.
>
> No replace the one wavelength of 50 ohm line with one wavelength of 450
> ohm line. Now the forward power on that line is 278 watts and the
> reverse power is 178 watts. The transmitter still sees 50 ohms and
> operates normally. Why don't those 178 watts of evil reverse power make
> the anodes glow?
>
> Now here's another one. Put 450 ohms at the end of that 450 ohm line.
> Now the reverse power is zero, but the transmitter is definitely
> unhappy, since it sees 450 ohms. Yet the reverse power on the line is
> zero. Where did all that reflected power come from to make the anodes glow?

The input mismatch to the transmission line?

You did leave out an interesting case though (not deliberately I hope!).

Connect the 50 ohm transmitter to 1 wavelength of 50 ohm line. The transmitter
likes that. Put a 450 ohm load at the load end. Now what is the transmitter
going to see? But that isn't reflected power? Why not? It is caused by
the mismatch at the _load_ end of the transmission line. You can of course
transform that load impedance to the generator end of the line, a no op in
this case, but the mismatch is controlled by the conditions at the load
end of the line. That looks very like reflected power. Can you explain
why it isn't reflected power, current or voltage?

I'm not trying to be awkward, just trying to understand.

vy 73

Andy, M3ABC

4566. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 11:10:37 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED3476F.8050007@attbi.com>
Source record: 117018

There was such a post. I responded directly to Chip and subsequently to
the newsgroup expressing concern about it.

Unfortunately, I had a hard drive crash and don't have a copy of the
original.

Deacon Dave, W1MCE

>>Mark, the enquiry came about I believe when one of the posters
>>introduced ethnic cruelty in their attacks on Chip (Dr Cohen) and the
>>talk of the FINAL SOLUTION because he was Jewish.
>
>
> I've never seen this post you refer of. I can't even find it in googles archives.
>
> Richard Harrison was
>
>>the only one to dissassociate himself from that remark, presumably all
>>others invoved in the attack missed that particular posting.
>
>
> I guess everyone else did also. I've never seen it.
>

4567. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 11:34:22 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <23IAa.277488$vU3.18071@news1.central.cox.net>
Source record: 116919

A friend of mine uses a balloon to loft a 1/4 wave 160 meter antenna. He lives in a neighborhood that forbids antennas, so he puts it up at night sometimes. Works well. He uses 22 g wire and some kind of line to hold the balloon down.

>. I did some
research online and found that a four-foot helium balloon has a lift
of approximately twenty-eight ounces, and that 22AWG copper wire
weighs approximately 500 feet per pound. The tensile strength of
22AWG copper wire is roughly 20 pounds, so there's a sizable safety
margin even if string was used and it broke.

-

4568. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 12:16:06 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305270416.1f215e12@posting.google.com>
Source record: 116920

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305261612.1e798a20@posting.google.com>...
> radio913@aol.com (Dr. Slick) wrote in message
> >
> > Could you explain what you mean by "decoupling"?
>
> Decoupling the feedline from the antenna to reduce common mode
> currents from flowing on the shield of the coax. The currents skew the
> pattern upwards off the horizon and you will lose the gain at low
> angles you are trying to achieve. MK

You mean the 4 turns of the coax of a 6" diameter coil that i have
seen recommended in many dipole designs? You place these just at the
input, to prevent currents from flowing on the outer shield or braid,
which would turn the shield into a radiator.

I can see that this would screw up the horizontal gain you would
try to achieve.

This is what you mean, right? Are there other ways (even though
this is very simple and cheap, just a tie-wrap) ?

Slick

4569. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 12:21:10 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0305270421.11de157a@posting.google.com>
Source record: 116921

Some lower intelligence people like Cecil seem to think that just because they got in the last word, or just because someone doesn't want to continue an unreasonable argument, that this automatically means that they won the argument.

This is only the case in their own minds, of course.

Also, people like Cecil have confused verbosity with IQ. Like, just because they have the time to write a lot of messages means that they must be very smart or have important things to say. The opposite is usually the case: The more words you have to use to say the same thing, the stupider you are.

So I wouldn't want to brag about wasting my life away proving that 2+2=4 on a +1000 postings thread.

Keep on typing Cecil...the more you type, the stupider you are.

We are waiting on every word, everyone is taking turns.

Dr. Slick

4570. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 13:03:53 UTC
From: richardharrison@webtv.net
Message-ID: <26038-3ED36239-1047@storefull-2311.public.lawson.webtv.net>
Source record: 116922

Cecil, W5DXP wrote:
"I am certain that given the "passive measurements only" boundary conditions, my professors would not have allowed me to change the load."

My experience was different. Our professors lectured. They almost never appeared in the lab, unless they were working on one of their own projects. Professors almost never performed demonstrations for the students.

Our lab instructors, and we had some good ones that had been full professors in Europe before WW-2, would give us a brief description of what the exercises consisted of and what we were expected to find and report on. The lab instructors were there to answer questions and supervise distribution and return of instruments and lab experiment equipment. Each pair of lab partners were provided a full set of instruments and experimental equipment.

It was up to the students to perform all lab experiments on their own. Each student was charged with making his own measurements, recording his own data,(sometimes one would measure and the other would write) making his own calculations, then spending many hours producing a beautiful report complete with diagrams, graphs, calculations, and conclusions.

There were usually no professorial demonstrations. I only recall one very brief demonstration. The prof was at the blackboard which was overflowing as usual with calculations when he sought to emphasize a point. He spat upon his piece of chalk, informed us he had deposited an electric charge upon the chalk, then with an arm motion that would have made an outfielder proud, he tossed the chalk the length of the lecture hall, bouncing it off the rear wall. He told us we had just witnessed the metaphor of an electric current.

Our Collegial culture was different from Cecil`s. Maybe that influences the way we interpret things differently.

Best regards, Richard Harrison, KB5WZI

4571. Re: Satellite V/UHF Moxon Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 13:22:44 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3ED365C3.BDA232E1@gte.net>
Source record: 116923

Joe O wrote:

> I am beginning to build the antennas designed by L.B. Cebik, W4RNL as
> described in the Aug 2001 QST.
> I am interested in hearing from anyone who has actually built these
> antennas.
> To strengthen the wind survivability, I am using 1/4 inch copper tubing for
> both antennas.
>
> Joe, KI5FJ

Hi Joe,

If you are changing element diameters, make certain you recalculate the element lengths. Moxons are particularly sensitive to this because of the tail coupling.

Dale W4OP

4572. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 13:45:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED36BDC.6050309@ieee.org>
Source record: 116924

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "I am certain that given the "passive measurements only" boundary
> conditions, my professors would not have allowed me to change the load."
>
> My experience was different. Our professors lectured. They almost never
> appeared in the lab, unless they were working on one of their own
> projects. Professors almost never performed demonstrations for the
> students.

The class I remember had multiple sessions. One session per week was a large lecture hall with one lab bench. The prof and an assistant ran an experiment and reported the measurements. For us students, it was "hands off", and was supposed to develop our deductive reasoning processes. Sometimes there was not enough information given to solve the problem and we were supposed to be able to recognize that fact.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4573. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 13:52:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED36D8D.8040006@ieee.org>
Source record: 116925

Dr. Slick wrote:
> So I wouldn't want to brag about wasting my life away proving that
> 2+2=4 on a +1000 postings thread.

Heh, heh, a lot of those postings were yours. Are you bragging
that you argued loud and long against the fact that 2+2=4?
Sacred Cows die hard, eh?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4574. Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 14:13:38 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520030713345302%nospam@nospam.come>
Source record: 116926

What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
of 1" wide by 0.070 in thick tin plated copper braid?

4575. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 14:37:37 UTC
From: sideband <AINO8SPAMW@cac.net>
Message-ID: <3ED37831.2060409@cac.net>
Source record: 116927

at what frequency?

Tidris wrote:
> What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
> of 1" wide by 0.070 in thick tin plated copper braid?

4576. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 14:52:51 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0305270652.14c5f812@posting.google.com>
Source record: 116928

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305261605.253ee7eb@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305260938.e5e8ca5@posting.google.com>...
> > nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305251704.1ef9163d@posting.google.com>...
> > > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
> >
> > Mark, the enquiry came about I believe when one of the posters
> > introduced ethnic cruelty in their attacks on Chip (Dr Cohen) and the
> > talk of the FINAL SOLUTION because he was Jewish.
>
> I've never seen this post you refer of. I can't even find it in googles archives.
>
Hi Mark

The reason you cannot find it in the archives is the whole
of Jan 2003 has been erased, if you still wish to find it search mr
bluster 15 jan 2003
Jaro.

4577. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 14:56:30 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520030756264469%nospam@nospam.come>
Source record: 116929

In article <3ED37831.2060409@cac.net>, sideband <AINO8SPAMW@cac.net>
wrote:

> at what frequency?

In the frequency range that is predominant in a lightning strike. I am
not sure what that range is, so let say at 100 KHz, 1 MHz, and 10 MHz.

4578. Re: Balloon-lofted random wire antenna: Tethering

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 15:35:15 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <l317dvsgi12i45k0lf6rfgtci854kce71d@4ax.com>
Source record: 116930

On Mon, 26 May 2003 23:48:53 GMT, "Brad & Michelle Kathrins"
<mbkathrins@cox.net> sent into the ether:

>Jack,
>
>In either last month's CQ magazine or the previous issue, they talked about
>just that subject. They used helium balloons to loft a 160m dipole. Said
>it worked great.
>
>Brad
>
>
>
>
>"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
>news:86he7hs3su.fsf@duchess.twilley.org...
>-----BEGIN PGP SIGNED MESSAGE-----
>Hash: SHA1
>
>The other day I saw a car dealership with some large helium balloons
>with banners attached. The balloons were easily a hundred feet in the
>air and were approximately three to five feet across. I did some
>research online and found that a four-foot helium balloon has a lift
>of approximately twenty-eight ounces, and that 22AWG copper wire
>weighs approximately 500 feet per pound. The tensile strength of
>22AWG copper wire is roughly 20 pounds, so there's a sizable safety
>margin even if string was used and it broke.
>
>Assuming a safe site (no power lines or other obstructions), is there
>any reason not to use this type of antenna? Transmission would have
>to cease any time balloon adjustment would be required but other than
>that, I can't see any problems so I thought I'd ask here.
>
>Jack.

Hi all,
As a fisherman, I have started using some of the new "superlines" that
are on the market. One in particular, PowerPro (www.powerpro.com)
has a line rated at 50# and very thin/light weight. It should work
well for tethering balloons. Actually, I think they have stronger
test line, but 50# is what I use for fishing. Like I said, it is very
light weight for its strength.
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

4579. Re: Satellite V/UHF Moxon Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 15:38:52 UTC
From: James <jimbo@nospam.com>
Message-ID: <3ED3868A.F6841C4F@nospam.com>
Source record: 116931

Be sure to check www.cebik.com there is an error in
the drawing for connecting the elements and feedline/phasing line.

I've built the Moxon for 2m and it was dead on accurate with
minimal loss. Working on the 6m version right now.

Have you downloaded the Moxon calculator ? links are on Dr. Cebik site.
The calculator will generate plans for any moxon within design specs for
awg or tubing in english or metric.

jimbo

Joe O wrote:

> I am beginning to build the antennas designed by L.B. Cebik, W4RNL as
> described in the Aug 2001 QST.
> I am interested in hearing from anyone who has actually built these
> antennas.
> To strengthen the wind survivability, I am using 1/4 inch copper tubing for
> both antennas.
>
> Joe, KI5FJ

4580. Antenna Suggestions For Below 30 MHz ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 15:46:57 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bb0195$i0h$1@slb1.atl.mindspring.net>
Source record: 116932

Hi,

Finally consider myself pretty much all set (at least for a while) for the frequencies above 30 MHz with my R/S discone and new Scantenna ST2. Do listening only.

So, it's time to take another look at reception below 30 MHz.

Presently using a long wire (open at the end) just running the 4 walls of my attic; perhaps 40 ft x 25 ft x 40 ft x 25 ft., and
then a vertical drop to the receiver of about 8 feet. No coax, just the long wire all the way.

Works fairly well, but was wondering if there's anything "substantially" better I should consider ?

Want omni, broadband coverage, and would also have to go in attic.

Any suggestions ?

Also might as well ask if for my present long wire, there's any easy improvements
to be made, e.g., using a 1:1 balun and coax for the downlead, soldering the end back to the beginning of the horiz.
run in the attic, thus making a loop, etc. ?

Thanks,
Bob

4581. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 15:54:56 UTC
From: richardharrison@webtv.net
Message-ID: <28691-3ED38A50-370@storefull-2315.public.lawson.webtv.net>
Source record: 116936

Cecil, W5DXP wrote:
"One session per week was a large lecture hall with one lab bench."

I never had that experience. Our courses usually had (3) one-hour lectures and (1) longer lab session per week. It was the lab reports which ate the time. Extreme neatness and nice presentation were required for a decent grade, in addition to aptness of thought.

Regardless of the active / passive definitions, Cecil proposed a 150-ohm line joined to a 50-ohm load. He implied it is difficult to determine the existence of a match at the junction.

It is a little complicated. Volts across a 50-ohm resistor are in-phase with the current through the resistor, match or no match at the junction.

One feature of a conjugate match is that looking in either direction at any junction in the system one sees conjugate impedances, a perfect match.

Coincidentally, a conjugate match produces maximum power transfer.

If a slightly larger or smaller value of load resistance, causes increased power output, 50-ohms is not a match.

Similarlly, if addition of reactance of either variety increases power output, 50-ohms (purely resistive) is not a match.

If 50-ohms is a match to the 150-ohm transmission line, as is possible (consider a 150-ohm 1/2-wavelength section imbeded in a 50-ohm system), there are reflections in the 150-ohm transmission line. But, there can be a perfect match at both ends of the transmission line.

Best regards, Richard Harrison, KB5WZI

4582. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 15:59:52 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED38D6B.B0B71F6E@uwe.ac.uk>
Source record: 116934

Richard Clark wrote:
>
> On 23 May 2003 14:45:44 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >When I visited the Alamo and read the names on the commarative plaque
> >of its defense I was quite struck to see the amount of names that were
> >of British stock. Does that count for anything ?
> >Art an XG
>
> Not if in fact they were Scots or Irish.
>

If in fact they were Scots or Irish then they were
in fact British. English is different. Clark is a
British name even if not English, although there
are plenty of English Clarks, Clerks, Clarkes etc.
and the Irish family name is almost certainly
derived from an earlier English one.

vy 73
Andy, M3ABC

4583. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:01:52 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED38DE4.1AB36FDC@uwe.ac.uk>
Source record: 116935

Dave Shrader wrote:
>
> When I visited the Alamo and read the names on the commarative plaque
> > of its defense I was quite struck to see the amount of names that were
> > of British stock. Does that count for anything ?
> > Art an XG
> >
>
> The Royal Brits couldn't raise enough taxes over the 50 year time span
> to buy boat tickets home. :-)
>
The U.K. Royals are Germans, not Brits.

vy 73

Andy, M3ABC

4584. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:03:16 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bb0299ifl1@slb5.atl.mindspring.net>
Source record: 116933

No dumbbutt....they built it. And gave it to us. That was back when the French had some gonads...not like they are now. Sorta like some of the brits...eh?

Dan/W4NTI

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:bauah6$dd2$1@hercules.btinternet.com...
> > > Boycott anything made in france and vacation somewhere else.
>
> ========================
>
> Fickle, ungrateful, narrow-minded lot. Didn't the French buy you the Statue
> of Liberty?
>
>

4585. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:25:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd74c538mhfb18@corp.supernews.com>
Source record: 116937
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Andy Cowley wrote:
> Roy Lewallen wrote:
>
>>Egad, here we go again. Sigh, I guess it's worth one more try.
>>
>>Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
>>through one wavelength of 50 ohm transmission line. The forward power on
>>that line is 100 watts and the reverse power on that line is zero,
>>right? The transmitter sees 50 ohms and operates normally.
>>
>>No replace the one wavelength of 50 ohm line with one wavelength of 450
>>ohm line. Now the forward power on that line is 278 watts and the
>>reverse power is 178 watts. The transmitter still sees 50 ohms and
>>operates normally. Why don't those 178 watts of evil reverse power make
>>the anodes glow?
>>
>>Now here's another one. Put 450 ohms at the end of that 450 ohm line.
>>Now the reverse power is zero, but the transmitter is definitely
>>unhappy, since it sees 450 ohms. Yet the reverse power on the line is
>>zero. Where did all that reflected power come from to make the anodes glow?
>
>
> The input mismatch to the transmission line?

Again, the input mismatch has no effect at all on line SWR, impedance
seen on the input end of the line, or "reflected power". The analysis is
exactly the same no matter what source impedance you choose.

> You did leave out an interesting case though (not deliberately I hope!).

Well, I certainly didn't intend to present all possible cases. But I'll
be glad to explain any setup you'd like.

> Connect the 50 ohm transmitter to 1 wavelength of 50 ohm line. The transmitter
> likes that.

Here's the first problem. The transmitter doesn't necessarily like that.
It depends entirely on what's at the other end, as you'll see. . .

Put a 450 ohm load at the load end. Now what is the transmitter
> going to see?

450 ohms. And the transmitter isn't going to like that, because it will
see 450 ohms as a load impedance.

But that isn't reflected power? Why not?

Reverse or reflected power can be calculated for this condition, and
will be found to equal 178 watts if the transmitter is putting out a net
power of 100 watts. But here's the problem. Replace the one wavelength
of 50 ohm line (which you say the transmitter "likes") with one
wavelength of 450 ohm line. Use the same 450 ohm load. Now,

1. The reverse power on the line is zero.
2. The transmitter still sees 450 ohms. In fact, there's no way the
transmitter can tell which line you used -- 50 or 450 ohms. It'll be
exactly equally unhappy in both cases. Yet there's 178 watts of reverse
power on the 50 ohm line and zero reverse power on the 450 ohm mlne.

It is caused by
> the mismatch at the _load_ end of the transmission line.

Yes. And that's why, if you change the line to 450 ohms, the reverse
power becomes zero.

You can of course
> transform that load impedance to the generator end of the line, a no op in
> this case, but the mismatch is controlled by the conditions at the load
> end of the line. That looks very like reflected power. Can you explain
> why it isn't reflected power, current or voltage?

I can't, because on the 50 ohm line with 450 ohm load, there is
reflected voltage, current, and power. (Or at least these quantities can
be calculated mathematically.)
>
> I'm not trying to be awkward, just trying to understand.

I hope this helps. Remember, the point I'm trying to make is that
reverse power doesn't go back into the rig and "smoke" it. The two cases
above -- yours, with the 50 ohm line, and my additional one, with the
450 ohm line, provide an example where the reverse power varies greatly
yet the condition seen by the rig is exactly the same. It's also easy to
come up with cases where the reverse power is the same, yet the rig is
happy in one case and very unhappy in the other. For example, a 50 ohm
load at the end of wavelength of 50 ohm line -- zero reverse power and
happy rig, 450 ohm load at the end of a wavelength of 450 ohm line --
zero reverse power and unhappy rig. All that matters is the impedance
seen by the rig. It doesn't matter one bit whether the impedance is the
result of lumped components, or a load impedance transformed by a
transmission line. Or how much "reverse power" is allegedly flowing on
the line.

Roy Lewallen, W7EL

4586. Re: Enclosures from a masthead preamp??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:28:13 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED39411.296B0045@uwe.ac.uk>
Source record: 116939

Xanax wrote:
>
> Hi all,
> Where would I get a weather proof enclosure for a preamp I'm building for a
> UHF UFO antenna. Are the moxes you see on Maplin or Farnell any good for
> this??

Anything that is rated IP67 or IP68 will do fine. Maplin
and Farnell both sell such boxes.

vy 73

Andy, M3ABC

4587. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:35:10 UTC
From: richardharrison@webtv.net
Message-ID: <28870-3ED393BE-392@storefull-2317.public.lawson.webtv.net>
Source record: 116941

Jimmy wrote:
"I`ve used a tuner before where best TX did not coincide with best rx."

Reciprocity rules. If TX & RX are the same frequency, antenna and line behave the same for both. Difference may be in RX & TX impedances. If so, the adjustment for maximum transmitter output won`t coincide with maximum power transfer to the receiver.

Best regards, Richard Harrison, KB5WZI

4588. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:37:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd752csppr9r68@corp.supernews.com>
Source record: 116940

For designing antennas, a thin flat strip is equivalent to a wire of half the diameter. I'm not sure how well this would translate to the kinds of conditions present when conducting a lightning stroke.

However, Tom Rauch, W8JI, has made some postings in the past where he says that copper braid was shown by measurement to be substantially inferior to solid strap from a loss standpoint. You might be able to find some of those postings with a google search. You should also check with some of the sites which cover lightning protection in depth, and see what they have to say specifically about using braid.

Roy Lewallen, W7EL

Tidris wrote:
> What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
> of 1" wide by 0.070 in thick tin plated copper braid?

4589. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 16:43:18 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED395A6.F1805443@uwe.ac.uk>
Source record: 116938
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
>
> Andy Cowley wrote:
>
> > The input mismatch to the transmission line?
>
> Again, the input mismatch has no effect at all on line SWR, impedance
> seen on the input end of the line, or "reflected power". The analysis is
> exactly the same no matter what source impedance you choose.
>
> > You did leave out an interesting case though (not deliberately I hope!).
>
> Well, I certainly didn't intend to present all possible cases. But I'll
> be glad to explain any setup you'd like.
>
> > Connect the 50 ohm transmitter to 1 wavelength of 50 ohm line. The transmitter
> > likes that.
>
> Here's the first problem. The transmitter doesn't necessarily like that.
> It depends entirely on what's at the other end, as you'll see. . .
>
> Put a 450 ohm load at the load end. Now what is the transmitter
> > going to see?
>
> 450 ohms. And the transmitter isn't going to like that, because it will
> see 450 ohms as a load impedance.
>
---------->8 snip 8<----------

Thanks Roy, for taking the trouble to give me a full
explanation. I think I get it now. I knew I shouldn't
have said 'the transmitter likes that' DOH ;-)

vy 73

Andy, M3ABC

4590. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:06:40 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <tk67dv4gt4fag59rarp31n7p0j8jp31q3b@4ax.com>
Source record: 116942

On Mon, 26 May 2003 16:09:53 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>Assuming a safe site (no power lines or other obstructions), is there
>any reason not to use this type of antenna? Transmission would have
>to cease any time balloon adjustment would be required but other than
>that, I can't see any problems so I thought I'd ask here.

I have erected random wire antennas with both balloons and kites.
Check past posts on the subject in Google. Or e-mail me if you're
curious what I did.

73,

Jake Brodsky, AB3A mailto:frussle@erols.com
"Beware of the massive impossible!"

4591. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:09:33 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bb062o$4639v$1@ID-185765.news.dfncis.de>
Source record: 116943
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vcsm9k7u89s8c@corp.supernews.com...
> Egad, here we go again. Sigh, I guess it's worth one more try.
>
> Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
> through one wavelength of 50 ohm transmission line. The forward power on
> that line is 100 watts and the reverse power on that line is zero,
> right? The transmitter sees 50 ohms and operates normally.
>
> No replace the one wavelength of 50 ohm line with one wavelength of 450
> ohm line. Now the forward power on that line is 278 watts and the
> reverse power is 178 watts. The transmitter still sees 50 ohms and
> operates normally. Why don't those 178 watts of evil reverse power make
> the anodes glow?

Now I'm confused! If the TX is still pushing out 100W, where has all the
extra power come from?
;>)
--
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

4592. Re: question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:27:47 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305270927.55617528@posting.google.com>
Source record: 116944

Wolfgang K. Meister <no.mail@please.com> wrote in message
news:<n1t5dv4g60mga4l1ulpbv399s1shhlip2s@4ax.com>...
> On 26 May 2003 21:33:33 GMT, jgboyles@aol.com (JGBOYLES) wrote:
>
> >bit easier. So, what frequency do you wish to operate?
> >73 Gary N4AST
>
> oh yes, I forgot to mention this - sorry!
> I am planning to use this dipole for 14.2 and 18.145 Mhz
>
> 73's Wolfgang OE1MWW

It might be nice if you could make the dipole long enough to be
resonant on 18.145MHz. Then you might get by with extra tuning needed
only on 14.2MHz. On the other hand, if you want a match to 50 ohms,
you might start with an antenna which is slightly short for 18MHz so
that the resistive part is closer to 50 ohms; then a series inductance
will tune that band for a match.

There was a recent thread here about how poor a Q coax stubs have at
low frequencies. You might consider instead using capacitors at
strategic locations along the transmission line as a matching
technique. Assuming fairly low power, they could be relatively small
and light weight. Assuming your 2.8m length per side, I'd expect
about 17-j500 ohms on 14.2MHz and about 26-j200 ohms on 18.145MHz
(very roughly; the reactance, especially, depends on the diameter of
the elements). You could accomplish matches to those (or similar
impedances) by having two taps in your feedline, and putting a
specific capacitor on the one nearer the antenna for 18MHz operation
and a different one on the second tap point for operation on 14MHz.
The line length from antenna to capacitor is just over 1/4 wavelength
(accounting for the line velocity factor) in each case. Beware that
the "Q" for 14MHz, especially, will be fairly high. Also note that
the relatively high SWR on the line from antenna to capacitor results
in increased losses. The lowest loss method is likely to be an LC
network at the antenna.

One might wonder if the simplest way would just be to use a tuner,
however, because then you don't have to worry about the effects of
differing heights.

Cheers,
Tom

4593. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:36:42 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305270936.61e56c6a@posting.google.com>
Source record: 116945

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote in message
news:<20030526234933.14935.00000362@mb-m12.aol.com>...
> A tuner will help with receive. I recently strung up a G5RV antenna. Using an
> MFJ antenna analyzer, I found the best settings for my antenna tuner on each
> band. When I didn't have the tuner set properly for the best SWR, the receive
> suffered. Once I tuned it to the proper settings, the RX increased
> dramatically, from S1 to S9 in some cases.

But!, did you try totally unhooking the tuner from the circuit when
testing with "no tuner"? The misstuned tuner will make the antenna
much deader than it would be if the tuner was not there at all. That
could skew the results. Also,the S meter reading doesn't mean much.
The actual s/n ratio is what matters. MK

4594. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:37:38 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305270937.5e0e2591@posting.google.com>
Source record: 116946

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<a365dv0v74td1vn069672cvos5vicrl483@4ax.com>...
> On 26 May 2003 15:30:52 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >I can't fully understand Clark's poetic attemts to make his comments
> ...
> >I just can't fathom out as I am not
> >a theatre goer.
> >Art....XG.
>
> Would it be simpler if I worked up as a cartoon?
>
> Face it, Art, your beginnings:
> >I can't fully understand
> >I just can't fathom
> are enough admission and attend nearly every other post you offer.
>
> My source of information for Britain's effort is the Manchester
> Guardian. I suppose you follow the Wall Street Journal to watch your
> Haliburton stock. As you stumble over poetry and theatre (Americans
> spell it theater) you seem particularly shy of communication skills
> much less just knowing exactly where you stand on issues.
>
> Did you visit any grave site? I've returned from flanders field in
> comparison to your best effort to support the lads, however they may
> have fallen prey to injury or death.
>
> One remarkable and poignant headstone proclaims:
>
> Arthur
> Donovan
> Brady
> SGT
> US Army
> Persian Gulf
> Apr 27 1969
> Jun 11 1992
>
> I AM SAFE
> ITS ONLY CHANGE
>
> Is this too flowery for your taste? Do you ignore it as poetry? You
> still have time to show us you care. Or you can pop the cap off

> another brew and tune in the race to drown out the voices who ask
> where were you when protest counted? Bravery indeed.
>
> 73's
> Richard Clark, KB7QHC, Veteran

I hate this aproach of yours that I must show I care. I helped organise a parade for returned veterans of Vietnam and in my appeal to fellow amateurs to give up just one Sunday for those who gave more than a month of Sundays. My reward
was to see non participants jump from the crowd to join in the celebration.
I also stopped traffic in the center of town one cold morning when during the fall when to my astonishment it proceded down main street while the ceremony was going on.The traffic stopped rather than running me over.
After another ten minuits another joined me in the middle of the road to reinforce the idea that traffic should respect our veterans. My reward was when he turned and shook my hand, words were not necessary. The Assistant Police Chief assured me that disrespect by traffic would not happen again.Another time
I had a letter printed in the paper taking to task citizens that do not attend
ceromonies that honor those that gave of their lives thinking that hanging a flag relieved them of their obligations. I could go on of course but I find this all so distastefull when I know that some members of this newsgroup suffered so much in the U.S. services but have chosen not to wear their sacrifices on their sleeve as you have done. To them I give my thanks from my U.K.upbringing.
To you I apologise that during my own military service I did not give up my life
to do what you say I must prove.
Art.....XG

4595. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:39:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3A2E0.5090009@ieee.org>
Source record: 116948

Richard Harrison wrote:
> If 50-ohms is a match to the 150-ohm transmission line, as is possible
> (consider a 150-ohm 1/2-wavelength section imbeded in a 50-ohm system),
> there are reflections in the 150-ohm transmission line. But, there can
> be a perfect match at both ends of the transmission line.

Or a bad mismatch if the 150 ohm section is 1/4WL long. My point was that
given the forward and reflected power on a line, it is impossible to tell
from just that information whether the system is matched or not.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4596. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:40:18 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305270940.7593bf7d@posting.google.com>
Source record: 116947

Tidris <nospam@nospam.come> wrote in message
news:<270520030756264469%nospam@nospam.come>...
> In article <3ED37831.2060409@cac.net>, sideband <AINO8SPAMW@cac.net>
> wrote:
>
> > at what frequency?
>
> In the frequency range that is predominant in a lightning strike. I am
> not sure what that range is, so let say at 100 KHz, 1 MHz, and 10 MHz.

I'm not sure the difference between the two mentioned, but as a rule,
braid is not a good material to use for lightning grounding. A flat
smooth copper strap is much better. MK

4597. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:42:06 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED3A36E.606C79B@cwis.net>
Source record: 116949

Tidris,
Which of the two has the higher current carrying
capacity?
'Doc

4598. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:52:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3A5FB.7030402@ieee.org>
Source record: 116950
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> All that matters is the impedance
> seen by the rig. It doesn't matter one bit whether the impedance is the
> result of lumped components, or a load impedance transformed by a
> transmission line. Or how much "reverse power" is allegedly flowing on
> the line.

Dang, I thought we had killed that sacred cow, Roy. If reflected power is allowed to reach the transmitter, the impedance seen by the transmitter will be (Vfor+Vref)/(Ifor/Iref). (Vref*Iref) *IS* the reflected power. The impedance seen by the transmitter is partially a function of the phase and magnitude of the reflected voltage and reflected current. The magnitude of the transmitter mismatch looking into a transmission line is partially a function of the reflected waves. We cannot, in good conscience, simply ignore the role played by reflected waves in the resulting impedance mismatch. Without reflected waves, there would be no impedance transformation and no SWR circle on the Smith Chart.
--
73, Cecil http://www.qsl.net/w5dxp

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4599. Re: question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:58:48 UTC
From: jgboyles@aol.com
Message-ID: <20030527135848.08487.00000312@mb-m24.aol.com>
Source record: 116951

>I am planning to use this dipole for 14.2 and 18.145 Mhz

Hi Wolfgang,
A dipole the dimensions you gave can be center loaded. If you place the loading coils at the end of the 1.5M tubing, for 14.2 Mhz, you need about 7.4 uH loading coils. This will give you a feed point impedance of around 35 ohms for a 50 ohm swr of 1.5. If you want a 50 ohm feed point impedance, make the loading coils 7.0uH and add a 1.1 uH at the feed. Tap the feed at .76 uH for a 50 ohm match.
For operation on 18 Mhz, short out a portion of the loading coils. How much could best be determined experimentally.
The above numbers were determined using EZNEC. In an actual application, many factors determine antenna characteristics, so the inductances should be close, but may vary somewhat with your antenna.
73 Gary N4AST

4600. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 17:59:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3A78F.5040008@ieee.org>
Source record: 116952
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Frank Turner-Smith G3VKI wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
>>Now replace the one wavelength of 50 ohm line with one wavelength of 450
>>ohm line. Now the forward power on that line is 278 watts and the
>>reverse power is 178 watts. The transmitter still sees 50 ohms and
>>operates normally. Why don't those 178 watts of evil reverse power make
>>the anodes glow?
>
> Now I'm confused! If the TX is still pushing out 100W, where has all the
> extra power come from?

It is stored in the transmission line during buildup to steady-state. i.e.
the transmitter has transmitted more power than has been dissipated by
the load. That stored energy is being used for impedance transformation.
For steady-state:

Forward Power minus Reflected Power equals Generated Power

278W - 178W = 100W

Assume a one-second long lossless transmission line. That transmission
line will contain 456 joules of RF energy that hasn't yet reached the
load.
--
73, Cecil http://www.qsl.net/w5dxp

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4601. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 18:11:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7ai4j12hur8d@corp.supernews.com>
Source record: 116953
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Frank Turner-Smith G3VKI wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vcsm9k7u89s8c@corp.supernews.com...
>
>>Egad, here we go again. Sigh, I guess it's worth one more try.
>>
>>Let's suppose you have a 100 watt transmitter feeding a 50 ohm load
>>through one wavelength of 50 ohm transmission line. The forward power on
>>that line is 100 watts and the reverse power on that line is zero,
>>right? The transmitter sees 50 ohms and operates normally.
>>
>>No replace the one wavelength of 50 ohm line with one wavelength of 450
>>ohm line. Now the forward power on that line is 278 watts and the
>>reverse power is 178 watts. The transmitter still sees 50 ohms and
>>operates normally. Why don't those 178 watts of evil reverse power make
>>the anodes glow?
>
>
> Now I'm confused! If the TX is still pushing out 100W, where has all the
> extra power come from?
> ;>)

There's really only 100 watts coming out of the transmitter. By mathematical trickery, we can separate this into 278 watts of "forward" power and 178 watts of "reverse" power on a line having a 9:1 SWR. The only real, actual power delivered by the transmitter, flowing down the line, and delivered to the load, is 100 watts, which happens to be the difference between the "forward" and "reverse" power. On the 450 ohm line we calculate 278 watts "forward" and 178 watts "reverse" power. On the 50 ohm line, it's 100 watts of "forward" and zero watts "reverse" power. Neither the transmitter nor the load (nor any test you can devise at one frequency, steady state) can tell any difference whatever between the two cases. 100 watts goes in, 100 watts goes out.

Although the concept of "forward" and "reverse" power is convenient and useful (for example, in calculating increased line loss due to SWR), you have to be very careful in how you interpret and use these quantities. It's very easy to be misled into wrong conclusions (such as the perpetual myth that reverse power is absorbed by the transmitter) if you extend the concept too far. A somewhat similar situation is the separating of currents on two conductors into "differential" and "common mode" components, although that's probably a safer decomposition since currents at least satisfy superposition while powers don't.

A couple of years ago I made a posting on April 1 in which I proposed using a directional coupler to extract the "reverse" power and use it to power the transmitter. Since the transmitter is providing only 100 watts and we have 178 watts of "reverse" power, that gives us 78 watts left over. Even considering transmitter inefficiency, it should be enough to keep the beer cold (or warm, as the case may be). Burp.

Roy Lewallen, W7EL

4602. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 18:19:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3AC2D.9BBE6E7@uci.edu>
Source record: 116954

W5DXP wrote:
>
> Jim Kelley wrote:
> You didn't say "irradiance" above, you said "interference". Does Hecht say
> the destructive interference can be zero while the constructive interference
> equals 4*I1? If so, exactly where? I can't seem to find it.

I really have no idea what you are harping on about, Cecil.

> > I'm obviously just applying the equations from Hecht. It's not like I
> > have a secret agenda or some bizzarro science I'm trying to promote.
>
> Please quote the Hecht equations that say if I1=I2, -2Sqrt(I1*I2) = zero
> while +2Sqrt(I1*I2) = 4*I1 I can't seem to find those equations.

You won't find equations in Hecht that say 2*SQRT(I1*I2) by itself is
equal to anything. It's one term in an equation. As I said, from
Hecht (I1+I2)-(2*SQRT(I1*I2))=0, and (I1+I2)+(2*SQRT(I1*I2))=4*I. Those
are the equations given by Hecht for I1=I2 at zero and 180 degrees
respectively. If there is a point to all this, I sure wish you would
make it.

> > Irradiance is the 'thing' which is most analogous to 'power' in our
> > problem.

> Yep, and powers do not interfere. Voltages interfere and currents
> interfere. Saying "destructive irradiance" is like saying "destructive
> power". What does it mean? Please furnish a definition.

As I've explained numerous times before we're interested in irradiance,
or power in two cases; one for destructive interference, and one for
constructive interference. If what you say above were to be belived,
then it would tend to discredit your paper altogether.

> > Certainly no one on sci.physics.electromag believed it.
>
> On the contrary.

No one on sci.physics.electromag believes that energy reverses direction
in the way you describe. You are wrong about that. They also said that
energy does not behave 'classically' as it does in your scenario.

> > Rho^2 is the only mechanism that is substantiated in the literature.
> > That's at least a _supportable_ assertion, doncha think?

> Let's say Rho^2 is 0.25. That's 25% of the reflected energy turned
> around by Rho^2. How does the other 75% of the reflected energy get

> turned around so it is not incident upon the source?

Rho^2 is the only mechanism by which energy can be reflected.
The error you continue to make is your presumtion that the other 75% of the _energy_ is actually reflected from the load. As I said, and have illustrated, _energy_ is not transferred by waves which cancel. (P3+P4)-(2*SQRT(P3*P4)) is at or near zero energy/time, which means that neither wave P3 nor wave P4 carries energy with it. That energy instead appears in the transmitted direction.
((Pref2*Rho^2)+P1)+(2*SQRT((Pref2*Rho^2)*P1))=Pfwd2. That is how interference applies to this scenario.

> > I've maintained from the beginning that no energy is transferred from
> > one point to another by waves that cancel.

> Exactly.

You agree and yet you insist on ignoring it when it occurs.

> One of the reflected waves that cancel comes from the load.
> Therefore, you say no reflected energy is transferred from the load.

In this case the fraction of Pref2 equal to P3 is not transferred. The fraction of Pref2 equal to P2 is of course transferred, as well as is any remaining fraction of Pref2 that exceeds P2+P3.

> That's exactly what I thought you had said. Now you say it again.
> If you can prove that, my entire argument falls apart.

Try the experiment with the lasers and the beam splitter. It's a well known phenomonon. The irradiance equations specifically describe the effect.

> Remember the thought experiment with you sitting in the room with a
> 50 ohm load fed by a 150 ohm feedline. You cannot tell if the system
> is matched or not so how do you know whether to allow any energy in
> the reflected wave or not?

I don't know. The meter readings tell us that there are standing waves on the line and also how much energy is being delivered to the load. Your model implies that if the meter reading shows reflected waves, that those waves carry an amount of energy/time equal to VI, and that's not necessarily true for waves that cancel. Without an impedance match on the left, that assumption is correct. With a match, that assumption is apparently incorrect.

4603. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 18:44:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7cf8n1okmuc7@corp.supernews.com>
Source record: 116955
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

I realize that my statement doesn't address the topic which is
overwhelmingly important to you. But it wasn't intended to.

Exactly what in my posted statement is incorrect?

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> All that matters is the impedance seen by the rig. It doesn't matter
>> one bit whether the impedance is the result of lumped components, or a
>> load impedance transformed by a transmission line. Or how much
>> "reverse power" is allegedly flowing on the line.
>
>
> Dang, I thought we had killed that sacred cow, Roy. If reflected power
> is allowed to reach the transmitter, the impedance seen by the transmitter
> will be (Vfor+Vref)/(Ifor/Iref). (Vref*Iref) *IS* the reflected power. The
> impedance seen by the transmitter is partially a function of the phase and
> magnitude of the reflected voltage and reflected current. The magnitude of
> the transmitter mismatch looking into a transmission line is partially a
> function of the reflected waves. We cannot, in good conscience, simply
> ignore the role played by reflected waves in the resulting impedance
> mismatch. Without reflected waves, there would be no impedance
> transformation
> and no SWR circle on the Smith Chart.

4604. Re: need help tuning uhv-4

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 19:31:37 UTC
From: wess@gtii.com
Message-ID: <vd7f76gjn6ria9@corp.supernews.com>
Source record: 116956

Top posting my post as Comet sent a reply that I thought I would put in to usenet memory.

###

Wes:

We have the UHV-4 10M coil available for purchase: $15.95 Please call or reply with a V or MC # including the last three digits from the signature line, exp date and UPS address.

The original instructions listed both tuning stubs for 10M tuning. That is not correct the top stinger tunes 10M, the side stinger tunes 6M.

###

wess@gtii.com wrote:

>Help,
>
>I garage doored my uhv-4 antenna and it separated into 3 sections.
>The instructions that came with the thing are poorly translated asian
>into incoherrent english. Lucky for me nothing broke though the top
>loading coil needed some tender rounding out with pliers.
>
>So if someone can walk me though tuning this thing back up, you would
>make my day.
>
>73, wes, kc8spr

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4605. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 19:39:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <c4f7dvktvd53lgfd0mjskihb2bve9hjj24@4ax.com>
Source record: 116957

On Tue, 27 May 2003 15:59:52 GMT, Andy Cowley <andy.cowley@uwe.ac.uk>
wrote:

>Richard Clark wrote:
>>
>> On 23 May 2003 14:45:44 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
>> wrote:
>>
>> >When I visited the Alamo and read the names on the commarative plaque
>> >of its defense I was quite struck to see the amount of names that were
>> >of British stock. Does that count for anything ?
>> >Art an XG
>>
>> Not if in fact they were Scots or Irish.
>>
>
>If in fact they were Scots or Irish then they were
>in fact British. English is different. Clark is a
>British name even if not English, although there
>are plenty of English Clarks, Clerks, Clarkes etc.
>and the Irish family name is almost certainly
>derived from an earlier English one.
>
>vy 73
>Andy, M3ABC

Hi Andy,

This is like calling our native indians, Americans. Such is a
political implication, not a geographical one. They may choose to
accept this, and with pride, but it does not mean they are
dis-enfranchised by that acceptance. That list of names on the wall
of the Alamo most certainly exhibits every tendency for the bearers of
those names to have cast off former allegiances.

One of my buddies in the Navy had the last name Josï¿½, he is American
(OK, so that doesn't count, for some reason) of French descent.

The reductio-ad-absurdum is that ultimately all English name are in
fact Nordic - given we stop the clock along the time line at the right
point to balance that scale.

73's
Richard Clark, KB7QHC

4606. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 19:49:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <usf7dv41redh0kkjoutbnbbc72imrugp60@4ax.com>
Source record: 116958

On 27 May 2003 10:37:38 -0700, aunwin@insightbb.com (Art Unwin KB9MZ) wrote:

>I find this all so distastefull when I know that some
>members of this newsgroup suffered so much in the U.S. services but
>have chosen not to wear their sacrifices on their sleeve as you have
>done.

I'm not six feet under yet, and I stand for those who are. I accept no shame in that, except for the inappropriate exposure of a family by naming their son here.

>To you I apologise that during my own military service I did not give
>up my life
>to do what you say I must prove.
>Art.....XG

If you insist. No one asked though. If you are sincere, there's still time. Did you march against the war? Or did you stand for it is the question you avoid. Past performance is no guarantor of future return.

As this has been offered several times to no obvious response I will refrain further (shocking n'est pas?).

73's
Richard Clark, KB7QHC

4607. Re: question for the experts: matching a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 19:50:59 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vd7gdtn8jfnf4b@corp.supernews.com>
Source record: 116959

Wolfgang
Gary is spot-on for design.
I've seen a pair of mobile whips mounted in dipole fashion.
You can build the whole thing with off-the-shelf antenna parts.
The ultimate portable dipole would be the SteppIR, www.steppir.com .
The elements retract completely from the tubes which telescope down to about
a meter and are easily removed;
That's probably the most expensive solution but it's good from 20 - 6.
73 es gud dx
H.
NQ5H

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030527135848.08487.00000312@mb-m24.aol.com...
> >I am planning to use this dipole for 14.2 and 18.145 Mhz
>
> Hi Wolfgang,
> A dipole the dimensions you gave can be center loaded. If you place the
> loading coils at the end of the 1.5M tubing, for 14.2 Mhz, you need about
7.4
> uH loading coils. This will give you a feed point impedance of around 35
ohms
> for a 50 ohm swr of 1.5. If you want a 50 ohm feed point impedance, make
the
> loading coils 7.0uH and add a 1.1 uH at the feed. Tap the feed at .76 uH
for a
> 50 ohm match.
> For operation on 18 Mhz, short out a portion of the loading coils. How
much
> could best be determined experimentally.
> The above numbers were determined using EZNEC. In an actual
application,
> many factors determine antenna characteristics, so the inductances should
be
> close, but may vary somewhat with your antenna.
> 73 Gary N4AST

4608. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 19:57:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3C313.9080405@ieee.org>
Source record: 116960
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> There's really only 100 watts coming out of the transmitter. By
> mathematical trickery, we can separate this into 278 watts of "forward"
> power and 178 watts of "reverse" power on a line having a 9:1 SWR.

It's *NOT* mathematical trickery, Roy. If you will calculate the number
of microjoules generated but not absorbed by the load, you will
find that exactly the proper amount of energy has been generated that
it takes for the stored energy in the transmission line to accomplish
the impedance transformation function.

It's a simple mental experiment to make a lossless feedline one second
long so that the number of watts and the number of joules are the same.

With a one second long feedline, during steady-state, exactly
279 joules + 178 joules = 456 joules have been generated that have
not been radiated/dissipated by the load. It's a simple conservation
of energy problem *and* solution. Saying it is "mathematical trickery"
is just one of the Sacred Cows of ham radio that needs to be slaughtered.
You can easily verify what I am saying by accounting for the joules
during the transient state.

During the buildup from key-down to steady-state, 456 joules of
generated energy have been stored in the one-second long feedline.
During steady-state, while the generator is generating 100 joules/sec
and the load is accepting 100 joules/sec, there still exists 456 joules
of energy in the feedline supporting the impedance transformation.

This is an example of my earlier assertion that virtually all RF
engineers have been seduced by the steady-state model.
--
73, Cecil http://www.qsl.net/w5dxp

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4609. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:03:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3C484.2030803@ieee.org>
Source record: 116961

Jim Kelley wrote:
> You won't find equations in Hecht that say 2*SQRT(I1*I2) by itself is
> _equal_ to anything.

But Jim, you said that destructive interference, -2*Sqrt(I1*I2), is equal
to zero while constructive interference, +2*Sqrt(I1*I2), is equal to 4*I1.
You are contradicting Hecht.

> Rho^2 is the only mechanism by which energy can be reflected.
> The error you continue to make is your presumtion that the other 75% of
> the _energy_ is actually reflected from the load.

Jim, in a mismatched system, Pfor(Rho^2) *IS* reflected from the load.
As long as you maintain such an irrational invalid view of reality,
there is no reason for me to respond to your irrationality.
--
73, Cecil http://www.qsl.net/w5dxp

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4610. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:09:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3C602.8040209@ieee.org>
Source record: 116962
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> I realize that my statement doesn't address the topic which is
> overwhelmingly important to you. But it wasn't intended to.
>
> Exactly what in my posted statement is incorrect?

The impedance seen by the transmitter does indeed depend on how much reverse power is flowing on the line. Vref*Iref is the reverse power flowing on the line. (Vfor+Vref)/(Ifor+Iref) is the impedance seen by the transmitter. Don't you recognize those "Vref" and "Iref" common terms in those two equations?

If no reverse power flows in the line, the transmitter will see Z0. If reverse power flows in the line, the transmitter will NOT see Z0. Why is that binary logic tree so hard to understand?

>> Roy Lewallen wrote:
>>> It doesn't matter one bit ... how much
>>> "reverse power" is allegedly flowing on the line.
--
73, Cecil http://www.qsl.net/w5dxp

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4611. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:11:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3C67E.3030704@ieee.org>
Source record: 116963

Richard Clark wrote:
> This is like calling our native indians, Americans.

Seems better than calling them "native indians", don't
you agree? :-) There is lots of evidence that they are
not "indians" at all.
--
73, Cecil http://www.qsl.net/w5dxp

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4612. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:15:40 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vd7hrnmu9oqdbd@corp.supernews.com>
Source record: 116964

Grounding mountain top microwave sites we use twisted copper cable made up
of number 12 or 14 that was at least 1/2" in diameter, I can't remeber the
guage. I've noticed that grounded power poles use very nearly the same
wire. Go take a look at some grounded power poles. Never, never turn
sharp corners. The current carrying capacity is major consideration, as is
a straight path. I don't recall impedance being considered.
hank wd5jfr
"Tidris" <nospam@nospam.come> wrote in message
news:27052003071334530 2%nospam@nospam.come...
> What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
> of 1" wide by 0.070 in thick tin plated copper braid?

4613. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:22:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7i7pq7skukc3@corp.supernews.com>
Source record: 116965
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

This has already been the subject of countless postings. There's no need
for me to add to them.

I do feel compelled to state, however, that I have a very good
understanding, thank you, of transient pheonomena, having done design,
provided advanced customer support, and taught classes on TDR and other
time domain methods and phenomena.

I now return you to your regularly scheduled programming. . .

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> There's really only 100 watts coming out of the transmitter. By
>> mathematical trickery, we can separate this into 278 watts of
>> "forward" power and 178 watts of "reverse" power on a line having a
>> 9:1 SWR.
>
>
> It's *NOT* mathematical trickery, Roy. If you will calculate the number
> of microjoules generated but not absorbed by the load, you will
> find that exactly the proper amount of energy has been generated that
> it takes for the stored energy in the transmission line to accomplish
> the impedance transformation function.
>
> It's a simple mental experiment to make a lossless feedline one second
> long so that the number of watts and the number of joules are the same.
>
> With a one second long feedline, during steady-state, exactly
> 279 joules + 178 joules = 456 joules have been generated that have
> not been radiated/dissipated by the load. It's a simple conservation
> of energy problem *and* solution. Saying it is "mathematical trickery"
> is just one of the Sacred Cows of ham radio that needs to be slaughtered.
> You can easily verify what I am saying by accounting for the joules
> during the transient state.
>
> During the buildup from key-down to steady-state, 456 joules of
> generated energy have been stored in the one-second long feedline.
> During steady-state, while the generator is generating 100 joules/sec
> and the load is accepting 100 joules/sec, there still exists 456 joules
> of energy in the feedline supporting the impedance transformation.
>

> This is an example of my earlier assertion that virtually all RF
> engineers have been seduced by the steady-state model.

4614. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:24:23 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305271224.2c9d536e@posting.google.com>
Source record: 116966

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0305270652.14c5f812@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305261605.253ee7eb@posting.google.com>...
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0305260938.e5e8ca5@posting.google.com>...

>
> The reason you cannot find it in the archives is the whole
> of Jan 2003 has been erased, if you still wish to find it search mr
> bluster 15 jan 2003
> Jaro.

No problem. I'm not really interested in it anyway. I don't care for
"romper room" games on a group that is supposed to be about antennas.
If I did, I would go to rec.whiners.romper-room
Sure, the "final solution" remark may have been tacky, but I doubt it
has anything to do with what Chip does around here. Myself, I find the
whole thing silly. If you don't like what people tell you, accuse them
of ganging up, or trying to malign you. What in the #%$^ does what
some guy said to Chip a few months ago, have to do with Art, Cecil, or
anything being discussed in this thread. It's a method of deflection.
If what people tell you doesn't fit "The Program", accuse the "cabal"
of ganging up on you.
Crap...About makes me sick to my stomach to tell you the truth. It's
not the way I do business. If a boatload of people tell me I'm wrong,
I'll take another look at what I'm doing. If in large numbers, they
will probably be right, unless I can prove otherwise. If I can't prove
otherwise, I don't start whining and accusing the big bad "cabal" of
trying to ruin my life. Time to get a grip folks. Using "deflection
techniques" to avoid getting down to the nitty-gritty will not fly far
with me. And I avoid long threads where they are trying to affix the
maximum number of nits to the head of a pin, so that may be why I
didn't see the post in question. :/ MK

4615. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:28:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3CA75.B816AE2A@uci.edu>
Source record: 116968

W5DXP wrote:
>
> Jim Kelley wrote:
> > You won't find equations in Hecht that say 2*SQRT(I1*I2) by itself is
> > _equal_ to anything.
>
> But Jim, you said that destructive interference, -2*Sqrt(I1*I2), is equal
> to zero while constructive interference, +2*Sqrt(I1*I2), is equal to 4*I1.

I still have no idea what you are talking about.

> Jim, in a mismatched system, Pfor(Rho^2) *IS* reflected from the load.
> As long as you maintain such an irrational invalid view of reality,
> there is no reason for me to respond to your irrationality.

Say you've got a 25 watt laser burning a hole in a 10x12. Then you turn on another identical 25 watt laser shining at 90 degrees to the first one. The two beams cross paths, intersecting at a beam splitter (with a really good heat sink on it). Now (portions of) both beams are headed toward the 10x12 and are attenuated by the same amount. You adjust the path length of one of the lasers by fractions or a wavelength until the two laser beams are 100% in phase phase along their path to the 10x12, and your hole burning is progressing nicely. Then you readjust the position of the laser by a half wavelength and the beams are now 180 degrees out of phase. At this point you stop burning a hole in the 10x12 and pronounce that the energy has been re-reflected back to the source by destructive interference.

That's basically what you're trying to sell us.

4616. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:29:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3CAAE.BED30E92@uci.edu>
Source record: 116869

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> Saying "destructive irradiance" is like saying "destructive
> power". What does it mean? Please furnish a definition.

I have already furnished that definition - at least twice. You may assume it means the irradiance which results when two or more waves destructively interfere. The equation for the resulting irradiance between two destructively interfering irradiances I1 and I2, is (I1+I2)-(2*SQRT(I1*I2)).
If I ever happen to write the words "destructive irradiance" again, please read "the irradiance produced by two destructively interfering waves."

Do you still find there is something unclear about this?

> OK, here it is again in quotes, you said: "The magnitude of destructive
> interference is zero, and the magnitude of constructive interference
> when I1 = I2 is equal to 4*I1."

So that you might understand, I'll use more words. The magnitude of the irradiance in the case of destructive interference is zero, and the magnitude of irradiance in the case of constructive interference is 4*I1 when I1 is equal to I2. "Interference" itself of course does not HAVE a magnitude, but I assumed most people would know that.

You arrived at that erroneous conclusion by reading too much into Hecht, "2*SQRT(I1*I2) cos theta is the interference term." I guess the problem is, you think that "interference" DOES have a magnitude.

4617. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:31:10 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vd7ip8jj6ika28@corp.supernews.com>
Source record: 116967
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Clear, concise, and to-the-point.
But there's still only 100 watts coming out of the transmitter.
73
H.
NQ5H

appendix:
joule = watt*second
energy= power x time
power = rate of doing work

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED3C313.9080405@ieee.org...
> Roy Lewallen wrote:
> > There's really only 100 watts coming out of the transmitter. By
> > mathematical trickery, we can separate this into 278 watts of "forward"
> > power and 178 watts of "reverse" power on a line having a 9:1 SWR.
>
> It's *NOT* mathematical trickery, Roy. If you will calculate the number
> of microjoules generated but not absorbed by the load, you will
> find that exactly the proper amount of energy has been generated that
> it takes for the stored energy in the transmission line to accomplish
> the impedance transformation function.
>
> It's a simple mental experiment to make a lossless feedline one second
> long so that the number of watts and the number of joules are the same.
>
> With a one second long feedline, during steady-state, exactly
> 279 joules + 178 joules = 456 joules have been generated that have
> not been radiated/dissipated by the load. It's a simple conservation
> of energy problem *and* solution. Saying it is "mathematical trickery"
> is just one of the Sacred Cows of ham radio that needs to be slaughtered.
> You can easily verify what I am saying by accounting for the joules
> during the transient state.
>
> During the buildup from key-down to steady-state, 456 joules of
> generated energy have been stored in the one-second long feedline.
> During steady-state, while the generator is generating 100 joules/sec
> and the load is accepting 100 joules/sec, there still exists 456 joules
> of energy in the feedline supporting the impedance transformation.
>
> This is an example of my earlier assertion that virtually all RF
> engineers have been seduced by the steady-state model.
> --

> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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4618. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 20:40:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7j9opfo93568@corp.supernews.com>
Source record: 116870
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

There's nothing at all wrong with the logic. It's simply irrelevant to the discussion at hand. I stand by my statement. The transmitter sees the same load impedance whether it's attached to a 450 ohm one wavelength line with 450 ohm load (zero reverse power on the line), or a 50 ohm one wavelength line with 450 ohm load (178 watts of reverse power on the line). The impedance the transmitter sees, the power it delivers to the line, and the amount the line delivers to the load are identical in both cases, in spite of the different forward and reverse powers, line SWR, and forward and reverse voltages on the lines. The topic of why the transmitter sees the same impedance in both cases is covered very well in a great number of textbooks and is well known to many of the readers of and participants in the newsgroup. Most of the textbook authors, incidentally, manage to explain this just fine without even a mention of forward and reverse power at all.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> I realize that my statement doesn't address the topic which is
>> overwhelmingly important to you. But it wasn't intended to.
>>
>> Exactly what in my posted statement is incorrect?
>
>
> The impedance seen by the transmitter does indeed depend on how
> much reverse power is flowing on the line. Vref*Iref is the
> reverse power flowing on the line. (Vfor+Vref)/(Ifor+Iref) is
> the impedance seen by the transmitter. Don't you recognize
> those "Vref" and "Iref" common terms in those two equations?
>
> If no reverse power flows in the line, the transmitter will see
> Z0. If reverse power flows in the line, the transmitter will NOT
> see Z0. Why is that binary logic tree so hard to understand?
>
>>> Roy Lewallen wrote:
>>>
>>>> It doesn't matter one bit ... how much
>>>> "reverse power" is allegedly flowing on the line.

4619. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:09:03 UTC
From: richardharrison@webtv.net
Message-ID: <5448-3ED3D3EF-1051@storefull-2312.public.lawson.webtv.net>
Source record: 116871

Cecil, W5DXP wrote:
"---given the forward and reflected power in a line, it is impossible to tell from just that information whether the system is matched or not."

In the first similar posting, Cecil wrote:
"Given all the passive measurements one can make, one cannot determine if that system is conjugately matched or not."

The best way I can think of to determine if a system is conjugately matched is to test for maximum power output.

Cecil cries foul! Monkeying with the loading isn`t passive. Parse the sentence. Passive measurements are made with passive instruments.

An amplifier is an active instrument. An attenuator is a passive instrument. A coil or a capacitor is a passive instrument. Using only passive instruments, I can determine if a system is conjugately matched or not.

Best regards, Richard Harrison, KB5WZI

4620. Re: Spider Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:19:12 UTC
From: helmsman <helmsman@DELETEmindspring.com>
Message-ID: <jhl7dvgj46j3m04rd1p0q7mdh7fdfe93g8@4ax.com>
Source record: 116872

On Sun, 25 May 2003 07:29:38 -0400, Walter127@city.net wrote:

>You can check at the following: http://www.spiderantenna.com/info/htlm
>
No cigar, that info isn't there. I was hoping someone that owned one
would have the info. Oh well :')
>helmsman wrote:
>>
>> Doe's anyone have a clue what the take off angle for the "Spider
>> antenna Dipole" is ??
>> TIA
>> .
>> Boycott anything made in france and vacation somewhere else.

.
Boycott anything made in france and vacation somewhere else.

4621. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:25:16 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520031425121122%nospam@nospam.come>
Source record: 116873

In article <25eb70d7.0305270940.7593bf7d@posting.google.com>, Mark Keith <nm5k@wt.net> wrote:

> I'm not sure the difference between the two mentioned, but as a rule,
> braid is not a good material to use for lightning grounding. A flat
> smooth copper strap is much better.

I have seen some of that info, but I can get the 2 awg copper wire or the 1 inch wide copper braid for a much lower price than I can get 1.5 inch wide solid copper strap. I understand that according to the NEC any copper wire 10 awg or larger is adequate for lightning protection so I feel confident both choices can do the job well. Therefore the issue for me is which one of those two affordable choices is best.

I am also considering using 1/2 inch type M copper pipe which is available to me at a price lower than the 2 awg wire , but I am worried the thin 0.025 inch thick wall might corrode too quickly when burried underground. Some houses in this area had problems when the builder erroneously used the thin walled type M pipe for the main underground water connection.

4622. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:30:45 UTC
From: richardharrison@webtv.net
Message-ID: <24140-3ED3D905-1200@storefull-2314.public.lawson.webtv.net>
Source record: 116875

Cecil, W5DXP wrote:
"---there still exists 456 joules of energy in the feedline supporting the impedance transformation."

That`s not quite cause and effect. I can add 1/2-wavelength to your one-second-long feedline, increasing the joules stored, without affecting the impedance transformation.

Best regards, Richard Harrison, KB5WZI

4623. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:41:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3DB9E.3050007@ieee.org>
Source record: 116874
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> This has already been the subject of countless postings. There's no need
> for me to add to them.
>
> I do feel compelled to state, however, that I have a very good
> understanding, thank you, of transient pheonomena, having done design,
> provided advanced customer support, and taught classes on TDR and other
> time domain methods and phenomena.

Yes, I know you do and have done all that stuff, Roy. That makes me wonder why you utter such words as "mathematical trickery". It is certainly NOT mathematical trickery. It is is simply conservation of energy at work. All the energy that has been delivered to the system by the generator that has not reached the load, is still stored in the system (assuming a lossless system). Have you ever considered my one-second long transmission line? It puts everything into a human time perspective and shines the light of truth on the sacred cows and old wives' tales.
--
73, Cecil http://www.qsl.net/w5dxp

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4624. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:51:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3DDF8.90503@ieee.org>
Source record: 116876

Jim Kelley wrote:
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>>You won't find equations in Hecht that say 2*SQRT(I1*I2) by itself is
>>>_equal_ to anything.
>>
>>But Jim, you said that destructive interference, -2*Sqrt(I1*I2), is equal
>>to zero while constructive interference, +2*Sqrt(I1*I2), is equal to 4*I1.
>
> I still have no idea what you are talking about.

That can be nothing but a lie. I re-posted your statements on the subject. This is exactly why you are the only *individual* I have ever put in my kill file along with the porno, viagra, and loan stuff. Don't expect me to respond to your irrational pathology.

Review your postings from 5-12-03 and 5-09-03. You will find the above assertions of yours.

> That's basically what you're trying to sell us.

This is a repeat of something you have already posted. If you don't read my replies, that could be your entire problem. IMO, you need help that I cannot provide.
--
73, Cecil http://www.qsl.net/w5dxp

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4625. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:55:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3DEB5.2020306@ieee.org>
Source record: 116877

Jim Kelley wrote:
> If I ever happen to write the words "destructive irradiance" again,
> please read "the irradiance produced by two destructively interfering
> waves."

Thanks for defining that for us. To the best of my knowledge, you are
the only person in the world who has ever coined the words, "destructive
irratiance". Saying "destructive irradiance" is like saying "destructive
power". There is simply no such thing in reality.
--
73, Cecil http://www.qsl.net/w5dxp

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4626. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:55:27 UTC
From: richardharrison@webtv.net
Message-ID: <24142-3ED3DECF-383@storefull-2314.public.lawson.webtv.net>
Source record: 116883

Cecil, W5DXP wrote:
"There is lots of evidence that (American Indians) are not "indians" at all."

DNA tests have shown that ancestors of the pre-Columbus natives of America did indeed likely pass through today`s India on their way to the new world.

Best regards, Richard Harrison, KB5WZI

4627. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:55:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3DEE3.AFB20658@uci.edu>
Source record: 116880

W5DXP wrote:
>
> Jim Kelley wrote:
> > If I ever happen to write the words "destructive irradiance" again,
> > please read "the irradiance produced by two destructively interfering
> > waves."

> Thanks for defining that for us. To the best of my knowledge, you are
> the only person in the world who has ever coined the words, "destructive
> irratiance". Saying "destructive irradiance" is like saying "destructive
> power". There is simply no such thing in reality.

Irrelevant. That you refuse to accept the well known descriptions of
the phenomena provided in optics texts is what's relevant.

4628. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 21:57:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3DF43.2030902@ieee.org>
Source record: 116878
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

H. Adam Stevens wrote:
> Clear, concise, and to-the-point.
> But there's still only 100 watts coming out of the transmitter.

Why state the obvious when nobody in the world disagrees with it?
--
73, Cecil http://www.qsl.net/w5dxp

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4629. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:02:51 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <EFOdnQ3qD80TfU6jXTWcrg@comcast.com>
Source record: 116879

I don't know if you can buy it in small quantities, but hydrogen is a lot cheaper than helium. Should be safe enough to use outdoors. It also has more lift, but will leak out faster. BTW, don't forget the 250 foot rule.

Tam/WB2TT
"Jack Twilley" <jmt+usenet@twilley.org> wrote in message news:86he7hs3su.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

The other day I saw a car dealership with some large helium balloons with banners attached. ....

4630. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:10:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3E23D.8000606@ieee.org>
Source record: 116882
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> There's nothing at all wrong with the logic. It's simply irrelevant to
> the discussion at hand. I stand by my statement. The transmitter sees
> the same load impedance whether it's attached to a 450 ohm one
> wavelength line with 450 ohm load (zero reverse power on the line), or a
> 50 ohm one wavelength line with 450 ohm load (178 watts of reverse power
> on the line). The impedance the transmitter sees, the power it delivers
> to the line, and the amount the line delivers to the load are identical
> in both cases, in spite of the different forward and reverse powers,
> line SWR, and forward and reverse voltages on the lines. The topic of
> why the transmitter sees the same impedance in both cases is covered
> very well in a great number of textbooks and is well known to many of
> the readers of and participants in the newsgroup. Most of the textbook
> authors, incidentally, manage to explain this just fine without even a
> mention of forward and reverse power at all.

>>>> Roy Lewallen wrote:
>>>>> It doesn't matter one bit ... how much
>>>>> "reverse power" is allegedly flowing on the line.

Your statement is simply false, Roy. How much reverse power determines
Vref and Iref. Vref and Iref are half of the terms in the equation that
determines the impedance seen by the transmitter. How you can say reverse
power doesn't matter is beyond belief. Do you disagree with the following?

1. Vref and Iref are determined by the reverse power and Z0.

2. Vref and Iref are half of the terms in the impedance equation
seen by the transmitter, i.e. Zt = (Vfor+Vref)/(Ifor+Iref)

3. Vref increases with an increase in reverse power. Iref increases with
an increase in reverse power.

Therefore, reverse power has *large effect* on the impedance seen by the
transmitter. The impedance seen by the transmitter can damage the transmitter.
Saying "reverse power" "doesn't matter one bit" is, IMO, ridiculous.

Reflected power *causes* the impedance mismatch that damages a transmitter
connected to a transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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4631. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:10:47 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520031510434963%nospam@nospam.come>
Source record: 116881

In article <3ED3A36E.606C79B@cwis.net>, 'Doc <w5lz@cwis.net> wrote:

> Which of the two has the higher current carrying
> capacity?

They both have about the same solid cross section, so I guess they have about the same DC and 60 Hz current carrying capacity. However I understand lightning has a significant amount of energy at RF frequencies so the skin effect comes into play. The braid appears better for RF with over twice the surface area of the solid wire, but since the braid surface isn't solid and smooth I understand it has to be derrated by some unknown factor. And then there probably are other issues I haven't thought about.

4632. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:14:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3E359.1020303@ieee.org>
Source record: 116884

Richard Harrison wrote:
> Cecil cries foul! Monkeying with the loading isn`t passive. Parse the
> sentence. Passive measurements are made with passive instruments.

You are begging the question, Richard. Forget the semantics. Can you, knowing only the forward and reflected power measurements, tell whether a system is matched or not? I say you cannot and that was the thrust of my original "passive" statement.

So here is an example: The reflected power is 133.33 watts and the reflected power is 33.33 watts. Is the system matched or not?

If you cannot tell whether the system is matched or not, that will prove my original point which got bogged down in semantics.
--
73, Cecil http://www.qsl.net/w5dxp

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4633. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:19:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3E466.50C5523C@uci.edu>
Source record: 116887

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >
> >>Jim Kelley wrote:
> >>>You won't find equations in Hecht that say 2*SQRT(I1*I2) by itself is
> >>>_equal_ to anything.
> >>
> >>But Jim, you said that destructive interference, -2*Sqrt(I1*I2), is equal
> >>to zero while constructive interference, +2*Sqrt(I1*I2), is equal to 4*I1.
> >
> > I still have no idea what you are talking about.

> That can be nothing but a lie.

If there is a point to this, please make it. I've already explained
what was intended by my statements, and I don't see the problem.

> This is exactly why you are the only *individual* I have ever put in my kill
> file along with the porno, viagra, and loan stuff. Don't expect me to respond
> to your irrational pathology.

Irrational pathology is the exact description for why you find it
impossible
to consider a well taken point of view that disagrees with your own.
The guys on sci.physics.electromag told you the same thing I've been
trying to tell you.

4634. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:20:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3E4A8.1090305@ieee.org>
Source record: 116885

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "---there still exists 456 joules of energy in the feedline supporting
> the impedance transformation."
>
> That`s not quite cause and effect. I can add 1/2-wavelength to your
> one-second-long feedline, increasing the joules stored, without
> affecting the impedance transformation.

I didn't say you couldn't, Richard. What is your point? A one-second long transmission line is just an illustration that brings the timing into the realm of human understanding. I don't understand what you are trying to say. Maybe because you don't understand what I am trying to say which is:

In a lossless system, all the power generated by the transmitter that has not reached the load is still in the transmission line. How can you possibly disagree with that statement?
--
73, Cecil http://www.qsl.net/w5dxp

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4635. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:25:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3E5F4.8020605@ieee.org>
Source record: 116886

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "There is lots of evidence that (American Indians) are not "indians" at
> all."
>
> DNA tests have shown that ancestors of the pre-Columbus natives of
> America did indeed likely pass through today`s India on their way to the
> new world.

I seriously doubt that anyone who was born in India ever made it to
the new world before 1400 AD. That would have been a heck of a trip.
Are you and I English?
--
73, Cecil http://www.qsl.net/w5dxp

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4636. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:28:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3E672.6030301@ieee.org>
Source record: 116888

Jim Kelley wrote:
>
> W5DXP wrote:
>>Thanks for defining that for us. To the best of my knowledge, you are
>>the only person in the world who has ever coined the words, "destructive
>>irratiance". Saying "destructive irradiance" is like saying "destructive
>>power". There is simply no such thing in reality.
>
> Irrelevant. That you refuse to accept the well known descriptions of
> the phenomena provided in optics texts is what's relevant.

OK, Jim, you're on! Please quote any optics texts that has ever used
the terms "destructive irradiance" and "constructive irradiance".
This reminds me of your sure-fire roulette-beating system.
--
73, Cecil http://www.qsl.net/w5dxp

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4637. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:30:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7pom4f2rmpf4@corp.supernews.com>
Source record: 116889

One issue is that RF current density tends to be greater near the edges
of a strip. This increases its RF resistance above what it would be if
the current were distributed uniformly as it is on a wire. With a braid,
there's additional resistance incurred in getting from one strand to
another as the current tries to flow along the outside of the braid.
There seem to be a number of variables involved in this, so I doubt
you'll find much numerical data.

Roy Lewallen, W7EL

Tidris wrote:
> In article <3ED3A36E.606C79B@cwis.net>, 'Doc <w5lz@cwis.net> wrote:
>
>
>>Which of the two has the higher current carrying
>>capacity?
>
>
> They both have about the same solid cross section, so I guess they have
> about the same DC and 60 Hz current carrying capacity. However I
> understand lightning has a significant amount of energy at RF
> frequencies so the skin effect comes into play. The braid appears
> better for RF with over twice the surface area of the solid wire, but
> since the braid surface isn't solid and smooth I understand it has to
> be derrated by some unknown factor. And then there probably are other
> issues I haven't thought about.

4638. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:36:08 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Z4-cnf_Mb77FdU6jXTWcow@comcast.com>
Source record: 116890
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy,

I don't know where this started, but is the transmitter output impedance 0 ?
Then all the reflected power would be rereflected and add to the original
100 W to give 100 + 178 =278. +(After a large number of round trips). Or is
the 278 W measured with a 450 ohm meter at the transmitter output, and the
100 W measured with a 50 ohm meter at the load?

Tam/WB2TT
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vd7i7pq7skukc3@corp.supernews.com...
> This has already been the subject of countless postings. There's no need
> for me to add to them.
>
> I do feel compelled to state, however, that I have a very good
> understanding, thank you, of transient pheonomena, having done design,
> provided advanced customer support, and taught classes on TDR and other
> time domain methods and phenomena.
>
> I now return you to your regularly scheduled programming. . .
>
> Roy Lewallen, W7EL
>
> W5DXP wrote:
> > Roy Lewallen wrote:
> >
> >> There's really only 100 watts coming out of the transmitter. By
> >> mathematical trickery, we can separate this into 278 watts of
> >> "forward" power and 178 watts of "reverse" power on a line having a
> >> 9:1 SWR.............
> >

4639. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 22:38:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7q6hltff439a@corp.supernews.com>
Source record: 116891
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

I happily concede you the winner in the last-word competition. You may
now continue with your favorite topic without my interference.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> There's nothing at all wrong with the logic. It's simply irrelevant to
>> the discussion at hand. I stand by my statement. The transmitter sees
>> the same load impedance whether it's attached to a 450 ohm one
>> wavelength line with 450 ohm load (zero reverse power on the line), or
>> a 50 ohm one wavelength line with 450 ohm load (178 watts of reverse
>> power on the line). The impedance the transmitter sees, the power it
>> delivers to the line, and the amount the line delivers to the load are
>> identical in both cases, in spite of the different forward and reverse
>> powers, line SWR, and forward and reverse voltages on the lines. The
>> topic of why the transmitter sees the same impedance in both cases is
>> covered very well in a great number of textbooks and is well known to
>> many of the readers of and participants in the newsgroup. Most of the
>> textbook authors, incidentally, manage to explain this just fine
>> without even a mention of forward and reverse power at all.
>
>
>>>>> Roy Lewallen wrote:
>>>>>
>>>>>> It doesn't matter one bit ... how much
>>>>>> "reverse power" is allegedly flowing on the line.
>
>
> Your statement is simply false, Roy. How much reverse power determines
> Vref and Iref. Vref and Iref are half of the terms in the equation that
> determines the impedance seen by the transmitter. How you can say reverse
> power doesn't matter is beyond belief. Do you disagree with the following?
>
> 1. Vref and Iref are determined by the reverse power and Z0.
>
> 2. Vref and Iref are half of the terms in the impedance equation
> seen by the transmitter, i.e. Zt = (Vfor+Vref)/(Ifor+Iref)
>
> 3. Vref increases with an increase in reverse power. Iref increases with
> an increase in reverse power.
>
> Therefore, reverse power has *large effect* on the impedance seen by the

> transmitter. The impedance seen by the transmitter can damage the
> transmitter.
> Saying "reverse power" "doesn't matter one bit" is, IMO, ridiculous.
>
> Reflected power *causes* the impedance mismatch that damages a transmitter
> connected to a transmission line.

4640. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 23:36:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3F680.492050A7@uci.edu>
Source record: 116893

W5DXP wrote:
> OK, Jim, you're on! Please quote any optics texts that has ever used
> the terms "destructive irradiance" and "constructive irradiance".

What is it about irradiance and interference that you don't understand?

> This reminds me of your sure-fire roulette-beating system.

Now that you mention it, it is kinda like that. Only this time instead
of it being the PRNG, you're the one making the math errors! :-)

4641. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 23:39:13 UTC
From: tdonaly@aol.com
Message-ID: <20030527193913.07843.00000568@mb-m29.aol.com>
Source record: 116892

Roy wrote,
>
>There's nothing at all wrong with the logic. It's simply irrelevant to
>the discussion at hand. I stand by my statement. The transmitter sees
>the same load impedance whether it's attached to a 450 ohm one
>wavelength line with 450 ohm load (zero reverse power on the line), or a
>50 ohm one wavelength line with 450 ohm load (178 watts of reverse power
>on the line). The impedance the transmitter sees, the power it delivers
>to the line, and the amount the line delivers to the load are identical
>in both cases, in spite of the different forward and reverse powers,
>line SWR, and forward and reverse voltages on the lines. The topic of
>why the transmitter sees the same impedance in both cases is covered
>very well in a great number of textbooks and is well known to many of
>the readers of and participants in the newsgroup. Most of the textbook
>authors, incidentally, manage to explain this just fine without even a
>mention of forward and reverse power at all.
>
>Roy Lewallen, W7EL
>

Cecil uses some phrases other writers don't seem to have a need for, such as,
"virtual impedance," "reflected energy," "net power," "power flow," etc.
That's
because most textbook authors are told, at one time or another,
to be precise and consistent in their language.
73,
Tom Donaly, KA6RUH

4642. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 23:49:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3F9A0.3050003@ieee.org>
Source record: 116894

Jim Kelley wrote:
> The guys on sci.physics.electromag told you the same thing I've been
> trying to tell you.

On the contrary - the guys on sci.physics.electromag told me that
my ideas were perfectly consistant with a classical approach -
which means your ideas are NOT perfectly consistent with a classical
approach. I am using a classical wave reflection approach. What approach
are you using?
--
73, Cecil http://www.qsl.net/w5dxp

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4643. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 23:53:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3FA6F.6030101@ieee.org>
Source record: 116895
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Tarmo Tammaru wrote:
> I don't know where this started, but is the transmitter output impedance 0 ?
> Then all the reflected power would be rereflected and add to the original
> 100 W to give 100 + 178 =278. +(After a large number of round trips). Or is
> the 278 W measured with a 450 ohm meter at the transmitter output, and the
> 100 W measured with a 50 ohm meter at the load?

The boundary conditions guarantee a Z0-match where no reflected energy
reaches the transmitter. You don't need an antenna tuner to achieve
a 50 ohm match when the 450 ohm SWR is 9:1. Hint: 450/9=50.
--
73, Cecil http://www.qsl.net/w5dxp

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4644. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-27 23:54:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3FAAE.3090703@ieee.org>
Source record: 116896
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> I happily concede you the winner in the last-word competition. You may
> now continue with your favorite topic without my interference.

If you weren't wrong, would you concede?
--
73, Cecil http://www.qsl.net/w5dxp

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4645. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:02:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3FC9C.6030808@ieee.org>
Source record: 116897

Tdonaly wrote:
> Cecil uses some phrases other writers don't seem to have a need for, such as,
> "virtual impedance," "reflected energy," "net power," "power flow," etc.
> That's because most textbook authors are told, at one time or another,
> to be precise and consistent in their language.

Tom, do you believe that (Vfwd+Vref)/(Ifwd+Iref) is the impedance seen
by the transmitter in a system with reflections? I can prove it is.

Do you believe that Vref and Iref have nothing to do with the impedance
seen by the transmitter? I can prove they do.

Sacred Cows die hard, don't they?
--
73, Cecil http://www.qsl.net/w5dxp

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4646. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:05:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED3FD3E.83D0D2C3@uci.edu>
Source record: 116901

W5DXP wrote:
>
> Jim Kelley wrote:
> > The guys on sci.physics.electromag told you the same thing I've been
> > trying to tell you.
>
> On the contrary - the guys on sci.physics.electromag told me that
> my ideas were perfectly consistant with a classical approach -

You've deliberately ignored the most important point. They said your wave reflection description was consistant with the classical approach. They also said photons do not abide by the classical approach, i.e. you're using the wrong approach in your energy analysis. More importantly, you have neglected to describe, by even a classical approach, how your DI term makes a turnabout in direction. That is because there is no way to physically describe such an impossibility. It's the weak point in your paper, Cecil. And it's a crucial point.

4647. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:05:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED3FD5F.2090905@ieee.org>
Source record: 116898

Jim Kelley wrote:
>
> W5DXP wrote:
>>OK, Jim, you're on! Please quote any optics texts that has ever used
>>the terms "destructive irradiance" and "constructive irradiance".
>
> What is it about irradiance and interference that you don't understand?

I ask again: Where's the reference that introduces "destructive irratiance"?
Hint: You will find zeto references because "destructive irradiance" doesn't
exist.
--
73, Cecil http://www.qsl.net/w5dxp

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4648. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:13:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd7vp9pgmdlg69@corp.supernews.com>
Source record: 116899
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Tarmo Tammaru wrote:
> Roy,
>
> I don't know where this started, but is the transmitter output impedance 0 ?

It doesn't matter what the transmitter output impedance is. The result is exactly the same regardless. And there's one of the really fun things about playing with reflected waves -- of voltage and current, as well as power. The ratio of forward to reverse waves (both magnitude and phase) is entirely independent of the source impedance. So you have to be really careful in jumping to conclusions about what happens to a reverse travelling wave when it reaches the source. When your analysis is complete, you'd better get the same ratio of forward to reflected waves after any change in source impedance. Or there's something wrong with your concept or method.

> Then all the reflected power would be rereflected and add to the original
> 100 W to give 100 + 178 =278. +(After a large number of round trips). Or is
> the 278 W measured with a 450 ohm meter at the transmitter output, and the
> 100 W measured with a 50 ohm meter at the load?

100 watts is the RMS voltage squared at the load divided by the load resistance, or the RMS current squared at the load times the load resistance. In other words, it's the power delivered to and dissipated by the load. Similarly, the power leaving the transmitter is 100 watts. If the load is 50 ohms and the transmission line is an integral number of wavelengths and any impedance, a 50 ohm directional wattmeter will read 100 watts forward and zero watts reverse at either end of the line, regardless of how much forward and reverse power there are on the line. (Interesting, isn't it, how none of that "reverse power" manages to escape, no matter how much there is on the line or how well matched either the source or load is to the line. On the other hand, if you used a directional wattmeter of a different characteristic impedance, it would show both forward and reverse power at the ends of the line, with the forward minus the reverse being 100 watts. Yet its reading wouldn't change as you change the line Z0 and the actual amount of calculated forward and reverse power on the line. Just think, you can have just as much or little forward and reverse power "escaping" as you like, just by choosing the meter -- but you're always stuck with a 100 watt difference. Easy way to stop power leaks, no? Reflected power smoking your rig? No problem, plug the leak by changing the meter.)

Before you get too carried away with imagining power bouncing back and forth, think a bit about power waveforms and the fact that they don't

nicely add and subtract like voltage and current waveforms. While reflected voltage and current waves work nicely and yield correct answers, it's very easy to come to just about any conclusion you'd like once you invent power waves that bounce back and forth. Adding to the difficulty is the tendency to imagine waves of average power, which is DC, rather than dealing with the actual power waveforms, which have a frequency of twice the frequency of V or I, along with a DC offset (the average value). I'm not willing to simply toss these facts aside to get the answer I want, so I won't even say there *are* power waves bouncing back and forth, let alone try to say where they go and how they add. (Actually, I have done some preliminary analysis, and have convinced myself that there is no power or energy wave bouncing from one end of the line to the other. But it's not complete enough to publish, so I don't have sufficient evidence to publicly promote my view.)

Cecil, on the other hand, seems to have what he feels is a self-consistent process of dealing with waves of average power without confronting the sticky issues of lack of superposition of power waves (except adding their average values in a direction-sensitive manner) or, for that matter (as far as I can tell), the concept of power as a time waveform. (I've made an honest attempt to be accurate here. Please correct me if I'm not, and accept my apology.) I suggest you consult him or his numerous postings if you feel a need to deal with the concept of reflecting power waves. Perhaps he'll be able to explain it to you.

At the end of the explanation, though, be sure that it leads to the right answers for the simple examples I've presented from time to time, or any others you can cook up. The equations for solving these types of problem are widely available and not difficult to apply, particularly if you restrict yourself to resistive loads and transmission line lengths that are an integral number of half wavelengths. Although the fact that a method or concept gives the right answer doesn't at all prove that the method or concept is valid, it's certainly invalid if it gives even one wrong answer.

Roy Lewallen, W7EL
>
> Tam/WB2TT
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vd7i7pq7skukc3@corp.supernews.com...
>
>>This has already been the subject of countless postings. There's no need
>>for me to add to them.
>>
>>I do feel compelled to state, however, that I have a very good
>>understanding, thank you, of transient pheonomena, having done design,
>>provided advanced customer support, and taught classes on TDR and other
>>time domain methods and phenomena.
>>
>>I now return you to your regularly scheduled programming. . .
>>

>>Roy Lewallen, W7EL
>>
>>W5DXP wrote:
>>
>>>Roy Lewallen wrote:
>>>
>>>
>>>>There's really only 100 watts coming out of the transmitter. By
>>>>mathematical trickery, we can separate this into 278 watts of
>>>>"forward" power and 178 watts of "reverse" power on a line having a
>>>>9:1 SWR.....
>>>
>
>
>

4649. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:18:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd8025aj0ulf24@corp.supernews.com>
Source record: 116900
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
> Roy Lewallen wrote:
>
>> I happily concede you the winner in the last-word competition. You may
>> now continue with your favorite topic without my interference.
>
>
> If you weren't wrong, would you concede?

You betcha.

That's one of the many ways we're different. Vive la difference.

Roy Lewallen, W7EL

4650. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:23:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED40190.534E8827@uci.edu>
Source record: 116904

W5DXP wrote:
> I ask again: Where's the reference that introduces "destructive irratiance"?
> Hint: You will find zeto references because "destructive irradiance" doesn't
> exist.

"If I ever happen to write the words "destructive irradiance" again,
please read "the irradiance produced by two destructively interfering
waves."

I=(I1+I2)-(2*SQRT(I1*I2))

'I' stands for irradiance, and the minus sign indicates destructive
interference. This is what I meant when I said destructive irradiance.
When I said destructive irradiance, it was an expression I defined to
mean the irradiance resulting from destructive interference. If I
hadn't included the exact equation for the case I was describing, then
you might have had some call to say you were confused, or that you
didn't understand. But the equation was included, and anyone who
completed 9th grade algebra would have known what I was talking about.

The fact of the matter is that you understood perfectly what I was
saying, but chose instead to embark on this deranged discourse on
symantics - hoping to accomplish what, I don't know.

Don't you always claim that you get to define terms when you use them
Cecil?
Does that only apply to you? Why not find something technical to
discuss?

4651. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:26:26 UTC
From: sideband <AINO8SPAMW@cac.net>
Message-ID: <3ED4022F.6010609@cac.net>
Source record: 116902

So cap the end that's buried, and make sure it's well sealed.

-SSB

Tidris wrote:
> In article <25eb70d7.0305270940.7593bf7d@posting.google.com>, Mark
> Keith <nm5k@wt.net> wrote:
>
>
>>I'm not sure the difference between the two mentioned, but as a rule,
>>braid is not a good material to use for lightning grounding. A flat
>>smooth copper strap is much better.
>
>
> I have seen some of that info, but I can get the 2 awg copper wire or
> the 1 inch wide copper braid for a much lower price than I can get 1.5
> inch wide solid copper strap. I understand that according to the NEC
> any copper wire 10 awg or larger is adequate for lightning protection
> so I feel confident both choices can do the job well. Therefore the
> issue for me is which one of those two affordable choices is best.
>
> I am also considering using 1/2 inch type M copper pipe which is
> available to me at a price lower than the 2 awg wire , but I am
> worried the thin 0.025 inch thick wall might corrode too quickly when
> burried underground. Some houses in this area had problems when the
> builder erroneously used the thin walled type M pipe for the main
> underground water connection.

4652. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:38:16 UTC
From: k9sqg@aol.com
Message-ID: <20030527203816.01703.00000442@mb-m05.aol.com>
Source record: 116903

The flattened braid has lower impedance than the round wire.

4653. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:46:08 UTC
From: richardharrison@webtv.net
Message-ID: <14600-3ED406D0-1054@storefull-2316.public.lawson.webtv.net>
Source record: 116908

Cecil, W5DXP wrote:
"Are you and I English?"

No, only by ancestry. Some of my descendants now live there.

Columbus is said to have mistakenly called the natives "Indians" from wishful thinking. He wanted to find a more direct route to India by sailing west to reach the East. The dark-skinned people he saw prompted him to imagine he had succeded in reaching the Far-East. Maybe Columbus should have called the inhabitants Indian-Americans, but the word "American" had not yet been coined. Moreover, in some quarters the hyphenated-American words are considered gauche.

Best regards, Richard Harrison, KB5WZI

4654. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 00:46:40 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <1n18dvo33i21smen82g7vqtqfrkhlfjlc5@4ax.com>
Source record: 116905

If it is going to be used outside you are better off with solid wire
or strap. The problem with braid (being the worst) and stranded wire
is that it corrodes more. You need to occasionally renew the
connections in your ground system. Braid or stranded wire is all but
impossible to clean properly for a new connection after it has
corroded.

Look at the Polyphaser web site. They tell you how to figure the
inductance of different configurations of wire.

73
Gary K4FMX

On Tue, 27 May 2003 14:13:38 GMT, Tidris <nospam@nospam.come> wrote:

>What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
>of 1" wide by 0.070 in thick tin plated copper braid?

4655. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 01:04:52 UTC
From: Jim Pennino <jimp@specsol.com>
Message-ID: <bb11vk$1hf$1@mail.specsol.com>
Source record: 116906

Tarmo Tammaru <t-tammaru@home.com> wrote:
> I don't know if you can buy it in small quantities, but hydrogen is a lot
> cheaper than helium. Should be safe enough to use outdoors. It also has more
> lift, but will leak out faster. BTW, don't forget the 250 foot rule.

> Tam/WB2TT

If you use hydrogen, please, please film the event.

--
Jim Pennino

From the almost famous song archives: "There'll be a hot time in
Lakehurst, New Jersey when the Hindenberg lands tonight"

4656. Solution (Was Bandpass filter or Bandstop filter)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 01:11:31 UTC
From: "RW@nowhere.com" <>
Message-ID: <9428dv802d2qtogfme409spd5u0fgqno0u@4ax.com>
Source record: 116907

I tried using RG6 jumpers instead of the push on F connectors but could see no difference. Also, the interference is there, even when the VCR is taken out of the circuit. So the problem seems independent of the VCR.

I grounded all the cables (both satellite and CATV) good and this got rid of most all interference above channel 4. (cable tuner) I am also considering to replace the two prong power cord with a three prong cord for further grounding.

Strange! before grounding, I had no interference on those channels. All interference was above channel 9 with channel 18 and 22 being very bad. Now they have no interference at all.

One thing I wonder: Maybe the dual "F" connector wall plate I have installed is not rated for a high enough frequency?

At any rate - most of the interference is now gone...

RW

On Mon, 12 May 2003 04:46:53 -0400, "J. Harvey"
<JM002.Harvey_NOSPAM@Sympatico.ca> wrote:

>RW@nowhere.com
>> Here is the setup: <snip>
>
>I'll put a dollar bet on the VCR being the leakage point...
>
>Good luck.
>

4657. Re: Mobile - short/high vs. long/low

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 01:42:32 UTC
From: John <jwh_fla@hotmail.com>
Message-ID: <cuUAa.115237$823.20223@news1.east.cox.net>
Source record: 116909

No, that discussion is about HF mobile antennas. The idea is that there are less ground losses when the smaller antenna is mounted higher vs the typical screwdriver/bugcatcher mounted on the bumper. That lets the higher mounted ants function well. Better? Not sure that's the case...ymmv as they say...

John, ks4xn (little tarheel owner)

"Dennis Kaylor" <k4oxg@tampabay.rr.com> wrote in message news:3EC24360.7050707@tampabay.rr.com...
> hey buck
> i think what you where reading was intended for VHF/UHF mobile rather
> than HF
> what they where saying was mounting a 1/4 wave in the middle of the roof
> would work as good or better than a 5/8th wave mounted on the trunk deck
> or bumper mounter when you mount a 5/8th wave like that it gets
> directional and also has the possiblity of a poor ground where as the
> roof mounted 1/4 wave has a wonderful ground plane of the entire roof
>
> the thing you have to watch for with any HF antenna mobile is grounding
> those antennas require a very good ground and it is some times hard to
> obtain
> good luck
>

4658. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 01:56:14 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <xXudnfdGULDdikmjXTWcpw@comcast.com>
Source record: 116910
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy,

Thanks for the response. I did it with voltages, which seems to work. 278W @450 ohms is 354V. The reflection coefficient for voltage is -.8, resulting in reflected voltage of (-283) or 178 W, leaving 71V across the load, which is right. Now, since this reflected wave travels all the way back to the source, seems that if you look at the voltage on any point on a half wavelength line you should see 71V, even though there are imaginary(?) voltages greater than that going in both directions. This implies the source is not being "damaged" by reflected waves because they cancel; but we knew that before we started. It does seem though, that at T=0 +, before the first reflection comes back the source will see a higher voltage, depending on its source impedance. To observe this, the rise time would have to be less than the round trip delay.

I wasn't convinced that the source impedance was irrelevant until I realized there was only one solution to the problem of 36% of forward power being equal to 100W.
Tam/WB2TT

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vd7vp9pgmdlg69@corp.supernews.com...
> Tarmo Tammaru wrote:
> > Roy,
> >
> > I don't know where this started, but is the transmitter output impedance
0 ?
>
> It doesn't matter what the transmitter output impedance is. The result
> is exactly the same regardless. And there's one of the really fun things
> about playing with reflected waves -- of voltage and current, as well as
> power. The ratio of forward to reverse waves (both magnitude and phase)
> is entirely independent of the source impedance. So you have to be
> really careful in jumping to conclusions about what happens to a reverse
> travelling wave when it reaches the source. When your analysis is
> complete, you'd better get the same ratio of forward to reflected waves
> after any change in source impedance. Or there's something wrong with
> your concept or method.
>
> > Then all the reflected power would be rereflected and add to the
original
> > 100 W to give 100 + 178 =278. +(After a large number of round trips). Or
is
> > the 278 W measured with a 450 ohm meter at the transmitter output, and

the
> > 100 W measured with a 50 ohm meter at the load?
>
> 100 watts is the RMS voltage squared at the load divided by the load
> resistance, or the RMS current squared at the load times the load
> resistance. In other words, it's the power delivered to and dissipated
> by the load. Similarly, the power leaving the transmitter is 100 watts.
> If the load is 50 ohms and the transmission line is an integral number
> of wavelengths and any impedance, a 50 ohm directional wattmeter will
> read 100 watts forward and zero watts reverse at either end of the line,
> regardless of how much forward and reverse power there are on the line.
> (Interesting, isn't it, how none of that "reverse power" manages to
> escape, no matter how much there is on the line or how well matched
> either the source or load is to the line. On the other hand, if you used
> a directional wattmeter of a different characteristic impedance, it
> would show both forward and reverse power at the ends of the line, with
> the forward minus the reverse being 100 watts. Yet its reading wouldn't
> change as you change the line Z0 and the actual amount of calculated
> forward and reverse power on the line. Just think, you can have just as
> much or little forward and reverse power "escaping" as you like, just by
> choosing the meter -- but you're always stuck with a 100 watt
> difference. Easy way to stop power leaks, no? Reflected power smoking
> your rig? No problem, plug the leak by changing the meter.)
>
> Before you get too carried away with imagining power bouncing back and
> forth, think a bit about power waveforms and the fact that they don't
> nicely add and subtract like voltage and current waveforms. While
> reflected voltage and current waves work nicely and yield correct
> answers, it's very easy to come to just about any conclusion you'd like
> once you invent power waves that bounce back and forth. Adding to the
> difficulty is the tendency to imagine waves of average power, which is
> DC, rather than dealing with the actual power waveforms, which have a
> frequency of twice the frequency of V or I, along with a DC offset (the
> average value). I'm not willing to simply toss these facts aside to get
> the answer I want, so I won't even say there *are* power waves bouncing
> back and forth, let alone try to say where they go and how they add.
> (Actually, I have done some preliminary analysis, and have convinced
> myself that there is no power or energy wave bouncing from one end of
> the line to the other. But it's not complete enough to publish, so I
> don't have sufficient evidence to publicly promote my view.)
>
> Cecil, on the other hand, seems to have what he feels is a
> self-consistent process of dealing with waves of average power without
> confronting the sticky issues of lack of superposition of power waves
> (except adding their average values in a direction-sensitive manner) or,
> for that matter (as far as I can tell), the concept of power as a time
> waveform. (I've made an honest attempt to be accurate here. Please
> correct me if I'm not, and accept my apology.) I suggest you consult him
> or his numerous postings if you feel a need to deal with the concept of
> reflecting power waves. Perhaps he'll be able to explain it to you.

>
> At the end of the explanation, though, be sure that it leads to the
> right answers for the simple examples I've presented from time to time,
> or any others you can cook up. The equations for solving these types of
> problem are widely available and not difficult to apply, particularly if
> you restrict yourself to resistive loads and transmission line lengths
> that are an integral number of half wavelengths. Although the fact that
> a method or concept gives the right answer doesn't at all prove that the
> method or concept is valid, it's certainly invalid if it gives even one
> wrong answer.
>
> Roy Lewallen, W7EL
> >
> > Tam/WB2TT
> > "Roy Lewallen" <w7el@eznec.com> wrote in message
> > news:vd7i7pq7skukc3@corp.supernews.com...
> >
> >>This has already been the subject of countless postings. There's no need
> >>for me to add to them.
> >>
> >>I do feel compelled to state, however, that I have a very good
> >>understanding, thank you, of transient pheonomena, having done design,
> >>provided advanced customer support, and taught classes on TDR and other
> >>time domain methods and phenomena.
> >>
> >>I now return you to your regularly scheduled programming. . .
> >>
> >>Roy Lewallen, W7EL
> >>
> >>W5DXP wrote:
> >>
> >>>>Roy Lewallen wrote:
> >>>
> >>>
> >>>>>There's really only 100 watts coming out of the transmitter. By
> >>>>>mathematical trickery, we can separate this into 278 watts of
> >>>>>"forward" power and 178 watts of "reverse" power on a line having a
> >>>>>9:1 SWR.................
> >>>
> >
> >
> >
>

4659. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 02:08:33 UTC
From: richardharrison@webtv.net
Message-ID: <5448-3ED41A21-1067@storefull-2312.public.lawson.webtv.net>
Source record: 116911

Roy, WW7EL wrote a nicely detailed and mostly accurate posting of what happens to a signal on a transmission line.

I disagree with his dismissal of power waves on a transmission line. Enforced Zo in both directions makes them valid. Bird built an industry on this idea.

I also disagree with Roy`s statement:
"---the tendency to imagine waves of average power, which is DC,---(however that is meant)."

Reflected power is simply subtracted from Forward power to obtain transmitter output and same load delivered power for practical purposes. This is simple arithmetic as if the r-f powers were d-c. This results from a single Zo which is resistive in practical lines for both the forward and reflected waves.

Average power in a sine wave traveling in each direction on a transmission line is simply peak volts times peak amps divided by two.

There is no such thing as rms power. The effective value of an a-c power, that is, the value that produces as much incandescent light and heat as d-c volts and amps, is the product of rms volts and rms amps (in phase). This is not properly called rms power. It is AVERAGE power (not the same as the average value of a sine wave). Oh yes, rms volts and rms amps are 0.707 times the peak values of their respective waves. 0.707 times 0.707 is 0.5.
That is 1/2 of the power of the peak volts times the peak amps. That`s why average power is half the peak power.

Best regards, Richard Harrison, KB5WZI

4660. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 02:14:10 UTC
From: Jim Weir <jim@rst-engr.com>
Message-ID: <mq68dvofcv930nffumaufdjacbqsrt1dgk@4ax.com>
Source record: 116912

That doesn't happen to be true over frequency. Your reference for your belief?

Jim

k9sqg@aol.com (K9SQG)
shared these priceless pearls of wisdom:

->The flattened braid has lower impedance than the round wire.

Jim Weir, VP Eng. RST Eng. WX6RST
A&P, CFI, and other good alphabet soup

4661. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 02:16:00 UTC
From: Jim Weir <jim@rst-engr.com>
Message-ID: <vs68dvs9cgt0et0mha6b6pvlm59tkhp0cj@4ax.com>
Source record: 116913

So use the water pipe, dump a couple of pounds of copper sulfate in the hole,
mix it with the soil, and the pipe will outlast you and I put together.

Jim

->
->I have seen some of that info, but I can get the 2 awg copper wire or
->the 1 inch wide copper braid for a much lower price than I can get 1.5
->inch wide solid copper strap. I understand that according to the NEC
->any copper wire 10 awg or larger is adequate for lightning protection
->so I feel confident both choices can do the job well. Therefore the
->issue for me is which one of those two affordable choices is best.

Jim Weir, VP Eng. RST Eng. WX6RST
A&P, CFI, and other good alphabet soup

4662. Re: Super J-Pole better than Stacked Dipole??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 02:47:55 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305271847.6c9c653c@posting.google.com>
Source record: 116914

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<usf7dv41redh0kkjoutbnbbc72imrugp60@4ax.com>...
> On 27 May 2003 10:37:38 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >I find this all so distastefull when I know that some
> >members of this newsgroup suffered so much in the U.S. services but
> >have chosen not to wear their sacrifices on their sleeve as you have
> >done.
>
> I'm not six feet under yet, and I stand for those who are. I accept
> no shame in that, except for the inappropriate exposure of a family by
> naming their son here.
>
> >To you I apologise that during my own military service I did not give
> >up my life
> >to do what you say I must prove.
> >Art.....XG
>
> If you insist. No one asked though. If you are sincere, there's
> still time. Did you march against the war? Or did you stand for it
> is the question you avoid. Past performance is no guarantor of future
> return.
>
> As this has been offered several times to no obvious response I will
> refrain further (shocking n'est pas?).
>
> 73's
> Richard Clark, KB7QHC

I responded because you suggest that I am un american. A previous post
suggested because I didn't respond to something I must be guilty. I
couldn't afford
the possibility that I was un patriotic or un american go by without
response
because of the possibility it would be believed. Being called a liar,
thief or without credability I have to live with. I can't live with
the ideas that you are trying to attach to me. As to whether I agree
with the war or not is none of your business.
Art....XG

4663. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:10:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED428A9.2000107@ieee.org>
Source record: 116915

Jim Kelley wrote:
> You've deliberately ignored the most important point. They said your
> wave reflection description was consistant with the classical
> approach. They also said photons do not abide by the classical
> approach, ...

Good thing photons don't play a part in my model, huh? If you don't
accept the classical wave reflection model, just say so.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4664. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:14:53 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <d4a8dv0h3q0n1a6lpdvtq8k8gnmllov7f6@4ax.com>
Source record: 116916

On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>I don't know if you can buy it in small quantities, but hydrogen is a lot
>cheaper than helium. Should be safe enough to use outdoors. It also has more
>lift, but will leak out faster. BTW, don't forget the 250 foot rule.
>

You can always make a hydrogen generator with a two-liter pop bottle
and some muriatic (hydrochloric) acid. Dilute the acid a bit with
water, add some aluminum scraps, and put a balloon over the top of
the bottle. In a few minutes the balloon will be inflated with
hydrogen. Not the safest thing to be playing with, but it works.

You should be able to find muriatic acid at the local swimming pool
or hardware store.

What's the 250 foot rule???

-fb-

4665. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:16:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED429FD.6050704@ieee.org>
Source record: 116918
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> Cecil, on the other hand, seems to have what he feels is a
> self-consistent process of dealing with waves of average power without
> confronting the sticky issues of lack of superposition of power waves
> (except adding their average values in a direction-sensitive manner) or,
> for that matter (as far as I can tell), the concept of power as a time
> waveform.

Roy, I'm dealing 100% with voltage and current superposition.
Power is just an effect of V*I*cos(a) and cannot be superposed.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4666. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:16:19 UTC
From: tdonaly@aol.com
Message-ID: <20030527231619.15886.00000608@mb-m28.aol.com>
Source record: 116917

Cecil wrote,
>
>Tdonaly wrote:
>> Cecil uses some phrases other writers don't seem to have a need for, such
>as,
>> "virtual impedance," "reflected energy," "net power," "power flow," etc.
>> That's because most textbook authors are told, at one time or another,
>> to be precise and consistent in their language.
>
>Tom, do you believe that (Vfwd+Vref)/(Ifwd+Iref) is the impedance seen
>by the transmitter in a system with reflections? I can prove it is.

Yes, and I can prove that all waves on a transmission line are composed
of either a travelling wave alone, a travelling wave and a standing wave, or
a standing wave alone. So what?

>
>Do you believe that Vref and Iref have nothing to do with the impedance
>seen by the transmitter? I can prove they do.

I'm a Presbyterian. Why should I believe anything like that?

>
>Sacred Cows die hard, don't they?
>--
>73, Cecil http://www.qsl.net/w5dxp
>

As Mr. Francois Rabelais wrote,
"Why should you not believe
what I tell you?
Because, you reply, there is no evidence. And I reply in turn that for this
very
reason you should believe with perfect faith. For the gentlemen of the Sorbonne

say that faith is the argument of non-evident truths."

Rabelais was trying to get his reader to believe that Gargantua was born from

his mother's ear, and leapt into the world yelling "Drink, drink, drink!"
I admit it's easier to believe your theories, Cecil, but only by a little bit.

73,
Tom Donaly, KA6RUH

4667. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:21:41 UTC
From: richardharrison@webtv.net
Message-ID: <28691-3ED42B45-399@storefull-2315.public.lawson.webtv.net>
Source record: 116825

Cecil, W5DXP wrote:
"Are you and I English?"

Cecil`s question reminds me of the people of British descent living in Argentina that I got to know while I lived there. Many of them, though several generations removed from the original settlers, worked so hard at remaining British that they became caricatures. They espoused everything British and rejected local influence. They sent their offspring back "home" for an education and tenaciously clung to their traditions. To an outsider, it was comical.

Best regards, Richard Harrison, KB5WZI

4668. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:22:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED42B7E.7060700@ieee.org>
Source record: 116820

Jim Kelley wrote:
> The fact of the matter is that you understood perfectly what I was
> saying, ...

How can I possibly understand new terms that you, for weeks, refuse
to define?

> Don't you always claim that you get to define terms when you use them
> Cecil?

Trouble is, you didn't define the term until after I had asked you
at least half a dozen times. You simply continued to deny that you
knew what I was talking about.

Now, how about the destructive interference equaling zero while the
constructive interference equals 4*I1? Hecht says the destructive
interference has to equal the constructive interference.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4669. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:22:59 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <pha8dvcmgp03sllehggoih92vms4fddpcl@4ax.com>
Source record: 116819

On Mon, 26 May 2003 19:55:36 GMT, Tidris <nospam@nospam.come> wrote:

>
>Would using Noalox on a copper to copper grounding connection that will
>be exposed to the elements or burried underground be beneficial or
>harmful, particularly after the connection has aged? I would guess a
>fresh copper to copper connextion without Noalox will have lower
>resistance than one with Noalox, but I wonder what the situation would
>look like after a few months or years of exposure.

Don't know much about Noalox, but why not just solder the connection?
Of course, you need to make a "mechanically strong" connection (clamp
it somehow), but then add some solder.... if you can generate enough
heat, such as with a torch, silver solder is probably just a little
bit better than Sn/Pb solder.

-fb-

4670. Re: SGC 239 Box

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:28:41 UTC
From: jder8745@aol.com
Message-ID: <20030527232841.03568.00000060@mb-m26.aol.com>
Source record: 116821

By golly I think I meant to say Rubbermaid!!!

Getting kind of old you know.

73 de Jack K9CUN

4671. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:30:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED42D5D.9090905@ieee.org>
Source record: 116822

Richard Harrison wrote:
> There is no such thing as rms power. The effective value of an a-c
> power, that is, the value that produces as much incandescent light and
> heat as d-c volts and amps, is the product of rms volts and rms amps (in
> phase). This is not properly called rms power. It is AVERAGE power (not
> the same as the average value of a sine wave).

It is very much like the "irradiance" term for light which is
AVERAGED over a number of cycles.

(Light) Itot=I1+I2+2Sqrt(I1*I2)cos(a)

(RF) Ptot=P1+P2+2Sqrt(P1*P2)cos(a)

The 2Sqrt*I1*I2)cos(a) term is called the *interference term*. It's
pretty obvious that 2Sqrt(P1*P2)cos(a) is the RF interference term.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4672. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:33:33 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <8qCdnT9hZ7kFs0mjXTWcqQ@comcast.com>
Source record: 116823

"funkbastler" <funkbastler@eudoramail.com> wrote in message
news:d4a8dv0h3q0n1a6lpdvtq8k8gnmllov7f6@4ax.com...
> On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
> >I don't know if you can buy it in small quantities, but hydrogen is a lot
> >cheaper than helium. Should be safe enough to use outdoors. It also has
more
> >lift, but will leak out faster. BTW, don't forget the 250 foot rule.
> >
>
> You can always make a hydrogen generator with a two-liter pop bottle
> and some muriatic (hydrochloric) acid. Dilute the acid a bit with
> water, add some aluminum scraps, and put a balloon over the top of
> the bottle. In a few minutes the balloon will be inflated with
> hydrogen. Not the safest thing to be playing with, but it works.
>
> You should be able to find muriatic acid at the local swimming pool
> or hardware store.

I was thinking more like buying a cylinder of it. They may not sell it.
>
> What's the 250 foot rule???

Need FAA aproval

Tam
>
> -fb-
>

4673. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:43:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd8c37t3p9db42@corp.supernews.com>
Source record: 116824

We used to use battery (dilute sulfuric) acid and zinc. Puts out lots of hydrogen. I've also heard of people using lye and aluminum.

Don't try this at home, kids.

Roy Lewallen, W7EL

funkbastler wrote:
> On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
> <t-tammaru@home.com> wrote:
>
>
>>I don't know if you can buy it in small quantities, but hydrogen is a lot
>>cheaper than helium. Should be safe enough to use outdoors. It also has more
>>lift, but will leak out faster. BTW, don't forget the 250 foot rule.
>>
>
>
> You can always make a hydrogen generator with a two-liter pop bottle
> and some muriatic (hydrochloric) acid. Dilute the acid a bit with
> water, add some aluminum scraps, and put a balloon over the top of
> the bottle. In a few minutes the balloon will be inflated with
> hydrogen. Not the safest thing to be playing with, but it works.
>
> You should be able to find muriatic acid at the local swimming pool
> or hardware store.
>
> What's the 250 foot rule???
>
> -fb-
>

4674. Re: Balloon-lofted random wire antenna: Tethering

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:47:26 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <ijWAa.1010308$F1.122154@sccrnsc04>
Source record: 116826

Power Pro is Spectra. It is actually stronger than Kevlar though it's abrasion and heat resistance is much lower. I use it (Spectra) for kite flying on a regular basis. With right knots and a bit of care, it would be great for your application.

> Hi all,
> As a fisherman, I have started using some of the new "superlines" that
> are on the market. One in particular, PowerPro (www.powerpro.com)
> has a line rated at 50# and very thin/light weight. It should work
> well for tethering balloons. Actually, I think they have stronger
> test line, but 50# is what I use for fishing. Like I said, it is very
> light weight for its strength.
> Dan, N9JBF
> Amateur radio - What a hobby!
> Remove left x for direct reply

4675. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:48:27 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <fkWAa.762654$Zo.159798@sccrnsc03>
Source record: 116827

What 250 foot rule?
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:EFOdnQ3qD80TfU6jXTWcrg@comcast.com...
> I don't know if you can buy it in small quantities, but hydrogen is a lot
> cheaper than helium. Should be safe enough to use outdoors. It also has
more
> lift, but will leak out faster. BTW, don't forget the 250 foot rule.
>
> Tam/WB2TT
> "Jack Twilley" <jmt+usenet@twilley.org> wrote in message
> news:86he7hs3su.fsf@duchess.twilley.org...
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> The other day I saw a car dealership with some large helium balloons
> with banners attached. ....
>
>

4676. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 03:49:59 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <HlWAa.138627$rt6.43395@sccrnsc02>
Source record: 116828

Hydrogen is used in large, unmanned blimps and balloons all the time. It is
quite safe.
"Jim Pennino" <jimp@specsol.com> wrote in message
news:bb11vk$1hf$1@mail.specsol.com...
> Tarmo Tammaru <t-tammaru@home.com> wrote:
> > I don't know if you can buy it in small quantities, but hydrogen is a
lot
> > cheaper than helium. Should be safe enough to use outdoors. It also has
more
> > lift, but will leak out faster. BTW, don't forget the 250 foot rule.
>
> > Tam/WB2TT
>
> If you use hydrogen, please, please film the event.
>
> --
> Jim Pennino
>
> From the almost famous song archives: "There'll be a hot time in
> Lakehurst, New Jersey when the Hindenberg lands tonight"

4677. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:03:51 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030528000351.07482.00000398@mb-m22.aol.com>
Source record: 116829

>But!, did you try totally unhooking the tuner from the circuit when
>testing with "no tuner"? The misstuned tuner will make the antenna
>much deader than it would be if the tuner was not there at all. That
>could skew the results. Also,the S meter reading doesn't mean much.
>The actual s/n ratio is what matters. MK

No, I left the tuner in place. The S meter DOES matter. As the S meter strength went up, the receive was stronger and more easily understood. Thus is the nature of the S meter.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

4678. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:08:57 UTC
From: Jim Pennino <jimp@specsol.com>
Message-ID: <bb1cop$27d$1@mail.specsol.com>
Source record: 116830

CW <clinton.magers@attbi.com> wrote:
> Hydrogen is used in large, unmanned blimps and balloons all the time. It is
> quite safe.

Yeah, sure, so is nitroglycerine when handled properly.

--
Jim Pennino

4679. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:10:53 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <73d8dv4bhu374i5mcs7rcbgkii7nnj78hs@4ax.com>
Source record: 116831

On Tue, 27 May 2003 23:33:33 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>> What's the 250 foot rule???
>
>Need FAA aproval
>

Have a look at 14CFR101.1 - unless your balloon is larger than
115 cubic feet or a has diameter of greater than six feet (or your
kite (if you're flying a kite) weighs more that five pounds), FAA
rules do not apply. Is there something else buried in the rules
I'm not aware of?

-fb-

4680. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:23:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd8eer6nga1972@corp.supernews.com>
Source record: 116833
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Right except for one thing. Assuming we're still talking about a wavelength of 50 ohm line terminated in 450 ohms, the voltage isn't constant along the line. It's constant only when a line is terminated in its characteristic impedance (e.g., a 50 ohm line terminated with 50 ohms or a 450 ohm line terminated in 450 ohms). Otherwise, standing waves result. Their nature can be conveniently calculated by adding a forward wave and a reverse wave, both of which do have a constant amplitude along the line. The two constant-value traveling waves interfere with each other, adding vectorially along the line, resulting in increased voltage at some places and decreased voltage at others. These are the standing waves, since the points of maximum and minimum voltage don't move unless the setup is changed. In this case, the forward voltage is 359 volts and the reverse voltage is 0.8 times that value, or 287 volts. At the load (in this case, with a purely real reflection coefficient), they're exactly out of phase so subtract to produce the load voltage of 71.7 volts. But a quarter wavelength back along the line, they're exactly in phase (since one is advanced 90 degrees and the other retarded 90 degrees at that point), so the voltage there is 287 + 359 = 646 volts. In between, the voltage has an intermediate value, and this pattern repeats along the line. The SWR is, by definition, the ratio of this maximum voltage of 645 divided by the minimum voltage of 71.7, or 9:1.

The same analysis can be done with the currents. And both can be done just as handily with a complex load, but requiring arithmetic with complex numbers.

But you can't do this analysis directly with powers(*), since the powers don't add vectorially, and assigning a phase angle to a waveform with frequency equal to twice the frequency of the source becomes problematic. At best you can do the analysis with voltages and currents, and calculate an associated power when you're done. At the end of the day, only the net power goes into or out of the line. (Although, as I mentioned earlier, you can choose a meter impedance to show you just about any forward and reverse power at the line ends that you'd like. And you can also say, if you like, that these represent "real" power going in and out. It's actually very convenient, because you might need a particular amount of forward and reverse power to prove a point and, hey, there they are.)

Roy Lewallen, W7EL

(*) It's nevertheless done often, and the results are even sometimes correct.

Tarmo Tammaru wrote:
> Roy,
>
> Thanks for the response. I did it with voltages, which seems to work. 278W
> @450 ohms is 354V. The reflection coefficient for voltage is -.8, resulting
> in reflected voltage of (-283) or 178 W, leaving 71V across the load, which
> is right. Now, since this reflected wave travels all the way back to the
> source, seems that if you look at the voltage on any point on a half
> wavelength line you should see 71V, even though there are imaginary(?)
> voltages greater than that going in both directions. This implies the source
> is not being "damaged" by reflected waves because they cancel; but we knew
> that before we started. It does seem though, that at T=0 +, before the first
> reflection comes back the source will see a higher voltage, depending on its
> source impedance. To observe this, the rise time would have to be less than
> the round trip delay.
>
> I wasn't convinced that the source impedance was irrelevant until I realized
> there was only one solution to the problem of 36% of forward power being
> equal to 100W.
> Tam/WB2TT

4681. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:24:23 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <64e8dvcvs7qvffb5ui9ugef401fdbk0t7m@4ax.com>
Source record: 116832

On Wed, 28 May 2003 04:08:57 +0000 (UTC), Jim Pennino
<jimp@specsol.com> wrote:

>CW <clinton.magers@attbi.com> wrote:
>> Hydrogen is used in large, unmanned blimps and balloons all the time. It is
>> quite safe.
>
>Yeah, sure, so is nitroglycerine when handled properly.

Hindenburg notwithstanding, hydrogen is safe. Try comparing it to the
gasoline you pump into your car every week or so. (I'd rather have
the hydrogen.)

OK - how many people died on the Hindenburg, and how many people have
died in rear-end collisions which ruptured the gas tank (Ford Pintos,
Crown Vics, etc.)???? Yeah, that's probably not a fair comparison,
but we use gasoline every day, and it's a heck of a lot more dangerous
than hydrogen.

-fb-

4682. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:27:15 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520032127120278%nospam@nospam.come>
Source record: 116834

In article <pha8dvcmgp03sllehggoih92vms4fddpcl@4ax.com>, funkbastler <funkbastler@eudoramail.com> wrote:

> Don't know much about Noalox, but why not just solder the connection?

I have a large bottle of Noalox that will go mostly to waste unless I find creative uses for it. Assembling a vertical aluminum antenna requires a surprisingly small amount of the stuff.

Also the electrical code apparently speaks against soldering in the application I have in mind (connecting copper conductors to grounding rods).

4683. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:29:20 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3ED43A8C.8060509@get.lost>
Source record: 116836

CW wrote:
> Hydrogen is used in large, unmanned blimps and balloons all the time. It is
> quite safe.

Last words of the Hindenburg pilots.

Oh, the humanity...

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

4684. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:31:08 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <270520032131054271%nospam@nospam.come>
Source record: 116835

In article <1n18dvo33i21smen82g7vqtqfrkhlfjlc5@4ax.com>, Gary Schafer
<gaschafer@attbi.com> wrote:

> The problem with braid (being the worst) and stranded wire
> is that it corrodes more. You need to occasionally renew the
> connections in your ground system. Braid or stranded wire is all but
> impossible to clean properly for a new connection after it has
> corroded.

Would smearing Noalox on the braid prevent the corrosion problem?

4685. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:35:44 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3ED43C0B.9000002@get.lost>
Source record: 116837

funkbastler wrote:

> You can always make a hydrogen generator with a two-liter pop bottle
> and some muriatic (hydrochloric) acid. Dilute the acid a bit with
> water, add some aluminum scraps, and put a balloon over the top of
> the bottle. In a few minutes the balloon will be inflated with
> hydrogen.

What's next in your educational series "How to grossly maim and
disfigure yourself"?

Do-it-yourself dental surgery with a Swiss Army knife?
Thermonuclear weapons for dummies?
Baby's first flame thrower?

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

4686. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:41:14 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <e1f8dvc8cmcnusccakuv9i89lpfe9skh11@4ax.com>
Source record: 116838

On Wed, 28 May 2003 04:27:15 GMT, Tidris <nospam@nospam.come> wrote:

>
>Also the electrical code apparently speaks against soldering in the
>application I have in mind (connecting copper conductors to grounding
>rods).

I wish I had a recent copy (or any copy) of the NEC here, but I don't.

I think, however, that the code advises against using solder as the sole means of connecting the wire to the rod (a strong mechanical connection, or clamp, is required). But, if you've got a good clamp on it, I don't think solder as an additional 'resistance reducer/ corrosion inhibitor' would hurt anything relative to the NEC. I may be all wet in thinking that, but that's still what I think ;-)

As for what to do with your extra Naolox, I'm stumped.

-fb-

4687. Re: KK5YY SK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 04:51:58 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305272051.71540900@posting.google.com>
Source record: 116839

Roy Lewallen <w7el@eznec.com> wrote in message news:<vd5qt38ohc9886@corp.supernews.com>...
> I just got word via a forwarded QRP-List posting that Jerry Schmitt,
> KK5YY, passed away. The posting was an announcement of the memorial
> service, and I don't have any details about his death. Jerry, who for a
> living was a scientist at Los Alamos, was an occasional poster on this
> newsgroup. This comes as a particular shock to me since I had a good
> chat with him at Dayton just over a week ago.
>
> Roy Lewallen, W7EL

Hate to hear that. I believe he held the mobile antenna "shootouts" at
one time. Also was active on the satellites. They mentioned this on
the AMSAT net tonight.
"played locally on 2m". Also sent a SSTV pix of him. I assume this was
from Dayton a week ago, but I'm not sure. I happened to have the SSTV
on when they ran the net, so I got the picture. I put it on my
server. MK http://web.wt.net/~nm5k/kk5yy.jpg

4688. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 05:00:24 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb1fp8$5es$1@sparta.btinternet.com>
Source record: 116840
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vd74c538mhfb18@corp.supernews.com...
> Andy Cowley wrote:
> > Roy Lewallen wrote:
[snip] (snap)
> Reverse or reflected power can be calculated for this condition, and
> will be found to equal 178 watts if the transmitter is putting out a net
> power of 100 watts. But here's the problem. Replace the one wavelength
> of 50 ohm line (which you say the transmitter "likes") with one
> wavelength of 450 ohm line. Use the same 450 ohm load. Now,

Please can you explain for the benefit of the audience how this perpetual
motion machine works?
A free *78 Watts of Power* just for the sake of a bit of feeder
Why don't we all do it and save on the battery.

The avergae *power* through out the length of the line can not exceed the
power of the source.

Perpetual motion machines are impossible.

Redo the calculations for voltage and current and include the *phase* and
calculate the power at any point along the line properly.

Gary7SLL

4689. Grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 05:00:31 UTC
From: KB1JCM <>
Message-ID: <44g8dv0d0bqsao4us6t9dq4a25lstut7tv@4ax.com>
Source record: 116841

Hi to the group. I'm a very new ham and have been reading this group quite a bit because not only am I interested in antennas, but this group seems to be active. Sorry if my question doesn't fit here but I thought I'd give it a try.

Like many new Hams, I bought a new power supply and a 2m radio. I did build my own jpole though which worked well. Now with the General test comming soon I realize I should do more to build a good station, a good ground being one of them.

I was wondering what ideas you folks had about station grounds.....tinned braid....4 ga. wire...8' rods.... etc...

thank you
KB1JCM

4690. Re: Grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 05:31:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <feh8dvg5sgepr319kmjplv20noqk6riv1u@4ax.com>
Source record: 116842

On Wed, 28 May 2003 01:00:31 -0400, KB1JCM <> wrote:

>Hi to the group. I'm a very new ham and have been reading this group
>quite a bit because not only am I interested in antennas, but this
>group seems to be active. Sorry if my question doesn't fit here but I
>thought I'd give it a try.
>
>Like many new Hams, I bought a new power supply and a 2m radio. I did
>build my own jpole though which worked well. Now with the General
>test comming soon I realize I should do more to build a good station,
>a good ground being one of them.
>
>I was wondering what ideas you folks had about station
>grounds.....tinned braid....4 ga. wire...8' rods.... etc...
>
>thank you
>KB1JCM

Hi OM,

You now doubt have observed opinion here runs like water during the spring thaw. One such drip of advice is to simply start and learn the basics from the enviable vantage of ignorance. Your first improvement will undoubtedly absorb the most advantage, and you will be forever pursuing the last 3dB by infinitesimal increments. For some, this brings immense satisfaction; for others, delusions drive them to make supernatural claims (only extra-terrestrials could have originally designed a j-pole) or are Galileo re-incarnate.

Issues of tinned braid, 4 ga. wire, 8' rods barely qualify above 1dB. And lest that become a goal, you should consider that even the aforementioned 3dB is hardly noticeable in a common situation. You would have to look at an S-Meter to notice, and by then you would have gotten used to living through 10dB propagation fluctuations. If you start with a modest dipole at a decent height (height being king); you will have to dig deep into the wallet for the next tier of advancement.

Then, on the other hand, you get to learn the politics, meta-physics in particular, and celestial navigation along the way. In short, a liberal education.

73's
Richard Clark, KB7QHC

4691. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:01:08 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <EgYAa.764403$Zo.160051@sccrnsc03>
Source record: 116843

It's 150 feet and only if your balloon carries more than 105 cubic feet of
gas. Smaller balloons, no restrictions (other than common sense).
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:8qCdnT9hZ7kFs0mjXTWcqQ@comcast.com...
>
> "funkbastler" <funkbastler@eudoramail.com> wrote in message
> news:d4a8dv0h3q0n1a6lpdvtq8k8gnmllov7f6@4ax.com...
> > On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
> > <t-tammaru@home.com> wrote:
> >
> > >I don't know if you can buy it in small quantities, but hydrogen is a
lot
> > >cheaper than helium. Should be safe enough to use outdoors. It also has
> more
> > >lift, but will leak out faster. BTW, don't forget the 250 foot rule.
> > >
> >
> > You can always make a hydrogen generator with a two-liter pop bottle
> > and some muriatic (hydrochloric) acid. Dilute the acid a bit with
> > water, add some aluminum scraps, and put a balloon over the top of
> > the bottle. In a few minutes the balloon will be inflated with
> > hydrogen. Not the safest thing to be playing with, but it works.
> >
> > You should be able to find muriatic acid at the local swimming pool
> > or hardware store.
>
>
> I was thinking more like buying a cylinder of it. They may not sell it.
> >
> > What's the 250 foot rule???
>
> Need FAA aproval
>
> Tam
> >
> > -fb-
> >
>
>

4692. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:04:44 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <0kYAa.1002359$3D1.587290@sccrnsc01>
Source record: 116844

It was the higly combustable aluminized paint that was the downfall of the Hindenburg, not the gas.
"Zoran Brlecic" <...WA7AA...@get.lost> wrote in message news:3ED43A8C.8060509@get.lost...
> CW wrote:
> > Hydrogen is used in large, unmanned blimps and balloons all the time. It is
> > quite safe.
>
>
> Last words of the Hindenburg pilots.
>
>
> Oh, the humanity...
>
> 73 ... WA7AA
>
>
> --
>
> Anti-spam measure: look me up on qrz.com if you need to reply directly
>

4693. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:06:49 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <ZIYAa.764463$Zo.160123@sccrnsc03>
Source record: 116845

Hydrogen is available in welding supply stores. It is used in place of
acetylene when it's necessary to run high pressure. It's safer.
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:8qCdnT9hZ7kFs0mjXTWcqQ@comcast.com...
>
> "funkbastler" <funkbastler@eudoramail.com> wrote in message
> news:d4a8dv0h3q0n1a6lpdvtq8k8gnmllov7f6@4ax.com...
> > On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
> > <t-tammaru@home.com> wrote:
> >
> > >I don't know if you can buy it in small quantities, but hydrogen is a
lot
> > >cheaper than helium. Should be safe enough to use outdoors. It also has
> more
> > >lift, but will leak out faster. BTW, don't forget the 250 foot rule.
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> > You can always make a hydrogen generator with a two-liter pop bottle
> > and some muriatic (hydrochloric) acid. Dilute the acid a bit with
> > water, add some aluminum scraps, and put a balloon over the top of
> > the bottle. In a few minutes the balloon will be inflated with
> > hydrogen. Not the safest thing to be playing with, but it works.
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> > or hardware store.
>
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> I was thinking more like buying a cylinder of it. They may not sell it.
> >
> > What's the 250 foot rule???
>
> Need FAA aproval
>
> Tam
> >
> > -fb-
> >
>
>

4694. Re: TV antenna help please

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:12:01 UTC
From: Jake Donovan <jakedonovan_2nospam@cox.net>
Message-ID: <RqYAa.109826$_e6.141@news2.east.cox.net>
Source record: 116846

Hank,

I put up 1000's, yes 1000's in Florida before the proliferation of cable.

Find a Wiengard or Channel Master dealer. The higher you can put up the antenna, the better. Consider a good quality preamp and use a separate UHF yagi antenna, not a combo VHF/UHF. Stay away from RS as I pulled down more RS antennas than any other brand and replaced them with the above mentioned brands and people were amazed.

JD

"Henry B." <hbienert@cox.net> wrote in message news:419Aa.79755$_e6.21320@news2.east.cox.net...
> After just a few days of lurking,this newsgroup seems to be the place where
> I can find some answers for my TV antenna problems.I'm buying a camp in Zip
> 39426 and a web site http://www.antennaweb.org/aw/welcome.asp
> recommneded that in order to get the stations I want (about 60 miles away
> and downhill from me)I needed a "blue" zone antenna set at 200 degrees.What
> rooftop commercial antenna should I get?Can I make my own?I'm familiar with
> Terk 35 and the 120" long Radio Shack products.Any ideas? Thanks
>
> --
> Hank
>
>

4695. Re: Grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:14:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd8kucn0er2t3e@corp.supernews.com>
Source record: 116847

There are three reasons you might want to ground your station:

1. Electrical safety, to protect you from coming into contact with equipment that somehow has become connected to the mains voltage or some other voltage relative to ground. For this purpose, you should rely on your electrical power system ground. Make sure the wiring is installed to code -- hire an electrician to do a check if you're not sure --, and use properly connected three wire plugs on all your equipment.

2. Lightning. Grounding for lightning protection requires a great deal more than the power system ground, so don't depend on your power ground for lightning protection. For this, seek out good information specifically addressing lightning protection.

3. Antenna ground. Most antennas, except ground mounted antennas and some end fed antennas, don't require or benefit from a direct connection to ground, particularly if a "current" balun is used on the feedline. When a ground is needed, it can sometimes be tricky to accomplish. For a ground mounted antenna like a quarter wavelength vertical or an inverted L, the best ground is made by running wires out radially just below the ground level, from the base of the antenna. If you feed a single wire from a tuner at your shack, the path from the rig to the Earth becomes just as much a part of the antenna as the wire. So attention has to be paid to the path it takes. Sometimes, a quarter wavelength wire is used as an artificial ground (actually, as the other half of the antenna). The best solution, if you must use an end fed wire, depends on the particular situation. But most common antennas don't need a ground. If you see any effect as you move a feedline or change its length, or change ground connections, a balun is probably needed.

This has necessarily been brief. I recall that Ian, G3SEK posted a similar summary not too long ago on this newsgroup. It likely contains additional information, and it will be good information. You should be able to find it with a Google search.

Roy Lewallen, W7EL

KB1JCM wrote:
> Hi to the group. I'm a very new ham and have been reading this group
> quite a bit because not only am I interested in antennas, but this
> group seems to be active. Sorry if my question doesn't fit here but I
> thought I'd give it a try.
>
> Like many new Hams, I bought a new power supply and a 2m radio. I did
> build my own jpole though which worked well. Now with the General
> test comming soon I realize I should do more to build a good station,

> a good ground being one of them.
>
> I was wondering what ideas you folks had about station
> grounds.....tinned braid....4 ga. wire...8' rods.... etc...
>
> thank you
> KB1JCM

4696. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:25:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd8ljlm1mboqaa@corp.supernews.com>
Source record: 116848
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Nope, still works when you include the phase.

But you missed some of the free power. For 100 watts of transmitter power, you get 178 watts of reverse power, all right. But you also get 278 watts of forward power! Just think of that, that's 178 watts extra going forward and 78 going back. If you don't believe it, get Richard to measure it with his Bird wattmeter.

Just think, if we could just get that 78 and 178 watts out, we'd have *a hundred fifty-six free watts*! Cool, huh?

Gotta get back to work on my directional couplers. Getting close now. Any time, now, I'll have it. . . an antenna that's 256% efficient! Better than Art's loopole, a CFA, EH, and a gaggle of Chip fractals combined!

Roy Lewallen, W7EL

Gary Peach wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vd74c538mhfb18@corp.supernews.com...
>
>>Andy Cowley wrote:
>>
>>>Roy Lewallen wrote:
>
> [snip] (snap)
>
>>Reverse or reflected power can be calculated for this condition, and
>>will be found to equal 178 watts if the transmitter is putting out a net
>>power of 100 watts. But here's the problem. Replace the one wavelength
>>of 50 ohm line (which you say the transmitter "likes") with one
>>wavelength of 450 ohm line. Use the same 450 ohm load. Now,
>
>
> Please can you explain for the benefit of the audience how this perpetual
> motion machine works?
> A free *78 Watts of Power* just for the sake of a bit of feeder
> Why don't we all do it and save on the battery.
>
> The avergae *power* through out the length of the line can not exceed the
> power of the source.
>
> Perpetual motion machines are impossible.
>

> Redo the calculations for voltage and current and include the *phase* and
> calculate the power at any point along the line properly.
>
>
> Gary7SLL
>
>

4697. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:32:37 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <MfRJoHCFgF1+EAI5@ifwtech.co.uk>
Source record: 116853
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>Roy Lewallen wrote:
>> I happily concede you the winner in the last-word competition. You
>>may now continue with your favorite topic without my interference.
>
>If you weren't wrong, would you concede?

Cecil, any sensible person will concede in a last-word competition
against you... in the vain hope that it might actually *be* the last
word.

But technical arguments are not boxing matches. The last man standing
hasn't always won.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4698. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:46:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED45B56.3C3C2C83@cwis.net>
Source record: 116849

Tidris,
Try your local hardware store or lumber yard, ask
for copper flashing. Comes by the roll, various
widths and lengths. Too wide, fold it in half, or
cut it in half (twice the length).
'Doc

4699. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:47:42 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <quzQEnEOuF1+EAOJ@ifwtech.co.uk>
Source record: 116854

Tidris wrote:
>In article <1n18dvo33i21smen82g7vqtqfrkhlfjlc5@4ax.com>, Gary Schafer
><gaschafer@attbi.com> wrote:
>
>> The problem with braid (being the worst) and stranded wire
>> is that it corrodes more. You need to occasionally renew the
>> connections in your ground system. Braid or stranded wire is all but
>> impossible to clean properly for a new connection after it has
>> corroded.
>
>Would smearing Noalox on the braid prevent the corrosion problem?

The problem with braid is that the RF current has to hop from strand to strand in order to stay on the outside of the bundle (skin effect). That makes the RF resistance higher than for an equivalent solid strip. Since there is very little contact pressure between neighboring strands, braid is also extremely vulnerable to corrosion forcing the strands apart.

Metal/grease pastes like Noalox rely on external contact pressure to make the metal grains bridge the gaps, and the grease keeps the moisture out. That's why it works well with telescoping sections of tubing that are clamped together.

If you smear Noalox onto braid, you'll probably only force grease between the strands, and might make the RF resistance worse straight away rather than later.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4700. Re: Grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:48:02 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bb1m34$4lrn4$1@ID-134747.news.dfncis.de>
Source record: 116850

Ya!! The old adage, as much wire, as high in the air as you can get it, is a workable solution.

My, and only my, station ground system is as follows: 8' ground rod driven about three foot from bench, joined to bench buss with #10 AWG stranded wire. Bench bus is a 1/4 x 3" by 48" piece of copper, drilled and tapped 10-24 every 1". Soldered to the top of the ground rod is a 150' piece of #12 copperweld buried about 1" deep. This wire is 1/4 wave long at the lowest frequency on which I operated when the system was put together. I also have about 1500' of #15 enameled copper wire buried in the back yard (got a roll cheap at a ham fest). The only connection to the ground rod is through the coax shield to the vertical that the copper radiates from.

Now, since I am operating from the dining room table rather than the shack, and using a "Crappie" dipole, none of the above "ground system" is attached to the station directly. BTW the "Crappie" dipole came for NorCal QRP club, and it works great. Go to Radio Shack, buy 100' roll of speaker wire, split 34' apart (original design was 22'), cut 25 foot off of other end of wire, attach to tuner. Antenna and transmission line are on piece of wire that can be rolled back onto spool and thrown in a backpack.

IMNSHO (in my not so humble opinion) a center fed doublet fed with 450 ohm ladder line is about the best all band antenna. Especially if you can only have one. You do need a tuner, but tuners do nice things for you, even if you use them for coax fed antennas.

73 es cul

wb3fup
a Salty Bear

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:feh8dvg5sgepr319kmjplv20noqk6riv1u@4ax.com...
> On Wed, 28 May 2003 01:00:31 -0400, KB1JCM <>

wrote:
>
> >Hi to the group. I'm a very new ham and have
been reading this group
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> >build my own jpole though which worked well.
Now with the General
> >test comming soon I realize I should do more to
build a good station,
> >a good ground being one of them.
> >
> >I was wondering what ideas you folks had about
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> >grounds.....tinned braid....4 ga. wire...8'
rods.... etc...
> >
> >thank you
> >KB1JCM
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> Hi OM,
>
> You now doubt have observed opinion here runs
like water during the
> spring thaw. One such drip of advice is to
simply start and learn the
> basics from the enviable vantage of ignorance.
Your first improvement
> will undoubtedly absorb the most advantage, and
you will be forever
> pursuing the last 3dB by infinitesimal
increments. For some, this
> brings immense satisfaction; for others,
delusions drive them to make
> supernatural claims (only extra-terrestrials
could have originally
> designed a j-pole) or are Galileo re-incarnate.
>
> Issues of tinned braid, 4 ga. wire, 8' rods
barely qualify above 1dB.
> And lest that become a goal, you should consider
that even the
> aforementioned 3dB is hardly noticeable in a
common situation. You

> would have to look at an S-Meter to notice, and
by then you would have
> gotten used to living through 10dB propagation
fluctuations. If you
> start with a modest dipole at a decent height
(height being king); you
> will have to dig deep into the wallet for the
next tier of
> advancement.
>
> Then, on the other hand, you get to learn the
politics, meta-physics
> in particular, and celestial navigation along
the way. In short, a
> liberal education.
>
> 73's
> Richard Clark, KB7QHC

4701. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 06:58:39 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bb1mmubnn1@titan.btinternet.com>
Source record: 116851
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED3DF43.2030902@ieee.org...
> H. Adam Stevens wrote:
> > Clear, concise, and to-the-point.
> > But there's still only 100 watts coming out of the transmitter.
>
> Why state the obvious when nobody in the world disagrees with it?

This shows how the Americans can turn a country into up-rising (Iraq) and an
up-rising (this news group) into a technical discussion. :-)
I quite enjoyed reading all that, thank you.

Dave

4702. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 08:22:01 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed46fe9.2874637@news.melbpc.org.au>
Source record: 116852

Tidris <nospam@nospam.come> wrote:

>In article <25eb70d7.0305270940.7593bf7d@posting.google.com>, Mark
>Keith <nm5k@wt.net> wrote:
>
>> I'm not sure the difference between the two mentioned, but as a rule,
>> braid is not a good material to use for lightning grounding. A flat
>> smooth copper strap is much better.
>
>I have seen some of that info, but I can get the 2 awg copper wire or
>the 1 inch wide copper braid for a much lower price than I can get 1.5
>inch wide solid copper strap. I understand that according to the NEC
>any copper wire 10 awg or larger is adequate for lightning protection
>so I feel confident both choices can do the job well. Therefore the
>issue for me is which one of those two affordable choices is best.
>
>I am also considering using 1/2 inch type M copper pipe which is
>available to me at a price lower than the 2 awg wire , but I am
>worried the thin 0.025 inch thick wall might corrode too quickly when
>burried underground. Some houses in this area had problems when the
>builder erroneously used the thin walled type M pipe for the main
>underground water connection.

Given that the current from a lightning strike can
be 1000 amps or more, the lower the impedance the better.

My experience is with MF broadcast transmitting
aerials and 600 to 700 ft guyed towers.

Make sure you have a very good connection to the
soil, keep the lead as straight as possible, as the current
can jump off from sharp points or bends.

Use a solid conductor. The weave in braid will
increase the reactance.

Talk to your Met Bureau and see if they keep record
on the severity of strikes in your area.

Alan.

4703. Re: Grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 08:47:22 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Ws2$UWEaeH1+EApR@ifwtech.co.uk>
Source record: 116858

Roy Lewallen wrote:
>There are three reasons you might want to ground your station:
>
>1. Electrical safety, to protect you from coming into contact with
>equipment that somehow has become connected to the mains voltage or
>some other voltage relative to ground. For this purpose, you should
>rely on your electrical power system ground. Make sure the wiring is
>installed to code -- hire an electrician to do a check if you're not
>sure --, and use properly connected three wire plugs on all your equipment.
>
>2. Lightning. Grounding for lightning protection requires a great deal
>more than the power system ground, so don't depend on your power ground
>for lightning protection. For this, seek out good information
>specifically addressing lightning protection.
>
>3. Antenna ground. Most antennas, except ground mounted antennas and
>some end fed antennas, don't require or benefit from a direct
>connection to ground, particularly if a "current" balun is used on the
>feedline. When a ground is needed, it can sometimes be tricky to
>accomplish. For a ground mounted antenna like a quarter wavelength
>vertical or an inverted L, the best ground is made by running wires out
>radially just below the ground level, from the base of the antenna. If
>you feed a single wire from a tuner at your shack, the path from the
>rig to the Earth becomes just as much a part of the antenna as the
>wire. So attention has to be paid to the path it takes. Sometimes, a
>quarter wavelength wire is used as an artificial ground (actually, as
>the other half of the antenna). The best solution, if you must use an
>end fed wire, depends on the particular situation. But most common
>antennas don't need a ground. If you see any effect as you move a
>feedline or change its length, or change ground connections, a balun is
>probably needed.
>
>This has necessarily been brief. I recall that Ian, G3SEK posted a
>similar summary not too long ago on this newsgroup. It likely contains
>additional information, and it will be good information. You should be
>able to find it with a Google search.

Go to www.arrl.org/tis and search for "grounding". That leads on to many
more downloadable articles.

The most important point is to keep those three different reasons well
separated in your mind.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)

Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4704. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 09:53:23 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vd91pba15a38e3@corp.supernews.com>
Source record: 116855
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Thanks Dave.
When Cecil is clear, concise and to-the-point I think it bears remarking
upon.
73
H.
NQ5H

"Dave" <davenpat@btopenworld.com> wrote in message
news:bb1mmubnn1@titan.btinternet.com...
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ED3DF43.2030902@ieee.org...
> > H. Adam Stevens wrote:
> > > Clear, concise, and to-the-point.
> > > But there's still only 100 watts coming out of the transmitter.
> >
> > Why state the obvious when nobody in the world disagrees with it?
>
> This shows how the Americans can turn a country into up-rising (Iraq) and
an
> up-rising (this news group) into a technical discussion. :-)
> I quite enjoyed reading all that, thank you.
>
> Dave
>
>

4705. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 09:57:01 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vd9204gp008v53@corp.supernews.com>
Source record: 116856

Since this is HF, invoking quantum mechanics is unnecessary, classical E&M
work fine.
73
H.
NQ5H

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED428A9.2000107@ieee.org...
> Jim Kelley wrote:
> > You've deliberately ignored the most important point. They said your
> > wave reflection description was consistant with the classical
> > approach. They also said photons do not abide by the classical
> > approach, ...
>
> Good thing photons don't play a part in my model, huh? If you don't
> accept the classical wave reflection model, just say so.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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4706. How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 11:30:35 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed48eaf.97018@news.melbpc.org.au>
Source record: 116857

To the best of my knowledge, not much.

Let's look at a lightning strike, step by step.

1. Charges of opposite polarity build up on the top
and bottom of a cloud due to air currents within the cloud.
2. An image of the cloud forms on the ground
directly below the cloud. This is of opposite polarity to
the charge on the bottom of the cloud.
3. When the charge on the cloud is large enough
the air will ionize and charge will flow towards the earth,
forming a conducting channel called a leader.
4. At the end of the channel charge will build up
until the potential is high enough to break down the air
insulation, and the channel will extend towards the earth
again.
4A. A good analogy is watch water trickle over a
nearly horizontal flat, dusty, surface. Water builds up
into a 'blob' which is held in shape by surface tension
until the internal pressure causes the 'blob' to rupture and
a new trickle starts to move forward.
5. At the same time, leaders will start from
pointed objects on the ground and head towards the down
leader. The 'pointed' can be trees, flagpoles, your
vertical aerial, your golf club if you are fanatical enough
to play under these conditions, the hairs on your head,
power poles and lines, etc.
6. The charge takes a finite time to travel through
each channel to the 'electrical blob' which is in effect a
capacitance.
6A. The stop and go of the charges causes the
static you hear on your radio.
7. When two leaders from opposite directions
finally meet there is a conducting path from cloud to ground
and a massive current flows through the channel.
7A. This ionises the air so allowing a larger
current to flow, and you can see the lightning stroke.
8. The above repeats until the cloud looses all its
charge, so there will be multiple strikes.
9. The important point is that there is a large DC
current flowing from the positive source to the negative
sink. There is no rapidly changing current direction, so
there will not be a r.f. signal generated.
10. If the ground 'target' is your radio mast, the
shock excitation may generate some r.f. energy, but the

amount will almost certainly be insignificant compared to
the DC component.

I hope the above will help you understand what's
happening during a thunderstorm.

regards. Alan.

4707. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 12:04:26 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <2689dvk1tghsc2eltk0otbhak3lp85fvsg@4ax.com>
Source record: 116859

On Tue, 27 May 2003 23:10:53 -0500, funkbastler
<funkbastler@eudoramail.com> wrote:

>Have a look at 14CFR101.1 - unless your balloon is larger than
>115 cubic feet or a has diameter of greater than six feet (or your
>kite (if you're flying a kite) weighs more that five pounds), FAA
>rules do not apply. Is there something else buried in the rules
>I'm not aware of?

Writing as both a kite flier, and as an instrument rated pilot here's
my opinion on the matter:

Take care to locate ALL airports and airspaces around you. You still
have to contend with 14CFR101.7.

Be very sure that your kite or balloon remains in Class G
(uncontrolled) airspace. If you're determined to get in to Class E
airspace, call your local flight service station and find out who
manages that airspace so that you can file a NOTAM.

I have had close encounters with an escaped bunch of mylar balloons in
the air as a pilot and a close encounter with a helicopter as a kite
flier. Although 14CFR101.1 wasn't broken in either case, neither of
these events had any desirable aspects to it. Had I not missed the
balloons by only a few feet (at 160 MPH), or had the helicopter pilot
not missed my kite, I'm sure someone would have trotted out
14CFR101.7.

In short, be responsible. If you want to put a kite more than 200'
Above Ground Level (AGL), you would be very wise to do just a bit of
homework. It's cheap insurance.

Jake Brodsky, AB3A mailto:frussle@erols.com
"Beware of the massive impossible!"

4708. Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 12:08:23 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bb28rc$79p$1@slb1.atl.mindspring.net>
Source record: 116860

Hello:

Have a JRC NRD 545, but am a newbie re using it.
But, the folowing question is probably general in scope, irrespective of receiver, I would think.

Could someone explain, please, the difference in attenuating a "too strong" input signal
by using the radio's Attenuator (button; -20 db) vs just turning down the rf gain pot ?

I understand that the attn works immediately at the antenna input, and the rf gain pot on the IF,
but when, and under what conditions, would one use each ?

Thanks,
Bob

4709. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 13:09:44 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb2ceo$oa2$0@208.206.142.103>
Source record: 116861

Alan Fowler wrote:

>
> 10. If the ground 'target' is your radio mast, the
> shock excitation may generate some r.f. energy, but the
> amount will almost certainly be insignificant compared to
> the DC component.

I agree that the percentage of RF in a lightning strike as a part of the total
energy may be small, but it is certainly not insignificant. And any square wave is composed of a fundamental frequency and an infinite number of harmonics
across a broad spectrum of frequencies, perhaps making the RF energy quite
a lot more than you have calculated.

Lightning has an EMP component which can and often does damage electronic and electrical equipment located away from the strike. The damage is caused by high voltages being induced into AC service wiring in, and leading to, houses and other buildings. It works just like a transformer - the strike itself is the primary and the wiring which has voltage induced is the secondary. Obviously there is a LOT of variation possible in how all this comes together depending on the exact circumstances, distances, conductor orientation, etc. involved.

MOV surge suppressors can help limit this damage.

Dick

4710. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 13:31:59 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb2dof$qf7$0@208.206.142.103>
Source record: 116862

Tidris wrote:

>
> I am also considering using 1/2 inch type M copper pipe which is
> available to me at a price lower than the 2 awg wire , but I am
> worried the thin 0.025 inch thick wall might corrode too quickly when
> burried underground.

An even greater concern is the fact that a lightning strike will likely vaporize the thinwall tubing leaving you with *no* ground for a substantial part of that strike. Where the rest of the strike will go then is anybody's guess.

Use nothing smaller than #10 solid wire for grounding, and it really should be no smaller than #6 solid.

You can make a copper 'strap' by hammering soft tubing flat. But I wouldn't use that thinwall stuff.

Dick

4711. Re: Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 13:39:54 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb2e7a$r5t$0@208.206.142.103>
Source record: 116863

The general case is that attenuating strong RF signals before they enter
the RF amplifier in the receiver prevents any possibility of those strong
signals generating spurious mixing products within the RF amplifier stage, and
also prevents the possibility of oveloading the RF amp.
Best to eliminate the possibility. Different radios handle these strong signals
with differing efficiencies.

Dick

Robert11 wrote:

> Hello:
>
> Have a JRC NRD 545, but am a newbie re using it.
> But, the folowing question is probably general in scope, irrespective of
> receiver, I would think.
>
> Could someone explain, please, the difference in attenuating a "too strong"
> input signal
> by using the radio's Attenuator (button; -20 db) vs just turning down the rf
> gain pot ?
>
> I understand that the attn works immediately at the antenna input, and the
> rf gain pot on the IF,
> but when, and under what conditions, would one use each ?
>
> Thanks,
> Bob

4712. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 13:45:24 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb2ehkrme0@208.206.142.103>
Source record: 116864

funkbastler wrote:

> On Wed, 28 May 2003 04:27:15 GMT, Tidris <nospam@nospam.come> wrote:
>
> >
> >Also the electrical code apparently speaks against soldering in the
> >application I have in mind (connecting copper conductors to grounding
> >rods).
>
> I wish I had a recent copy (or any copy) of the NEC here, but I don't.
>
> I think, however, that the code advises against using solder as the
> sole means of connecting the wire to the rod (a strong mechanical
> connection, or clamp, is required).

As I understand the code, it forbids using soldered connections anywhere in AC or ground wiring. Presumably that's because solder can melt under high current condidions which generate high temperatures and cause loss of contact.

> But, if you've got a good clamp
> on it, I don't think solder as an additional 'resistance reducer/
> corrosion inhibitor' would hurt anything relative to the NEC. I may
> be all wet in thinking that, but that's still what I think ;-)
>

Me too! Just as along as the junction/connection doesn't depent on the solder for its viability.

Dick

4713. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 13:46:00 UTC
From: richardharrison@webtv.net
Message-ID: <26355-3ED4BD98-2@storefull-2315.public.lawson.webtv.net>
Source record: 116865

Alan Fowler wrote:
"9. The important point is that there is a large DC current flowing from the positive source to the negative sink. There is no rapidly changing current direction, so there will not be an r.f. signal generated."

Surely Alan jests.

Everyone has heard radio static!

False! D-C from plus to minus only? Why is it important which direction current is instantaneously flowing in a huge "static" discharge? Is polarity relevant to protection or utilization? Electrons are likely more mobile than positive ions which are about 2000 times more massive than electrons.

False! No rapidly changing current direction? The rapidly changing current directions are generated by the transient nature of lightning. There`s no way a current can be abruptly changed and not generate a spectrum of alternations.

False! No r-f signals generated?
Radio started with a spark-gap oscillator, an interrupted high voltage discharge. A lightning bolt is a manifestation of the above, in spades! Confirmation is in the concurrent radio noise tunable across a wide spectrum in radios far from the lightning discharge.

Such baloney!

Best regards, Richard Harrison, KB5WZI

4714. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 14:02:03 UTC
From: richardharrison@webtv.net
Message-ID: <26353-3ED4C15B-14@storefull-2315.public.lawson.webtv.net>
Source record: 116866

Cecil, W5DXP wrote:
"---"destructive power". There simply is no such thing in reality."

Ever heard of the A-bomb?

Best regards, Richard Harrison, KB5WZI

4715. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 14:27:31 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305280627.7c2b9b8d@posting.google.com>
Source record: 116867

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0305270940.7593bf7d@posting.google.com>...
> Tidris <nospam@nospam.come> wrote in message
news:<270520030756264469%nospam@nospam.come>...
> > In article <3ED37831.2060409@cac.net>, sideband <AINO8SPAMW@cac.net>
> > wrote:
> >
> > > at what frequency?
> >
> > In the frequency range that is predominant in a lightning strike. I am
> > not sure what that range is, so let say at 100 KHz, 1 MHz, and 10 MHz.
>
> I'm not sure the difference between the two mentioned, but as a rule,
> braid is not a good material to use for lightning grounding. A flat
> smooth copper strap is much better. MK

Tidris,
Some personal thoughts
One does see the use of copper braid on dwellings and this is because
it can be easily formed around different bends on the outside to
ground. Now we all know that bends in a circuit can cause problems,
but in this particular use it really doesn't matter since it's use is
confined to STATIC discharge so 'impedance'
does not come into play. The case of lightning is a different animal
since it is a huge energy jump, as it were, from the atmosphere to the
innards of the earth where in its travels creates all different things
such as ionisation of the air. It ignores, in many cases ,what we as
humans see as significant differences in resisitance and impedance in
circuits that pale into significance when considering the large
releases of nature. The strike of lightning thus cannot be compared to
a sharp corner of a capacitor plate which some believe the spike on a
tower is meant to emulate, as in many cases you will see a lightning
strike to the SIDE of a building or to a TREE that in human terms can
be considered an insulator, but for the energy ball it can be seen as
a better path to water levels below the surface on its way to its
final destination.
With this sort of thinking I would imagine that a lightning storm
could be quite spectacular in a desert area compared to what we see in
the Midwest with its relatively high water table where even a farm
house can attract lightning because of its proximity to water, such as
a well, where lightning totally ignors a braided line on the house and
leaves it unmelted and intact.
When dealing with 'small' 'circuits that contain RF it can be seen
that the interweaving (braid) imposes various impedence circuits in

echelon over and above that seen by an ordinary length of conductor
and would NOT provide a good path for a frequency laden carrying
circuit.
Regards
Art

4716. Re: KK5YY SK

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 14:43:48 UTC
From: richardharrison@webtv.net
Message-ID: <26353-3ED4CB24-16@storefull-2315.public.lawson.webtv.net>
Source record: 116720

Mark Keith wrote:
"---I got the picture and put it on my server."

Nice job, Mark. Thanks.

Best regards, Richard Harrison, KN5WZI

4717. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 14:58:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bb2ibg$72k$1@news.service.uci.edu>
Source record: 116719

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED42B7E.7060700@ieee.org...
> Jim Kelley wrote:
> > The fact of the matter is that you understood perfectly what I was
> > saying, ...
>
> How can I possibly understand new terms that you, for weeks, refuse
> to define?

Any 9th grader could see the definition.

> > Don't you always claim that you get to define terms when you use them
> > Cecil?
>
> Trouble is, you didn't define the term until after I had asked you
> at least half a dozen times. You simply continued to deny that you
> knew what I was talking about.

The definition is the equation. You should have just said you didn't
understand the equation.

> Now, how about the destructive interference equaling zero while the
> constructive interference equals 4*I1? Hecht says the destructive
> interference has to equal the constructive interference.

You mean 2*SQRT(I1*I2)=2*SQRT(I1*I2)? Yes, that is quite profound.
Although, there is no equation for 'interference' per se.

> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4718. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 15:01:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bb2igr$733$1@news.service.uci.edu>
Source record: 116868

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED428A9.2000107@ieee.org...
> Jim Kelley wrote:
> > You've deliberately ignored the most important point. They said your
> > wave reflection description was consistant with the classical
> > approach. They also said photons do not abide by the classical
> > approach, ...
>
> Good thing photons don't play a part in my model, huh? If you don't
> accept the classical wave reflection model, just say so.

I don't know if it's good. Proper use of interference and irradiance
equations would help to explain how energy gets from the source to the load
in your paper.

4719. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 15:28:18 UTC
From: Jim Pennino <jimp@specsol.com>
Message-ID: <bb2kii$14n$1@mail.specsol.com>
Source record: 116721

funkbastler <funkbastler@eudoramail.com> wrote:
> On Wed, 28 May 2003 04:08:57 +0000 (UTC), Jim Pennino
> <jimp@specsol.com> wrote:

>>CW <clinton.magers@attbi.com> wrote:
>>> Hydrogen is used in large, unmanned blimps and balloons all the time. It is
>>> quite safe.
>>
>>Yeah, sure, so is nitroglycerine when handled properly.

> Hindenburg notwithstanding, hydrogen is safe. Try comparing it to the
> gasoline you pump into your car every week or so. (I'd rather have
> the hydrogen.)

OK, let's compare:

Liquid gasoline is not flammable, only the vapors are and liquid
gasoline slowly becomes vaporous at room temperature and pressure.

Hydrogen is always at gas a room temperature and pressure and always
flammable.

Gasoline can be transported in just about any kind of container and
kept as a liquid.

Hydrogen is transported in high pressure cylinders and will ooz through
steel (albeit slowly). Liquid hydrogen is an even bigger problem.

Spilt gasoline can be seen.

Leaking hydrogen is invisible.

Spilt gasoline has a strong odor.

Hydrogen is odorless.

Gasoline has a relatively narrow fuel/air ratio combustion range.

Hydrogen has a relatively wide fuel/air ratio combustion range.

A leaking gasoline container can be fixed with bubble gum and duct tape;
the spilled gasoline can be cleaned up.

A leaking hydrogen cylinder means run for cover until it all dissipates.

A gasoline accident usually means a fire.

A hydrogen accident usually means an explosion.

Shall I go on?

> OK - how many people died on the Hindenburg, and how many people have
> died in rear-end collisions which ruptured the gas tank (Ford Pintos,
> Crown Vics, etc.)???? Yeah, that's probably not a fair comparison,
> but we use gasoline every day, and it's a heck of a lot more dangerous
> than hydrogen.

Yeah, sure it is; that's why the hydrogen transport trucks have those
big signs saying "This truck safer than a gasoline truck".

BTW, 36 died in the ONE zepplin accident; I could only find 4 deaths
for all the Pinto crashes.

--
Jim Pennino

4720. Re: Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 15:30:47 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED4D5EB.3060003@attbi.com>
Source record: 116722

Very strong signals can cause distortion in the receiver, splatter in the receiver, and if it's close to your frequency it can reduce the gain of your receiver.

These have technical names: desense, IMD [intermodulation distortion], 3rd order intercept [side band splatter], etc.

These are best controlled by keeping them out of the receiver, typically by reducing the signal level by using the attenuator.

So, if there is a S9+30 or greater signal on your frequency or close to it [example +/- 5 KHz] then use the attenuator to minimize undesired effects such as splatter on the channel you want to work.

Now, for the RF gain. There are many uses for RF Gain. When set to maximum your receiver can hear very weak signals. However, there are days when the background noise is high and the RF Gain can be used to tone it down a bit.

In my case I use the RF Gain when I operate CW. I set the AF Gain to a comfortable level, turn OFF the AVC and control the volume of the signal with the RF Gain. This gives me the cleanest CW signal I can listen to [minimum false key clicks, minimum HF background noise, etc.]

Deacon Dave, W1MCE

Robert11 wrote:
> Hello:
>
[SNIP]
>
> Could someone explain, please, the difference in attenuating a "too strong"
> input signal
> by using the radio's Attenuator (button; -20 db) vs just turning down the rf
> gain pot ?
>
>[SNIP]

4721. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 15:50:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bml9dvcjmv0jqce01m5f7i2p7h4ts8a7oj@4ax.com>
Source record: 116723

On Wed, 28 May 2003 08:04:26 -0400, Jake Brodsky <frussle@erols.com>
wrote:

>
>In short, be responsible. If you want to put a kite more than 200'
>Above Ground Level (AGL), you would be very wise to do just a bit of
>homework. It's cheap insurance.

Hi Jake,

I have probably seen 100 times as many pilots violating minimum height as I have seen children (much less amateurs) with kites violating maximum height. And I had to go to a kite centric park to see them at that. I have no doubt that I will spot another low flyer buzz overhead within the week, if not the day (Seattle weather being what it is, currently cloudy, kites are few, planes are close). I also seem to be in a helicopter corridor. The heavy throbbing of rotors that quickly doppler past suggest they are quite close. Luckily(?) this generally occurs after midnight.

I have even had the honor(?) of a hot air balloon landing in my driveway and observed one nearly splash down in a lake 100 feet from my buddy's home (a Ham with an aluminum forest). They had maybe 3 feet of clearance before dipping their toes.

73's
Richard Clark, KB7QHC

4722. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 15:58:16 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED4DC5B.7010904@attbi.com>
Source record: 116724

Item 9 is incorrect. There is a very large transient current that is DEFINITELY NOT DC in a lightning strike!!!

LIGHTNING IS A TRANSIENT CURRENT THAT PRODUCES E/M FIELDS.

The USAF standard lightning model [circa 1980 - 1992] is described as follows:

Ninety [90] percent of all lightning strikes within the USA fall within the limits of this model.

a] 0 to 100,000 amperes with a rise time of less than 1 microsecond

b] 100,000 amperes to 10,000 amperes in 10 microseconds maximum

c] 10,000 amperes to 500 amperes in 10 milliseconds maximum

d] 500 amperes continuing current for 500 milliseconds maximum.

The rising and collapsing di/dt fields produces significant E/M fields in the 0.1 MHZ to 10 MHz portion of the spectrum. Proximity to these fields WILL destroy your radio, tv, telephone, stereo, etc.

The low impedance 'requirement' for lightning grounding is from a] above. Example a 0.01 microhenry self inductance will generate a 1000 volt transient if a direct strike is involved. A 0.001 ohm connection, very hard to get, will generate a 100 volt transient.

The magnetic field from 100,000 amperes in 1 microsecond is very significant and will couple into any loops and generate very large transients.

As a rule of thumb for my/your commercially manufactured and installed equipment, if lightning hits within 1/4 mile of your QTH expect some damage to your electronics.

I had to design USAF Missiles with more than 140 dB of EM filtering/shielding for lightning survival.

MORAL: DISCONNECT AND UNPLUG if lightning is near.

Deacon Dave, W1MCE

Alan Fowler wrote:
> To the best of my knowledge, not much.
>
> Let's look at a lightning strike, step by step.
>
> 1. Charges of opposite polarity build up on the top

> and bottom of a cloud due to air currents within the cloud.
> 2. An image of the cloud forms on the ground
> directly below the cloud. This is of opposite polarity to
> the charge on the bottom of the cloud.
> 3. When the charge on the cloud is large enough
> the air will ionize and charge will flow towards the earth,
> forming a conducting channel called a leader.
> 4. At the end of the channel charge will build up
> until the potential is high enough to break down the air
> insulation, and the channel will extend towards the earth
> again.
> 4A. A good analogy is watch water trickle over a
> nearly horizontal flat, dusty, surface. Water builds up
> into a 'blob' which is held in shape by surface tension
> until the internal pressure causes the 'blob' to rupture and
> a new trickle starts to move forward.
> 5. At the same time, leaders will start from
> pointed objects on the ground and head towards the down
> leader. The 'pointed' can be trees, flagpoles, your
> vertical aerial, your golf club if you are fanatical enough
> to play under these conditions, the hairs on your head,
> power poles and lines, etc.
> 6. The charge takes a finite time to travel through
> each channel to the 'electrical blob' which is in effect a
> capacitance.
> 6A. The stop and go of the charges causes the
> static you hear on your radio.

[snip] WRONG! The time changing fields cause the static.

> 7. When two leaders from opposite directions
> finally meet there is a conducting path from cloud to ground
> and a massive current flows through the channel.
> 7A. This ionises the air so allowing a larger
> current to flow, and you can see the lightning stroke.
> 8. The above repeats until the cloud looses all its
> charge, so there will be multiple strikes.
> 9. The important point is that there is a large DC
> current flowing from the positive source to the negative
> sink. There is no rapidly changing current direction, so
> there will not be a r.f. signal generated.

[snip] Wrong!

> 10. If the ground 'target' is your radio mast, the
> shock excitation may generate some r.f. energy, but the
> amount will almost certainly be insignificant compared to
> the DC component.
>
> I hope the above will help you understand what's
> happening during a thunderstorm.

>
> regards. Alan.

4723. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 16:00:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gom9dvk3rpaaup7t12me6ohrsjq2rvkrcc@4ax.com>
Source record: 116725

On 28 May 2003 13:45:24 GMT, "Dick Carroll;" <dixie@townsqr.com>
wrote:

>
>> But, if you've got a good clamp
>> on it, I don't think solder as an additional 'resistance reducer/
>> corrosion inhibitor' would hurt anything relative to the NEC. I may
>> be all wet in thinking that, but that's still what I think ;-)
>>
>
>Me too! Just as along as the junction/connection doesn't depent on the
>solder for its viability.
>
>Dick

Hi Dick,

Back when I taught soldering basics in the Navy, the word was that you
made a tight physical connection with good electrical conductivity
with the wire alone, and used solder as a moisture barrier to seal it.
You did not rely on the solder to hold the connection, nor to provide
the low resistance path.

73's
Richard Clark, KB7QHC

4724. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 16:07:20 UTC
From: richardharrison@webtv.net
Message-ID: <29493-3ED4DEB8-31@storefull-2312.public.lawson.webtv.net>
Source record: 116726

Art, KB9MZ wrote:
"The case of lightning is a different animal since it is a huge energy jump, as it were from the atmosphere to the innards of the earth---."

Slight error in emphasis here. Lightning is a flashover in a capacitor. Charge is concentrated in a surface area (not the innards) of the earth and is concentrated in an atmospheric area directly above the earth charge. These areas of atmosphere and earth form the capacitor.

Unlike charges attract. Atmospheric movement along the earth`s surface drags the earth`s charged area along with it, staying as close as it can get to the atmospheric charge.

Ground rod depth is for convenience in getting a conductive connection to the earth. Depth increases contact area and probability of contact with conductive soil in dry locations. If it weren`t for surface resistivity, laying the ground rod on the earth`s surface would be just about as good as driving it deep. The code authors also consider the probability of disruption of connection to the soil.

Broadcast stations with 120 radials at the surface of the soil typically have no problems with ground for the purposes of safety, lightning mitigation, or r-f circuit completion. They don`t need and don`t benefit from ground rods for the most part. Long-wave stations sometimes use rods because radials are short in wavelengths and soil penetration is deep in low soil conductivity. This helps with lightning too.

Best regards, Richard Harrison, KB5WZI

4725. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 16:41:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2hn9dvgoigl4o1l853adtghk58ra5q5hv4@4ax.com>
Source record: 116727

On Wed, 28 May 2003 15:58:16 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>
>a] 0 to 100,000 amperes with a rise time of less than 1 microsecond
>
0.1 Ampere averaged over one second without regard for low-balling nor slope of risetime.

>b] 100,000 amperes to 10,000 amperes in 10 microseconds maximum
>
1 Ampere averaged over one second without regard for low-balling nor crest shape.

>c] 10,000 amperes to 500 amperes in 10 milliseconds maximum
>
100 Ampere averaged over one second without regard for low-balling nor slope of fall time.

>d] 500 amperes continuing current for 500 milliseconds maximum.
>
250 Ampere averaged over one second plain.

Neglecting the implications of RF, a worst case one second exposure of 350 Amperes which compares to a "fusing current" of 333 Amperes for #10 copper wire. Wire is not notorious for being frequency sensitive to these slow events (that is given a certain bulk versus time to accumulate and then shed heat). The hidden killer is current density in any conductor and "fusing current" reveals just where wire gives up the ghost.

Lest anyone argue that the extreme at 1 microsecond's experience of 100000A should vaporize anything, towers and lesser wire seem to cope by their sheer bulk alone. I would speculate that the plasma of the bolt contributes far more heat at the strike point and proximity than the conduction through the wire at that same point. 100 feet of hard drawn #10 copper will present 0.1Ohm total resistance (presuming it acts as the conduit for a wooden tower) and would constitute a power dissipation of 12KW for the duration. That is a lot of power, and a lot of surface area - think in terms of heat exchange (your hair dryer for instance and its heating element) or a one foot 120W resistor for one second. Readers are cautioned to observe the wide variation of values, and the huge number of variables that only give perspective to this "perfect storm" described. In other words, follow code.

73's
Richard Clark, KB7QHC

4726. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 16:58:06 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <ld2cnWIXZuI9d0mjXTWcoA@comcast.com>
Source record: 116728
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy,

You are right, as usual. I actually performed the experiment:

1. Strung together about 13 feet of 50 ohm patch cords with BNC T
connectors. Half wave resonance was about 25 MHz.

2. Put a 13 ohm load on the far end.

3. Looked at the voltage with a 'scope at the T connectors and load.

The voltage at inermediate points was much higher than at the load. I could
not look at the actual source, since it is inside the generator box;
however, it looked like it was converging to be the same as at the load.

Tam/WB2TT
.
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vd8eer6nga1972@corp.supernews.com...
> Right except for one thing. .....

4727. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:10:12 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED4ED74.336EA9D9@uci.edu>
Source record: 116731

Richard Harrison wrote:
>
> Cecil, W5DXP wrote:
> "---"destructive power". There simply is no such thing in reality."
>
> Ever heard of the A-bomb?

:-)

Cecil does have a point. But in his paper, he produces equations that make it appear that either power is destroyed, or it has to magically change direction. Neither answer is correct of course. He's basically made a math error or two (in order to prove his point, I think). Instead of first using phase cancellation between out of phase waves V3 and V4, and out of phase waves I3 and I4 and then taking the net VI product. He takes the product of V3 and I3, and sums it with the product of V4 and I4. That makes it look as though you've got power sitting there wondering what to do with itself. Then he comes up with the hand waving argument that that power just decides to turn around and go the other direction - without providing a mechanism by which it could do so. The truth of the matter is that no energy is conveyed by waves that cancel; as is illustrated in the laser interference example. One can either show the absence of a transfer of energy by voltage and current wave cancellation, or show it by solving the irradiance equation for P3 and P4. Either way it comes out to zero power - zero transfer of energy. No destruction of energy is involved, and even better, no hand waving.

73 de ac6xg

4728. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:22:27 UTC
From: Sylvan Butler <Znospam+noZs_0305@hpb13799Z.Zboi.hpZ.com.invalid>
Message-ID: <slrnbd9s26.111.Znospam+noZs_0305@hpb13799Z.Zboi.hpZ.com.invalid>
Source record: 116730

On 28 May 2003 13:45:24 GMT, Dick Carroll; <dixie@townsqr.com> wrote:
> funkbastler wrote:
>> I think, however, that the code advises against using solder as the
>> sole means of connecting the wire to the rod (a strong mechanical
>> connection, or clamp, is required).
>
> As I understand the code, it forbids using soldered connections anywhere
> in AC or ground wiring.

I don't recall seeing that change in the 2002 edition of the code.
I'm pretty sure it did not change.

Solder is approved as long as the connection integrity does not
depend on the solder. In other words, it is still NEC approved (and
results in a much better connection) to solidly twist the wires
together and then solder. Or more specific to grounding, as long as
the connection is mechanically secure before soldering, there is no
code issue of which I am aware.

From the 1999 NEC:

"110-14 (b) Splices. Conductors shall be spliced or joined with
splicing devices identified for the use OR by brazing, welding, or
soldering with a fusible metal or alloy. Soldered splices shall
first be spliced or joined so as to be mechanically and electrically
secure without solder and then soldered. All splices and joints and
the free ends of conductors shall be covered with an insulation
equivalent to that of the conductors or with an insulating device
identified for the purpose."

"250-8. Connection of Grounding and Bonding Equipment Grounding
conductors and bonding jumpers shall be connected by exothermic
welding, listed pressure connectors, listed clamps, or other listed
means. Connection devices or fittings that depend SOLELY on solder
shall not be used. Sheet metal screws shall not be used to connect
grounding conductors to enclosures."

"250-148. Continuity and Attachment of Equipment Grounding
Conductors to Boxes Where more than one equipment grounding
conductor enters a box, all such conductors shall be spliced or
joined within the box or to the box with devices suitable for the
use. Connections depending solely on solder shall not be used.
Splices shall be made in accordance with Section 110-14(b) except
that insulation shall not be required. The arrangement of grounding
connections shall be such that the disconnection or the removal of a
receptacle, fixture, or other device fed from the box will not

interfere with or interrupt the grounding continuity."

sdb
--
| Sylvan Butler | Not speaking for Hewlett-Packard | sbutler-boi.hp.com |
| Watch out for my e-mail address. Thank UCE. >>>> change ^ to @ <<<< |
It may be better to live under robber barons than under omnipotent moral busybodies. The robber baron's cruelty may sometimes sleep, his cupidity may at some point be satiated; but those who torment us for our own good will torment us without end, for they do so with the approval of their consciences. -- C. S. Lewis

4729. Re: Replicating antenna traps on old beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:24:29 UTC
From: Sander Wissing <sander@icon.co.za>
Message-ID: <m3s9dvopdgsdd5hvbaps2l366d6s8if3ae@4ax.com>
Source record: 116729

You know, I never thought of this. My worst case was to toss the
antenna, use the mounting hardware to make a monobander.

As far as I can see the traps are all pretty much identical, so I
think I will give that a try if I can't find some more traps
somewhere.

Thanks
Sander

On Mon, 26 May 2003 19:31:24 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:

>Sander,
>
>Not familiar with that antenna, but worst case you should be able to make it
>a 3 element by modifying the exiting front director trap so it is identical
>to the existing reflector trap. Of course, you could also fabricate 2 new
>traps.
>
>Tam/WB2TT
>"Sander Wissing" <zsl103@icon.co.za> wrote in message
>news:batlm2oig1@ctb-nnrp2.saix.net...
>> Hi all,
>>
>> I have come into the possession of an old TET antenna. This beam uses
>traps
>> on all 4 elements, but unfortunatedly I am missing 2 traps, one on the
>> reflector, one on the front director.
>>
>> Is there any feasible way of replicating the traps I have? I have an MFJ
>> 259B antenna analyzer. What (and how :)) do I measure on the existing
>traps
>> to make sure the new ones come out to do the same job?
>>
>> The, admittedly very rough, idea so far is to wind the new traps using
>> copper wire on PVC cores, trying to duplicate the whatever measurement
>> (inductance?).
>>
>> Any and all help appreciated!
>>
>> Thanks
>> Sander Wissing
>>
>>

>

4730. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:45:36 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED4F583.8020801@attbi.com>
Source record: 116732

Richard Clark wrote:
[SNIP]
>
> Lest anyone argue that the extreme at 1 microsecond's experience of
> 100000A should vaporize anything, towers and lesser wire seem to cope
> by their sheer bulk alone. I would speculate that the plasma of the
> bolt contributes far more heat at the strike point and proximity than
> the conduction through the wire at that same point.
> Richard Clark, KB7QHC

[SNIP]

Direct lightning strikes on metal surfaces has been extensively tested and modeled in science literature.

The physics is based on I(t)^2*R(T)*dt integrated over the time with R as a variable with temperature. In the trade the integral is defined as the action integral.

The peak power in the first 1 microsecond is very significant. The power through the first 10 microseconds is sufficient to cause thermal vaporization at the attachment point. On aircraft it appears as pitting on the leading edges or aero surfaces. On missiles there is erosion of the nose tip [point of maximum fribillation static charge buildup]. If the attachment is to the aircraft wing streamer there is negligible damage. If the attachment is to the exhaust plume there is negligible damage. The typical unknown in the physics of damage is the width [diameter] of the attachment channel. When I worked in the field, 1983-85, the normal assumption was an attachment diameter of something between 0.5 to as much as 3 to 4 inches.

The physics limits/uncertainties at the time were the interfaces between the plasma channel and the attachment surface. The plasma is very hot and carries a high charge density [somewhere around 307 coulombs][approximately 25000 volts in 1 microfarad]. The attachment surface temperature is somewhere between +70 to+105F [Launch], -70F [Paschen], and 7000F [re-entry].

In any event, direct strike will cause pitting and possibly spallation from mechanical or thermomechanical responses; and, we all know the horror stories about HF radios and direct or near strike.

Deacon Dave, W1MCE

4731. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:45:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED4F5CB.4020606@ieee.org>
Source record: 116734
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> Please can you explain for the benefit of the audience how this perpetual
> motion machine works?

It's not perpetual motion. It's the conservation of energy principle at
work. Consider a one-second long lossless 50 ohm transmission line
terminated with a 291.42 ohm load being driven by a 100 watt transmitter
equipped with a lossless tuner. A Z0-match exists at the tuner.

At the end of one second, the feedline contains 100 joules and none
has reached the load.

At the end of two seconds, the feedline contains 150 joules and 50
joules have reached the load. ...

Keep on going until steady-state. During steady-state, even though the
transmitter is putting out 100 watts, *300 joules* haven't reached the
load. 200 joules of reflected and re-reflected energy has been stored
in the feedline and *is being used* for impedance transformation. The
fact that it is being used for impedance transformation prohibits it
from being used for anything else. Perpetual Motion is just a straw
man. This is NOT perpetual motion. This is conservation of energy.

You can easily verify all the above for yourself. It is not rocket
science. Why otherwise rational people can't understand dynamic
storage of RF energy in a transmission line is beyond belief. Please,
let's lay one more of ham radio's Sacred Cows to rest.
--
73, Cecil http://www.qsl.net/w5dxp

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4732. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:47:57 UTC
From: dplatt@radagast.org
Message-ID: <vd9tid1k8qh60@corp.supernews.com>
Source record: 116733

In article <270520032127120278%nospam@nospam.come>,
Tidris <nospam@nospam.come> wrote:

>Also the electrical code apparently speaks against soldering in the
>application I have in mind (connecting copper conductors to grounding
>rods).

From what I've heard, soldering is a no-no, welding is OK. The
problem with solder is that the first part of a lightning strike is
likely to heat the solder enough to melt it, or even blow it out of
the junction entirely. Welding the materials together creates a
junction which can survive higher temperatures.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

4733. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 17:58:37 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <280520031058304367%nospam@nospam.come>
Source record: 116735

In article <quzQEnEOuF1+EAOJ@ifwtech.co.uk>, Ian White, G3SEK
<G3SEK@ifwtech.co.uk> wrote:

> That makes the RF resistance higher than for an equivalent solid strip.

I can see that, but how much higher? If a solid thin strap of a a given size and length has 0.01 ohm RF resistance while a braid of similar dimensions has 0.05 ohm, that is still a much lower value than the resistance between a typical ground rod and the ground. Would 0.05 ohms be relevant in a circuit that ends with a 25 ohm grounding rod? How does the 0.05 ohm resistance compare with the inductive reactance in the braid? If the reactance of that braid is 0.50 ohm or higher at the frequencies of interest, why worry so much about the resistive side?

> If you smear Noalox onto braid, you'll probably only force grease
> between the strands, and might make the RF resistance worse straight
> away rather than later.

Pretent the wires in the braid are perfectly insulated from each other somehow. Is such an imaginary braid incapable of conducting RF because there can't be any resistive jumping of current from strand to strand? I doubt it. You still have many continuous individual wires going from one end of the braid to the other, and there is capacitive and inductive coupling among the wires shunting the infinite resistance between braid wires.

4734. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:07:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd9umqt5kcpq14@corp.supernews.com>
Source record: 116736
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

In fact, the traditional way of measuring SWR at higher frequencies is with a slotted line. This is simply a piece of rigid solid-shield coax, at least a half wavelength long, with a slot running the length of the line. A probe, with integral diode detector, can be moved along the slot. As the probe is moved along the line and the maximum and minimum voltages are recorded and divided to get the SWR. Wavelength, and therefore frequency, could be determined by the distance between maxima, minima, or between a maximum and minimum. And the load impedance could be determined by noting how far the first maximum or minimum is from the end, and which occurs closest to the end. I've only done slotted line measurements a few times, but I'm sure some of the real OTs on this newsgroup have done it many, many times.

Roy Lewallen, W7EL

Tarmo Tammaru wrote:
> Roy,
>
> You are right, as usual. I actually performed the experiment:
>
> 1. Strung together about 13 feet of 50 ohm patch cords with BNC T
> connectors. Half wave resonance was about 25 MHz.
>
> 2. Put a 13 ohm load on the far end.
>
> 3. Looked at the voltage with a 'scope at the T connectors and load.
>
> The voltage at inermediate points was much higher than at the load. I could
> not look at the actual source, since it is inside the generator box;
> however, it looked like it was converging to be the same as at the load.
>
> Tam/WB2TT
> .
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vd8eer6nga1972@corp.supernews.com...
>
>>Right except for one thing. .....
>
>
>

4735. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:10:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vd9urrh9ef4j62@corp.supernews.com>
Source record: 116737
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>. . .
> This is NOT perpetual motion. This is conservation of energy.
> . . .

NO! My life's work! All for nothing! It can't be! Surely if I just rearrange the equations and improve the directional coupler efficiency. . .

Roy Lewallen, W7EL

4736. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:11:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED4FBD9.7070104@ieee.org>
Source record: 116738
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> But you missed some of the free power. For 100 watts of transmitter
> power, you get 178 watts of reverse power, all right. But you also get
> 278 watts of forward power! Just think of that, that's 178 watts extra
> going forward and 78 going back. If you don't believe it, get Richard to
> measure it with his Bird wattmeter.

The extra energy is stored in the transmission line and it is *NOT* free. Consider the following one second long lossless 50 ohm feedline terminated in 291.42 ohms. Half the forward power is reflected from the load. The transmitter is putting out 100 watts into a Z0-match.

100W XMTR--------one second long lossless 50 ohm feedline-----291.42 ohm load

Here is a chart of where the energy is after each second:

Total Total Total
After Energy output Energy in Energy accepted
second# by transmitter feedline by load

1 100 joules 100 joules zero
2 200 joules 150 joules 50 joules
3 300 joules 200 joules 100 joules
... ...
N 100*N joules 300 joules 100(N-3) joules

During steady-state 300 joules has been generated by the transmitter that has not made it to the load. 200 joules of that energy is being used for the purpose of impedance transformation. Here's how that 300 joules breaks down.

100 joules - latest forward energy from the transmitter toward the load.
100 joules - rearward-traveling reflected energy from the load.
100 joules - energy re-reflected from the Z0-match back toward the load.

In the transmission line,
Forward energy = 200 joules, Reflected energy = 100 joules.

Why do otherwise intelligent knowledgeable engineers have such a hard time with such a simple concept as conservation of energy? Sacred Cows sure die hard. Why don't all of you guys who believe that reflected power is free energy please wade through the above calculations. If you need help with the math, please enlist the aid of a ten-year old.
--
73, Cecil http://www.qsl.net/w5dxp

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4737. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:14:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED4FC68.8060607@ieee.org>
Source record: 116739
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Ian White, G3SEK wrote:
> But technical arguments are not boxing matches.

I am willing to admit it when I'm wrong. Would proof
that I am wrong be too much to ask?

Would you pick one technical topic upon which you and
I disagree?
--
73, Cecil http://www.qsl.net/w5dxp

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4738. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:21:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gfv9dvsatq2qm5ak00c89r1r4fsqd9geev@4ax.com>
Source record: 116740
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 28 May 2003 13:14:00 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Ian White, G3SEK wrote:
>> But technical arguments are not boxing matches.
>
>I am willing to admit it when I'm wrong. Would proof
>that I am wrong be too much to ask?
>
>Would you pick one technical topic upon which you and
>I disagree?

Punchdrunk

4739. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:21:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED4FE3A.6000303@ieee.org>
Source record: 116741

H. Adam Stevens wrote:
> Since this is HF, invoking quantum mechanics is unnecessary, classical E&M
> work fine.

I really wonder about all those physicists/engineers who scoff at EM fields
and waves but are then forced to enlist the aid of "virtual photons" to explain
those same fields and waves. :-)

> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>Good thing photons don't play a part in my model, huh? If you don't
>>accept the classical wave reflection model, just say so.
--
73, Cecil http://www.qsl.net/w5dxp

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4740. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:23:44 UTC
From: tdonaly@aol.com
Message-ID: <20030528142344.01791.00000661@mb-m05.aol.com>
Source record: 116743

Cecil wrote,
>Ian White, G3SEK wrote:
>> But technical arguments are not boxing matches.
>
>I am willing to admit it when I'm wrong. Would proof
>that I am wrong be too much to ask?
>
>Would you pick one technical topic upon which you and
>I disagree?
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>

Would proof that you are right be too much to ask?
73,
Tom Donaly, KA6RUH

4741. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:24:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED4FEC6.9020604@ieee.org>
Source record: 116744

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "---"destructive power". There simply is no such thing in reality."
>
> Ever heard of the A-bomb?

An A-bomb is interference between electro-magnetic waves????
Richard, it's not nice to quote someone out of context.
--
73, Cecil http://www.qsl.net/w5dxp

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4742. Re: Replicating antenna traps on old beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:24:27 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <5K2dnUj_sOxCY0mjXTWcpw@comcast.com>
Source record: 116742

You can still make it 4 el on 10 m if you put up the 10 m second director without a trap (might have to lengthen it slightly though). If it is the 20 m trap that is missing, you should be able to make it 4 el on 10 & 15. I suspect that what is different between the traps is the number of turns of wire in the coils. Hopefully the capacitors are the same. The job will be easier if the two missing traps are for the same frequency. BTW, I have had reasonable luck checking SWR on HF antennas at ground level by pointing the antenna at the sky (45 deg. is OK), with the reflector at least 3 feet off the ground.

Before assembling the whole thing, you could check each half element as a 1/4 wave 3 band vertical with your MFJ. The reflector pieces will probably resonate below the ham bands, and the directors above.

Tam
"Sander Wissing" <sander@icon.co.za> wrote in message
news:m3s9dvopdgsdd5hvbaps2l366d6s8if3ae@4ax.com...
> You know, I never thought of this. My worst case was to toss the
> antenna, use the mounting hardware to make a monobander.
>
> As far as I can see the traps are all pretty much identical, so I
> think I will give that a try if I can't find some more traps
> somewhere.

4743. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:27:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qgv9dvkc2pgqs40p6rhk9d85udf7594um7@4ax.com>
Source record: 116745
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 28 May 2003 11:07:35 -0700, Roy Lewallen <w7el@eznec.com>
wrote:
> I've only done slotted line
>measurements a few times, but I'm sure some of the real OTs on this
>newsgroup have done it many, many times.

Hi Roy,

You can have a fixed measuring position and perform what is called a
"Moving Load" measurement usually accomplished through variable length
transmission line that has the same appearance as the single or double
stub tuners.

This, again, serves to demonstrate that it is in the observance of
boundary conditions that allow for one boundary to be changed to
witness the effect to perform a measurement.

73's
Richard Clark, KB7QHC

4744. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:30:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vda011fk8p51b2@corp.supernews.com>
Source record: 116746

Richard Harrison wrote:
> . . .
> False! D-C from plus to minus only? Why is it important which direction
> current is instantaneously flowing in a huge "static" discharge? Is
> polarity relevant to protection or utilization? Electrons are likely
> more mobile than positive ions which are about 2000 times more massive
> than electrons.

The direction of current, the rate of charge flow, is a matter of definition. Those of us who have been through both technical(*) and engineering schools have seen consistent analyses done with the direction defined as plus-to-minus and minus-to-plus.

In a crystalline structure like a solid metal, positive ions don't move. The atoms are locked into the crystal structure. Only the electrons are free to move. But you can envision "hole flow" by imagining a line of atoms, with the one in the middle missing an electron. Then an EMF is applied causing all the electrons to move one atom to the right. The atom which had the hole is now complete, and the one to its left is missing an electron. So the "hole has moved" one atom to the left. As the electrons move to the right, the holes (positive charges) move to the left. Both "move" at the same speed, and all without any actual movement at all of positive ions. So the mobility and mass of the electron and ion are irrelevant when dealing with charge movement in a conductor.

Roy Lewallen, W7EL

(*) I don't know how the difference between the tech-school and engineering-school approaches came about. I always assumed the tech-school approach (negative current flow) was developed to provide an intuitive grasp of vacuum tube operation which involves movement of electrons in the tube, or perhaps because of the fact that it's actually electrons that move in a conductor. The positive-current approach is a little nicer mathematically, since fewer negations need to be made in the equations involving current, which is probably why the engineering-school convention. I know the positive current convention is still, and almost certainly always will be, the engineering standard. Have tech schools now adopted that standard, or are they still teaching negative current flow? If only ol' Ben Franklin would have chosen + for electron charge instead of the arbitrary choice he did make. . .

4745. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:35:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED5017B.4030200@ieee.org>
Source record: 116747

Jim Kelley wrote:
> The definition is the equation. You should have just said you didn't
> understand the equation.

I *did* understand the equation. Your concept of "destructive irradiance"
violates that equation.

>>Now, how about the destructive interference equaling zero while the
>>constructive interference equals 4*I1? Hecht says the destructive
>>interference has to equal the constructive interference.
>
> You mean 2*SQRT(I1*I2)=2*SQRT(I1*I2)?

No, I mean your assertion of 5-9-03 that:
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

-2*SQRT(I1*I2) = zero = destructive interference

+2*SQRT(I1*I2) = 4*I1 = constructive interference

If destructive interference equals constructive interference,
then you are asserting that 4*I1 = zero. It's simply not true
and as long as you continue to assert such nonsense, the
discussion cannot proceed.
--
73, Cecil http://www.qsl.net/w5dxp

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4746. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:35:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED50183.29E608FA@uci.edu>
Source record: 116752

W5DXP wrote:
> How can I possibly understand new terms that you, for weeks, refuse
> to define?

I've posted the same thing every time you've brought it up, Cecil. It should look familiar by now: I=(I1+I2)-(2*SQRT(I1*I2)). It's an irradiance equation for the case of destructive interference. We even discussed my typo in the equations at one point.

The other point you never seem to get is that the second term in the general equation I=(I1+I2)+ (2*SQRT(I1*I2)*cos theta) is not an equation by itself. That term algebraically sums with I1+I2, the solution to which gives irradiance as a function of the phase angle between I1 and I2. The sign of that term determines whether the interference is constructive or destructive. The sum determines whether I is greater than or less than I1+I2. The second term is not an "equation for interference". That's the truely idotic part of your tirade.

> > Don't you always claim that you get to define terms when you use them
> > Cecil?
>
> Trouble is, you didn't define the term until after I had asked you
> at least half a dozen times.

Not at all. I said the same thing the first time you made the ridiculous point, and virtually every time thereafter. Go have a look back at the damn thread if you don't believe me. I still have all the posts. Here are some of the dates and times I responded to your idiotic point:
5/9/03 3:45 PM, 5/9/03 5:22 PM, 5/9/03 6:26 PM, 5/12/03 10:47 AM, 5/12/03 11:05 AM, 5/12/03 3:30 PM, 5/12/03 4:18 PM, Fri 2:02 PM, Fri 4:12 PM, Tue 11:19 AM, Tue 1:29 PM, and Tue 5:23.

No one is so thick as to not get the point by then.

> You simply continued to deny that you
> knew what I was talking about.

One is caused to wonder why you would bring it up yet again after I had explained it to you a dozen times already. I really have absolutely no idea WHY you are talking about it.

ac6xg

4747. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:38:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50225.4030504@ieee.org>
Source record: 116748

Jim Kelley wrote:
> I don't know if it's good. Proper use of interference and irradiance
> equations would help to explain how energy gets from the source to the load
> in your paper.

The interference and irradiance equations for light are the same
as the interference and power equations for RF.

2*Sqrt(I1*I2)cos(a) is the interference term for light.
2*Sqrt(P1*P2)cos(a) is the interference term for RF in
a transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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4748. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:41:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED502C7.5080005@ieee.org>
Source record: 116749
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Tarmo Tammaru wrote:
> The voltage at inermediate points was much higher than at the load.

That's what happens when the forward voltage superposes
constructively with the reflected voltage.
--
73, Cecil http://www.qsl.net/w5dxp

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4749. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:51:25 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <GJ7rN9NtUQ1+EAZw@ifwtech.co.uk>
Source record: 116772

Tidris wrote:
>In article <quzQEnEOuF1+EAOJ@ifwtech.co.uk>, Ian White, G3SEK
><G3SEK@ifwtech.co.uk> wrote:
>
>> That makes the RF resistance higher than for an equivalent solid strip.
>
>I can see that, but how much higher? If a solid thin strap of a a given
>size and length has 0.01 ohm RF resistance while a braid of similar
>dimensions has 0.05 ohm, that is still a much lower value than the
>resistance between a typical ground rod and the ground. Would 0.05 ohms
>be relevant in a circuit that ends with a 25 ohm grounding rod? How
>does the 0.05 ohm resistance compare with the inductive reactance in
>the braid? If the reactance of that braid is 0.50 ohm or higher at the
>frequencies of interest, why worry so much about the resistive side?
>
>> If you smear Noalox onto braid, you'll probably only force grease
>> between the strands, and might make the RF resistance worse straight
>> away rather than later.
>
>Pretent the wires in the braid are perfectly insulated from each other
>somehow. Is such an imaginary braid incapable of conducting RF because
>there can't be any resistive jumping of current from strand to strand?
>I doubt it. You still have many continuous individual wires going from
>one end of the braid to the other, and there is capacitive and
>inductive coupling among the wires shunting the infinite resistance
>between braid wires.

I don't have any figures... but a braid in that condition is certainly
not capable of conducting RF as well as when the strands are in good,
direct contact.

Remember what happens to the losses in coax if the braid becomes
corroded - in other words, when the individual strands become insulated
from one another?

Likewise litz wire (woven insulated strands) has a higher RF resistance
than solid wire of the same outside diameter at HF - litz only comes
into its own at MF/LF when the skin depth is comparable to the strand
radius.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4750. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:52:30 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <280520031152238325%nospam@nospam.come>
Source record: 116750

In article <3ED45B56.3C3C2C83@cwis.net>, 'Doc <w5lz@cwis.net> wrote:

> Try your local hardware store or lumber yard, ask
> for copper flashing.

I tried that and everybody says they can special order it for me at the price of two arms and one leg. Also tried roofing supply companies with the same results. Aluminum flashing is what everybody uses around here (Las Vegas).

4751. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:56:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED5067B.6000207@ieee.org>
Source record: 116751

Jim Kelley wrote:
> He takes the product of V3 and I3, and sums it with the
> product of V4 and I4.

V4*I4 has traveled all the way back from the load to the Z0-match point. We know that the power in V4*I4 exists and possesses momentum in the rearward direction. That's the error in your argument. You present no valid method for the energy in Wave(V4,I4) to change directions. The only way for the energy in Wave(V4,I4) to change directions is for the wave to be canceled in the rearward direction. And it can only be canceled by a wave of equal magnitude and opposite phase containing, by definition, an equal amount of energy.

For those who don't know what we are talking about. V4 is similar to (s12*a2). V4 equals the voltage reflected from the load multiplied by the voltage transmission coefficient at the Z0-match point. V4^2/Z0 is the power associated with V4. Jim says that power is zero.

Jim is saying there is no power associated with (s12*a2). Yet |a2|^2 is defined as the power reflected from the load. Once again, Jim contradicts himself.
--
73, Cecil http://www.qsl.net/w5dxp

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4752. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 18:59:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50715.5030807@ieee.org>
Source record: 116753
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> I've only done slotted line
> measurements a few times, but I'm sure some of the real OTs on this
> newsgroup have done it many, many times.

It's much easier to do with parallel line. All it requires is an
inductive pickup coil.
--
73, Cecil http://www.qsl.net/w5dxp

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4753. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:02:36 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <280520031202284680%nospam@nospam.come>
Source record: 116754

In article <bb2dof$qf7$0@208.206.142.103>, Dick Carroll;
<dixie@townsqr.com> wrote:

> An even greater concern is the fact that a lightning strike will likely
> vaporize the thinwall tubing leaving you with *no* ground for a substantial
> part of that strike

I believe the solid copper strap from Polyphaser is only 0.015 inches
thick, so the type M copper pipe wall is almost twice as thick.

4754. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:04:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50831.2000905@ieee.org>
Source record: 116755
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> W5DXP wrote:
>> This is NOT perpetual motion. This is conservation of energy.
>> . . .
>
> NO! My life's work! All for nothing! It can't be! Surely if I just
> rearrange the equations and improve the directional coupler efficiency. . .

Roy, would you, for once, please read my posting? Your argument is
flawed because you are not taking into account the energy stored
in the feedline during the buildup to steady-state. You are assuming
that energy doesn't exist. But the energy does exist and was put there
during the transient state. It will eventually be dissipated during
the transient state after the transmitter is turned off. Since it is
being used for impedance transformation during steady-state, it cannot
be used for anything else.
--
73, Cecil http://www.qsl.net/w5dxp

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4755. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:05:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50897.5030004@ieee.org>
Source record: 116756
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> W5DXP wrote:

>> This is NOT perpetual motion. This is conservation of energy.
>
> NO! My life's work! All for nothing! It can't be!

That's what you get for being seduced by the steady-state.
Hint: It wasn't always steady-state. Some things happen
during the transient state that affect steady-state
conditions.
--
73, Cecil http://www.qsl.net/w5dxp

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4756. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:08:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50930.10904@ieee.org>
Source record: 116757

Tdonaly wrote:
> Would proof that you are right be too much to ask?

Right about what? Please pick a topic with which you
technically disagree with me.
--
73, Cecil http://www.qsl.net/w5dxp

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4757. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:18:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <er2advskoadlk8fou2a801nqq5e4aa862d@4ax.com>
Source record: 116758
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 28 May 2003 14:05:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

> Some things happen
>during the transient state that affect steady-state
>conditions.
Baloney

4758. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:28:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED50DD1.101@ieee.org>
Source record: 116760

Jim Kelley wrote:
> The other point you never seem to get is that the second term in the
> general equation I=(I1+I2)+ (2*SQRT(I1*I2)*cos theta) is not an equation
> by itself. That term algebraically sums with I1+I2, the solution to
> which gives irradiance as a function of the phase angle between I1 and
> I2. The sign of that term determines whether the interference is
> constructive or destructive. The sum determines whether I is greater
> than or less than I1+I2. The second term is not an "equation for
> interference". That's the truely idotic part of your tirade.

You are calling Hecht idiotic????????????? Shame on you!

Heh, heh, I'm dangerous now that I have my own copy of Hecht. Hecht
says that I12 = (2*SQRT(I1*I2)*cos theta) is the ***INTERFERENCE
TERM***. Page 388, Chapter 9, equation just before (9.14).

quoting:
"The interference term becomes I12 = 2*SQRT(I1*I2)cos(theta)"

So the second term, I12, *IS* indeed the term for the magnitude of
the interference. In fact, you can even solve for the magnitude of
the interference from the equation

Itot = I1 + I2 + I12

I12 = interference = Itot - I1 - I1 = 2*SRT(I1*I2)cos(theta)

> One is caused to wonder why you would bring it up yet again after I had
> explained it to you a dozen times already.

You denied it for a dozen times. You explained it once. And you have yet
to explain how destructive interference equals zero while, at the same
time, constructive interference equals 4*I1.
--
73, Cecil http://www.qsl.net/w5dxp

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4759. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:29:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vda3gptoq62j4c@corp.supernews.com>
Source record: 116759
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Egad, Cecil, get a life.

Do you really think I'm looking for perpetual motion by sucking out forward and reverse power?

And do you think you're the only one who understands how a transmission line is charged when a source is first applied, or the mechanism by which a transmission line transforms impedance?

Calm down, man. Get a grip. Pop a Lone Star, squeeze off a few rounds at a 'dillo, take a romp thru the woods with yer 4-wheel drive truck. Whatever you do to relax.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> W5DXP wrote:
>>
>>> This is NOT perpetual motion. This is conservation of energy.
>>> . . .
>>
>>
>> NO! My life's work! All for nothing! It can't be! Surely if I just
>> rearrange the equations and improve the directional coupler
>> efficiency. . .
>
>
> Roy, would you, for once, please read my posting? Your argument is
> flawed because you are not taking into account the energy stored
> in the feedline during the buildup to steady-state. You are assuming
> that energy doesn't exist. But the energy does exist and was put there
> during the transient state. It will eventually be dissipated during
> the transient state after the transmitter is turned off. Since it is
> being used for impedance transformation during steady-state, it cannot
> be used for anything else.

4760. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:34:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED50F3C.7FE11EB7@uci.edu>
Source record: 116766

W5DXP wrote:

> We know that the power in V4*I4 exists and possesses momentum
> in the rearward direction.

But what we have learned is that no energy is transferred by that wave in the rearward direction because of wave cancellation. It's certainly obvious that V3*I3 transfers no energy. It should be equally obvious that V4*I4 transfers no energy.

> Jim is saying there is no power associated with (s12*a2). Yet
> |a2|^2 is defined as the power reflected from the load. Once again,
> Jim contradicts himself.

But Jim never mentioned s12*a2. Specifically he said that energy is not transferred by waves V3 and V4 when V3 cancels V4 and I3 cancels I4.

And this is where the idea that power actually moves in a waveguide is a less than useful notion. Power is required to initiate wave propagation and to sustain a transfer of energy. Energy will be transferred by those waves at a rate dependent upon system paramenters to a point where power is either dissipated, or transformed. System parameters may constrain the transfer of energy to zero, as is the case with destructive interference, and which has been verified by experiment.

ac6xg

4761. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:38:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED51043.4040802@ieee.org>
Source record: 116763
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Some things happen
>>during the transient state that affect steady-state
>>conditions.
>
> Baloney

Egads, Richard. The reflected waves build up during the transient state. Reference Johnson's, "Transmission Lines and Networks", section 1.6 Reflections. Without reflected waves, there would be no impedance transformation on a feedline. Whatever impedance is presented to the source during steady-state is the end result of the transient state. That Steady-State Seductress sure does get around. Do you tend her Sacred Cows for her?
--
73, Cecil http://www.qsl.net/w5dxp

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4762. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:39:42 UTC
From: Mark Keith <nm5k@wt.net>
Message-ID: <3ED5107E.5FD7@wt.net>
Source record: 116761

Gary Schafer wrote:
>
> If it is going to be used outside you are better off with solid wire
> or strap. The problem with braid (being the worst) and stranded wire
> is that it corrodes more. You need to occasionally renew the
> connections in your ground system. Braid or stranded wire is all but
> impossible to clean properly for a new connection after it has
> corroded.

Another reason is the increased resistance due to the weave of the braid. Has something to do with the dives in and out of the braid that the rf must take, being lightning is RF, and skin effect applies. 4 inch copper strap is usually the recommended ground strap for lightning use. Flat strap is better than pipe or tubing. It conducts on both sides. The tubing won't conduct on the inside. Only the outside. MK

--
http://web.wt.net/~nm5k

4763. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:40:47 UTC
From: Mark Keith <nm5k@wt.net>
Message-ID: <3ED510BF.EEC@wt.net>
Source record: 116762

Tidris wrote:
>
> In article <1n18dvo33i21smen82g7vqtqfrkhlfjlc5@4ax.com>, Gary Schafer
> <gaschafer@attbi.com> wrote:
>
> > The problem with braid (being the worst) and stranded wire
> > is that it corrodes more. You need to occasionally renew the
> > connections in your ground system. Braid or stranded wire is all but
> > impossible to clean properly for a new connection after it has
> > corroded.
>
> Would smearing Noalox on the braid prevent the corrosion problem?

Braid is a bad choice even clean. MK

--
http://web.wt.net/~nm5k

4764. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:41:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED510E0.6080109@ieee.org>
Source record: 116764
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> And do you think you're the only one who understands how a transmission
> line is charged when a source is first applied, or the mechanism by
> which a transmission line transforms impedance?

Sometimes it seems that way, Roy. How can you deny that the energy
in reflected waves exists while at the same time using that same
energy for impedance transformation?
--
73, Cecil http://www.qsl.net/w5dxp

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4765. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:41:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED510EE.B26FCD06@uci.edu>
Source record: 116767

W5DXP wrote:
> You are calling Hecht idiotic????????????? Shame on you!

He doesn't post here.

> Heh, heh, I'm dangerous now that I have my own copy of Hecht.

True. That's what they usually say about someone with a little
knowlege.

> quoting:
> "The interference term becomes I12 = 2*SQRT(I1*I2)cos(theta)"
>
> So the second term, I12, *IS* indeed the term for the magnitude of
> the interference. In fact, you can even solve for the magnitude of
> the interference from the equation
>
> Itot = I1 + I2 + I12
>
> I12 = interference = Itot - I1 - I1 = 2*SRT(I1*I2)cos(theta)

Notice the equation with I12 in it always has other terms, which is
exactly what I have been saying.

Are you ready to agree on this yet, or do you still have some strange
need that remains unfulfilled?

> > One is caused to wonder why you would bring it up yet again after I had
> > explained it to you a dozen times already.
>
> You denied it for a dozen times. You explained it once. And you have yet
> to explain how destructive interference equals zero while, at the same
> time, constructive interference equals 4*I1.

Jezuz Cecil. The irradiance equations describe interference between
waves. There isn't a separate equation for "interference". You really
are truely a deranged individual.

4766. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 19:56:15 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bb3473$5btlo$1@ID-185765.news.dfncis.de>
Source record: 116765
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED51043.4040802@ieee.org...
> Egads, Richard. The reflected waves build up during the transient
> state. Reference Johnson's, "Transmission Lines and Networks", section
> 1.6 Reflections. Without reflected waves, there would be no impedance
> transformation on a feedline. Whatever impedance is presented to the
> source during steady-state is the end result of the transient state.
> That Steady-State Seductress sure does get around. Do you tend her
> Sacred Cows for her?

Maybe he likes a bit of the udder.
;>)
--
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

4767. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 20:01:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vda5c9tdps65e4@corp.supernews.com>
Source record: 116768
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

That's almost like asking if I've quit beating my wife.

Impedance transformation in transmission lines can easily be understood and calculated from voltages and currents, with no need to apportion power or energy to various wave components. My favorite source for the relevant equations is _Reference Data for Radio Engineers_, but you can find the equations and explanations in a large number of sources.

I recommend that you take a good look at those equations. Perhaps it'll help you understand how the rest of the world somehow muddles by without having to subscribe to your energy-apportionment philosophy.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> And do you think you're the only one who understands how a
>> transmission line is charged when a source is first applied, or the
>> mechanism by which a transmission line transforms impedance?
>
>
> Sometimes it seems that way, Roy. How can you deny that the energy
> in reflected waves exists while at the same time using that same
> energy for impedance transformation?

4768. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 20:18:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vda6beqcou9n92@corp.supernews.com>
Source record: 116769

If you coat a wire with a perfect conductor, it doesn't increase the wire's RF loss. If you coat it with a perfect insulator, it doesn't increase the RF loss. But there's an intermediate value of resistivity that *will* increase the loss. It actually boils down to an impedance matching problem (the wire coating having to be "matched" to absorb the maximum amount of power), although the impedances involved aren't obvious or easy to calculate. It's always useful to look at extreme cases in order to get a feel for how certain variables affect others. But for this, you also need to look at intermediate cases. (Another example is ground conductivity for radial ground systems. Very, very good ground and very, very poor ground provide low loss. The loss is maximum at an intermediate value.)

If you coated all the wires in the braid with a perfect insulator, you'd increase the inductance, because of the more circuitous path that the current would have to take. But, as you say, the resistance wouldn't increase. Poor contact and corrosion between strands will, however, increase the resistance.

How important is resistance to a conductor carrying lightning current? Well, keep in mind that although the total current is largely dictated by the inductance, the power dissipated in the wire is I^2 * R, where R is the (RF) wire resistance. So although I'm by no means an expert on lightning matters, I'd think you'd want to keep R pretty small to keep the wire from melting or vaporizing.

I believe Tom Rauch, W8JI, made measurements of braid and solid strap conductivity some time ago, and I think he posted at least some comments about it on this newsgroup. I recommend doing a google search for them. I'd think, though, that braid could vary a great deal depending on condition, so I wouldn't depend too much on any single set of measurements.

Roy Lewallen, W7EL

Tidris wrote:
> In article <quzQEnEOuF1+EAOJ@ifwtech.co.uk>, Ian White, G3SEK
> <G3SEK@ifwtech.co.uk> wrote:
>
>
>>That makes the RF resistance higher than for an equivalent solid strip.
>
>
> I can see that, but how much higher? If a solid thin strap of a a given
> size and length has 0.01 ohm RF resistance while a braid of similar
> dimensions has 0.05 ohm, that is still a much lower value than the
> resistance between a typical ground rod and the ground. Would 0.05 ohms

> be relevant in a circuit that ends with a 25 ohm grounding rod? How
> does the 0.05 ohm resistance compare with the inductive reactance in
> the braid? If the reactance of that braid is 0.50 ohm or higher at the
> frequencies of interest, why worry so much about the resistive side?
>
>
>>If you smear Noalox onto braid, you'll probably only force grease
>>between the strands, and might make the RF resistance worse straight
>>away rather than later.
>
>
> Pretent the wires in the braid are perfectly insulated from each other
> somehow. Is such an imaginary braid incapable of conducting RF because
> there can't be any resistive jumping of current from strand to strand?
> I doubt it. You still have many continuous individual wires going from
> one end of the braid to the other, and there is capacitive and
> inductive coupling among the wires shunting the infinite resistance
> between braid wires.

4769. Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 20:25:48 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bb360c$7b5$1@hercules.btinternet.com>
Source record: 116770

What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
diameter, after it has done its job and cooled off?

What sort of changes take place, if any?

Reg, G4FGQ

4770. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 20:47:50 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <e27adv0bv001nkbpbu5r467q84lve4dafp@4ax.com>
Source record: 116771

On Wed, 28 May 2003 15:50:14 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>I have probably seen 100 times as many pilots violating minimum height
>as I have seen children (much less amateurs) with kites violating
>maximum height. And I had to go to a kite centric park to see them at
>that. I have no doubt that I will spot another low flyer buzz
>overhead within the week, if not the day (Seattle weather being what
>it is, currently cloudy, kites are few, planes are close). I also
>seem to be in a helicopter corridor. The heavy throbbing of rotors
>that quickly doppler past suggest they are quite close. Luckily(?)
>this generally occurs after midnight.

Pilots flying in Class G airspace know all too well what they're
getting in to. Sometimes they do it because there is no practical
alternative. Helicopters in particular are the biggest "offenders"
because low level flight is what they're for.

Just remember this: in a fight between a helicopter and a kite, the
helicopter usually loses. The danger is that the kite line will wrap
around the main rotor. This results in a nearly complete loss of
control. Believe me, most chopper pilots don't want to be down that
low, but they often have no choice if they're to police the city,
serve medivac needs, keep track of traffic, do pipeline patrols and so
forth.

In any case, I know a guy who ran in to a kid's kite. The little girl
was flying a kite right underneath the final approach to an airfield
Her daddy was with her. The pilot managed to make a landing anyway
despite the kite on his cowl and windscreen. The daddy sued the pilot
for emotional distress caused to his daughter. Yes, the daddy was
also a lawyer. He won that case and proved once and for all that you
can violate 14CFR101.7 and still make money. He also proved to any
who had the slightest doubt, the exact nature of a jackass that he
was.

73,

Jake Brodsky, AB3A mailto:frussle@erols.com
"Beware of the massive impossible!"

4771. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:11:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED5261A.91BD4B46@uci.edu>
Source record: 116775

W5DXP wrote:
>
> Jim Kelley wrote:
> > I don't know if it's good. Proper use of interference and irradiance
> > equations would help to explain how energy gets from the source to the load
> > in your paper.
>
> The interference and irradiance equations for light are the same
> as the interference and power equations for RF.

I intended that to mean proper use of irradiance equations involving the interference of waves. I think we have always agreed that they apply to light as well as RF - unless now you're trying to tell me that I don't think that. That could be another equally well founded and rational argument for you to try to start.

> 2*Sqrt(I1*I2)cos(a) is the interference term for light.
> 2*Sqrt(P1*P2)cos(a) is the interference term for RF in
> a transmission line.

Yes, only in that at the inference nodes, antinodes and for any phase angle (a), I = (I1+I2)+(2*SQRT(I1*I2)*cos(a)) and
P = (P1+P2)+(2*SQRT(P1*P2)*cos(a)).

But I really need you to answer the following questions: What do you think we should infer from the magnitude of "interference term" by itself? Even more importantly, what do you think should be inferred from the sign of the "interference term"?

73 de ac6xg

4772. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:32:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED52AE6.6090003@ieee.org>
Source record: 116774

Jim Kelley wrote:
> It should be equally obvious that V4*I4 transfers no energy.

But it does transfer energy from the mismatched load back to
the Z0-match point. That energy will heat up a circulator load
resistor so we can prove that it's there. All your hand waving
doesn't make it disappear.

>>Jim is saying there is no power associated with (s12*a2). Yet
>>|a2|^2 is defined as the power reflected from the load. Once again,
>>Jim contradicts himself.
>
> But Jim never mentioned s12*a2. Specifically he said that energy is not
> transferred by waves V3 and V4 when V3 cancels V4 and I3 cancels I4.

But V4 *IS* s12*a2. If V4 contains no energy, it follows that s12*a2
contains no energy which is obviously false. Your assertions are
just nonsense.
--
73, Cecil http://www.qsl.net/w5dxp

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4773. MN 100 Antenna ICOM per HF

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:33:24 UTC
From: Vittorio <echonet@iol.it>
Message-ID: <2cf5de3bf92576c65da903edd6561504.127793@mygate.mailgate.org>
Source record: 116773

MI ï¿½ stato proposto una antenna MN 100 denominata ANTENNA MATCHER della ICOM con frequenza di lavoro da 1,5 a 30 Mhz . E' , penso , un accordatore di antenna a cui si attacca o un dipolo o una long wire . Costa circa 370 Euro . Ma non riesco a capire se funziona . Secondo quanto viene detto i lati del dipolo o long wire possono essere distesi piï¿½ o meno in ogni modo . Si dice che funzioni bene in nautica , ma io devo usarlo sul tetto in uno spazio limitato .
Qualche consiglio . Grazie . 73 de I3 PDN

--
Posted via Mailgate.ORG Server - http://www.Mailgate.ORG

4774. MN 100 ICOM HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:41:14 UTC
From: Vittorio <echonet@iol.it>
Message-ID: <07597cfd1fe6dfb5236ce8d2d0510a70.127793@mygate.mailgate.org>
Source record: 116776

Anyone can give me some more news about the MN 100 Antenna Matcher ICOM
.
I need of an antenna for using on my roof . They say that this antenna
is used in nautics . It works in theory from 1,5 to 30 MHz .
Anyone have tested it . Thanks for any information .

73 from VITTORIO i3 PDN

--
Posted via Mailgate.ORG Server - http://www.Mailgate.ORG

4775. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:42:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED52D63.2050300@ieee.org>
Source record: 116778

Jim Kelley wrote:
> Jezuz Cecil. The irradiance equations describe interference between
> waves. There isn't a separate equation for "interference".

Of course there is, Jim. Hecht calls it the ***INTERFERENCE TERM***.
What is it about the "interference term" that you don't understand?

Given two component irradiances, the total irradiance is:

Itot = I1 + I2 (plus or minus) the interference term.

The interference term represents the irradiance added by
constructive interference or subtracted by destructive
interference. When the interference is orthogonal, the
interference term is zero and Itot = I1 + I2

Why don't you try reading Hecht for yourself?

The interference term, I12, is equal to Itot - I1 - I2
--
73, Cecil http://www.qsl.net/w5dxp

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4776. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:43:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdabbla7abq282@corp.supernews.com>
Source record: 116777

You're right Ian, braided wire would have higher resistance, like Litz wire, if its strands were insulated. That would be because the current would be crowded in some areas as it swapped from strand to strand by capacitive and inductive coupling, and not as evenly distributed as it would be if the strands were in good contact. I'll retract the earlier statement I made that the resistance wouldn't be increased by insulating the strands. However, I believe the resistance would increase even more if the strands were corroded instead of well-insulated.

Roy Lewallen, W7EL

Ian White, G3SEK wrote:
> . . .

> Likewise litz wire (woven insulated strands) has a higher RF resistance
> than solid wire of the same outside diameter at HF - litz only comes
> into its own at MF/LF when the skin depth is comparable to the strand
> radius.
>
>

4777. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:54:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED53010.80307@ieee.org>
Source record: 116779
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> Impedance transformation in transmission lines can easily be understood
> and calculated from voltages and currents, with no need to apportion
> power or energy to various wave components.

Please explain how voltages and currents can exist without energy.

The wave reflection model indicates that a reflected wave consisting
of Vref and Iref carries an associated power of Vref*Iref joules/sec
and that the ratio of Vref/Iref equals Z0. If one wants to track the
energy components through the system, one MUST assign component energy
to the waves. If one is not interested in tracking the energy components
through the system, one shouldn't engage in a discussion where tracking
the energy components is the subject of the discussion.
--
73, Cecil http://www.qsl.net/w5dxp

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4778. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:59:40 UTC
From: phamilton@cellsource.com
Message-ID: <3ED5314C.FA45EB94@cellsource.com>
Source record: 116780

We use exothermic methods for connections in the cellular industry commonly called Cadweld by trade name. We also use a copper paste instead of nolox for copper to copper connections on buss bars and coax grounds. All of these products are available from http://www.tessco.com to name one reliable distributor. You should be able to buy in small quantity.

The easiest cadweld product to use for small jobs is called the "oneshot" it comes with its own ceramic mold for holding the molten metal as it cools...probably about ~ $5 per shot or less - I think.

If you need some more fills I can ask one of my employees for further info.

p
--
Phillips Hamilton
RF Engineer
http://www.cellsource.com

Ofc. 706-364-5001
Fax 706-364-0642
Cell 706-831-7215

"Put none but Americans on guard tonight." --George Washington

"A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects."

Robert Heinlein

4779. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 21:59:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <89cadvshifkinasqdbhlnd60lnvb3p474q@4ax.com>
Source record: 116781
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 28 May 2003 16:54:24 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Roy Lewallen wrote:
>> Impedance transformation in transmission lines can easily be understood
>> and calculated from voltages and currents, with no need to apportion
>> power or energy to various wave components.
>
>Please explain how voltages and currents can exist without energy.
presumes a fact not offered - more baloney

4780. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:00:12 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED5316C.7793B4BD@uci.edu>
Source record: 116784

W5DXP wrote:
>
> Jim Kelley wrote:
> > It should be equally obvious that V4*I4 transfers no energy.
>
> But it does transfer energy from the mismatched load back to
> the Z0-match point.

But according to the drawing, V4 as defined, only appears at the match point, or between the match point and the source. I claim V4 is cancelled at the match point.

> That energy will heat up a circulator load
> resistor so we can prove that it's there.

I'm assuming you mean to put the circulator between the match point and the load. Of course, putting a circulator in the path will change the system parameters a bit. For example P4 would no longer destructively interfere with P3 owing to the fact that Pref2 would now be directed toward the circulator load resistor instead of the match point. And P2 would no longer interfere constructively with P1, so the power to the load will decrease. I don't think you'd have a Z0 match with a circulator at that point in the circuit. But I do agree you will probably heat up the circulator load resistor - for the reasons I outlined.

If on the other hand, you put the circulator between the source and the match point, obviously its load resistor will not heat up.

But I'm happy to be proven wrong. So do the test, Cecil.

73 de ac6xg

4781. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:06:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED532D1.8050207@ieee.org>
Source record: 116782

Jim Kelley wrote:
> But I really need you to answer the following questions: What do you
> think we should infer from the magnitude of "interference term" by
> itself?

No inference required. The interference term is the magnitude
of the interference equal to 2*Sqrt(I1*I2)cos(a).
(I'm tired of typing theta.)

> Even more importantly, what do you think should be inferred
> from the sign of the "interference term"?

No inference required. Hecht says that a negative sign means
destructive interference and a positive sign means constructive
interference. In fact, one can tell whether the interference
is destructive or constructive by performing the following:

2*Sqrt(I1*I2)cos(a) = I12 = Itot - I1 - I2

If I12 is negative, the interference is destructive. If I12
is positive, the interference is constructive.

Extending it to the QEX article:

2*Sqrt(P1*P2)cos(a) = P12 = Ptot - P1 - P2

If P12 is negative, the interference is destructive. If P12
is positive, the interference is constructive.

Whichever it is, there will be an equal magnitude and opposite
sign of interference on the other side of the Z0-match.
--
73, Cecil http://www.qsl.net/w5dxp

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4782. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:14:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED534DA.343B2EA0@uci.edu>
Source record: 116786

W5DXP wrote:
>
> Jim Kelley wrote:
> > Jezuz Cecil. The irradiance equations describe interference between
> > waves. There isn't a separate equation for "interference".
>
> Of course there is, Jim. Hecht calls it the ***INTERFERENCE TERM***.
> What is it about the "interference term" that you don't understand?

"Notice the equation with I12 in it always has other terms."

> Given two component irradiances, the total irradiance is:
>
> Itot = I1 + I2 (plus or minus) the interference term.

Yes, that's what I've been telling you for at least three weeks.

> The interference term represents the irradiance added by
> constructive interference or subtracted by destructive
> interference.

I think you'll find I've made that same point a couple of times. Once earlier today in fact.

> When the interference is orthogonal, the
> interference term is zero and Itot = I1 + I2

Sure. When cos theta equals zero, (2*SQRT(I1*I2)*cos theta) equals zero.

> The interference term, I12, is equal to Itot - I1 - I2

Correct again, and consistent with what I've been telling you, only with some 2nd grade arithmetic having been applied.

You still haven't told us about the special things you do with the "inteference term" in your paper that aren't in Hecht!

73 de ac6xg

4783. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:17:25 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305281417.26e43aaf@posting.google.com>
Source record: 116783

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<29493-3ED4DEB8-31@storefull-2312.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "The case of lightning is a different animal since it is a huge energy
> jump, as it were from the atmosphere to the innards of the earth---."
>
> Slight error in emphasis here. Lightning is a flashover in a capacitor.
> Charge is concentrated in a surface area (not the innards) of the earth
> and is concentrated in an atmospheric area directly above the earth
> charge. These areas of atmosphere and earth form the capacitor.
>
> Unlike charges attract. Atmospheric movement along the earth`s surface
> drags the earth`s charged area along with it, staying as close as it can
> get to the atmospheric charge.
>
> Ground rod depth is for convenience in getting a conductive connection
> to the earth. Depth increases contact area and probability of contact
> with conductive soil in dry locations. If it weren`t for surface
> resistivity, laying the ground rod on the earth`s surface would be just
> about as good as driving it deep. The code authors also consider the
> probability of disruption of connection to the soil.
>
> Broadcast stations with 120 radials at the surface of the soil typically
> have no problems with ground for the purposes of safety, lightning
> mitigation, or r-f circuit completion. They don`t need and don`t benefit
> from ground rods for the most part. Long-wave stations sometimes use
> rods because radials are short in wavelengths and soil penetration is
> deep in low soil conductivity. This helps with lightning too.
>
> Best regards, Richard Harrison, KB5WZI

Richard,
Can we safely say that there is NO voltage drop or gradient as we
move to the bottom of a coal mine and onwards to the bowels of the
earth ?
I viewed the earth surface as a 'crust' that must be penetrated since
a strike at a tall building is taking the path provided by the depth
thru soil or rock provided by the footings of the building and not its
connection to the surface or crust. I took the side strikes to be
achieving the same effect but avoiding the effects provided by a
higher static 'bleed off point'.
Just a personal thought without any proof or personal knoweledge
derived from books. We learn new things everyday.
Regards

Art

4784. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:28:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED53826.68352F48@uci.edu>
Source record: 116788

W5DXP wrote:
>
> Jim Kelley wrote:
> > But I really need you to answer the following questions: What do you
> > think we should infer from the magnitude of "interference term" by
> > itself?
>
> No inference required. The interference term is the magnitude
> of the interference equal to 2*Sqrt(I1*I2)cos(a).
> (I'm tired of typing theta.)
>
> > Even more importantly, what do you think should be inferred
> > from the sign of the "interference term"?
>
> No inference required. Hecht says that a negative sign means
> destructive interference and a positive sign means constructive
> interference. In fact, one can tell whether the interference
> is destructive or constructive by performing the following:

> 2*Sqrt(I1*I2)cos(a) = I12 = Itot - I1 - I2
>
> If I12 is negative, the interference is destructive. If I12
> is positive, the interference is constructive.

This is great! This is exactly what I've been telling you. You've
finally got it!

> Extending it to the QEX article:
>
> 2*Sqrt(P1*P2)cos(a) = P12 = Ptot - P1 - P2
>
> If P12 is negative, the interference is destructive. If P12
> is positive, the interference is constructive.

> Whichever it is, there will be an equal magnitude and opposite
> sign of interference on the other side of the Z0-match.

What does that mean to you, exactly? Does it mean that you can throw
out the rest of the irradiance equations, infer that power changes
direction because of the minus sign on the "interference term", claim
that P3 and P4 constructively interfere - even with the wrong relative
phase?

Herein lies the major mistaken assumtion in your paper; that the same
two wave components which destructively interfere in one place, must
constructively interfere elsewhere in the system. This is not the

case. Take the laser example I gave. The beam splitter generates two pairs of waves from the two lasers. One pair heads toward the board, and the other pair head in a direction orthogonal to the other. When the two waves heading toward the board destructively interfere, the orthongal waves constructively interfere.

This is analogous to our problem. When P3 and P4 destructively interfere, P2 and P1 constructively interfere. Different sets of waves generated by one source, normal angle of incidence, and two reflective boundaries in this case.

73, ac6xg

4785. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:35:05 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <X6qcnesrX9cGpEijXTWcpw@crocker.com>
Source record: 116785

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bb360c$7b5$1@hercules.btinternet.com...
> What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
> diameter, after it has done its job and cooled off?
>
> What sort of changes take place, if any?
> ----
> Reg, G4FGQ
>
>

depends on the type of material and the strength of the stroke. it could be
anything from no change to vaporized. in most cases though you will
probably see very little effect as the strokes are usually so short there is
little time for heating of the bulk material so it won't look like it was
heated with a torch or partially melted... unless of course it was a really
big stroke!

4786. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 22:43:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdaerfqrhpui34@corp.supernews.com>
Source record: 116787
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Consider my hand slapped. Heaven forbid that someone should discuss transmission lines without doing it *your* way.

I'll now turn control back over to you so you can see to it that the discussion proceeds only in the approved direction. Discuss away!

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Impedance transformation in transmission lines can easily be
>> understood and calculated from voltages and currents, with no need to
>> apportion power or energy to various wave components.
>
>
> Please explain how voltages and currents can exist without energy.
>
> The wave reflection model indicates that a reflected wave consisting
> of Vref and Iref carries an associated power of Vref*Iref joules/sec
> and that the ratio of Vref/Iref equals Z0. If one wants to track the
> energy components through the system, one MUST assign component energy
> to the waves. If one is not interested in tracking the energy components
> through the system, one shouldn't engage in a discussion where tracking
> the energy components is the subject of the discussion.

4787. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 23:44:58 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <280520031644511214%nospam@nospam.come>
Source record: 116789

Thanks everybody for all the advice. I decided to use the 1/2" copper pipe after all. That gives me the solid cross section of 4 awg wire for the DC/LF part of the lightning and twice the surface area of 2 awg solid wire for the HF part. Price is about the same as 4 awg solid wire ($0.25/foot) where I live. I know it isn't as good as $2/foot solid strap but it is what I can afford to use at this time.

4788. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 23:48:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED54AD9.6090107@ieee.org>
Source record: 116790

Jim Kelley wrote:
> But according to the drawing, V4 as defined, only appears at the match
> point, or between the match point and the source. I claim V4 is
> cancelled at the match point.

It is, but V4 is a voltage component that has traveled from the load
to the match point. It cannot do that unless it contains energy. The
energy that carried it from the load cannot just magically disappear
because you have a wet dream.

> But I do agree you will
> probably heat up the circulator load resistor - for the reasons I
> outlined.

So when the energy in V4 begins its rearward journey from the load
to the match point or circulator load resistor, how does it know
not to carry energy to the match point and to carry energy to the
circulator load? It has to know ahead of time whether to carry
energy or not. Your assertions are nonsense.
--
73, Cecil http://www.qsl.net/w5dxp

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4789. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 23:54:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED54C40.5040602@ieee.org>
Source record: 116791

Jim Kelley wrote:
> W5DXP wrote:
>>Given two component irradiances, the total irradiance is:
>>Itot = I1 + I2 (plus or minus) the interference term.
>
> Yes, that's what I've been telling you for at least three weeks.

No, you have been denying that an interference term even exists.
Nice try at obfuscation. Old trick, won't work. Anyone who wants
to can go back and read what you actually said. Your denials of
what you said and your continuous contradictions is why I
broke off email contact with you. I don't see any rational reason
to proceed with this discussion.
--
73, Cecil http://www.qsl.net/w5dxp

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4790. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-28 23:58:04 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bb3iec$m6p$1@slb6.atl.mindspring.net>
Source record: 116792

Reg:

When I lived in Atlanta, GA a few years ago I had a "random length" dipole made of "RadioWare" flexible copper wire [about #14 AWG wire] fed with 450 Ohm window ladder line strung between the house and a big yellow southern pine tree about 130 feet away from the house.

We had a direct hit by lightning while we were out of the home one afternoon.

After that GA summer thunderstorm passed, and we returned home, we found the nylon ropes which normally supported said antenna on the house and in the trees with the end insulators still attached swinging in the breeze!

The rest of the antenna was nowhere to be seen! Never found a trace of copper or plastic again.

Of course, as I was not at home at the time, the 450 Ohm window ladder feed line was, as usual, disconnected and left lying on the ground about 60 feet from the back of the house.

There was a "hole" in the ground about 1/2 foot deep and 2 feet in diameter where the end of the feedline was resting when the stroke hit.

The antenna and feed line had clearly been completely vaporized!

In the house, three telephones and one modem were ruined and all of those devices as well as my electronic garage door opener at the front of the home and never worked again. Only one phone survived, and that was an old AT&T 2000 touch tone set. Tough phone I guess.

So that's it... a direct hit from a GA lightning storm will definitely vaporize number 14 antenna wire and 450 Ohm window ladder line.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bb360c$7b5$1@hercules.btinternet.com...
> What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
> diameter, after it has done its job and cooled off?
>
> What sort of changes take place, if any?
> ----
> Reg, G4FGQ
>
>

4791. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:01:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED54DD9.2080805@ieee.org>
Source record: 116793

Jim Kelley wrote:
>
> W5DXP wrote:
>>If I12 is negative, the interference is destructive. If I12
>>is positive, the interference is constructive.
>
> This is great! This is exactly what I've been telling you. You've
> finally got it!

BS, Jim. You have argued loud and long against the above which I have stated time and time again. What a way to try to save face - tell me you agreed with me all along.

> Herein lies the major mistaken assumtion in your paper; that the same
> two wave components which destructively interfere in one place, must
> constructively interfere elsewhere in the system.

As you know, it is NOT the same two wave components nor have I ever said it was. That's just a straw man of yours.

> This is analogous to our problem. When P3 and P4 destructively
> interfere, P2 and P1 constructively interfere.

This is exactly what I say in my article and you have been arguing with that statement of mine for months.
--
73, Cecil http://www.qsl.net/w5dxp

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4792. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:27:07 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <v6udnZVPKc67yUijRTvU3Q@comcast.com>
Source record: 116794
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Cecil

Kind of having trouble following this thread, but are you forgetting that
your antenna will keep radiating for a second after you turn the transmitter
off?

Tam/WB2TT
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED3C313.9080405@ieee.org...
> Roy Lewallen wrote:
> > There's really only 100 watts coming out of the transmitter. By
> > mathematical trickery, we can separate this into 278 watts of "forward"
> > power and 178 watts of "reverse" power on a line having a 9:1 SWR.
>
> It's *NOT* mathematical trickery, Roy. If you will calculate the number
> of microjoules generated but not absorbed by the load, you will
> find that exactly the proper amount of energy has been generated that
> it takes for the stored energy in the transmission line to accomplish
> the impedance transformation function.
>
> It's a simple mental experiment to make a lossless feedline one second
> long so that the number of watts and the number of joules are the same.
>
> With a one second long feedline, during steady-state, exactly
> 279 joules + 178 joules = 456 joules have been generated that have
> not been radiated/dissipated by the load. It's a simple conservation
> of energy problem *and* solution. Saying it is "mathematical trickery"
> is just one of the Sacred Cows of ham radio that needs to be slaughtered.
> You can easily verify what I am saying by accounting for the joules
> during the transient state.
>
> During the buildup from key-down to steady-state, 456 joules of
> generated energy have been stored in the one-second long feedline.
> During steady-state, while the generator is generating 100 joules/sec
> and the load is accepting 100 joules/sec, there still exists 456 joules
> of energy in the feedline supporting the impedance transformation.
>
> This is an example of my earlier assertion that virtually all RF
> engineers have been seduced by the steady-state model.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>

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4793. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:36:32 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <ckkadvk2qnan0u3eueao4rpqlua9nurmio@4ax.com>
Source record: 116795

On Wed, 28 May 2003 15:28:18 +0000 (UTC), Jim Pennino
<jimp@specsol.com> wrote:

>
>Shall I go on?

No. You're convinced you're right, and I'm convinced I'm right.

>
>> OK - how many people died on the Hindenburg, and how many people have
>> died in rear-end collisions which ruptured the gas tank (Ford Pintos,
>> Crown Vics, etc.)???? Yeah, that's probably not a fair comparison,
>> but we use gasoline every day, and it's a heck of a lot more dangerous
>> than hydrogen.
>
>Yeah, sure it is; that's why the hydrogen transport trucks have those
>big signs saying "This truck safer than a gasoline truck".

And the gasoline trucks have signs "This truck is safer than a
hydrogen truck". And the LPG trucks say "This truck is safer than
gasoline trucks and hydrogen trucks". They're all a bit on the
dangerous side when on the road.

>
>BTW, 36 died in the ONE zepplin accident; I could only find 4 deaths
>for all the Pinto crashes.

Did you check on the Crown Vics? How about the trucks from a few
years ago (don't remember which manufacturer) that had problems
with fires after side impacts? (never mind - that's getting way
off topic.)

A balloon full of hydrogen will *not* explode if ignited. Hold
a match to it, the balloon will pop and the hydrogen will burn.
No big bang, just a little bit of a "whoof" sort of sound. (I
was very disappointed when I tried it.)

-fb-

4794. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:47:33 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED558A5.C8E18443@cwis.net>
Source record: 116796

Reg,
I don't know. Never could find enough to tell
what was surface, or interior...
'Doc

4795. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:50:09 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdamb0iovt8l69@corp.supernews.com>
Source record: 116797

Within the last week on TV from Austin, TX:
Lightning strike to tree: Tree explodes blowing wood shrapnel through a
house.
I saw the video. Boil the water; Blow up the tree. No one died.
My oldest strike recollection was a cotton field on my father's farm in '57;
A 100 foot radius circle was devoid of vegitation. Just dirt.
Amazing we're fighting over oil with all that free energy out there.
Now if I can just turn it into potential, storable energy.
Sigh.
73
H.
NQ5H

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:bb3iec$m6p$1@slb6.atl.mindspring.net...
> Reg:
>
> When I lived in Atlanta, GA a few years ago I had a "random length" dipole
> made of "RadioWare" flexible copper wire [about #14 AWG wire] fed with
450
> Ohm window ladder line strung between the house and a big yellow southern
> pine tree about 130 feet away from the house.
>
> We had a direct hit by lightning while we were out of the home one
> afternoon.
>
> After that GA summer thunderstorm passed, and we returned home, we found
the
> nylon ropes which normally supported said antenna on the house and in the
> trees with the end insulators still attached swinging in the breeze!
>
> The rest of the antenna was nowhere to be seen! Never found a trace of
> copper or plastic again.
>
> Of course, as I was not at home at the time, the 450 Ohm window ladder
feed
> line was, as usual, disconnected and left lying on the ground about 60
feet
> from the back of the house.
>
> There was a "hole" in the ground about 1/2 foot deep and 2 feet in
diameter
> where the end of the feedline was resting when the stroke hit.
>

> The antenna and feed line had clearly been completely vaporized!
>
> In the house, three telephones and one modem were ruined and all of those
> devices as well as my electronic garage door opener at the front of the
home
> and never worked again. Only one phone survived, and that was an old AT&T
> 2000 touch tone set. Tough phone I guess.
>
> So that's it... a direct hit from a GA lightning storm will definitely
> vaporize number 14 antenna wire and 450 Ohm window ladder line.
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:bb360c$7b5$1@hercules.btinternet.com...
> > What is the surface appearance of a lightning conductor, say 0.1" or
0.2"
> > diameter, after it has done its job and cooled off?
> >
> > What sort of changes take place, if any?
> > ----
> > Reg, G4FGQ
> >
> >
>
>

4796. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 00:53:52 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED55A20.A61C730B@cwis.net>
Source record: 116798

Tidris,
Aluminum will work just fine. Bit harder to amke
good connections to, but not that difficult.
'Doc

4797. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 01:16:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED55F59.4070201@ieee.org>
Source record: 116799
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Tarmo Tammaru wrote:
> Kind of having trouble following this thread, but are you forgetting that
> your antenna will keep radiating for a second after you turn the transmitter
> off?

Nope, in fact, I said that in one of my other postings. All the energy stored
in the system will go somewhere during the transient period after the transmitter
is shut off.

The point is that the reflected power and re-reflected power existing during
the steady-state was put there before the output of the transmitter equaled
the power reaching the load. Any energy stored in the system is energy generated
by the source and not radiated/dissipated yet.
--
73, Cecil http://www.qsl.net/w5dxp

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4798. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 01:49:45 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305281749.2fd9fd45@posting.google.com>
Source record: 116800

"David Robbins" <k1ttt@arrl.net> wrote in message
news:<X6qcnesrX9cGpEijXTWcpw@crocker.com>...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:bb360c$7b5$1@hercules.btinternet.com...
> > What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
> > diameter, after it has done its job and cooled off?
> >
> > What sort of changes take place, if any?
> > ----
> > Reg, G4FGQ
> >
> >
>
> depends on the type of material and the strength of the stroke. it could be
> anything from no change to vaporized. in most cases though you will
> probably see very little effect as the strokes are usually so short there is
> little time for heating of the bulk material so it won't look like it was
> heated with a torch or partially melted... unless of course it was a really
> big stroke!

It is my understanding that lightning when hitting a concrete road can
impart enough heat at the point of impact that the concrete will
expand in a localised area, dome upwards and break leaving a cavity,
suggesting that the heat transfer is massive but of short time
duration.
Art

4799. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 02:03:32 UTC
From: K7JEB <k7jeb@arrl.no_spam.net>
Message-ID: <UTdBa.178067$ja4.9115667@bgtnsc05-news.ops.worldnet.att.net>
Source record: 116801

Mark Keith, NM5K, wrote:

> ..... The good thing about using a
> tuner for receive is it helps further clean the radio up a bit.
> Reduces "out of band" signals. MK

Just to amplify that remark a bit: I live about
half a mile from a 50 kW BC station on 1360 kHz.
If I didn't have my Heathkit 2060 (a C-L-C
high-pass-type matching network) in-line all the
time, both my rigs would be overloaded on receive
and I would be fighting funny mixing products all
up and down the HF spectrum. 80 and 160 would
be totally unusable. So a tuner does help greatly
on receive in this, admittedly extreme, case.

I have also noticed that modern transceivers, much
more so than older, vacuum-tube receivers, present
the antenna input with a 50-ohm load on receive.
It has been my experience that matching the antenna
to this load produces more signal strength. The
old receivers tended to have an input impedance
closer to 300 ohms and didn't seem to respond one
way or the other to attempts at matching them to
the antenna.

Jim, K7JEB
(e-mail addr OK on QRZ.com)

4800. Re: Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 02:15:37 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <rvqadvgh7cm0mpcocrifmigqjvmqukjeji@4ax.com>
Source record: 116802

On Wed, 28 May 2003 08:08:23 -0400, "Robert11" <rgsrose@tiac.net>
wrote:

>Hello:
>
>Have a JRC NRD 545, but am a newbie re using it.
>But, the folowing question is probably general in scope, irrespective of
>receiver, I would think.
>
>Could someone explain, please, the difference in attenuating a "too strong"
>input signal
>by using the radio's Attenuator (button; -20 db) vs just turning down the rf
>gain pot ?
>
>I understand that the attn works immediately at the antenna input, and the
>rf gain pot on the IF,
>but when, and under what conditions, would one use each ?
>
>Thanks,
>Bob

I'm sure everyone does it a little differently, but what I generally
do, is I turn the rf gain counterclockwise until the s-meter starts to
deflect, then I turn the rf gain clockwise, so it's riding just above
the signal(s), without deflecting the s-meter. I then use the af gain
to control the audio level, and the tone control to control the
crispness of the signal.

I find with every band, I generally have to readjust the rf gain.

The only time I use the input attentuator is when a super-strong
signal is overloading the receiver.

Others may do it differently, but to each his own...

Bob
k5qwg

4801. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 02:28:27 UTC
From: richardharrison@webtv.net
Message-ID: <9542-3ED5704B-101@storefull-2316.public.lawson.webtv.net>
Source record: 116803

Art, KB9MZ wrote:
"Can we say there is NO voltage drop or gradient as we move to the bottom of the coal mine and ground bowels of the earth?"

Your speculation is as good as mine. Surely charge concentrates on the surface of the earth, attracted by the opposite charge overhead. Surely excess surface charge then tends to reject the charge deeper down. Surely there results a variation of charge density with depth below the soil surface under the charged cloud overhead. But, how the charge density varies with depth, I don`t know. Soil has a dielectric constant which paradoxically is a variable.

During the discharge or equalization, as the surface charge becomes neutralized, it becomes less repulsive to the charge down below. Plenty of charge from the deep is available to neutralize additional charge of the opposite persuasion arriving out of the blue or gray or whatever. Sooner or later, supply depleion overhead breaks off the charge flow.

Art mentioned gradient, which is potential difference across a distance. It is gradient which triggers a discharge and which triggers changes in direction of the lightning path and the side flashes that Art mentioned. Gradient is a variable`s rate of change along a distance scale. There must be a voltage drop or gradient as we get to the bottom of things.

Best regards, Richard Harrison, KB5WZI

4802. Re: Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 02:47:47 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3ED574D3.6060107@oda.com.au>
Source record: 116804

Robert11 wrote:
> Hello:
>
> Have a JRC NRD 545, but am a newbie re using it.
> But, the folowing question is probably general in scope, irrespective of
> receiver, I would think.
>
> Could someone explain, please, the difference in attenuating a "too strong"
> input signal
> by using the radio's Attenuator (button; -20 db) vs just turning down the rf
> gain pot ?
>
> I understand that the attn works immediately at the antenna input, and the
> rf gain pot on the IF,
> but when, and under what conditions, would one use each ?
>

A really simple explanation:

Your radio is not perfect (don't get upset, nor is anyone else's).

One of the imperfections is that it is nonlinear and that that the
desired signal may mix with other undesired signals that are outside the
channel passband, and produce mixing products that are within the
channel passband and interfere with the desired signal.

When you insert an attenuator at the very front of the receiver, it
reduces the strength of both the desired signal and the undersired
signals, the the mixing products fall in amplitude by more than the
attenuation inserted, so improving the ratio of the desired signal to
undesired mixing products. Of course, this will only be useful if the
desired signal is strong enough relative to the receiver's internal
noise to afford to reduce the input signal to that extent.

Owen

4803. Re: "Dan/W4NTI" w4nti@mindspring.com trolls CB groups

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 03:14:34 UTC
From: Transhark <trans@craniu.com>
Message-ID: <BfidnTZfleqB5kijXTWcoA@comcast.com>
Source record: 116805
Cross-posted to: alt.radio.cb.skip,rec.radio.amateur.antenna,rec.radio.cb

Doing a little trolling ther Mr. Moped?

<Moparholic@hotmailnospam.com> wrote in message
news:20030528205855.452$Q0@newsreader.com...
> Moparholic@hotmailnospam.com wrote:
> > Moparholic@hotmailnospam.com wrote:
> > >
> > Danny boy w4nti@mindspring.com has been quiet.
> >
> > I'm sure he is lurking though.
> >
> Hi Dan.
>
> --
> GO# 40
> ---
> http://NewsReader.Com/
> 50 GB/Month

4804. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 03:42:00 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3ED5818C.7080002@get.lost>
Source record: 116806

CW wrote:
> It was the higly combustable aluminized paint that was the downfall of the
> Hindenburg, not the gas.

Yes... I, too read that report from the Hydrogen manufacturers. It
really makes no difference what caught on fire *first*...

73 ... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

4805. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 04:13:00 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305282013.58ee53be@posting.google.com>
Source record: 116807

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote in message
news:<20030528000351.07482.00000398@mb-m22.aol.com>...
> >But!, did you try totally unhooking the tuner from the circuit when
> >testing with "no tuner"? The misstuned tuner will make the antenna
> >much deader than it would be if the tuner was not there at all. That
> >could skew the results. Also,the S meter reading doesn't mean much.
> >The actual s/n ratio is what matters. MK
>
> No, I left the tuner in place. The S meter DOES matter. As the S meter strength
> went up, the receive was stronger and more easily understood. Thus is the
> nature of the S meter.

The effect would be the same even if you cut the gain in half, or even
worse.
The s/n ratio should not really change. It will if you leave the tuner
inline though. That is not a fair test, as it's acting as an
attenuator on freq's it's not tuned to. Thats not the same as "no
tuner". The S meter is just a relative indicator and not an indicator
of s/n ratio. If you had an antenna and a certain signal was S 9, and
then you used an attenuator to reduce the signal down to S 5 on the
meter, what you hear would sound the same. The s/n ratio would be the
same. As long as you didn't look at the meter, you wouldn't hear any
difference. The desired signals relation to the noise is not changed.
The noise level is 4 S units less also. Anyway, what the meter says,
doesn't mean much. It can be set to read nearly anything... It's
natural that the stronger the signal, the better the copy, but it's
not the nature of the S meter. It's the nature of a desired signal's
level increasing against a steady noise level. MK

4806. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 05:00:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdb4v8de6ir4f6@corp.supernews.com>
Source record: 116808

It's easy to get confused about signal strength, signal-to-noise (S/N) ratio, and S-meter readings.

The following applies primarily to HF, and there are some exceptions, which I'll cover at the end.

If a station you're listening to turns up its power, its signal of course increases in strength at your receiver. Your S-meter indication goes up, and the signal gets easier to copy. So it's easy to think that an increased S-meter reading means that a signal is easier to copy. But that's not necessarily so. If you put an amplifier between your antenna and receiver, that'll increase the S-meter reading too. But it won't make the signals any easier to copy. When the station increased its power, it became louder but the atmospheric noise and QRM stayed the same. So the S/N ratio improved, making the signal easier to copy. But when you put the amplifier in line, it increased the signal and noise the same amount, so there was no improvement in your ability to copy. You could have accomplished exactly the same thing simply by turning up the receiver volume control.

Improving the impedance match between the antenna and the rig has the same effect as an amplifier -- it increases both the signal and the noise. So it doesn't help S/N ratio. The only real way to improve S/N ratio at the receiver is with a directive antenna that's more responsive in the direction that the desired signal is coming from than it is in the direction(s) that noise is coming from. Even if noise is coming equally from all directions, a directional antenna will help if you can point it toward the signal, because it'll still reject noise from some directions. Noise cancelling antennas are special cases of directional antennas.

Now, here are the exceptions. The above analysis assumes that the atmospheric noise is greater than the receiver's internal noise. Unless the receiver is particularly bad, or the antenna and/or impedance match pretty terrible, this is usually true at HF. It's easy to tell if it's so -- just disconnect your antenna and see if the noise level drops. If it does, then atmospheric noise dominates, and the above analysis applies. If it doesn't, then it *will* help to improve the impedance match or add gain ahead of the receiver -- but only to the point where the atmospheric noise is greater than the receiver noise. After that, more gain or a better match won't help.

At VHF and above, receiver noise usually dominates, so the above analysis doesn't apply. When receiver noise dominates, a better impedance match always helps. Gain ahead of the receiver will help also, but only if the noise figure and gain of the amplifier are sufficient to

improve the system noise figure.

Finally, preselection can help if the receiver is being affected by out of band signals. This can happen if you have a very strong local out of band station or if your receiver's front end is poorly designed. These spurious responses will often take the form of "birdies", strangely modulated signals, modulation of legitimate signals, signals that tune at a different rate than normal, or modulation that's heard in the background and doesn't tune at all. A preselector (tuned circuit) ahead of the receiver will reduce or eliminate these responses. An antenna tuner will often, but not always, help, since it improves the match at the desired frequency but not so much at most other frequencies. An amplifier is absolutely the wrong thing to do for this kind of problem. An attenuator is an alternate cure, unless it brings the atmospheric noise down below the receiver noise level. These spurious responses are due to nonlinear processes in the receiver, so an attenuator will reduce the spurious products to a greater extent than legitimate signals, improving the legitimate signal-to-spurious signal ratio.

Incidentally, this is also why increasing transmit antenna efficiency improves communication, while increasing receive antenna efficiency doesn't usually help at HF. Increased transmit antenna efficiency is equivalent to the other station turning up its power, and increases the strength of the received signal. Increased receive antenna efficiency is equivalent to adding an amplifier between the antenna and receiver, and increases both the received signal and received noise.

Roy Lewallen, W7EL

4807. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 07:21:00 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <290520030020532983%nospam@nospam.come>
Source record: 116809

In article <3ED55A20.A61C730B@cwis.net>, 'Doc <w5lz@cwis.net> wrote:

> Aluminum will work just fine. Bit harder to amke
> good connections to, but not that difficult.

I think the biggest problem with aluminum flashing is that it can't be
in contact with dirt because it corrodes quickly in that case.

4808. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 11:08:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED5EA26.1050102@ieee.org>
Source record: 116810

Jim Kelley wrote:
> This is analogous to our problem. When P3 and P4 destructively
> interfere, P2 and P1 constructively interfere. Different sets of waves
> generated by one source, normal angle of incidence, and two reflective
> boundaries in this case.

Correction: Power doesn't interfere. Voltages interfere and
currents interfere.

Given the s-parameter equations:

b1 = s11*a1 + s12*a2 equivalent to Vref1 = rho*Vfwd1 + tau*Vref2

b2 = s21*a1 + s22*a2 equivalent to Vfwd2 = tau*Vfwd1 + rho*Vref2

If s11*a1 = -s12*a2 such that b1 = zero, you are saying there is no
energy in s11*a1 and s12*a2, the canceled waves.

It therefore logically follows that there can be no energy in a1 and a2.
If there is no energy in a1 and a2, then b2 must also be zero but
we know that b2 is not zero. Your premise leads directly to a
contradiction.

Therefore, your premise is wrong. If there was no energy in the
canceled waves, there couldn't be any energy in the forward wave
either but we know there is.

The destructive interference energy in the rearward direction feeds
the constructive interference in the forward direction such that:

Ptot = P1 + P2 + 2*Sqrt(P1*P2) QEX article, equation 13

Since P3/P1 = P2/P4 = rho^2, then P1*P2 = P3*P4

Ptot = P1 + P2 + 2*Sqrt(P3*P4) Note: P3 = P4 so

Ptot = P1 + P2 + P3 + P4

Ptot = rho^2*Pfwd1 + rho^2*Pref2 + (1-rho^2)Pfwd1 + (1-rho^2)Pref2

Ptot = Pfwd1 + Pref2

The total power incident upon the load in a matched system is equal
to the forward power plus the reflected power. Imagine that.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!

------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4809. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 11:42:20 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed5ebc1.274787@news.melbpc.org.au>
Source record: 116811

Mark Keith <nm5k@wt.net> wrote:

>Gary Schafer wrote:
>>
>> If it is going to be used outside you are better off with solid wire
>> or strap. The problem with braid (being the worst) and stranded wire
>> is that it corrodes more. You need to occasionally renew the
>> connections in your ground system. Braid or stranded wire is all but
>> impossible to clean properly for a new connection after it has
>> corroded.
>
>Another reason is the increased resistance due to the weave of the
>braid. Has something to do with the dives in and out of the braid that
>the rf must take, being lightning is RF,

That's debatable. Each stroke is a short duration
pulse of unidirectional current. It doesn't flow backwards
and forwards like AC.

> and skin effect applies. 4 inch
>copper strap is usually the recommended ground strap for lightning use.
>Flat strap is better than pipe or tubing. It conducts on both sides.

I suggest you analyse a model of both the wide strip
and the tube for a single very large short duration pulse of
current, and also for continuous r.f.

At r.f. the current tends to concentrate on the
outer edges of the strip, so a narrow strip will carry just
as much r.f current as a wide one. For low frequencies it's
the cross section area that matters.

>The tubing won't conduct on the inside. Only the outside. MK

This is another urban myth. The current density
drops as you move in from the surface, and if the total
current is large enough there will be appreciable current
flowing on the inner surface of the tubing.

Alan.

4810. Help with SONY ICF2001D/ICF 2010

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 12:29:57 UTC
From: Leader of The Lower Sideband <Roxy.Muzak@gmx.net>
Message-ID: <3ed5fd4a_2@news.arcor-ip.de>
Source record: 116812

G'day out there,

I've just bought an ICF-2001D. I'd like to know about your positive &
negative experiences with antennas.
Is there any antenna-equipment that significantly improves reception?
Looking forward to get your opinions...

4811. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 12:39:00 UTC
From: richardharrison@webtv.net
Message-ID: <25341-3ED5FF64-235@storefull-2317.public.lawson.webtv.net>
Source record: 116813

Alan Fowler wrote:
"This is another urban myth (tubing won`t conduct on the inside)."

Ever drive through a tunnel while tuned to a medium-wave station? The signal disappears. The tube is a wave guide below cut-off (frequency at which the diameter is approx 1/2-wave).. Mark is right. R-F stays outside the pipe.

Lightning has a large r-f component.

Best regards, Richard Harrison, KB5WZI

4812. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:02:11 UTC
From: wess@gtii.com
Message-ID: <vdc15mkjosngf0@corp.supernews.com>
Source record: 116814

'Doc <w5lz@cwis.net> wrote:

>
>
>Jack,
> Ought to work okay. A few things on the practical
>side. Forget the #22 wire, might work just fine as an
>antenna but not for a tether. A few healthy tugs on the
>#22 wire and it's history, the wind can give a balloon
>quite a 'tug'. If you get a chance, stop at that car
>dealership and see the size line holding those balloons.
> 'Doc

I'm thinking that wire + some high tech fishing line as a backer might
be the ticket.

Wes

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4813. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:05:36 UTC
From: wess@gtii.com
Message-ID: <vdc1c55dnipm3d@corp.supernews.com>
Source record: 116815

Heck, they had smoking areas on the dirigables. If they felt they
could vent things to deal with out gassing of a big gas bag and still
let passengers smoke, it can't be as bad as some think.

Wes

"CW" <clinton.magers@attbi.com> wrote:

>It was the higly combustable aluminized paint that was the downfall of the
>Hindenburg, not the gas.
>"Zoran Brlecic" <...WA7AA...@get.lost> wrote in message

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4814. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:08:37 UTC
From: wess@gtii.com
Message-ID: <vdc1hpluogfo80@corp.supernews.com>
Source record: 116816

funkbastler <funkbastler@eudoramail.com> wrote:

>On Tue, 27 May 2003 18:02:51 -0400, "Tarmo Tammaru"
><t-tammaru@home.com> wrote:
>
>>I don't know if you can buy it in small quantities, but hydrogen is a lot
>>cheaper than helium. Should be safe enough to use outdoors. It also has more
>>lift, but will leak out faster. BTW, don't forget the 250 foot rule.
>>
>
>You can always make a hydrogen generator with a two-liter pop bottle
>and some muriatic (hydrochloric) acid. Dilute the acid a bit with
>water, add some aluminum scraps, and put a balloon over the top of
>the bottle. In a few minutes the balloon will be inflated with
>hydrogen. Not the safest thing to be playing with, but it works.
>
>You should be able to find muriatic acid at the local swimming pool
>or hardware store.
>
>What's the 250 foot rule???
>
>-fb-

I think it is height of antenna. Could be wrong but probably not.

As far as aluminum scraps, if you live near northern michigan, I can
get you all you want for free. We turn a lot of aluminum castings and
do interupted cuts whice make some nice fine small pieces. You might
need to clean the coolant off.

Wes

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4815. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:11:45 UTC
From: wess@gtii.com
Message-ID: <vdc1nnka74d7d2@corp.supernews.com>
Source record: 116817

Jake Brodsky <frussle@erols.com> wrote:

>In any case, I know a guy who ran in to a kid's kite. The little girl
>was flying a kite right underneath the final approach to an airfield
>Her daddy was with her. The pilot managed to make a landing anyway
>despite the kite on his cowl and windscreen. The daddy sued the pilot
>for emotional distress caused to his daughter. Yes, the daddy was
>also a lawyer. He won that case and proved once and for all that you
>can violate 14CFR101.7 and still make money. He also proved to any
>who had the slightest doubt, the exact nature of a jackass that he
>was.
>
>73,

You have a cite on that? I'd like to read that one.

73, Wes, kc8spr

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4816. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:18:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdc24na9o3ml79@corp.supernews.com>
Source record: 116818

They're both right. Looking at skin effect in the time domain, what happens when current is applied is that it initially flows only on the surface. Then as time goes on, it penetrates more and more deeply. Eventually, it reaches the DC condition where the current is equally distributed at all depths. So, depending on how long the lightning strike lasts, the current can be nearly all on the surface, or a significant amount can penetrate fairly deeply by the end of the stroke. And although we usually consider current at 5 skin depths to be insignificant at 0.67% of the surface density, or -43 dB, if there's 10,000 amps at the surface, there'll be 67 amps at 5 skin depths. So the current on the inside of a thin wall pipe might or might not be significant during a lightning stroke.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Alan Fowler wrote:
> "This is another urban myth (tubing won`t conduct on the inside)."
>
> Ever drive through a tunnel while tuned to a medium-wave station? The
> signal disappears. The tube is a wave guide below cut-off (frequency at
> which the diameter is approx 1/2-wave).. Mark is right. R-F stays
> outside the pipe.
>
> Lightning has a large r-f component.
>
> Best regards, Richard Harrison, KB5WZI
>

4817. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:21:27 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030529092127.08822.00000128@mb-m16.aol.com>
Source record: 116669

> If you had an antenna and a certain signal was S 9, and
>then you used an attenuator to reduce the signal down to S 5 on the
>meter, what you hear would sound the same.

I'm not sure what radios you have used in the past, but the sound of an S9 signal compared to that of an S5 signal is noticable to me in most cases without looking at the meter. You're really splitting hairs with the whole s/n thing. The idea is that the stronger an S meter reads someone, the better copy you're going to have on them. At least that is my experience. An S1 signal sounds much worse than an S9+20 signal.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

4818. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 13:48:05 UTC
From: richardharrison@webtv.net
Message-ID: <26353-3ED60F95-174@storefull-2315.public.lawson.webtv.net>
Source record: 116670

Cecil, W5DXP wrote:
"The total power incident upon the load in a matched system is equal to the forward power plus the reflected power."

That`s a puzzlement. A general statement doesn`t need a condition ("in a matched system"). In the specific case ("in a matched system"), where does the reflected power come from? Or, does this apply to the 1/2-wave alien line imbeded in an otherwise matched system?

Best regards, Richard Harrison, KB5WZI

4819. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 14:32:47 UTC
From: richardharrison@webtv.net
Message-ID: <26353-3ED61A0F-178@storefull-2315.public.lawson.webtv.net>
Source record: 116673

Roy, W7EL wrote:
"Improving the impedance match between the antenna and the rig has the same effect as an amplifier---."

Not exactly. Tuners used by amateurs are tuned. Match occurs at the resonant frequency. The antenna is mismatched at other frequencies and rejects / re-radiates more than 50% of the captured off-frequency energy. This decreases received bandwidth and noise. It helps S/N.

Best regards, Richard Harrison, KB5WZI

4820. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 14:35:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED61ACF.4040507@ieee.org>
Source record: 116672

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "The total power incident upon the load in a matched system is equal to
> the forward power plus the reflected power."
>
> That`s a puzzlement. A general statement doesn`t need a condition ("in a
> matched system").

I was talking about a matched system and it is true for a matched system.
That doesn't imply that it's not true for non-matched systems. Again, I
was simply sticking with the stated boundary conditions.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4821. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 14:36:55 UTC
From: K3UD <K3UD@charter.net>
Message-ID: <290520030936557016%K3UD@charter.net>
Source record: 116671

In article <72smcvglt9jq58m9tam999c69v9cr74f70@4ax.com>, Ken
<cprstn54zz@att.net> wrote:

> As you tune your antenna for SWR=1.0, the received signal becomes
> significantly louder.
>
> Does this mean that a tuned antenna will give you better reception?
> Or will a decent radio be able to pull the same quality signal from
> the same antenna without the tuner?
>
> Ken KC2JDY
>

I have two very local AM broadcast stations in the upper part of the BC
band and on 160 meters using an old TS-520s I get some images across
the160 band without the tuner in line. With the tuner, these images
vanish. In my case, the tuner (Drake MN4-C) is acting like a passive
preselector on receive although there is most likely some loss
involved.

73
George
K3UD

4822. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 15:21:51 UTC
From: richardharrison@webtv.net
Message-ID: <22895-3ED6258F-34@storefull-2318.public.lawson.webtv.net>
Source record: 116674

Andy, KC2SSB wrote:
"---an S9 signal compared to that of an S5 signal is noticeable to me in most cases without looking at the meter."

Sure. Your signal is stronger at S9 and the noise is often the same as at S5 so the S/N is better at S9.

A non-selective amplifier ahead of the receiver amplifies noise and signal. It may leave the S/N unchanged. That`s fine so long as the noise doesn`t drown the signal to start, or if you have some process to separate the signal from the noise after reception.

Signals received by different antennas on the same site but separated by some distance may receive the same noise but greatly different desired signal strengths at any instant. Selection of the best antenna at the moment (usually the best antenna / receiver combo) can dramatically improvee the signal to noise ratio.

When the noise is QRM, selection of the upper or lower sideband of an AM signal is often a big help. That is a big reason for clinging to AM for many commercial sky-wave relay systems.

Best regards, Richard Harrison, KB5WZI

4823. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 15:53:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED62D13.11F019A4@uci.edu>
Source record: 116675

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Given two component irradiances, the total irradiance is:
> >>Itot = I1 + I2 (plus or minus) the interference term.
> >
> > Yes, that's what I've been telling you for at least three weeks.
>
> No, you have been denying that an interference term even exists.

That is simply ridiculous.

> Nice try at obfuscation. Old trick, won't work. Anyone who wants
> to can go back and read what you actually said.

How about a quote? I've always understood exactly what the equations
said.

> Your denials of
> what you said and your continuous contradictions is why I
> broke off email contact with you.

The only thing I've ever denied is what YOU said, not what I said.

You're really off the deep end, OM.

4824. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 16:20:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED6335C.C059C338@uci.edu>
Source record: 116677

W5DXP wrote:
>
> Jim Kelley wrote:
> > But according to the drawing, V4 as defined, only appears at the match
> > point, or between the match point and the source. I claim V4 is
> > cancelled at the match point.
>
> It is, but V4 is a voltage component that has traveled from the load
> to the match point. It cannot do that unless it contains energy.

This idea of "containing energy" is not well flushed out for you, Cecil. The transfer of energy - moving energy from one point to another - is what constitutes 'power'.

V4 does not travel from the load. It is wave component which is defined and evaluated as Pref2 encounters the match point. It is a field potential, but if that field potential is cancelled by another equal and opposite field potential, no energy is transferred. You claim in your paper that V4 is out of phase with V3 do you not? I think that is correct. Do you now deny that those fields cancel one another?

Were you unable to understand the laser example?

> > But I do agree you will
> > probably heat up the circulator load resistor - for the reasons I
> > outlined.

> So when the energy in V4 begins its rearward journey from the load
> to the match point or circulator load resistor, how does it know
> not to carry energy to the match point and to carry energy to the
> circulator load?

The question has an erroneous premis. As I said before, V4 does not travel from the load, because it undefined until it reaches the match point.

> Your assertions are nonsense.

Isn't that "what they said about Galileo and Copernicus." :-) :-)

Your rebuttles do not point to errors in my assertions, but instead simply restate your own.

4825. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 16:23:23 UTC
From: richardharrison@webtv.net
Message-ID: <26353-3ED633FB-183@storefull-2315.public.lawson.webtv.net>
Source record: 116676

Roy, W7EL wrote:
"So the current on the inside of a thin wall pipe might or might not be significant during a lightning stroke."

In copper, skin depth in inches:

2.6 / sq. rt. (f)

At 100 KHz, that`s 0.00626 in.

At IMHz, that`s 0.00260 in.

So skin depth in copper is measured in thousandths of an inch. 6 to 2.6 thousandths in the examples above.

Due to skin effect, the resistance of a copper conductor which is i in. in diameter is 0.001 ohm per foot at 1 MHz.

Not only is r-f concentrated on the outer surface by skin effect, but the phase lags more and more as the current sinks deeper into the conductor. At some depth the current lags by 180-degrees. This means it is flowing in the opposite direction from the surface current.

Best regards, Richard Harrison, KB5WZI

4826. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 16:41:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED6382E.85A28B43@uci.edu>
Source record: 116680

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>If I12 is negative, the interference is destructive. If I12
> >>is positive, the interference is constructive.
> >
> > This is great! This is exactly what I've been telling you. You've
> > finally got it!
>
> BS, Jim. You have argued loud and long against the above which I have
> stated time and time again. What a way to try to save face - tell me
> you agreed with me all along.

It's what I've been saying all along. Just for a review, here it is once again: I=(I1+I2)+(2*SQRT(I1*I2)*cos theta). In your recent posts you've begun to acknowlege that equation by writing Itot=I1+I2+I12 where I12=2*SQRT(I1*I2)*cos(a). Obviously these two forms of the equation are the same. Looks like an agreement to me.

> > Herein lies the major mistaken assumtion in your paper; that the same
> > two wave components which destructively interfere in one place, must
> > constructively interfere elsewhere in the system.
>
> As you know, it is NOT the same two wave components nor have I ever said
> it was. That's just a straw man of yours.

Okay then. What two wave components do you claim constructively interfere in your paper?

> > This is analogous to our problem. When P3 and P4 destructively
> > interfere, P2 and P1 constructively interfere.

> This is exactly what I say in my article and you have been arguing with
> that statement of mine for months.

I think I know what I've been arguing about, Cecil. Apparently you don't pay real close attention to what I actually do say. Yes, the picture in your paper shows a circle with CI written inside the circle with three arrows pointing into it. But your math certainly does not properly calculate an irradiance between two constructively interfering waves, P1 and P2.

4827. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:01:42 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5edm$dj3$2@sparta.btinternet.com>
Source record: 116678
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vd8ljlm1mboqaa@corp.supernews.com...
> Nope, still works when you include the phase.
>
> But you missed some of the free power. For 100 watts of transmitter
> power, you get 178 watts of reverse power, all right.

Bull-dust

> But you also get 278 watts of forward power!

Likewise BULLDUST

> Just think of that, that's 178 watts extra going forward and 78 going
back.

Are you quite sure that the "power" going backwards doesn't turn the water
into ice?

> If you don't believe it, get Richard to measure it with his Bird
wattmeter.

Yes I like tits in my garden too.
Bird Watt meters don't neccassarily measure power directly.
At least not the ones that I've played with for measuring the output power
of a TV transmitter they only sniff at it as it goes up the pipe.
But I did do it the proper way by measuring the temperature rise of known
amounts of water in a dummy load.

> Just think, if we could just get that 78 and 178 watts out, we'd have *a
> hundred fifty-six free watts*! Cool, huh?

Power is what boils the water for a cuppa tea.
I just realised our electric jug heats up a couple of litres of water about
six times as fast as the maximum legal power on HF.

Tea anyone?

All a load of bolometers I think.

Hands up, How many in this newsgroup measure their output power by the
temperature rise in a known volume of water in a given time?

If you just pass the feeder through the jug of water it won't even get warm.

Gary7SLL

> Gotta get back to work on my directional couplers.

Interesting what type of feeder is it for and what frequency are you using
it with?
What is the coupling, bandwidth, and directivity?

> Getting close now.
> Any time, now, I'll have it. . . an antenna that's 256% efficient!

Great I want one of those for 136 kHz so I don't have to put 7 kW in to get
my legal one Watt ERP.

> Better than Art's loopole, a CFA, EH, and a gaggle of Chip fractals
combined!

What ever happened to fractals they used to be so popular.

> Roy Lewallen, W7EL

Top -O- the- Posting to ye

Gary7SLL

> Gary Peach wrote:
> > "Roy Lewallen" <w7el@eznec.com> wrote in message
> > news:vd74c538mhfb18@corp.supernews.com...
> >
> >>Andy Cowley wrote:
> >>
> >>>Roy Lewallen wrote:
> >
> > [snip] (snap)
> >
> >>Reverse or reflected power can be calculated for this condition, and
> >>will be found to equal 178 watts if the transmitter is putting out a net
> >>power of 100 watts. But here's the problem. Replace the one wavelength
> >>of 50 ohm line (which you say the transmitter "likes") with one
> >>wavelength of 450 ohm line. Use the same 450 ohm load. Now,
> >
> > Please can you explain for the benefit of the audience how this
perpetual
> > motion machine works?
> > A free *78 Watts of Power* just for the sake of a bit of feeder
> > Why don't we all do it and save on the battery.
> >
> > The avergae *power* through out the length of the line can not exceed
the
> > power of the source.
> >
> > Perpetual motion machines are impossible.
> >
> > Redo the calculations for voltage and current and include the *phase*
and
> > calculate the power at any point along the line properly.
> >
> > Gary7SLL

4828. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:04:04 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305290904.14518cc0@posting.google.com>
Source record: 116679

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<26353-3ED61A0F-178@storefull-2315.public.lawson.webtv.net>...
> Roy, W7EL wrote:
> "Improving the impedance match between the antenna and the rig has the
> same effect as an amplifier---."
>
> Not exactly. Tuners used by amateurs are tuned. Match occurs at the
> resonant frequency. The antenna is mismatched at other frequencies and
> rejects / re-radiates more than 50% of the captured off-frequency
> energy. This decreases received bandwidth and noise. It helps S/N.
>
> Best regards, Richard Harrison, KB5WZI

Can't see that Richard, it probably removes both sound and noise from
effects from off frequency noise/signals and assuming the noise is
broadbanded then the ratio has not changed, only the sample size, to
which you have added a insertion loss.
Regards
Art

4829. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:16:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED64065.4060101@ieee.org>
Source record: 116681

Jim Kelley wrote:
> How about a quote? I've always understood exactly what the equations
> said.

Not according to this quote of yours which I have presented about
ten times and you have failed to address about ten times.

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Hecht says the destructive interference has to equal the constructive
interference. Given that, how do you explain your destructive interference
equaling zero and your constructive interference equaling 4*I1? Based on
what you said, here are your equations:

When I1=I2, Imin = I1 + I2 + zero Imax = I1 + I2 + 4*I1

Do you see anything wrong with those equations of yours?
--
73, Cecil http://www.qsl.net/w5dxp

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4830. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:24:07 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5fnn$jk9$1@titan.btinternet.com>
Source record: 116682
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED4F5CB.4020606@ieee.org...
> Gary Peach wrote:
> > Please can you explain for the benefit of the audience how this
perpetual
> > motion machine works?
>
> It's not perpetual motion. It's the conservation of energy principle at
> work. Consider a one-second long lossless 50 ohm transmission line
> terminated with a 291.42 ohm load being driven by a 100 watt transmitter
> equipped with a lossless tuner. A Z0-match exists at the tuner.

Bull shit sometimes baffles brains, try again.

> At the end of one second, the feedline contains 100 joules and none
> has reached the load.

Don't take it to heart,
What is the velocity factor of this infinitely long line?

> At the end of two seconds, the feedline contains 150 joules and 50
> joules have reached the load. ...
>
> Keep on going until steady-state. During steady-state, even though the
> transmitter is putting out 100 watts, *300 joules* haven't reached the
> load. 200 joules of reflected and re-reflected energy has been stored
> in the feedline and *is being used* for impedance transformation. The
> fact that it is being used for impedance transformation prohibits it
> from being used for anything else. Perpetual Motion is just a straw
> man. This is NOT perpetual motion. This is conservation of energy.

This technical joke isn't working, the topic was "power,"
Certainly 100 Watts of power will deliver 100 Joules of energy to a matched
load in one second. But we are talking oscillatory waves on a transmission
line, you can't just access any of those Joules indefinitely, the moment
that you have taken your 100 Joules of the line that's it, 100 Watts for one
second or 50 Watts for 2 seconds or 500 Watts for 200 mS. or as teh Radar
sets do from the PFN, (Pulse Forming Network), 20 MegaWatts for 5
microseconds.
But that's it; for more you have to wait for the source to replace the
energy for the next shot. The average power is never greater than 100 Watts.

> You can easily verify all the above for yourself. It is not rocket
> science. Why otherwise rational people can't understand dynamic
> storage of RF energy in a transmission line is beyond belief. Please,

> let's lay one more of ham radio's Sacred Cows to rest.

In the mean time I am going to ask for a practical demonstration so you
better start paying out the transmission line between here and the Moon.
After you Claude, no after you Cecil http://www.qsl.net/w5dxp

Power is Watts = Joules per second.
For you to have 100 Watts you must supply 100 Joules a second every second.

:) Gary7SLL

4831. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:34:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED644A5.1020202@ieee.org>
Source record: 116683

Jim Kelley wrote:
> V4 does not travel from the load.

Yes it does, Jim, as can be seen from the equations using s-parameters.

V4 is equivalent to s12*a2, V3 is equivalent to s11*a1.

b1 = s11*a1 + s12*a2 or Vref1 = V3 + V4

b2 = s21*a1 + s22*a2 or Vfwd2 = V1 + V2

You say, if b1 = zero, then there is no energy in s11*a1 or s12*a2.
Let's assume that your premise is correct and see where it logically
leads us.

We know that s11 and s12 are not zero. We know that |a1|^2 is the
"Power available from a source impedance Z0". We know that |a2|^2
is the "Power reflected from the load".

If s11*a1 contains no energy, then a1 must equal zero.
If a1 equals zero, then |a1|^2 must equal zero.
If s11*a1 contains no energy, then the "Power available from a
source impedance Z0" must equal zero.

If s12*a2 contains no energy, then a2 must equal zero.
If a2 equals zero, then |a2|^2 must equal zero.
If s12*a2 contains no energy, then the "Power reflected from the
load" must equal zero.

Therefore, if the "Power available from a source impedance of Z0"
is not equal to zero, s11*a1 (V3) contains energy, contrary to your
assertion.

Therefore, if the "Power reflected from the load" is not equal to
zero, s12*a2 (V4) contains energy, contrary to your assertion.

I admit that you have come up with the solution that exists when
the transmitter is OFF, but that's not exactly what is being discussed.
Until you get your multitude of contradictions resolved, we cannot
make any progress at all.
--
73, Cecil http://www.qsl.net/w5dxp

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4832. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:37:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6454E.40006@ieee.org>
Source record: 116684
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
>>Just think of that, that's 178 watts extra going forward and 78 going
>> back.
>
> Are you quite sure that the "power" going backwards doesn't turn the water
> into ice?

Actually, the higher the reflected power, the quicker the feedline will
turn ice into water. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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4833. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:45:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdchqahuod90b8@corp.supernews.com>
Source record: 116685

Yes, if two stations are on at the same time and one is S1 and the other S9, the S9 signal will sound better and be easier to copy. That's because you have the same noise level for both signals -- so the S/N ratio is better for the S9 signal than for the S1 signal. Suppose, for example, that the noise level is S1. Then the S9 signal is 8 S-units above the noise, but the S1 signal is right at the noise level. No argument there.

Now imagine putting an amplifier between the antenna and receiver, which amplifies the S1 signal to S9. On HF, or on VHF if the amplifier noise figure is the same as the rx noise figure, the background noise will be amplified the same amount as the signal. So although the S1 signal is now S9, the noise is now also S9. The former S1 signal, now S9, is still right at the noise level. Remember how good that original S9 signal sounded? Lemme tell ya, the former S1 signal won't sound nearly as good. In fact, it'll be just as hard to copy as it was before. If you turn the set's volume down, it'll sound just the same as it did before you put in the amplifier.

So just making a signal S9 doesn't mean you can copy it.

Roy Lewallen, W7EL

VHFRadioBuff wrote:
>>If you had an antenna and a certain signal was S 9, and
>>then you used an attenuator to reduce the signal down to S 5 on the
>>meter, what you hear would sound the same.
>
>
> I'm not sure what radios you have used in the past, but the sound of an S9
> signal compared to that of an S5 signal is noticable to me in most cases
> without looking at the meter. You're really splitting hairs with the whole s/n
> thing. The idea is that the stronger an S meter reads someone, the better copy
> you're going to have on them. At least that is my experience. An S1 signal
> sounds much worse than an S9+20 signal.
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

4834. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:50:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED64871.4030300@ieee.org>
Source record: 116686

Jim Kelley wrote:
> It's what I've been saying all along.

Again, BS! Here is what you have been saying all along:

> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.

Hecht says the destructive interference has to equal the constructive interference. Given that, how do you explain your destructive interference equaling zero and your constructive interference equaling 4*I1? Based on what you said, here are your equations:

When I1=I2, Imin = I1 + I2 + zero Imax = I1 + I2 + 4*I1

Do you see anything wrong with those equations of yours that follow exactly from your statement above?

> I think I know what I've been arguing about, Cecil. Apparently you
> don't pay real close attention to what I actually do say. Yes, the
> picture in your paper shows a circle with CI written inside the circle
> with three arrows pointing into it. But your math certainly does not
> properly calculate an irradiance between two constructively interfering
> waves, P1 and P2.

Of course it does, Jim, I posted that yesterday. Why don't you read my postings?

For a matched system, Ptot = P1 + P2 + 2*Sqrt(P1*P2) eq:13 from QEX
Why can't you see the correlation between irradiance and power?

P2/P4 = P3/P1 = rho^2 = Pref/Pfor (power reflection coefficient)

P1*P2 = P3*P4 (cross multiplication)

Ptot = P1 * P2 + 2*Sqrt(P3*P4) (substitution)

In a matched system, P3=P4 (Those two waves cancel)

Ptot = P1 + P2 + P3 + P4 (my math from my article)

Is that math so difficult that you need help with it?
--
73, Cecil http://www.qsl.net/w5dxp

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4835. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:53:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdci8n4e2sbm6c@corp.supernews.com>
Source record: 116687

No tuner I've ever used has a bandwidth anywhere near as narrow as my receiver's. So the tuner has no effect on banddwidth or in-band noise. It might help with spurious responses from out-of-band signals, but with the receivers I use and in my location, I seldom if ever hear any. So in my case a tuner doesn't have any effect on S/N ratio at all. I outlined in my posting the conditions under which preselection (which is really what you're really talking about) does help, but not every amateur (including me) is subject to those conditions.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Roy, W7EL wrote:
> "Improving the impedance match between the antenna and the rig has the
> same effect as an amplifier---."
>
> Not exactly. Tuners used by amateurs are tuned. Match occurs at the
> resonant frequency. The antenna is mismatched at other frequencies and
> rejects / re-radiates more than 50% of the captured off-frequency
> energy. This decreases received bandwidth and noise. It helps S/N.
>
> Best regards, Richard Harrison, KB5WZI
>

4836. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 17:58:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rbicdv8q8eet34d7k7qkgv581ptbl7hs0h@4ax.com>
Source record: 116688

On Thu, 29 May 2003 12:50:41 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Here is what you have been saying
Cecil, you are not the most reliable of quoters and you express
outrage when you perceive the same being done of you.

Return to the original post and respond to it, if you cannot, simply
accept you missed your chance.

4837. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:00:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qjicdvs2qqr8rtm9ieb6vk6s9geqloki8s@4ax.com>
Source record: 116689
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
<garypeach@btinternet.com> wrote:

>After you Claude, no after you Cecil

Hi Gary,

That's Alphonse and Gaston, isn't it?

73's
Richard Clark, KB7QHC

4838. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:04:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED64B92.1070002@ieee.org>
Source record: 116690
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> Bull shit sometimes baffles brains, try again.

My, what a technical statement. :-)

>>At the end of one second, the feedline contains 100 joules and none
>>has reached the load.
>
> Don't take it to heart,
> What is the velocity factor of this infinitely long line?

> The average power is never greater than 100 Watts.

The average (net) power delivered to the load is never greater than
100 watts. That's nice but is not the subject of the discussion. The
subject of the discussion are the component powers in the reflected
and re-reflected waves. I have proven mathematically that in a one
second long transmission line the reflected power will contain 100
joules and the re-reflected will contain 100 joules in addition to
the generated energy of 100 joules. The conservation of energy principle
dictates that there are 300 joules in the feedline that haven't yet
reached the load.

> Power is Watts = Joules per second.
> For you to have 100 Watts you must supply 100 Joules a second every second.

The point is that 300 joules haven't yet reached the load. Where are those
joules? Suspended animation? Sorry, but 300 joules stored in a one second
long feedline is 300 joules/sec = 300 watts, 200 watts forward, 100 watts
reflected, verified with a Bird directional wattmeter.

You can just as easily do this experiment with 100 ft of feedline. You
will find that three times as much energy is stored in the feedline as
there would be if the feedline were flat. Working in microjoules can get
messy - that's why I chose a one-second long feedline.
--
73, Cecil http://www.qsl.net/w5dxp

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4839. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:04:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED64BB4.6AD282E8@uci.edu>
Source record: 116695

W5DXP wrote:
>
> Jim Kelley wrote:
> > This is analogous to our problem. When P3 and P4 destructively
> > interfere, P2 and P1 constructively interfere. Different sets of waves
> > generated by one source, normal angle of incidence, and two reflective
> > boundaries in this case.
>
> Correction: Power doesn't interfere. Voltages interfere and
> currents interfere.

Bottom line is of course that you use power terms in your irradiance equations below, in apparent violation of the above proclamation.

I think voltage and currents superpose, and power (irradiance) interferes - at least, according to the optics texts. The terms in your "interference" equation are proportional to the square of the electric field. Voltages and currents are not.

> The destructive interference energy in the rearward direction feeds
> the constructive interference in the forward direction such that:
>
> Ptot = P1 + P2 + 2*Sqrt(P1*P2) QEX article, equation 13
>
> Since P3/P1 = P2/P4 = rho^2, then P1*P2 = P3*P4
>
> Ptot = P1 + P2 + 2*Sqrt(P3*P4) Note: P3 = P4 so
>
> Ptot = P1 + P2 + P3 + P4
>
> Ptot = rho^2*Pfwd1 + rho^2*Pref2 + (1-rho^2)Pfwd1 + (1-rho^2)Pref2
>
> Ptot = Pfwd1 + Pref2
>
> The total power incident upon the load in a matched system is equal
> to the forward power plus the reflected power. Imagine that.

And it turns out that way in the analysis I presented to you as well. Of course the fact that P1+P2+P3+P4 algebraically sums to Pfwd2 has never been in dispute here. It's not clear why a substitution of P3*P4 for P1*P2 is necessary in the irradiance equation, but it's nevertheless a valid way of illustrating what Melles-Griot says. And it's certainly much better than the presentation in your paper. Bravo, and thanks.

However your substitution of P3*P4 for P1*P2 and the results derived from it do not indicate that P3 and P4 change direction of propagation.

It is simply a proof that energy is conserved - which has always been a valid concept. To maintain coherence to a mathematical argument in which direction of propagation is relevant, you cannot substitute terms that are traveling in different directions in the irradiance equation.

But the real flaw is that you don't pay attention to phase. P3 and P4 are of the wrong relative phase relative to constructively interfere or to properly substitute for P1 and P2 in part of the irradiance equation. The correct form remains (I1+I2)+(2*SQRT(I1*I2))*cos theta where I1 and I2 are the same waves throughout the equation. Theta for P3 and P4 is 180 degrees. That makes the equation read P1+P2 - 2*SQRT(P3*P4), or P1+P2-(P3+P4). I don't know if the result is entirely meaningless, as it happens to equal Pref2 (as opposed to Ptot).

P1 and P2 should be used in the Pfwd2 irradiance equation, and P3 and P4 should be used in the Pref1 equation in order to properly describe the interactions of those waves at the match point.

73, ac6xg

4840. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:06:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdcj0cqlvtkd51@corp.supernews.com>
Source record: 116691
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

All I have to say is if you don't believe in all them watts of forward and reverse power, ask Richard and Cecil. Richard will measure them with his trusty Bird wattmeter, thereby proving beyond doubt that they're real. And Cecil, why Cecil can tell you where every joule -- nay, every erg -- comes, goes, adds, subtracts, interferes, cancels, irradiates, deradiates, illuminates, gets injected, inspected, detected, infected, neglected, and see-lected, . . . but then it's so exciting, I get carried away. . . gotta sit back down on the bench. . .

Maybe a circulator connected to the directional coupler. . . gotta get back to work now. . .

Roy Lewallen, W7EL

Gary Peach wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vd8ljlm1mboqaa@corp.supernews.com...
>
>>Nope, still works when you include the phase.
>>
>>But you missed some of the free power. For 100 watts of transmitter
>>power, you get 178 watts of reverse power, all right.
>
>
> Bull-dust
>
>
>>But you also get 278 watts of forward power!
>
>
> Likewise BULLDUST
> . . .

4841. Long Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:17:14 UTC
From: M3*** <happyraveruk@yahoo.com>
Message-ID: <bb5ir9$5okau$1@ID-155271.news.dfncis.de>
Source record: 116692

Currently I'm using a half size G5RV, fed with 10 metres of coax from the upstairs (at the front) shack. The radio is a 706IIG and I'm using an MFJ949D. Only earth is a 6' copper rod at ground level connected to the tuner with coax braid, about 15'.

The set-up works fine on 40 through 10 but I'd like to get active on 80. Best suggestion seems to be to get a long wire out, garden is 6 x 12m so I was going to get it out in a square arrangement around the perimeter. If I feed the wire direct to the tuner then 6' will be inside the shack, then another 20' will be in the entry between me and next door before the wire is in the open. Should I feed coax to the end of the entry then connect the wire to that in the open ? Doing this would mean I'm using the coax connection on the back of the tuner rather than the single wire/balun connection (internal 4:1).
Is there an 'ideal' length for a multiband long wire ?

What about a counterpoise ? I'm told 2 x Half Wave wires for each band I wish to use, connected to what ?
I assume the braid of the coax if I go down that avenue, or the earth of the tuner if I connect the wire direct.

How critical is the length of the counterpoise wires ?
If I'm connecting lots for various bands then surely they will interact with each other and the earth and it will be a 'mix-up'.
What's the best wire to use for a counterpoise ?

Thanks in advance for any input.

Richard

4842. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:19:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED64F1F.C484D4C4@uci.edu>
Source record: 116698

W5DXP wrote:
>
> Jim Kelley wrote:
> > How about a quote? I've always understood exactly what the equations
> > said.
>
> Not according to this quote of yours which I have presented about
> ten times and you have failed to address about ten times.
>
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.

It means, for at least the 10th time, the magnitude of 'I' (the only magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos theta = 1. When cos theta is -1 it's called destructive interference, and when cos theta is 1 it's called constructive interference. Now I've just used 5 lines to say the same thing I wanted to say in 2 lines. Get it?

I have absolutely no idea why you keep saying what you do about it. It's absolutely true, it's the only solution to an extremely simple math problem, and it's taken directly from Hecht!!

4843. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:24:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6505E.4050706@ieee.org>
Source record: 116693

Richard Clark wrote:
> Return to the original post and respond to it, if you cannot, simply
> accept you missed your chance.

I have responded to the two original posts twice each. Once was a
normal response. The second redundant response was for people who
refuse to read. I guess for you, I need to hold your hand by going
to Google and post the entire article so here it is. Note what
Jim said in the highlighted section that is in direct contradiction
to Hecht. I have posted Jim's assertion about ten times already.
He asserts that the destructive interference is zero while the
constructive interference is 4*I1.

> From: Jim Kelley (jwkelley@uci.edu)
> Subject: Re: @@@ Yagi Antenna Design is Still Empirical @@@
> Newsgroups: rec.radio.amateur.antenna
> Date: 2003-05-09 11:50:10 PST
>
> OC_CAM's Razor wrote:
>>
>> Roy Lewallen wrote:
>> > ... superposition doesn't hold for power.
>>
>> Of course, superposition doesn't hold for power. But if
>> voltage superposition results in "missing" joules/sec,
>> they've got to come from somewhere. Doesn't it seem more
>> than a strange random coincidence that the magnitude of
>> constructive interference at a Z0-match point *always*
>> exactly equals the magnitude of the destructive interference?
****
(Jim Kelley responded:)
> The magnitude of destructive interference is zero, and the magnitude of
> constructive interference when I1 = I2 is equal to 4*I1.
****
> Have you tried
> working the problem that way, Cecil? It should come out right without
> having to invent a re-reflection mechanism - as long as you're using the
> correct values for 'I'. ;-)
>
> Remember that the reflection at the first boundary is cancelled, so all
> that energy procedes through to the load boundary. P3 and P4 equal
> zero, so P1=Pfwd1.
>
> ac6xg

>
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4844. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:26:58 UTC
From: richardharrison@webtv.net
Message-ID: <9543-3ED650F2-70@storefull-2316.public.lawson.webtv.net>
Source record: 116696

Art, KB9MZ wrote:
"Can`t see that---."

I`ll try again. Say the antenna is a simple dipole, but is a continuous rod and there is no transmission line. Excited by its resonant frequency, significant energy flows in the rod but it`s all re-radiated. It has no other escape.

Put a gap in the middle of the same rod. The same excitation is available to the broken rod but it is scarcely excited because the bisected rod is now two antennas and these are resonant at about twice the frequency of the original intact rod.

Now put a resistor equal to the intact rod`s radiation resistance across the rod gap. Now the dipole is excited again much as the continuous rod was. It is resonant again near the resonance of the intact rod. It is strongly excited and significant current flows. This drops equal volts across the resistor in the middle, and the radiation resistance, of the rod (a way to say 1/2 the available power is re-radiated).

That is as good as it gets for the load resistor because there is no way to get more than 1/2 the power intercepted by a simple antenna into its load. Lower the load, and more of the captured energy is re radiated. Raise the load resistor ohms, and less energy is extracted from the sweeping wave.

The tuner adjusts the resistance which appears in the dipole gap. When it matches the radiation resistance of the dipole, maximum energy is extracted from the dipole. Since at any off-resonance frequency, the power extracted is lowered by the mismatch, the dipole is rejecting all but the resonant frequency. The tuner is improving signal to noise ratio by the frequency selective match it makes at the antenna feedpoint. Further, the tuner itself is a frequency-selective device, and restricts noise outside its passband. Noise over a small segment of the spectrum tends to be evenly distributed. Thus, noise accepted tends to be proportional to bandwidth. So, the narrower the bandwidth and the sharper the rolloff at the edges of the passband, the less noise included.
The nay-sayers are simply mistaken.

Best regards, Richard Harrison, KB5WZI

4845. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:27:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED65121.1080105@ieee.org>
Source record: 116694
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Roy Lewallen wrote:
> All I have to say is if you don't believe in all them watts of forward
> and reverse power, ask Richard and Cecil. Richard will measure them with
> his trusty Bird wattmeter, thereby proving beyond doubt that they're
> real. And Cecil, why Cecil can tell you where every joule -- nay, every
> erg -- comes, goes, adds, subtracts, interferes, cancels, irradiates,
> deradiates, illuminates, gets injected, inspected, detected, infected,
> neglected, and see-lected, . . .

Physicists do that all the time, Roy. Why shouldn't hams be interested
in where their RF energy is going? I sure am.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4846. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:42:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED654AC.E3228B35@uci.edu>
Source record: 116704

W5DXP wrote:
>
> Jim Kelley wrote:
> > V4 does not travel from the load.
>
> Yes it does, Jim, as can be seen from the equations using s-parameters.

Vref2 travels from the load. V4 is defined as the portion of Vref2 that travels through the match point. In any case the only energy tranferred by that wave is during the transient period.

From Halliday and Resnick, Fundamentals of Physics "The electric and magnetic fields play an intermediary role in the energy transfer process, acting as a storage reservoir." In our case the wave represented by V4 stores the energy transfered during the transient period.

4847. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:46:10 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5khhnhj1@sparta.btinternet.com>
Source record: 116697
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED64B92.1070002@ieee.org...
> Gary Peach wrote:
> > Bull shit sometimes baffles brains, try again.
>
> My, what a technical statement. :-)

I play to a broad audience; I don't want to leave anyone out.

> >>At the end of one second, the feedline contains 100 joules and none
> >>has reached the load.
> >
> > Don't take it to heart,
> > What is the velocity factor of this infinitely long line?
>
> > The average power is never greater than 100 Watts.
>
> The average (net) power delivered to the load is never greater than
> 100 watts. That's nice but is not the subject of the discussion. The
> subject of the discussion are the component powers in the reflected
> and re-reflected waves. I have proven mathematically that in a one
> second long transmission line the reflected power will contain 100
> joules and the re-reflected will contain 100 joules in addition to
> the generated energy of 100 joules. The conservation of energy principle
> dictates that there are 300 joules in the feedline that haven't yet
> reached the load.
>
> > Power is Watts = Joules per second.
> > For you to have 100 Watts you must supply 100 Joules a second every
second.
>
> The point is that 300 joules haven't yet reached the load. Where are those
> joules?

in transit, they will reach teh load in a time proportional to the velocoity
factor of the transmission line and teh electrical length of that line.
All that it means is that the energy radiated is delayed by the length of
teh line.

It's not like teh water that The London people store in that great ring main
under Central London. Once the transmitter terminals stop waggling up and
down so does that end of teh transmission line. (Ok I've left a chink for
you to go on about the reflected power that is delayed twice the elctrical
length of the line multiplied by the velocity factor and of magnitude

dependent upon the mismatch of teh load to the characteistic impedence of the line. But even that will stop shortly after teh transmitter is switched off.)

>Suspended animation?

Suspended something.

>Sorry, but 300 joules stored in a one second
> long feedline is 300 joules/sec = 300 watts, 200 watts forward, 100 watts
> reflected, verified with a Bird directional wattmeter.

Balderdash
Besides you have not include the calculation for the exponential decay of the wave.:)

> You can just as easily do this experiment with 100 ft of feedline. You
> will find that three times as much energy is stored in the feedline as
> there would be if the feedline were flat. Working in microjoules can get
> messy - that's why I chose a one-second long feedline.

Yes but is available only one time, you can't say that there is 300 watts stored in teh line because that would imply that you could draw from it and keep on drawing from it.

I'll tell you an experiment that will work, to make teh measurement easier simulate a long transmission line with lumped L and C. short the far end so that ther is a huge mismatch, and through a resistor apply a battery through a switch.
At teh feed point hang a very high impedence Oscillascope.
At teh time that you close teh switch the scope trace, (Anyone call it a Crow/CRO), will jump up to the applied voltage of teh battery.
Then at a delay time of twice the length of teh line the voltage will jump up to twice the voltage applied.
This is a direct observation of what you are attempting to pull the wool over eyes with. It is real energy and if you apply the pulse through a suitable network to an electromagnetic power generator such as a Magnetron or an X-Ray tube you will produce a high energy short duration pulse of electromagnetic energy.
With a suitable arrangement you can keep charging the line and discharging it through teh magnetron, but all of teh energy does come from teh battery.
A little is lost in the line because it is not possible to construct a completely lossless line.

```
__/ o___\/\/\/\/____|""""""""""""""""" line""""""""""s
switch |
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r
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```
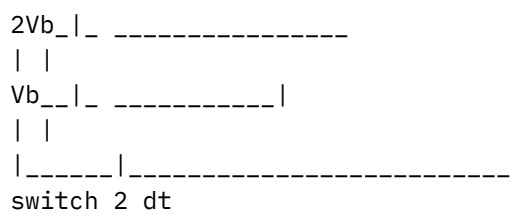

Display



Now draw the energy diagram

Cordially,
Gary7SLL

4848. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:51:21 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5kr9$r0v$1@titan.btinternet.com>
Source record: 116699
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED6454E.40006@ieee.org...
> Gary Peach wrote:
> > "Roy Lewallen" <w7el@eznec.com> wrote in message
> >>Just think of that, that's 178 watts extra going forward and 78 going
> >> back.
> >
> > Are you quite sure that the "power" going backwards doesn't turn the
water
> > into ice?
>
> Actually, the higher the reflected power, the quicker the feedline will
> turn ice into water. :-)

You bin looking at those pictures of Marconi in Newfoundland.

Very slowly if the line is low loss, only the losses in the transmission
line will cause any heating in the line.
Perhaps we should construct the lines and antenna of resistance wire to warm
up the bird's feet and keep them off it.

Gary7SLL

4849. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:53:35 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5kvf$r81$1@titan.btinternet.com>
Source record: 116700
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"MattD.." <me@privacy.net> wrote in message
news:Xns938AC19FCBE698008135@130.133.1.4...
> On 29 May 2003, "Gary Peach" <garypeach@btinternet.com> choked back the
> nausea and found the strength to type:
>
> > Power is what boils the water for a cuppa tea.
> > I just realised our electric jug heats up a couple of litres of water
> > about six times as fast as the maximum legal power on HF.
>
> Or twice as fast as a mid-range contest station? The big guns don't even
> need kettles. Their water falls from the clouds hot ;o)

I'd just like somebody to do spot checks on their radiated power now and
then during a contest. Ther would be a lot of disqualifications not to
mention prosecutions.
That's as bad if not worse than taking steroids or other drugs to win the
Olympics.
Cheats should not prosper.

Gary7SLL

4850. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:54:41 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5l1h$rb9$1@titan.btinternet.com>
Source record: 116701
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vdcj0cqlvtkd51@corp.supernews.com...
> All I have to say is if you don't believe in all them watts of forward
> and reverse power, ask Richard and Cecil. Richard will measure them with
> his trusty Bird wattmeter, thereby proving beyond doubt that they're
> real. And Cecil, why Cecil can tell you where every joule -- nay, every
> erg -- comes, goes, adds, subtracts, interferes, cancels, irradiates,
> deradiates, illuminates, gets injected, inspected, detected, infected,
> neglected, and see-lected, . . . but then it's so exciting, I get
> carried away. . . gotta sit back down on the bench. . .
>
> Maybe a circulator connected to the directional coupler. . . gotta get
> back to work now. . .

It must be Magic Tee time again.

Gary7SLL

4851. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 18:56:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tslcdvcaav61um7dar0776emrvokdp6jjm@4ax.com>
Source record: 116702

On Thu, 29 May 2003 13:24:30 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

> I have posted Jim's assertion about ten times already.

Then you must be the greater fool of the two.

4852. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:01:32 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb5lecrvc1@titan.btinternet.com>
Source record: 116703
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:qjicdvs2qqr8rtm9ieb6vk6s9geqloki8s@4ax.com...
> On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> wrote:
>
> >After you Claude, no after you Cecil
>
> Hi Gary,
>
> That's Alphonse and Gaston, isn't it?

I don't know to be honest,
I was very young when I heard them on the Radio.

Some of the older G#??s might remember them.

Gary7SLL

4853. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:16:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED65C8E.8AB46B8E@uci.edu>
Source record: 116712

W5DXP wrote:
>
> Jim Kelley wrote:
> > It's what I've been saying all along.
>
> Again, BS! Here is what you have been saying all along:
>
> > The magnitude of destructive interference is zero, and the magnitude of
> > constructive interference when I1 = I2 is equal to 4*I1.

It means, for at least the 11th time, the magnitude of 'I' (the only magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos theta = 1. When cos theta is -1 it's called destructive interference, and when cos theta is 1 it's called constructive interference. Now I've just used 5 lines to say the same thing I wanted to say in 2 lines. Get it?

> When I1=I2, Imin = I1 + I2 + zero Imax = I1 + I2 + 4*I1

> Do you see anything wrong with those equations of yours that follow
> exactly from your statement above?

It's wrong, and I never wrote or intended anything of the sort. If you think that's what was said, you inferred incorrectly. You misunderstood. You were wrong to think that. The equations I wrote, taken from Hecht, that you've deleted from your quote were explicit in their meaning. They have appeared in this and other threads many, many, times and you've deleted them from your response every time. Why is that? Methinks your argument can rely only upon strawmen.

> Why can't you see the correlation between irradiance and power?

???
I've pointed out that correlation to you more than once, Cecil. You'll note I even put power numbers into irrandiance equations and posted them here - something you hadn't done anywhere until yesterday. Though it's curious why you keep claiming that power doesn't interfere.

> P2/P4 = P3/P1 = rho^2 = Pref/Pfor (power reflection coefficient)
>
> P1*P2 = P3*P4 (cross multiplication)
>
> Ptot = P1 * P2 + 2*Sqrt(P3*P4) (substitution)
>
> In a matched system, P3=P4 (Those two waves cancel)

>
> Ptot = P1 + P2 + P3 + P4 (my math from my article)
>
> Is that math so difficult that you need help with it?

I've pointed out some places where you need help with it elsewhere in the thread. :-)

4854. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:21:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdcneasl5np6d0@corp.supernews.com>
Source record: 116705

Richard Harrison wrote:
> . . .
> The tuner adjusts the resistance which appears in the dipole gap. When
> it matches the radiation resistance of the dipole, maximum energy is
> extracted from the dipole. Since at any off-resonance frequency, the
> power extracted is lowered by the mismatch, the dipole is rejecting all
> but the resonant frequency. The tuner is improving signal to noise ratio
> by the frequency selective match it makes at the antenna feedpoint.
> Further, the tuner itself is a frequency-selective device, and restricts
> noise outside its passband. Noise over a small segment of the spectrum
> tends to be evenly distributed. Thus, noise accepted tends to be
> proportional to bandwidth. So, the narrower the bandwidth and the
> sharper the rolloff at the edges of the passband, the less noise
> included.

If you were to measure the signal at the input of the receiver terminals and compare it to the total noise there, the tuner will be seen to improve that ratio.

But that's not the S/N ratio coming from your receiver speaker. The noise there is determined by the overall bandwidth, which nearly always is determined by the receiver filter and not the tuner. (If your tuner's bandwidth is narrower than your receiver's, you should seriously look into improving your receiver.) Any filter preceding the receiver will have an effect on the noise coming out of the receiver (hence the S/N ratio) only if the filter's bandwidth is comparable to or narrower than the receiver's bandwidth. And, as I said, if this is true, you should look into fixing your receiver. I am, of course, excluding nonlinear responses to out-of-band signals here.

> The nay-sayers are simply mistaken.

I'll then proudly join the ranks of Richard Nay-Sayers. I'm now triply honored, already being certifiably both a Reg and Cecil Old Wife.

Roy Lewallen, W7EL

4855. Re: Long Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:24:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bb5mou$r01$1@sparta.btinternet.com>
Source record: 116706

Erect a high random-length inverted-L, tune it against half-a-dozen 30 or
40-feet radials, forget all about interactions between counterpoises and see
what a great improvement you have above a G5RV on all bands.
--
=======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
=======================

4856. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:24:44 UTC
From: richardharrison@webtv.net
Message-ID: <22426-3ED65E7C-200@storefull-2311.public.lawson.webtv.net>
Source record: 116711

Roy, W7EL wrote:
"No tuner I`ve ever used has a bandwidth anywhere near as narrow as my receiver`s."

That is almost universally true. That demonstrates the virtue of the superhet. The fixed-tuned I-F amplifier is easily much sharper than TRF circuits.

Good receivers still use TRF ahead of I-F. It reduces overloading and spurious signal production. Best receivers still employ much preselection.

There are testimonials in this thread to the value of an antenna tuner as a preselector.

I`ll relate a personal experience. With a Hammarlund SP-600, with its many stages of preselection, as a bridge detector, we could easily tune an antenna in the world`s largest shortwave antenna farm with all the high-powered transmitters on the air around us. With a Collins 51-J, we were just out of luck due to its inferior preselection.

Best regards, Richard Harrison, KB5WZI

4857. HELP: ICOM IC-V100

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:25:06 UTC
From: Vince <vcl@sympatico.ca>
Message-ID: <l8tBa.6162$y77.629273@news20.bellglobal.com>
Source record: 116709

hi all, i am looking for the schematic for the programmer and the software
for the icom IC-V100 if anyone can help please email me thank you

Vince ve3elb
==========
Email: ve3elb@rac.ca
Visit My Webpages @
www.qsl.net/ve3elb
http://www3.sympatico.ca/vcl

4858. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:35:54 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED660DA.3010802@attbi.com>
Source record: 116707
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

I was thinking about Abbott and Costello in their famous "Who's on First?"

DD, W1MCE

Richard Clark wrote:
> On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> wrote:
>
>
>>After you Claude, no after you Cecil
>
>
> Hi Gary,
>
> That's Alphonse and Gaston, isn't it?
>
> 73's
> Richard Clark, KB7QHC

4859. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:37:50 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED6618E.BB3A3F70@cwis.net>
Source record: 116708

wes,
"Funkblaster" works locally in a munitions plant in
the ECM department, where they make the 'foil' bundles
to 'spoof' radar. He's the one that folds the 'foil'
pieces into teensy-tiny airplanes. I work at the next
bench, I test fly the folded 'foil' planes. If they
don't fly, I send them back to "Funkblaster" to re-fold.
After three failures and three re-folds, they have to be
scrapped. At the end of a shift there are usually a few
hundred ponds of rejects, so there's really no shortage
of aluminum scrap...
'Doc

4860. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:42:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED66291.1010106@ieee.org>
Source record: 116710

Jim Kelley wrote:
> W5DXP wrote:
>>Correction: Power doesn't interfere. Voltages interfere and
>>currents interfere.
>
> Bottom line is of course that you use power terms in your irradiance
> equations below, in apparent violation of the above proclamation.

Not at all. An interference term in the irradiance equation only means that E-fields and B-fields interfere. Irradiance is the scalar energy summed over a number of cycles. A scalar energy summed over a number of cycles cannot interfere. Power and irradiance cannot be superposed.

> I think voltage and currents superpose, and power (irradiance)
> interferes - at least, according to the optics texts.

Superposition and interference are just two ways of saying the same thing. "Two waves superpose" and "two waves interfere" mean essentially the same thing.

> And it's certainly
> much better than the presentation in your paper.

You obviously haven't read the lastest revision of my paper.

> P1 and P2 should be used in the Pfwd2 irradiance equation, and P3 and P4
> should be used in the Pref1 equation in order to properly describe the
> interactions of those waves at the match point.

And that's exactly what I did in my paper.
--
73, Cecil http://www.qsl.net/w5dxp

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4861. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:48:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED66409.10808@ieee.org>
Source record: 116713

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>> > The magnitude of destructive interference is zero, and the magnitude of
>> > constructive interference when I1 = I2 is equal to 4*I1.
>
> It means, for at least the 10th time, the magnitude of 'I' (the only
> magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
> theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
> theta = 1.

No, it doesn't mean that at all. It means what it says. It means that
-2*Sqrt(P1*P2) = 0 = destructive interference while
+2*Sqrt(P1*P2) = 4*I1 = constructive interference

That is a gross mistake. How you can deny it after being quoted in
your own posting is beyond belief.

You didn't say irradiance is equal to zero and 4*I1!!!! You said
destructive interference is equal to zero and constructive interference
is equal to 4*I1 which is absolutely FALSE! Yet you deny confusing
irradiance and interference. What you said is a violation of the
principles asserted in _Optics_, by Hecht. He says destructive
interference must equal constructive interference. Since when does
zero equal 4*I1?
--
73, Cecil http://www.qsl.net/w5dxp

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4862. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:52:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED6650A.AF469DD@uci.edu>
Source record: 116623

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Correction: Power doesn't interfere. Voltages interfere and
> >>currents interfere.
> >
> > Bottom line is of course that you use power terms in your irradiance
> > equations below, in apparent violation of the above proclamation.

> Not at all. An interference term in the irradiance equation only means
> that E-fields and B-fields interfere. Irradiance is the scalar energy
> summed over a number of cycles. A scalar energy summed over a number of
> cycles cannot interfere.

Bottom line is still that you use power as elements in your irradiance equations. And I think that's valid. That number is derived from the square of the amplitude of the electric field, which is a sinusoidal function of the form E*sin(wt) where E is the amplitude. Sounds like you're talking about the definition of average power, which I agree wouldn't make sense to use in an irradiance equation.

> > And it's certainly
> > much better than the presentation in your paper.
>
> You obviously haven't read the lastest revision of my paper.

RL sent me what he said is the latest revision week before last, and I have read that.

> > P1 and P2 should be used in the Pfwd2 irradiance equation, and P3 and P4
> > should be used in the Pref1 equation in order to properly describe the
> > interactions of those waves at the match point.

> And that's exactly what I did in my paper.

Excellent.

Would you care to address the problem with the substitution of P3*P4 for P1*P2?

73, ac6xg

4863. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:53:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED66549.7050501@ieee.org>
Source record: 116714

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>
>>>V4 does not travel from the load.
>>
>>Yes it does, Jim, as can be seen from the equations using s-parameters.
>
> Vref2 travels from the load. V4 is defined as the portion of Vref2 that
> travels through the match point. In any case the only energy tranferred
> by that wave is during the transient period.

No it isn't, Jim. The s-parameter equations apply to steady-state.
V4 is equivalent to s12*a2. If V4 doesn't carry any energy, then
s12*a2 doesn't carry any energy. You have a contradiction going
that you are going to have to correct before we can proceed.
--
73, Cecil http://www.qsl.net/w5dxp

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4864. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:54:58 UTC
From: richardharrison@webtv.net
Message-ID: <22893-3ED66592-304@storefull-2318.public.lawson.webtv.net>
Source record: 116718

Roy, W7EL wrote:
"I am, of course, excluding nonlinear response to out-of-band signals here."

That is a main value of preselection. The other is image rejection by a superhet.

The question asked is simply:
"Does a tuner help on receive?"

Emphatically, it can. How much, depends on many things. Quality of help is not specified. Ouantity of help is not specified. An MFJ tuner is not specified. The general answer to the general question is yes.

Best regards, Richard Harrison, KB5WZI

4865. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:56:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdcpg2geg366bc@corp.supernews.com>
Source record: 116715

The phase reversal happens at a depth of pi skin depths. But this is a frequency-domain analysis, which to be rigorous depends on having steady state sine waves which have existed forever. The phase reversal is due to delay -- the propagation velocity within copper, for example, is very roughly a millionth the velocity in free space. It's that delay of an alternating signal that causes the current reversal.

A lightning stroke, however, isn't very well described by steady state sine waves (just as a copper pipe carrying lightning current isn't very well described by a tunnel in an AM broadcast field). When you apply a step voltage or current to a conductor, the current begins flowing on the surface. It slowly penetrates -- remember the very slow propagation within the conductor. But as long as the exciting waveform never changes direction, the current never changes direction, either.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Roy, W7EL wrote:
> "So the current on the inside of a thin wall pipe might or might not be
> significant during a lightning stroke."
>
> In copper, skin depth in inches:
>
> 2.6 / sq. rt. (f)
>
> At 100 KHz, that`s 0.00626 in.
>
> At IMHz, that`s 0.00260 in.
>
> So skin depth in copper is measured in thousandths of an inch. 6 to 2.6
> thousandths in the examples above.
>
> Due to skin effect, the resistance of a copper conductor which is i in.
> in diameter is 0.001 ohm per foot at 1 MHz.
>
> Not only is r-f concentrated on the outer surface by skin effect, but
> the phase lags more and more as the current sinks deeper into the
> conductor. At some depth the current lags by 180-degrees. This means it
> is flowing in the opposite direction from the surface current.
>
> Best regards, Richard Harrison, KB5WZI
>

4866. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 19:59:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED6668A.240C522D@uci.edu>
Source record: 116624

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >> > The magnitude of destructive interference is zero, and the magnitude of
> >> > constructive interference when I1 = I2 is equal to 4*I1.
> >
> > It means, for at least the 10th time, the magnitude of 'I' (the only
> > magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
> > theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
> > theta = 1.
>
> No, it doesn't mean that at all.

Of course it does - especially in the context in which it was stated.
It's what I meant when I wrote it. It's the only thing that makes
sense, obviously. What you say it means makes no sense at all.
Obviously you're wrong about what I meant.

If you want to discuss grammar, take it to rec.idotic.grammar.arguments.

4867. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:01:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED66711.40507@ieee.org>
Source record: 116716
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> in transit, they will reach teh load in a time proportional to the velocoity
> factor of the transmission line and teh electrical length of that line.
> All that it means is that the energy radiated is delayed by the length of
> teh line.

The point is, Gary, that with a rho of 0.707, three times as much energy
is delayed by the length of the line as with a flat line. Three times as
much energy has not reached the load as with a flat line. Where do you
think the energy that has been generated but has not reached the load goes?

> Yes but is available only one time, you can't say that there is 300 watts
> stored in teh line because that would imply that you could draw from it and
> keep on drawing from it.

Not true. That 100 watts of reflected and 100 watts of re-reflected power is
being used for impedance transformation. You cannot draw upon energy that is
being used for another purpose. Trying to do such would violate the conservation
of energy principle. When that energy is no longer being used for impedance
transformation, i.e. when the transmitter is shut off, the energy can and will
be delivered somewhere, probably to the load.
--
73, Cecil http://www.qsl.net/w5dxp

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4868. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:01:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED66734.C8504F95@uci.edu>
Source record: 116625

W5DXP wrote:
> You have a contradiction going
> that you are going to have to correct before we can proceed.

There are no contradictions in the case as I have described it to you.
I can proceed just fine without your agreement on the issue.

73, ac6xg

4869. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:08:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED668A2.3090205@ieee.org>
Source record: 116717

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>> > The magnitude of destructive interference is zero, and the magnitude of
>> > constructive interference when I1 = I2 is equal to 4*I1.
>
> It means, for at least the 11th time, the magnitude of 'I' (the only
> magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
> theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
> theta = 1.

No, it means that destructive interference (-2*Sqrt(I1*I2)) is zero and
the constructive interference (+2*Sqrt(I1*I2) is equal to 4*I1. Can't
you even read what you wrote? Your statement is in direct contradiction
to _Optics_, by Hecht. You continue to confuse interference with
irradiance.
--
73, Cecil http://www.qsl.net/w5dxp

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4870. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:19:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <apqcdv8n1uh21tdjfqr7691qmeeunuhgnn@4ax.com>
Source record: 116619
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Thu, 29 May 2003 19:01:32 +0000 (UTC), "Gary Peach"
<garypeach@btinternet.com> wrote:

>
>"Richard Clark" <kb7qhc@attbi.com> wrote in message
>news:qjicdvs2qqr8rtm9ieb6vk6s9geqloki8s@4ax.com...
>> On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
>> <garypeach@btinternet.com> wrote:
>>
>> >After you Claude, no after you Cecil
>>
>> Hi Gary,
>>
>> That's Alphonse and Gaston, isn't it?
>
>I don't know to be honest,
>I was very young when I heard them on the Radio.
>
>Some of the older G#??s might remember them.
>
>Gary7SLL

They were an early cartoon strip - much like Mutt'n'Jeff

73's
Richard Clark, KB7QHC

4871. Anyone using a Comet SB-14?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:20:04 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030529162004.09777.00000460@mb-m26.aol.com>
Source record: 116620

I was wondering if anyone used a Comet SB-14 triband mobile antenna. I was thinking of picking one up with the Comet CP-5M mount. Any opinions?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

4872. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:24:03 UTC
From: Mary5615@com.net
Message-ID: <3ED66C63.A6B88674@com.net>
Source record: 116621
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Come on people, who is bs-ing who.
I had a kenwood ts-430 in my subaru for 3 years, used it all of the time
and nothing happened to my car.

Did I just get lucky? Maybe.

Vito wrote:
>
> Russ wrote:
> >
> > So tell me, how are BMW NA, Toyota and Subaru going to tell if the
> > damage was caused by RF or lightning?
>
> All service managers hear "the voices". They say (ghostly voice) "It's
> the customers fault" or "RF or lightning? doesn't matter cuz both are
> excluded from warranty. Bwoooo"
>
> (c: K3DWW

4873. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:28:04 UTC
From: tdonaly@aol.com
Message-ID: <20030529162804.01005.00000748@mb-m18.aol.com>
Source record: 116622

Cecil wrote,
(some snipped)
>
>
>Not true. That 100 watts of reflected and 100 watts of re-reflected power is
>being used for impedance transformation. You cannot draw upon energy that is
>being used for another purpose. Trying to do such would violate the
>conservation
>of energy principle. When that energy is no longer being used for impedance
>transformation, i.e. when the transmitter is shut off, the energy can and
>will
>be delivered somewhere, probably to the load.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

How does power cause an impedance transformation, Cecil?
73,
Tom Donaly

4874. two low profile hf antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:41:38 UTC
From: sw@ai.mit.edu
Message-ID: <3ba51ab6.0305291241.46b26299@posting.google.com>
Source record: 116626

hi --

I have had good luck with two low profile hf antennas,
one is an attic antenna for 80/40 meters, the other
is a G5RV style 5 band doublet in a tree that uses
coax for the matching section.

There are links to some notes about them at:

http://www.ai.mit.edu/~sw/html/NS1W/ns1w.html

cheers...

- sw

4875. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 20:51:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED672B6.19E7C474@uci.edu>
Source record: 116632

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>You have a contradiction going
> >>that you are going to have to correct before we can proceed.
> >
> > There are no contradictions in the case as I have described it to you.
> > I can proceed just fine without your agreement on the issue.
>
> Destructive interference equaling zero while constructive
> interference equals 4*I1 is a contradiction of _Optics_, by
> Hecht. Since you refuse to address that contradiction, you
> will have to proceed without me.

Somebody get a net!

4876. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:01:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED67514.7020906@ieee.org>
Source record: 116627

Tdonaly wrote:
> How does power cause an impedance transformation, Cecil?

I didn't say power caused an impedance transformation. I
said it "is being used for impedance transformation".

Forward power = Vfor * Ifor

Reflected power = Vref * Iref

Impedance = (Vfor+Vref)/(Ifor+Iref)
--
73, Cecil, W5DXP

4877. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:01:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED67532.C7F33AB0@uci.edu>
Source record: 116633

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>Jim Kelley wrote:
> >>
> >>>W5DXP wrote:
> >>>
> >>>
> >>>>>>>The magnitude of destructive interference is zero, and the magnitude of
> >>>>>>>constructive interference when I1 = I2 is equal to 4*I1.
> >>>>
> >>>It means, for at least the 10th time, the magnitude of 'I' (the only
> >>>magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
> >>>theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
> >>>theta = 1.
> >>
> >>No, it doesn't mean that at all.
> >
> > Obviously you're wrong about what I meant.
>
> I assume we share common meanings for "destructive interference" and
> "constructive interference". If the destructive interference is ever
> zero, then the constructive interference will also be zero, according
> to Hecht. When I1 = I2, IT IS IMPOSSIBLE for the constructive interference
> to be 4*I1, as you assert. Your assertions are so extremely false, I cannot
> proceed with the discussion.

Actually you're assertions are the false ones, Cecil, and I would be
pleased were you to discontinue making them.

4878. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:11:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED67788.7060406@ieee.org>
Source record: 116629

Jim Kelley wrote:
>
> W5DXP wrote:
>>You have a contradiction going
>>that you are going to have to correct before we can proceed.
>
> There are no contradictions in the case as I have described it to you.
> I can proceed just fine without your agreement on the issue.

Destructive interference equaling zero while constructive
interference equals 4*I1 is a contradiction of _Optics_, by
Hecht. Since you refuse to address that contradiction, you
will have to proceed without me.
--
73, Cecil, W5DXP

4879. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:11:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bb5t2j$7nc$1@sparta.btinternet.com>
Source record: 116628

"'Doc" wrote
> Reg,
> I don't know. Never could find enough to tell
> what was surface, or interior...

==========

When flowing along a conductor in the same direction electrons take a great dislike to each other's presence. When a very large changing current flows they repel each other with such a large mechanical force the conductor explodes in a shower of particles. And, as you say, you can't find anything.

Also, the conductor is in the Earth's magnetic field so before it explodes there may be large lateral forces. Motor effect?

What I was hoping for was that somebody had observed the end effects of a lightning stroke of a critical strength just not powerful enough to destroy the evidence.

In which case, what damage, if any, was done to other conductors or equipment in the same circuit or vicinity?

Any peculiar inexplicable results?

Or am I barking up the wrong tree! Wuff, wuff.

Reg.

4880. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:16:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED678B8.FB6AE7FE@uci.edu>
Source record: 116635

W5DXP wrote:
>
> Jim Kelley wrote:
> > Would you care to address the problem with the substitution of P3*P4 for
> > P1*P2?
>
> Not until you address your problem of destructive interference
> equaling zero while constructive interference equals the
> impossible value of 4*I1.

Had I said the destructive interference 'term' was equal to zero you would have a point. But I did not, I never intended it, and as I have quite clearly explained many times, I was simply quoting Hecht. I was basically saying that dark fringes are dark, and bright fringes are 4 times as bright as either light source. You accuse me of saying destructive interference as if it's verbotten to use that expression to describe what's going on. You really are absurd in the extreme, Cecil.

What we actually have, and have had all along is Cecil building a strawman in order to try to avoid discussing the errors in his paper. He continues to employ his strawman in order to avoid discussing the errors in his recent post.

Cecil apparently takes people to be fools.

4881. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:18:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED67916.1080304@ieee.org>
Source record: 116630

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>
>>>W5DXP wrote:
>>>
>>>
>>>>The magnitude of destructive interference is zero, and the magnitude of
>>>>constructive interference when I1 = I2 is equal to 4*I1.
>>>>
>>>It means, for at least the 10th time, the magnitude of 'I' (the only
>>>magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
>>>theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
>>>theta = 1.
>>
>>No, it doesn't mean that at all.
>
> Obviously you're wrong about what I meant.

I assume we share common meanings for "destructive interference" and
"constructive interference". If the destructive interference is ever
zero, then the constructive interference will also be zero, according
to Hecht. When I1 = I2, IT IS IMPOSSIBLE for the constructive interference
to be 4*I1, as you assert. Your assertions are so extremely false, I cannot
proceed with the discussion.
--
73, Cecil, W5DXP

4882. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:23:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED67A4C.7060207@ieee.org>
Source record: 116631

Jim Kelley wrote:
> Would you care to address the problem with the substitution of P3*P4 for
> P1*P2?

Not until you address your problem of destructive interference
equaling zero while constructive interference equals the
impossible value of 4*I1.
--
73, Cecil, W5DXP

4883. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:27:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED67B42.1D289716@uci.edu>
Source record: 116639

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>Jim Kelley wrote:
> >> > The magnitude of destructive interference is zero, and the magnitude of
> >> > constructive interference when I1 = I2 is equal to 4*I1.
> >
> > It means, for at least the 11th time, the magnitude of 'I' (the only
> > magnitude being expressed by the equation I=I1+I2+(2*SQRT(I1*I2)*cos
> > theta)) when I1 = I2 is zero when cos theta is -1, and 4*I1 when cos
> > theta = 1.
>
> No, it means that destructive interference (-2*Sqrt(I1*I2)) is zero and
> the constructive interference (+2*Sqrt(I1*I2) is equal to 4*I1. Can't
> you even read what you wrote? Your statement is in direct contradiction
> to _Optics_, by Hecht. You continue to confuse interference with
> irradiance.

How about I apollogize for confusing you about what I meant? I
apollogize for that.

I really don't know what you want from me, Cecil. I've told you what I
intended for the statement to mean. I included the equations which
mathematically expressed what I meant. The only thing I can conclude is
that you want me to lie about it so that you will finally shut up about
it.

I've stated the facts repeatedly, and that should suffice - to any
reasonable person of sound mind.

73, ac6xg

4884. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:49:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdd03aagugf9ac@corp.supernews.com>
Source record: 116634

Tdonaly wrote:
> Cecil wrote,
> (some snipped)
>
>>
>>Not true. That 100 watts of reflected and 100 watts of re-reflected power is
>>being used for impedance transformation. You cannot draw upon energy that is
>>being used for another purpose. Trying to do such would violate the
>>conservation
>>of energy principle. When that energy is no longer being used for impedance
>>transformation, i.e. when the transmitter is shut off, the energy can and
>>will
>>be delivered somewhere, probably to the load.
>>--
>>73, Cecil http://www.qsl.net/w5dxp
>>
>
>
> How does power cause an impedance transformation, Cecil?
> 73,
> Tom Donaly

And energy. The posting says at one point that power is used for impedance transformation, and at another that energy is. Since one is the time derivative of the other, I'd expect at least two equations, one containing the integral or derivative of parts of the other.

Zin = f(Pr, Pf, Zload)

and

Zin = g(E, Zload)

So what are functions f and g?

Roy Lewallen, W7EL

4885. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 21:52:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdd0981lmcqg20@corp.supernews.com>
Source record: 116636

W5DXP wrote:
> Tdonaly wrote:
>
>> How does power cause an impedance transformation, Cecil?
>
>
> I didn't say power caused an impedance transformation. I
> said it "is being used for impedance transformation".
>
> Forward power = Vfor * Ifor
>
> Reflected power = Vref * Iref
>
> Impedance = (Vfor+Vref)/(Ifor+Iref)
> --
> 73, Cecil, W5DXP

Can you please identify the power term in the last equation? And, "impedance transformation" implies that one impedance is being changed into another. Is the "Impedance" in your equation the impedance being transformed, or the transformed impedance? And where's the equation relating the two?

Roy Lewallen, W7EL

4886. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:01:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdd0ppeqhgtj3d@corp.supernews.com>
Source record: 116637
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

By golly, here it is comin' 'round again. Get ready, everybody, in three part harmony. . . it's a movement!

This has been fun, but it's time for me to get back to the Group W bench, where the discussion topics are so much more interesting. . .

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> All I have to say is if you don't believe in all them watts of forward
>> and reverse power, ask Richard and Cecil. Richard will measure them
>> with his trusty Bird wattmeter, thereby proving beyond doubt that
>> they're real. And Cecil, why Cecil can tell you where every joule --
>> nay, every erg -- comes, goes, adds, subtracts, interferes, cancels,
>> irradiates, deradiates, illuminates, gets injected, inspected,
>> detected, infected, neglected, and see-lected, . . .
>
>
> Physicists do that all the time, Roy. Why shouldn't hams be interested
> in where their RF energy is going? I sure am.

4887. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:04:51 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <FuSdnS7zC46YGUujXTWcpA@crocker.com>
Source record: 116638

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0305281749.2fd9fd45@posting.google.com...
> "David Robbins" <k1ttt@arrl.net> wrote in message
news:<X6qcnesrX9cGpEijXTWcpw@crocker.com>...
> > "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> > news:bb360c$7b5$1@hercules.btinternet.com...
> > > What is the surface appearance of a lightning conductor, say 0.1" or
0.2"
> > > diameter, after it has done its job and cooled off?
> > >
> > > What sort of changes take place, if any?
> > > ----
> > > Reg, G4FGQ
> > >
> > >
> >
> > depends on the type of material and the strength of the stroke. it
could be
> > anything from no change to vaporized. in most cases though you will
> > probably see very little effect as the strokes are usually so short
there is
> > little time for heating of the bulk material so it won't look like it
was
> > heated with a torch or partially melted... unless of course it was a
really
> > big stroke!
>
> It is my understanding that lightning when hitting a concrete road can
> impart enough heat at the point of impact that the concrete will
> expand in a localised area, dome upwards and break leaving a cavity,
> suggesting that the heat transfer is massive but of short time
> duration.
> Art

lightning strokes on wet porous material can cause rapid expansion of steam
blowing off chunks of concrete or wood, exploding trees from boiling the
sap, etc. big strokes can burn through the shield wires that are over hv
transmission lines which are often made of 1/4 or 3/8" hs steel wire. small
strokes can be conducted along 12ga copper with no visible damage. remember
there are a wide range of strokes, from very short 1kA strokes lasting only
10's of microseconds to long duration 200kA or more strokes with follow-on
currents lasting maybe 100 milliseconds.

4888. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:29:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED689B4.9000000@ieee.org>
Source record: 116640

Jim Kelley wrote:
> Actually you're assertions are the false ones, Cecil, and I would be
> pleased were you to discontinue making them.

Here's your original false statements with my original reply.
You've been denying that you said such for three weeks now.
Google's a bitch, huh?

From: Jim Kelley (jwkelley@uci.edu)
Subject: Re: @@@ Yagi Antenna Design is Still Empirical @@@
Newsgroups: rec.radio.amateur.antenna
Date: 2003-05-09 11:50:10 PST

OC_CAM's Razor wrote:
>
> Roy Lewallen wrote:
> > ... superposition doesn't hold for power.
>
> Of course, superposition doesn't hold for power. But if
> voltage superposition results in "missing" joules/sec,
> they've got to come from somewhere. Doesn't it seem more
> than a strange random coincidence that the magnitude of
> constructive interference at a Z0-match point *always*
> exactly equals the magnitude of the destructive interference?
****
The magnitude of destructive interference is zero, and the magnitude of
constructive interference when I1 = I2 is equal to 4*I1.
****
Have you tried
working the problem that way, Cecil? It should come out right without
having to invent a re-reflection mechanism - as long as you're using the
correct values for 'I'. ;-)

Remember that the reflection at the first boundary is canceled, so all
that energy procedes through to the load boundary. P3 and P4 equal
zero, so P1=Pfwd1.

ac6xg

From: OC_CAM's Razor (Cecil.A.Moore@ieee.org)
Subject: Re: @@@ Yagi Antenna Design is Still Empirical @@@
Newsgroups: rec.radio.amateur.antenna
Date: 2003-05-09 12:25:22 PST

Jim Kelley wrote:
> The magnitude of destructive interference is zero, and the magnitude of

> constructive interference when I1 = I2 is equal to 4*I1.

No, no, no, absolutely wrong. The equations are:

Imin = I1 + I2 - 2SQRT(I1*I2), Imax = I1 + I2 + 2SQRT(I1*I2)

****
-2SQRT(I1*I2) is the magnitude of the destructive "interference
term".

+2SQRT(I1*I1) is the magnitude of the constructive "interference
term".

These two terms are *always* equal in magnitude and opposite in sign.

Destructive interference is a negative excursion from the average
irradiance. Constructive interference is a positive excursion from
the average irradiance. In the absence of any change in average
irradiance, they will always be equal.
****

Please note: It is the *irradiance* minimum that is equal to zero,
not the interference. Is the *irradiance* maximum that is equal to
4*I1, not the interference. I1+I2 is ***always*** the average
irradiance modified by plus or minus the interference.

> Have you tried working the problem that way, Cecil?

Please correct your error and then let's discuss it.
--
73, Cecil, W5DXP

4889. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:34:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED68ADD.40800@ieee.org>
Source record: 116642

Jim Kelley wrote:
> You accuse me of saying
> destructive interference as if it's verbotten to use that expression to
> describe what's going on.

It is verbotten to say "destructive interference" when you
really meant "irradiance". A simple statement that you meant
"irradiance" instead of "interference" would have been the
act of a gentleman. That you have denied your mistake for
three weeks simply means you are not arguing from a position
of good will so please proceed without me.
--
73, Cecil, W5DXP

4890. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:34:51 UTC
From: w_tom <w_tom1@hotmail.com>
Message-ID: <3ED68B0B.F4589275@hotmail.com>
Source record: 116641

This reasoning about magnetic fields and motor effect is logical until we do one thing. Provide numbers. Then the reasoning becomes classic junk science.

Ignite a gallon of gasoline underneath an aircraft carrier just right and it will lift the carrier some feet out of the water. Same gallon can be ignited in a camp fire without such spectacular effects. So which is it. Gallon of gas has high energy or low energy?

It takes power of a backhoe to push a nail into wood. However the most minimal energy applied just right can drive same ten penny nail with one hit - using a minimal energy source (human arm) and 22 oz hammer.

Just because you were impressed how lightning causes a steam explosion only proves that a tiny steam explosion can be destructive. But you provided no numbers which is why that example can be inflated out of perspective. Same electrical energy is carried by a 12 AWG wire without any damage. For that matter, US Army requires large wires for their lightning rods so that a building is protected and the protection system remains intact - 12 AWG wire.

Until your reasoning includes numbers, then the reasoning becomes junk science. Even that rationalization of how electrons perform in wires is nothing more than personal speculation not based in science. In the meantime, 12 AWG wires shunt lightning to earth without damage.

Direct lightning strikes are routinely carried by wires, without damage, and measured. One famous site for such work is Peissenberg Tower in southern Germany. In fact shunting lightning safely to earth without damage was demonstrates by Franklin in 1752. Shunting performed so routinely that damage is considered a human failure - not failure created by lightning. Yes, humans make mistakes. But when lightning does cause failure, then the human must learn and correct his mistake.

Reg Edwards wrote:
> When flowing along a conductor in the same direction electrons take a
> great dislike to each other's presence. When a very large changing
> current flows they repel each other with such a large mechanical
> force the conductor explodes in a shower of particles. And, as you
> say, you can't find anything.

>
> Also, the conductor is in the Earth's magnetic field so before it
> explodes there may be large lateral forces. Motor effect?
>
> What I was hoping for was that somebody had observed the end effects
> of a lightning stroke of a critical strength just not powerful enough
> to destroy the evidence.
>
> In which case, what damage, if any, was done to other conductors or
> equipment in the same circuit or vicinity?
>
> Any peculiar inexplicable results?
>
> Or am I barking up the wrong tree! Wuff, wuff.
> ----
> Reg.

4891. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:40:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED68C74.9BAAD6BC@uci.edu>
Source record: 116651

W5DXP wrote:
> Please correct your error and then let's discuss it.

Lord knows I've tried to discuss this with you.

4892. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:41:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED68C9A.3060707@ieee.org>
Source record: 116643

Roy Lewallen wrote:
> W5DXP wrote:
>
>> Tdonaly wrote:
>>
>>> How does power cause an impedance transformation, Cecil?
>>
>>
>>
>> I didn't say power caused an impedance transformation. I
>> said it "is being used for impedance transformation".
>>
>> Forward power = Vfor * Ifor
>>
>> Reflected power = Vref * Iref
>>
>> Impedance = (Vfor+Vref)/(Ifor+Iref)
>> --
>> 73, Cecil, W5DXP
>
>
> Can you please identify the power term in the last equation?

The power is implied by the existence of Vref and Iref. The
wave reflection model says that Vref*Iref=Pref, i.e. if you
have a Vref and an Iref, then you have a Pref.

> And,
> "impedance transformation" implies that one impedance is being changed
> into another. Is the "Impedance" in your equation the impedance being
> transformed, or the transformed impedance? And where's the equation
> relating the two?

The above impedance is the impedance existing on the SWR circle
of a Smith Chart. You would have to know Vfor, Ifor, Vref, and
Iref to know exactly which point on the Smith Chart it represents.
--
73, Cecil, W5DXP

4893. Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:42:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED68CC1.5172B5C4@uci.edu>
Source record: 116650

W5DXP wrote:
> The destructive interference energy in the rearward direction feeds
> the constructive interference in the forward direction such that:
>
> Ptot = P1 + P2 + 2*Sqrt(P1*P2) QEX article, equation 13

Correct. Did that article also say Pref1=P3+P4-2*SQRT(P3*P4) by any
chance?

> Since P3/P1 = P2/P4 = rho^2, then P1*P2 = P3*P4

Correct

> Ptot = P1 + P2 + 2*Sqrt(P3*P4) Note: P3 = P4 so

Wrong
2*SQRT(P1*P2)*cos 0 is not equal to 2*SQRT(P3*P4)*cos 180

> Ptot = P1 + P2 + P3 + P4

Actually, the substitution would give,

P = (P1 + P2) - (P3 + P4),

since the interference term for P3, P4 is negative (meaning destructive
interference is taking place). But it's not clear what meaning the
equation has since the 'interference term' uses different waves than
does the rest of the irradiance equation. This, apparently without
regard to the general form of the equation given in Hecht and elsewhere.

> Ptot = rho^2*Pfwd1 + rho^2*Pref2 + (1-rho^2)Pfwd1 + (1-rho^2)Pref2

Actually your derivation should read,

Ptot = (1-rho^2)Pfwd1 + rho^2Pref2 - rho^2*Pfwd1 - (1-rho^2)*Pref2,

which clearly does not equal Pfwd1 + Pref2.

73, ac6xg

4894. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:45:10 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ed68e7e_3@news1.prserv.net>
Source record: 116644

Reg:

Maybe this will illustrate. I have used a "J" antenna on six meters FM for 40 years or so, at a tip elevation of 135'. Initially, the top 8 feet was a mobile whip antenna manufactured by Shakespeare which was about a 1 mm wire inside a 3/8" fiberglass rod. When it took a strike, there were glass fibers all over the neighborhood, and a burn scar about 3/8" in diameter on the remaining stud. I suppose the steel vapor went somewhere downwind. This was replaced with a tapered aluminum structure which consisted of 1/2", 3/8" and 1/4" ID tubing swaged together. A 1/4" aluminum round headed screw was forced into the top. After 3 strikes, there is some discoloration of the contact point (of the plasma) on the screw head, and one on the side just below, but no other indications of heating of the tubing. No measurements of current, but there has always been some collateral damage in the vicinity, indicating full power (but likely NOT superstrikes) discharges.

I have forgotten my lessons about exploding wires*, but my suspicion is that the total energy is applied so quickly that no appreciable temperature rise occurs, but if the exploding threshold is exceeded, the conductor is vaporized.

* I suppose the correct term is steady state fusing current.
--
Crazy George
Remove NO and SPAM from return address
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bb360c$7b5$1@hercules.btinternet.com...
> What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
> diameter, after it has done its job and cooled off?
>
> What sort of changes take place, if any?
> ----
> Reg, G4FGQ
>
>

4895. Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 22:56:40 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <tewBa.15825$pK2.21656@news.indigo.ie>
Source record: 116645

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
How do I get 9~12v dc on to the coax to a preamp with out frying my
expensice RX??
Any how do I pick off the rf from the coax to my RX?

Any ideas welcome!
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtaQJiGakPXr24F/EQK/qwCggDKmt0TOT/0pHc3njlRIy0mOy5YAn2d0
0qP4JK5C7rFzkHZh2/T9gDFy
=xsPF
-----END PGP SIGNATURE-----
```

4896. CushCraft R3 10-15-20 Meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:02:38 UTC
From: "Fred Wall, Jr" <nf8w@earthlink.net>
Message-ID: <ikwBa.21553$rO.1988144@newsread1.prod.itd.earthlink.net>
Source record: 116646

I have a Cushcraft R-3 and have used it to make contacts on 10, 15, and 20 meters as far away from Dayton, OH as the Czech Republic and Reunion Island. Suddenly, withou any kind of warning, it stopped working. I mean, it will not tune to any ham band. I think the problem may be with the inductor, but I can find no information on this antenna from Cushcraft or anyone else--not even Hamvention. Does anyone have anything that may help me"

Fred Wall, Jr
NF8W

4897. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:02:55 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <rkwBa.4339$ME.723178@news20.bellglobal.com>
Source record: 116649

"Xanax"
> How do I get 9~12v dc on to the coax to a preamp
> with out frying my expensive RX? Any how do I pick
> off the rf from the coax to my RX?

C ("DC Block") and L ("RF Block").

4898. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:06:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6928D.7020601@ieee.org>
Source record: 116647

Xanax wrote:
> How do I get 9~12v dc on to the coax to a preamp with out frying my
> expensice RX??
> Any how do I pick off the rf from the coax to my RX?
>
> Any ideas welcome!

If your receiver is equipped with a series blocking capacitor,
you don't have anything to worry about. Otherwise, you will
need to install a series blocking capacitor the value of
which depends on what frequencies your receiver is on.
--
73, Cecil, W5DXP

4899. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:10:43 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <LrwBa.4341$ME.724554@news20.bellglobal.com>
Source record: 116652

"Reg Edwards"
> Or am I barking up the wrong tree!

The tree (a nice nearly 100' tall pine) on my property was hit. The top two-thirds was split and the two sections were tossed in each direction. The bottom third looked like someone had packed it with dynamite (all swelled up and full of splits). There was a 'circle of death' about 100' in diameter where the neighbouring trees had their limbs burned on the near side.

I guess Ohm's Law makes the power dissipation in a tree a bit higher than a conductor. Having all that instant steam makes for a loud bang...

4900. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:16:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305291516.1fded5dd@posting.google.com>
Source record: 116648

richardharrison@webtv.net (Richard Harrison) wrote in message news:<9543-3ED650F2-70@storefull-2316.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "Can`t see that---."

Richard I apologise for wasting your time. You are correct of course. With the total concentration on my own antenna where I crow about the advantages
about having a high Q antenna to establish a S/N datum , my mind locked into a rut in that nothing could improve on S/N unless one could distinguish between noise patterns and required intelligence. I cannot explain why this week I changed my tune other than to see the question as of adding a tuner to an antenna that was already hi Q and that any additions in the line could only impose an insertion loss. 10 demerits are deserved for not paying the attention that was required.
Regards
Art!

>
> I`ll try again. Say the antenna is a simple dipole, but is a continuous
> rod and there is no transmission line. Excited by its resonant
> frequency, significant energy flows in the rod but it`s all re-radiated.
> It has no other escape.
>
> Put a gap in the middle of the same rod. The same excitation is
> available to the broken rod but it is scarcely excited because the
> bisected rod is now two antennas and these are resonant at about twice
> the frequency of the original intact rod.
>
> Now put a resistor equal to the intact rod`s radiation resistance across
> the rod gap. Now the dipole is excited again much as the continuous rod
> was. It is resonant again near the resonance of the intact rod. It is
> strongly excited and significant current flows. This drops equal volts
> across the resistor in the middle, and the radiation resistance, of the
> rod (a way to say 1/2 the available power is re-radiated).
>
> That is as good as it gets for the load resistor because there is no way
> to get more than 1/2 the power intercepted by a simple antenna into its
> load. Lower the load, and more of the captured energy is re radiated.
> Raise the load resistor ohms, and less energy is extracted from the
> sweeping wave.
>
> The tuner adjusts the resistance which appears in the dipole gap. When
> it matches the radiation resistance of the dipole, maximum energy is

> extracted from the dipole. Since at any off-resonance frequency, the
> power extracted is lowered by the mismatch, the dipole is rejecting all
> but the resonant frequency. The tuner is improving signal to noise ratio
> by the frequency selective match it makes at the antenna feedpoint.
> Further, the tuner itself is a frequency-selective device, and restricts
> noise outside its passband. Noise over a small segment of the spectrum
> tends to be evenly distributed. Thus, noise accepted tends to be
> proportional to bandwidth. So, the narrower the bandwidth and the
> sharper the rolloff at the edges of the passband, the less noise
> included.
> The nay-sayers are simply mistaken.
>
> Best regards, Richard Harrison, KB5WZI

4901. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:19:57 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <qAwBa.4348$ME.726672@news20.bellglobal.com>
Source record: 116655

"w_tom"
> ...becomes classic junk science.
> ...becomes junk science.

A typical w_tom posting...

Hey, any response yet to that whole EM coupling thing that you didn't believe in ? You sort of went silent after I provided an indisputable URL.

[w_tom and I had a modest little 'flame war' a couple of months ago in a home theatre newsgroup about the ability of lightning to produce damage-causing "surges" in nearby long runs of normally low-voltage wiring. He thought it to be impossible because he thinks in terms of large appliances (like washing machines, dryers), not HF receivers. Seemed like it was a bit of a blind spot for him...]

BTW - I think he works for some company that markets Whole House Protection systems.

J. Harvey
Ottawa

4902. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:27:47 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb651jtcn0@208.207.71.173>
Source record: 116653

Xanax wrote:

> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> How do I get 9~12v dc on to the coax to a preamp with out frying my
> expensice RX??
> Any how do I pick off the rf from the coax to my RX?

Satellite TV recievers do this all the time. It's called a DC block. The DC flows up the center conductor and the shield of the coax, and inside the reciever cabinet they pick off the RF from the center conductor with a capacitor. A SMALL capacitor. You can do that for a HF *receiver* also, but don't try to transmit into it! IOW, don't to this to a transciever. If you do it'll become a smoke generator.

Dick

4903. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:30:30 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <bKwBa.15828$pK2.21703@news.indigo.ie>
Source record: 116654

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thats great thanks for the tips!!!
"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bb651j$tcn$0@208.207.71.173...
>
>
> Xanax wrote:
>
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all,
> > How do I get 9~12v dc on to the coax to a preamp with out frying my
> > expensice RX??
> > Any how do I pick off the rf from the coax to my RX?
>
> Satellite TV recievers do this all the time. It's called a DC block.
> The DC flows up the center conductor and the shield of the coax, and
> inside the reciever cabinet they pick off the RF from the center
> conductor with a capacitor. A SMALL capacitor. You can do that for a HF
> *receiver* also, but don't try to transmit into it! IOW, don't to this
> to a transciever. If you do it'll become a smoke generator.
>
> Dick
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtaYEyGakPXr24F/EQI7XQCfcY9hp1IfJCNlAQP9KjbJmfJYTH0AnAlC
vvXZFDPyjjJj9Px3b78of9da
=iqBr
-----END PGP SIGNATURE-----
```

4904. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-29 23:47:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdd70tgsrfs08c@corp.supernews.com>
Source record: 116656

Is it just me who can't see any relationship between the answer and the question being asked? I can be pretty dense sometimes.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> W5DXP wrote:
>>
>>> Tdonaly wrote:
>>>
>>>> How does power cause an impedance transformation, Cecil?
>>>
>>>
>>>
>>>
>>> I didn't say power caused an impedance transformation. I
>>> said it "is being used for impedance transformation".
>>>
>>> Forward power = Vfor * Ifor
>>>
>>> Reflected power = Vref * Iref
>>>
>>> Impedance = (Vfor+Vref)/(Ifor+Iref)
>>> --
>>> 73, Cecil, W5DXP
>>
>>
>>
>> Can you please identify the power term in the last equation?
>
>
> The power is implied by the existence of Vref and Iref. The
> wave reflection model says that Vref*Iref=Pref, i.e. if you
> have a Vref and an Iref, then you have a Pref.
>
>> And, "impedance transformation" implies that one impedance is being
>> changed into another. Is the "Impedance" in your equation the
>> impedance being transformed, or the transformed impedance? And where's
>> the equation relating the two?
>
>
> The above impedance is the impedance existing on the SWR circle
> of a Smith Chart. You would have to know Vfor, Ifor, Vref, and

> Iref to know exactly which point on the Smith Chart it represents.
> --
> 73, Cecil, W5DXP
>
>

4905. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:00:51 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb66vj$1b5$0@208.207.71.132>
Source record: 116657

"H. Adam Stevens" wrote:

> Within the last week on TV from Austin, TX:
> Lightning strike to tree: Tree explodes blowing wood shrapnel through a
> house.
> I saw the video. Boil the water; Blow up the tree.

I once saw a large oak tree that had been struck by lightning in the springtime when the sap rises. The tree sat in a fence corner and the steel wire fence was attached to the tree. Above the top fence wire, there was not a single square inch of bark remaining and not a single leaf remained. The tree was totally white, every single branch. But below the level where the top fence wire attached, the tree bark was intact. The lightning had vaporized the sap just beneath the bark, and blew all the bark off the tree down to the fence level, then went into the fence wire to find ground.
That was one weird looking tree, all white - above the fenceline.

Dick

4906. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:14:34 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <vnxBa.15836$pK2.21532@news.indigo.ie>
Source record: 116658

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

What value cap would you use for 240-270Mhz?
Is there a formula to calc what cap to use as a DC Block?

Cheers,
Xanax.
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED6928D.7020601@ieee.org...
> Xanax wrote:
> > How do I get 9~12v dc on to the coax to a preamp with out frying my
> > expensice RX??
> > Any how do I pick off the rf from the coax to my RX?
> >
> > Any ideas welcome!
>
> If your receiver is equipped with a series blocking capacitor,
> you don't have anything to worry about. Otherwise, you will
> need to install a series blocking capacitor the value of
> which depends on what frequencies your receiver is on.
> --
> 73, Cecil, W5DXP
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtaiaCGakPXr24F/EQJXpwCg4NK5xmFRZ+S+KdMkalMTkmwuoK8An3qO
PB5TgFC9dn2AZhXuJnJrHPfK
=THYn
-----END PGP SIGNATURE-----
```

4907. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:20:21 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <2txBa.4473$ME.738721@news20.bellglobal.com>
Source record: 116664

"Xanax"
> What value cap would you use for 240-270Mhz?
> Is there a formula to calc what cap to use as a DC Block?

Are you still trying to tap into MilSatCom ? Tsk tsk tsk... ;-)

100pF is probably in the right ballpark, but it's not critical.

BTW - why all the PGP nonsense with every post ?

4908. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:22:07 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED6A3ED.6000107@attbi.com>
Source record: 116659

Cecil, can I throw a Cosine into your forward and reflected power equations?

Forward power is indeed Vfor * Ifor * Cos (0) because Ifor is Vfor/Zo and Cos(0)=1. Your omission of the cosine term, which is required for power, is not a fault in the forward power calculation.

However, when the load contains a reactive as well as a resistive component the resultant phase shift of Vref or Iref, either voltage or current, now has an additional term added by the reactance of the load.

Conclusion: Reflected power = Vref * Iref * Cos (theta) where Cos (theta) is less than 1.

I'm looking forward to reading your reply.

Deacon Dave, W1MCE
+ + +

4909. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:24:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <o09ddv8uo1ckp148e8qabk8b1shfoo4abq@4ax.com>
Source record: 116660

On Thu, 29 May 2003 16:47:35 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Is it just me who can't see any relationship between the answer and the
>question being asked? I can be pretty dense sometimes.
>
>Roy Lewallen, W7EL

Geez Louiz,

Dense in expecting a straight answer, Shirley.

73's
Richard Clark, KB7QHC

4910. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:28:27 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdd9e89u3ui6d7@corp.supernews.com>
Source record: 116661

Roy
I'm fascinated by how the language seems to morph as the thread stagggers
on.
However, Cecil's energetic description is correct.
Consider a source, a transmission line, and an antenna.
When impedance discontinuities exist across the connections between these
elements,
an energy differential across each connection is necessary to maintain the
same power.
Electromagnetic waves propagate in the transmission line such that the
impedance discontinuities at the source and antenna are accomodated. The
source must also increase it's energy to maintain the necessary power to the
transmission line. Tuners do this.
When all three have the same impedance, power transfer is maximized, energy
gradient minimized.
In physical systems storing all this energy has a cost: heat, and in some
cases, smoke.
Now, back to your regularly scheduled flame war.
73
H.
NQ5H

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vdd70tgsrfs08c@corp.supernews.com...
> Is it just me who can't see any relationship between the answer and the
> question being asked? I can be pretty dense sometimes.
>
> Roy Lewallen, W7EL
>
> W5DXP wrote:
> > Roy Lewallen wrote:
> >
> >> W5DXP wrote:
> >>
> >>> Tdonaly wrote:
> >>>
> >>>> How does power cause an impedance transformation, Cecil?
> >>>
> >>>
> >>>
> >>>
> >>> I didn't say power caused an impedance transformation. I
> >>> said it "is being used for impedance transformation".
> >>>

> >>> Forward power = Vfor * Ifor
> >>>
> >>> Reflected power = Vref * Iref
> >>>
> >>> Impedance = (Vfor+Vref)/(Ifor+Iref)
> >>> --
> >>> 73, Cecil, W5DXP
> >>
> >>
> >>
> >> Can you please identify the power term in the last equation?
> >
> >
> > The power is implied by the existence of Vref and Iref. The
> > wave reflection model says that Vref*Iref=Pref, i.e. if you
> > have a Vref and an Iref, then you have a Pref.
> >
> >> And, "impedance transformation" implies that one impedance is being
> >> changed into another. Is the "Impedance" in your equation the
> >> impedance being transformed, or the transformed impedance? And where's
> >> the equation relating the two?
> >
> >
> > The above impedance is the impedance existing on the SWR circle
> > of a Smith Chart. You would have to know Vfor, Ifor, Vref, and
> > Iref to know exactly which point on the Smith Chart it represents.
> > --
> > 73, Cecil, W5DXP
> >
> >
>

4911. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:29:01 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED6A58B.1040801@attbi.com>
Source record: 116662

Roy, you can't win this one! ;-)

Minds have been made up and therefore are difficult to change.

I don't need any power to achieve an impedance transformation in a
transmission line system. All I need is a mismatch!

The Smith chart is about Mismatch. That is: Zo/ZL !!!! there is no
power in that statement.

Deacon Dave, W1MCE
+ + +

Roy Lewallen wrote:
> Is it just me who can't see any relationship between the answer and the
> question being asked? I can be pretty dense sometimes.
>
> Roy Lewallen, W7EL
>
> W5DXP wrote:
>
>> Roy Lewallen wrote:
>>
>>> W5DXP wrote:
>>>
>>>> Tdonaly wrote:
>>>>
>>>>> How does power cause an impedance transformation, Cecil?

4912. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:30:50 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bb68nq$4pv$0@208.206.142.76>
Source record: 116663

Reg Edwards wrote:

What I was hoping for was that somebody had observed the end effects of a

> lightning stroke of a critical strength just not powerful enough to destroy
> the evidence.
>
> In which case, what damage, if any, was done to other conductors or
> equipment in the same circuit or vicinity?
>

I once cleaned up after a strike which hit the top of vertical sleeve dipole made of aluminum with the vertical element mounted on a porcelain insulator, all atop a 50 foot tower. (Lowband VHF)
The antenna element was left lying in the parking lot some 50 feet away from the tower. The lightning had followed the RG8 down to the roof level of the building beside which the tower was mounted, then jumped to a metal roof flashing, then into the building's AC wiring. From there it trashed every electrical and electronic device inside the building, then exited through a electronic scale to a reinforced concrete pad on the approach to the electronic scale platform. The final damage was a 12X12 inch chunk of the concrete being pulverized.
The electronic scale, two way radio attached to the RG8, and a portable TV inside the building were all ruined but none was vaporized. The coax was still present but pretty badly burned. The thickwalled vertical antenna element wasn't too badly beat up, just relocated. :-)

Dick

4913. Re: CushCraft R3 10-15-20 Meter Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:45:56 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <8RxBa.1038683$F1.124377@sccrnsc04>
Source record: 116665

Fred -

Do you have an R3 or the AV-3 ?

The AV-3, AV-4 and AV-5 are the basic antenna with additional traps added
(R4 and R5) for 40 and 80 meters.
http://www.cushcraft.com/support/pdf/av3482.pdf

Here is the Cushcraft R5 (10, 12, 15, 17 & 20 meters) manual (I believe
other than traps this was similar to the R3)
http://www.cushcraft.com/support/pdf/r5.pdf

IF you have a tuning box here is a great web site for repairing Cushcraft
tuning boxes
http://www.iol.ie/~bravo/r7_vertical.htm

Greg
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Fred Wall, Jr" <nf8w@earthlink.net> wrote in message
news:ikwBa.21553$rO.1988144@newsread1.prod.itd.earthlink.net...
> I have a Cushcraft R-3 and have used it to make contacts on 10, 15, and
20
> meters as far away from Dayton, OH as the Czech Republic and Reunion
Island.
> Suddenly, withou any kind of warning, it stopped working. I mean, it will
> not tune to any ham band. I think the problem may be with the inductor,
but
> I can find no information on this antenna from Cushcraft or anyone
else--not
> even Hamvention. Does anyone have anything that may help me"
>
> Fred Wall, Jr
> NF8W
>
>

4914. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:55:08 UTC
From: Dean Grinch <dgrinch@columbus.rr.com>
Message-ID: <MZxBa.86448$BA.28487468@twister.columbus.rr.com>
Source record: 116666

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:GJ7rN9NtUQ1+EAZw@ifwtech.co.uk...
> Tidris wrote:
> >In article <quzQEnEOuF1+EAOJ@ifwtech.co.uk>, Ian White, G3SEK
> ><G3SEK@ifwtech.co.uk> wrote:
> >
> >> That makes the RF resistance higher than for an equivalent solid
strip.
> >
> >I can see that, but how much higher? If a solid thin strap of a a given
> >size and length has 0.01 ohm RF resistance while a braid of similar
> >dimensions has 0.05 ohm, that is still a much lower value than the
> >resistance between a typical ground rod and the ground. Would 0.05 ohms
> >be relevant in a circuit that ends with a 25 ohm grounding rod? How
> >does the 0.05 ohm resistance compare with the inductive reactance in
> >the braid? If the reactance of that braid is 0.50 ohm or higher at the
> >frequencies of interest, why worry so much about the resistive side?
> >
> >> If you smear Noalox onto braid, you'll probably only force grease
> >> between the strands, and might make the RF resistance worse straight
> >> away rather than later.
> >
> >Pretent the wires in the braid are perfectly insulated from each other
> >somehow. Is such an imaginary braid incapable of conducting RF because
> >there can't be any resistive jumping of current from strand to strand?
> >I doubt it. You still have many continuous individual wires going from
> >one end of the braid to the other, and there is capacitive and
> >inductive coupling among the wires shunting the infinite resistance
> >between braid wires.
>
> I don't have any figures... but a braid in that condition is certainly
> not capable of conducting RF as well as when the strands are in good,
> direct contact.
>
> Remember what happens to the losses in coax if the braid becomes
> corroded - in other words, when the individual strands become insulated
> from one another?
>
> Likewise litz wire (woven insulated strands) has a higher RF resistance
> than solid wire of the same outside diameter at HF - litz only comes
> into its own at MF/LF when the skin depth is comparable to the strand
> radius.
>
>

> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

4915. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:56:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6AC44.4000701@ieee.org>
Source record: 116667

Dave Shrader wrote:
> Cecil, can I throw a Cosine into your forward and reflected power
> equations?
>
> Forward power is indeed Vfor * Ifor * Cos (0) because Ifor is Vfor/Zo
> and Cos(0)=1. Your omission of the cosine term, which is required for
> power, is not a fault in the forward power calculation.
>
> However, when the load contains a reactive as well as a resistive
> component the resultant phase shift of Vref or Iref, either voltage or
> current, now has an additional term added by the reactance of the load.
>
> Conclusion: Reflected power = Vref * Iref * Cos (theta) where Cos
> (theta) is less than 1.

Nope, what you seem to be talking about just above is *net* power.

The forward voltage and forward current are in zero phase by definition so
you got that right.

The reflected voltage and reflected current are 180 degrees out of phase
because of the rearward direction of travel of the current. Cos(180)=-1
so reflected power is simply reflected voltage times reflected current.

Total voltage at any point = forward voltage + reflected voltage
Total current at any point = forward current + reflected current
These two totals are phasor quantities.

Net power equals total voltage times total current times cos(theta)
where theta is the angle between the total voltage and total current.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4916. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 00:59:31 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6ACF3.7030703@ieee.org>
Source record: 116668

Dave Shrader wrote:
> I don't need any power to achieve an impedance transformation in a
> transmission line system. All I need is a mismatch!

If power is zero, then voltage and current are also zero. How are
you going to achieve an impedance transformation without any
voltages and currents?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4917. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:26:22 UTC
From: tdonaly@aol.com
Message-ID: <20030529212622.18941.00000586@mb-m20.aol.com>
Source record: 116569

H. Adam Stevens wrote,
>
>Roy
>I'm fascinated by how the language seems to morph as the thread stagggers
>on.
>However, Cecil's energetic description is correct.
>Consider a source, a transmission line, and an antenna.
>When impedance discontinuities exist across the connections between these
>elements,
>an energy differential across each connection is necessary to maintain the
>same power.

What's an "energy differential?"

>Electromagnetic waves propagate in the transmission line such that the
>impedance discontinuities at the source and antenna are accomodated.

Sounds fascinating. How does one accomodate "impedance discontinuities?"

> The
>source must also increase it's energy to maintain the necessary power to the
>transmission line.

What's the "necessary power" to the transmission line? How much does it need?

> Tuners do this.
>When all three have the same impedance, power transfer is maximized, energy
>gradient minimized.

What's an "energy gradient?" Which direction does the vector arrow point?

>In physical systems storing all this energy has a cost: heat, and in some
>cases, smoke.

How is energy stored, and where? Can I put it in any "physical system" I like?

>Now, back to your regularly scheduled flame war.
>73
>H.
>NQ5H
>

Admit it, Adam, you've been hanging around with the Cloud Cuckoo Land types
over
on the electromagnetics newsgroup.
73,
Tom Donaly, KA6RUH

4918. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:27:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vddcsfhgqlbd3b@corp.supernews.com>
Source record: 116570

W5DXP wrote:
>
> Nope, what you seem to be talking about just above is *net* power.
>
> The forward voltage and forward current are in zero phase by definition so
> you got that right.
>
> The reflected voltage and reflected current are 180 degrees out of phase
> because of the rearward direction of travel of the current. Cos(180)=-1
> so reflected power is simply reflected voltage times reflected current.
>
> Total voltage at any point = forward voltage + reflected voltage
> Total current at any point = forward current + reflected current
> These two totals are phasor quantities.
>
> *Net* power equals total voltage times total current times cos(theta)
> where theta is the angle between the total voltage and total current.

Forward voltage and current are in phase not by definition, but by making the assumption that Z0 is purely resistive. Vf/If = Z0 and Z0 is purely resistive only for a lossless line. If the line has loss, Z0 becomes complex, Vf and If are no longer in phase, and the whole analysis gets gimpy. Likewise for Vr and Ir. And if you calculate forward power Pf from Vf and If (per Dave's equation), and reverse power Pr from Vr and Ir (ditto), the actual power flowing past any point on the line is no longer simply Pf - Pr at that point -- there are also cross terms involving Vf * Ir and Vr * If.

Roy Lewallen, W7EL

4919. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:34:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vddd8oj2mqkmb1@corp.supernews.com>
Source record: 116571

So then you can provide the equations relating impedance transformation
to power and energy?

I'm kind of lost with sources having to increase energy to accommodate
discontinuities and minimize energy gradients and differentials. As you
say, the language sure has morphed. Some simple equations would help a
lot. Thanks.

Roy Lewallen, W7EL

H. Adam Stevens wrote:
> Roy
> I'm fascinated by how the language seems to morph as the thread stagggers
> on.
> However, Cecil's energetic description is correct.
> Consider a source, a transmission line, and an antenna.
> When impedance discontinuities exist across the connections between these
> elements,
> an energy differential across each connection is necessary to maintain the
> same power.
> Electromagnetic waves propagate in the transmission line such that the
> impedance discontinuities at the source and antenna are accomodated. The
> source must also increase it's energy to maintain the necessary power to the
> transmission line. Tuners do this.
> When all three have the same impedance, power transfer is maximized, energy
> gradient minimized.
> In physical systems storing all this energy has a cost: heat, and in some
> cases, smoke.
> Now, back to your regularly scheduled flame war.
> 73
> H.
> NQ5H

4920. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:34:32 UTC
From: tdonaly@aol.com
Message-ID: <20030529213432.18941.00000587@mb-m20.aol.com>
Source record: 116572

Roy wrote,
>
>Is it just me who can't see any relationship between the answer and the
>question being asked? I can be pretty dense sometimes.
>
>Roy Lewallen, W7EL
>

Hi Roy,
He's obfuscating. There's no relation whatsoever between his answer and the question. This is getting to be typical.
73,
Tom Donaly, KA6RUH

4921. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:38:23 UTC
From: richardharrison@webtv.net
Message-ID: <9543-3ED6B60F-93@storefull-2316.public.lawson.webtv.net>
Source record: 116574

Roy, W7EL wrote:
"A lightning stroke isn`t very well described by the steady state sine waves (just as a copper pipe carrying lightning current ian`t very well described by a tunnel in AM broadcast bands)."

Pulses can be described as a composition of d-c and sine waves. Roy has surely heard of Fourier analysis which allows any complex waveform to be resolved into a fundamental and a finite number of terms involving its harmonics.

There is not a long steady-state in a lightning stroke. There is a very steep rise, a short conduction interval, and a fast decline in the waveform. Rise and fall are the R-F sources.

A copper tube as discussed in this thread has low d-c resistance.

A steady-state r-f has two alternations per cycle. The reactance which opposes alternations is opposing any change in the current. Reactance uses the same counter-emf generation to oppose the changing current in a pulse. Amplitude is: kL(di/dt).

Skin effect is caused by increasing inductance at increased depth within a conductor. Deep enough, and far enough along a conductor, the direction of the current is reversed. Roy`s denial does not change the truth.

Tunnel and waveguide low-frequency cut-offs are truths too. Automobile tunnels will accept broadcast FM signals for a distance, although the typical tunnel is a poor waveguide. AM signals are extremely attenuated at a very short distance into the tunnel. This is a demonstration of the waveguide below its cut-off frequency and the enormous attenuation it imposes.

Copper pipes of an inch diameter have a low-frequency cut-off at a wavelength of about 2-inches. This is about 0.051 mtr, or 5889 MHz. Most of the r-f generated by a lightning stroke is much below this frequency. So the r-f component of the lightning stroke must travel on the outside of the pipe. Some of the d-c can travel through the cross-section of the pipe and also on the inside and outside pipe surfaces. The d-c opposition is much lower than the reactive opposition, and thus the r-f opposition is capable of producing those troublesome gradients that Art Unwin mentioned.

Best regards, Richard Harrison, KB5WZI

4922. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:42:59 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED6B723.4D0FFF35@cwis.net>
Source record: 116573

Dick,
I use an antenna switch that does the DC on the coax thing.
Never had a problem receiving or transmitting.
'Doc

4923. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:45:52 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdddv7tc3qp999@corp.supernews.com>
Source record: 116575

"Tdonaly" <tdonaly@aol.com> wrote in message
news:20030529212622.18941.00000586@mb-m20.aol.com...
> H. Adam Stevens wrote,
> >
> >Roy
> >I'm fascinated by how the language seems to morph as the thread stagggers
> >on.
> >However, Cecil's energetic description is correct.
> >Consider a source, a transmission line, and an antenna.
> >When impedance discontinuities exist across the connections between these
> >elements,
> >an energy differential across each connection is necessary to maintain
the
> >same power.
>
> What's an "energy differential?"

Ever seen an energy level diagram in Quantum Mechanics?

>
> >Electromagnetic waves propagate in the transmission line such that the
> >impedance discontinuities at the source and antenna are accomodated.
>
> Sounds fascinating. How does one accomodate "impedance discontinuities?"
>

By calling them mismatches.

> > The
> >source must also increase it's energy to maintain the necessary power to
the
> >transmission line.
>
> What's the "necessary power" to the transmission line? How much does it
need?

Whatever we started with when all the impedances were matched.

>
> > Tuners do this.
> >When all three have the same impedance, power transfer is maximized,
energy
> >gradient minimized.
>
> What's an "energy gradient?" Which direction does the vector arrow point?

A potential difference. To the antenna.

>
> >In physical systems storing all this energy has a cost: heat, and in some
> >cases, smoke.
>
> How is energy stored, and where? Can I put it in any "physical system" I
like?
Sure; see homopolar generators for instance.
This thread's physical systems are the source's tank circuit (tuner),
transmission line, and the antenna.
>
> >Now, back to your regularly scheduled flame war.
> >73
> >H.
> >NQ5H
> >
>
> Admit it, Adam, you've been hanging around with the Cloud Cuckoo Land
types
> over
> on the electromagnetics newsgroup.
> 73,
> Tom Donaly, KA6RUH
>
>

The handle is H. and I've been reading on losses by relativistic charged
particles in matter from J. D. Jackson, as a matter of fact.
I don't visit the physics news groups.
I'm a physicist.

>
>

4924. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 01:55:35 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vddehe8c6psm87@corp.supernews.com>
Source record: 116576

"> So then you can provide the equations relating impedance transformation
> to power and energy?"
No
There is no impedance "transformation". The idea is absurd.
The source has an impedance; the line has an impedance, the antenna has an
impedance.
The extra energy in the tuner and the line is necessary to accomodate the
matching of volts and amps across the boundaries between the tuner, line and
antenna, assuming the impedances are not matched.
When the impedances are mismatched at the connections (impedance
discontinuities), there is some energy stored in the source and the line
such that the voltages and currents match across the boundaries.
In Quantum Mechanics it was matching wave functions across boundaries.
73
H.
NQ5H

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vddd8oj2mqkmb1@corp.supernews.com...
> So then you can provide the equations relating impedance transformation
> to power and energy?
>
> I'm kind of lost with sources having to increase energy to accommodate
> discontinuities and minimize energy gradients and differentials. As you
> say, the language sure has morphed. Some simple equations would help a
> lot. Thanks.
>
> Roy Lewallen, W7EL
>
> H. Adam Stevens wrote:
> > Roy
> > I'm fascinated by how the language seems to morph as the thread
stagggers
> > on.
> > However, Cecil's energetic description is correct.
> > Consider a source, a transmission line, and an antenna.
> > When impedance discontinuities exist across the connections between
these
> > elements,
> > an energy differential across each connection is necessary to maintain
the
> > same power.
> > Electromagnetic waves propagate in the transmission line such that the
> > impedance discontinuities at the source and antenna are accomodated. The

> > source must also increase it's energy to maintain the necessary power to
the
> > transmission line. Tuners do this.
> > When all three have the same impedance, power transfer is maximized,
energy
> > gradient minimized.
> > In physical systems storing all this energy has a cost: heat, and in
some
> > cases, smoke.
> > Now, back to your regularly scheduled flame war.
> > 73
> > H.
> > NQ5H
>

4925. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 02:06:39 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305291806.46134a52@posting.google.com>
Source record: 116577

w_tom <w_tom1@hotmail.com> wrote in message news:<3ED68B0B.F4589275@hotmail.com>...

Welcome Tom,
Glad to see you back.
Art

> This reasoning about magnetic fields and motor effect is
> logical until we do one thing. Provide numbers. Then the
> reasoning becomes classic junk science.
>
> Ignite a gallon of gasoline underneath an aircraft carrier
> just right and it will lift the carrier some feet out of the
> water. Same gallon can be ignited in a camp fire without such
> spectacular effects. So which is it. Gallon of gas has high
> energy or low energy?
>
> It takes power of a backhoe to push a nail into wood.
> However the most minimal energy applied just right can drive
> same ten penny nail with one hit - using a minimal energy
> source (human arm) and 22 oz hammer.
>
> Just because you were impressed how lightning causes a steam
> explosion only proves that a tiny steam explosion can be
> destructive. But you provided no numbers which is why that
> example can be inflated out of perspective. Same electrical
> energy is carried by a 12 AWG wire without any damage. For
> that matter, US Army requires large wires for their lightning
> rods so that a building is protected and the protection system
> remains intact - 12 AWG wire.
>
> Until your reasoning includes numbers, then the reasoning
> becomes junk science. Even that rationalization of how
> electrons perform in wires is nothing more than personal
> speculation not based in science. In the meantime, 12 AWG
> wires shunt lightning to earth without damage.
>
> Direct lightning strikes are routinely carried by wires,
> without damage, and measured. One famous site for such work
> is Peissenberg Tower in southern Germany. In fact shunting
> lightning safely to earth without damage was demonstrates by
> Franklin in 1752. Shunting performed so routinely that damage
> is considered a human failure - not failure created by
> lightning. Yes, humans make mistakes. But when lightning
> does cause failure, then the human must learn and correct his
> mistake.

>
> Reg Edwards wrote:
> > When flowing along a conductor in the same direction electrons take a
> > great dislike to each other's presence. When a very large changing
> > current flows they repel each other with such a large mechanical
> > force the conductor explodes in a shower of particles. And, as you
> > say, you can't find anything.
> >
> > Also, the conductor is in the Earth's magnetic field so before it
> > explodes there may be large lateral forces. Motor effect?
> >
> > What I was hoping for was that somebody had observed the end effects
> > of a lightning stroke of a critical strength just not powerful enough
> > to destroy the evidence.
> >
> > In which case, what damage, if any, was done to other conductors or
> > equipment in the same circuit or vicinity?
> >
> > Any peculiar inexplicable results?
> >
> > Or am I barking up the wrong tree! Wuff, wuff.
> > ----
> > Reg.

4926. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 02:08:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6BD38.7090000@ieee.org>
Source record: 116578

Tdonaly wrote:
> He's obfuscating. There's no relation whatsoever between his answer and the
> question. This is getting to be typical.

Tom, I answered it to the best of my ability. I wasn't obfuscating.
The impedance transformation is accomplished by the forward wave
superposing with the reflected wave. The power in the forward wave
is Vfor*Ifor. The power in the reflected wave is Vref*Iref. Without
power in the waves you cannot have any superposition. This ain't rocket
science.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4927. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 02:39:22 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <bvzBa.3068$_k4.1349@fe05.atl2.webusenet.com>
Source record: 116579
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I know it is not funny, but such is why I still drive Chevrolets after 35 years! I just finished installing an IC706 in a S-10 and, like always in the past, the HF is quiet, performs as expected, and has no issues with RF. I have had some odd things to happen (such as windshield wipers a-wipin' and lights coming on when they shouldn't, but that was easily cured with a choke. I looked at a RAV4 because I thought they were "cute". I think I'll stay with Chevy.

Jerry
K4KWH
geekdude <google@geekdude.com> wrote in message news:fdb9e710.0305052351.14d75214@posting.google.com...
> Zoran Brlecic <...WA7AA...@get.lost> wrote in message news:<3EB70137.5000306@get.lost>...
> > geekdude wrote:
> > > I just got off of the phone with Toyota.
> > > they told me that if a radio transmitter requires a license to operate,
> > > then it's too powerful to use in a 2003 Toyota.
> > >
> > > If you want to install a ham radio in your car without voiding your warranty,
> > > then I guess you should not buy a new Toyota like I did...
> >
> >
>
> I know I was talking to a Moron at Toyota
>
> I asked them if they wanted to reconsider making such a harsh statement
> regarding their product. They said that they had already checked this out
> with the department in charge of these things and that "any radio transmitter
> that requires a license to operate is too powerful to use in their vehicle
> without causing damage to the ECM because their engine uses so many
> sensors." "the fact that Toyota changed their manual for me in 1993 did not
> apply in this case because the ECM used in the 2003 4 Runner was more
> sensitive than the 1993 model". They are going to send me a written statement
> documenting this fact.
>
> I guess I should not drive next to my local 1.5 Megawatt AM radio station

or my
> car might fail. Perhaps I should not slow down if a police car is behind
me
> because they might transmit a radio signal that will cause me to have an
accident.
> :-)
>
> The people working at the Toyota Customer Assistance Center are complete
idiots
> that don't understand the first thing about radio frequency and radiated
power.
>
> Perhaps the car I just purchased is total junk if the sensors are so
sensitive that
> Toyota is afraid of a 500 mw GMRS HT.
>
> Toyota, are you listening ???
> You should clarify and change your rather harsh statement regarding this
issue.
>
> --
> Chuck
>
> 500mw GMRS
>
>
> > You have apparently been talking to the Toyota Dept. of Morons, because
> > a license has nothing to do with power.
> >
> > WA7AA

4928. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 02:46:38 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <2HzBa.773$UM4.736@fe08.atl2.webusenet.com>
Source record: 116580
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

dj <DaleJ@nospam.com> wrote in message
news:DaleJ-E99DDB.15471406052003@apollo-ge0.rdc-kc.rr.com...
>
>
> I doubt it would lower their profit very much, but these big outfits
> want to max out every penny they can. I bet a few dollars per unit
> would rfi proof the cars. I would like to see consumers report provide
> a article regarding this or at least include it in the annual car
> review. If it's an illuminating problem then and only then will they do
> something about it. The old saying goes, the squeeky wheel gets the
> grease, it still holds true.
>
> By the way, I would have to think the police vehicles are rfi proofed??
>
> Buy American maybe huh...
>
> 73
> Dale

YUP!! Chevy all the way!!!! Before the days of imports, we used to joke
that we could hear a Ford come by while we were listening to the AM
radio--still happens sometimes. Chevrolets always seemed (or all GM cars
seemed to be) to be "tighter" in the RF department. I could put a
radio in a Ford and the ignition noise would be horrific. Put the same
radio in a GM car--quiet as
a mouse. Seems to still be that way after all those years.

34

Jerry

>
>
>
> In article <fdb9e710.0305061143.3bbb83af@posting.google.com>,:
dalej2@mac.com

4929. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 02:58:47 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <mKzBa.794$Gz1.573@fe10.atl2.webusenet.com>
Source record: 116581
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks
Body handling: HTML body converted to readable text

Ford spelled backwards= D river R eturning O n F oot! Hehe!

Jerry

Bruce Burke wrote in message
news:3eba533b.859179828@newshost.corp.mot.com...
> On 07 May 2003 20:12:08 GMT, raiar@bbs.galilei.com.nospam (Gary V.
> Deutschmann, Sr.) wrote:
>
> Funny you should mention this. The other day a crown vic went through
> the front glass of a post office injuring a bunch of people....the
> driver was an elderly guy and most would pass it off as a mistake he
> made, now I'm not so sure since there is a cell tower on that
> particular site. My father-in-law had instances where the motor in
> his crown vic would suddenly race. However, I don't know the details
> of when this occured.
>
>
> Regards,
>
> Bruce
> Hitting reply is futile, use the following:
> .(wb4yuc@juno.com).

4930. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:07:10 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <eSzBa.843$Gz1.413@fe10.atl2.webusenet.com>
Source record: 116582
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Mark Keith <nm5k@wt.net> wrote in message I'm better able to do this than they are, being I fart
> with rf all the time. Or at least the ones I dealt with....MK

I know a fellow that is bad about farting-----WHEW! His are 500 watts at least.....

Jerry

4931. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:13:56 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <I%zBa.3455$_k4.3025@fe05.atl2.webusenet.com>
Source record: 116584
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

geekdude <google@geekdude.com> wrote in message
news:fdb9e710.0305052357.4935c3f6@posting.google.com...
> I am already sorry that I did.
> However I think that this might go a bit further than one car
manufacturer.
>
> Are there any ham friendly car manufactures out there, U.S. or otherwise ?
>
> --
> Chuck
> Yup! Chevrolet! They and other mfrs as well have suggestions in their
OM to contact the
dealer before installing radios.

Jerry
>
> Outsourced <nospam@nospam.com> wrote in message
news:<r47ebv8h2f8mrtqmildvn9ac34r3ksqttf@4ax.com>...
> > Next time buy a vehicle that doesn't decimate the US machine tool
> > industry from a company that hires U.S. engineers. Or uses the U.S.
> > as a source of cheap, compliant labor. Sort of like a third world
> > country.
> >
> > On 5 May 2003 16:20:05 -0700, google@geekdude.com (geekdude) wrote:
> >
> > >I just got off of the phone with Toyota.
> > >they told me that if a radio transmitter requires a license to operate,
> > >then it's too powerful to use in a 2003 Toyota.
> > >
> > >If you want to install a ham radio in your car without voiding your
warranty,
> > >then I guess you should not buy a new Toyota like I did...
> > >
> > >- 73
> > >KC6SOZ

4932. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:18:43 UTC
From: k7itm@aol.com
Message-ID: <3200347.0305291918.625afb1b@posting.google.com>
Source record: 116583

The usual way is to put a capacitor in series with the center
conductor of the line at the receiver, and an RF choke from the center
conductor of the line (on the antenna side of the capacitor!) to the
power source. Other side of the power source to the coax outer
conductor of course. Presumably the preamp at the antenna has
something similar. The sizes of the capacitor a choke should be
appropriate to the frequency range you want to cover: the capacitor
should have a reactance of around 10 ohms max at the lowest operating
frequency, and the choke should have a reactance of at least a couple
hundred ohms at that frequency. Avoid using a choke whose
self-resonance is much lower than your max operating frequency.
(There are situations where different feeds might be appropriate, but
probably not for what you are trying to do.)

Cheers,
Tom

"Xanax" <keepItInTheNewsGroups@news.com> wrote in message
news:<tewBa.15825$pK2.21656@news.indigo.ie>...
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> How do I get 9~12v dc on to the coax to a preamp with out frying my
> expensice RX??
> Any how do I pick off the rf from the coax to my RX?
>
> Any ideas welcome!
> Xanax.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPtaQJiGakPXr24F/EQK/qwCggDKmt0TOT/0pHc3njlRIy0mOy5YAn2d0
> 0qP4JK5C7rFzkHZh2/T9gDFy
> =xsPF
> -----END PGP SIGNATURE-----

4933. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:23:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <agjddvcujp4png0p22pvo7iisnpu9gfpkh@4ax.com>
Source record: 116585

On Thu, 29 May 2003 19:59:31 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>> I don't need any power to achieve an impedance transformation in a
>> transmission line system. All I need is a mismatch!
>
>If power is zero, then voltage and current are also zero. How are
>you going to achieve an impedance transformation without any
>voltages and currents?

Again, you have violated issues by lack of boundaries and poor
conservation of energy principles. There is no such thing as zero
power. Entropy guarantees something, no matter how slight. Dave's
transmission line has some form of energy exciting it to meet your
necessary (sic) voltage and current. You simply lack the ability to
resolve it. You are wrong by your own logic.

73's
Richard Clark, KB7QHC

4934. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:27:21 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <fcABa.3588$_k4.3008@fe05.atl2.webusenet.com>
Source record: 116586
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Gary <isgs294@yahoo.com> wrote in message
news:56e0cd4a.0305130754.269c6170@posting.google.com...
> > Installation of a 2-way radio in Toyota vehicles should not present
> > issues under the following conditions:
> >
> > * The transceiver must be type-accepted by the FCC, and not modified
> > in any way
>
> Hmm, Consider fcc doesnt type-accept anything any more, they certify
> it, This couldbe an issue. My 706 is part 15 type accepted as a
> receiver is that enough?
> >
> > * Maximum output power complies with FCC regulations (100 watts)
> make up your mind 100watts or complies with fcc regualtions?
>
> > * Antenna and power cabling must not be routed along side or in
> > conjunction with the vehicle's wire harness
>
> Going to make running wires fun.
>
> > It must be emphasized that, under the terms of Toyota's new vehicle
> > warranty, damage caused by RF energy from a higher power mobile radio
> > is specifically excluded from coverage because it is not the result of
> > faulty materials or workmanship. Accordingly, the owner assumes all
> > such responsibility.
> I love this one!!! My potiently 1kw mobile could be next your Toyota
> and your
> warrany isnt going to cover the damage I do and most likey the average
> toyota driver will never know the source of the problem.

Exactly!! By the time the Toyota driver figured out why his car/truck
knocked off, you would be
long gone in most cases. He *saw* some driver talking on a radio nearby?
Doubt it. Hard to prove what happened. I do know of a guy that enjoyed
blowing out teenagers' in-car boom-boom
stereos with his KW+ linear.

73

Jerry

4935. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:29:02 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <QdABa.3607$_k4.383@fe05.atl2.webusenet.com>
Source record: 116587
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Vito <vito@crosslink.net> wrote in message
news:3EC28181.CD5460DF@crosslink.net...
> Russ wrote:
> >
> > So tell me, how are BMW NA, Toyota and Subaru going to tell if the
> > damage was caused by RF or lightning?
>
> All service managers hear "the voices". They say (ghostly voice) "It's
> the customers fault" or "RF or lightning? doesn't matter cuz both are
> excluded from warranty. Bwoooo"
>
> (c: K3DWW

There are those darned "Foo Fighters" again.....

Jerry

4936. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:36:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <d6kddv0c8qfod1dlb39rp2ihmsr3srdafu@4ax.com>
Source record: 116588

On Thu, 29 May 2003 15:42:09 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:
>
>> Ptot = rho^2*Pfwd1 + rho^2*Pref2 + (1-rho^2)Pfwd1 + (1-rho^2)Pref2
>
>Actually your derivation should read,
>
>Ptot = (1-rho^2)Pfwd1 + rho^2Pref2 - rho^2*Pfwd1 - (1-rho^2)*Pref2,
>
>which clearly does not equal Pfwd1 + Pref2.
>
>73, ac6xg

Hi Jim,

So the long and the short of it is that Cecil has solved for one
condition and rendered it into another? That is, he has turned the
matched condition solution into performing math for a mismatched load?

73's
Richard Clark, KB7QHC

4937. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:40:35 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <flkddvcodbm4tbm1rk0n5imobth6gjn68f@4ax.com>
Source record: 116589

On Thu, 29 May 2003 19:10:43 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> sent into the ether:

>"Reg Edwards"
>> Or am I barking up the wrong tree!
>
>The tree (a nice nearly 100' tall pine) on my property was hit. The top
>two-thirds was split and the two sections were tossed in each direction.
>The bottom third looked like someone had packed it with dynamite (all
>swelled up and full of splits). There was a 'circle of death' about 100' in
>diameter where the neighbouring trees had their limbs burned on the near
>side.
>
>I guess Ohm's Law makes the power dissipation in a tree a bit higher than a
>conductor. Having all that instant steam makes for a loud bang...
>
>
Hi all,
This talk of lightning conductors brings back memories.
First time I was close to a strike was when I was working in the
garage putting headers on my car. Was walking to the overhead to
close it when, BLAM, the pole 1 house away got hit. I stuck my head
out to see fine splinters from the top 6' or so of the pole floating
down. Two huge arcs came out of the top of the pole to nearby trees.
I pulled my head back in real quick. A bunch of stuff in the
neighbors house was fried.
BTW, my at the time, 4 year old son had come out to the garage and was
almost back at the house when the strike occurred. It was like a
cartoon, he jumped up in the air and when he came down his legs were
pumping like the road runner of cartoon fame.

Next time I just saw the residue left when about 8-10' of pole behind
our cottage took a hit. There was about an acre of small splinters.
Everything in the cottage was disconnected and there was no damage.

Next time I came home from work during a thunder storm and when I
looked to the West I could see lightning hits within a 1/4 mile and
coming my way. It was almost like popcorn, bang, bang, bang, one
right after another. I went into the family room and sat in my chair,
about 30 seconds later BAM, the house shook and the power went off.
It seems my quad now had some missing wire and the garage roof had a
small entrance burn hole from. No radio equipment was damaged, but
the door opener, several clocks and the well pump were now defunct.
BTW, that same son, at the time in his twenties came running out of
his room, white as a ghost. :<}

When working on the roofs of commercial buildings, I have looked at many lightning systems. I have never seen any with more than what looked like small, 1/8 to 1/4" weld pits on the spikes and have never seen a damaged copper braid. Some of the copper braid is huge and some buildings have systems that the braid connects to that diverts the energy to ground. I was under the impression some buildings use the steel structure for the ground. Now that does not mean none are ever damaged, it just means I never saw any damage.

Anyway, just my 2 cents worth.
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

4938. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:45:50 UTC
From: tdonaly@aol.com
Message-ID: <20030529234550.04402.00000183@mb-m04.aol.com>
Source record: 116590

H. Adam Stevens wrote,
>I don't visit the physics news groups.
>I'm a physicist.
>

Isn't everyone?
73,
Tom Donaly, KA6RUH

4939. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:51:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6D53D.4060207@ieee.org>
Source record: 116592

Richard Clark wrote:
> There is no such thing as zero power.

Good Lord, Richard, is that the best you can do? My
IC-756PRO is putting out zero power at this very minute.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4940. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:51:45 UTC
From: tdonaly@aol.com
Message-ID: <20030529235145.04402.00000184@mb-m04.aol.com>
Source record: 116591

Cedil wrote, (much snipping fore and aft.)
> Without
>power in the waves you cannot have any superposition.

That's a profound statement, Cecil, or it would be if you could
prove it.
73,
Tom Donaly, KA6RUH

4941. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 03:56:06 UTC
From: tdonaly@aol.com
Message-ID: <20030529235606.04402.00000185@mb-m04.aol.com>
Source record: 116593

Aitch wrote,
>When the impedances are mismatched at the connections (impedance
>discontinuities), there is some energy stored in the source and the line
>such that the voltages and currents match across the boundaries.
>In Quantum Mechanics it was matching wave functions across boundaries.
>73
>H.
>NQ5H
>

Care to get more specific?
73,
Tom Donaly, KA6RUH

4942. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 04:05:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED6D874.70402@ieee.org>
Source record: 116594

Tdonaly wrote:
> Cedil wrote, (much snipping fore and aft.)
>>Without
>>power in the waves you cannot have any superposition.
>
> That's a profound statement, Cecil, or it would be if you could
> prove it.

It's intuitively obvious to the most casual observer, Tom. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4943. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 04:15:22 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vddmnmiitn9h7f@corp.supernews.com>
Source record: 116595

Match the voltages and currents across the boundaries.
Use equations for "traveling waves", they've been documented in detail for centuries.
It's called matching wave functions across boundaries.
buy a book

"Tdonaly" <tdonaly@aol.com> wrote in message news:20030529235606.04402.00000185@mb-m04.aol.com...
> Aitch wrote,
> >When the impedances are mismatched at the connections (impedance
> >discontinuities), there is some energy stored in the source and the line
> >such that the voltages and currents match across the boundaries.
> >In Quantum Mechanics it was matching wave functions across boundaries.
> >73
> >H.
> >NQ5H
> >
>
> Care to get more specific?
> 73,
> Tom Donaly, KA6RUH
>
>

4944. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 04:20:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vddn15opnfql26@corp.supernews.com>
Source record: 116596

Let's see. First, Cecil wrote:

>
> Sometimes it seems that way, Roy. How can you deny that the energy
> in reflected waves exists while at the same time using that same
> energy for impedance transformation?

Then H wrote:

H. Adam Stevens wrote:
> Roy
> I'm fascinated by how the language seems to morph as the thread stagggers
> on.
> However, Cecil's energetic description is correct.
> . . .

Then Roy wrote:

> So then you can provide the equations relating impedance transformation
> to power and energy?"
> . . .

Then H wrote:
>
> No
> There is no impedance "transformation". The idea is absurd.
>. . .

Sounds like H and Cecil have a bit of talking to do with each other. May I suggest off line? In the meantime, this is just a little to much like Wonderland for my taste. Back once again to your regularly scheduled programming. . .

Roy Lewallen, W7EL

4945. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 04:37:30 UTC
From: artie <silli_artie@hotmail.com>
Message-ID: <290520032137316475%silli_artie@hotmail.com>
Source record: 116597

Some commercial solutions:

DC coaxial line isolators from SGC -- about $80 for two. Good to about 250 MHz, up to 1.5 amps DC, and I've run 100W of RF through a pair of them. You can get a pair through Ham Radio Outlet cheaper than going direct to SGC.

If you need higher frequencies (and lower current), then look at Mini Circuits. More expensive, but if you need coverage up to 2 GHz, they're the way to go. They sometimes show up on eBay.

Have fun.

4946. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 04:40:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vddo76rr8lmcd@corp.supernews.com>
Source record: 116598

Richard Harrison wrote:
> Roy, W7EL wrote:
> "A lightning stroke isn`t very well described by the steady state sine
> waves (just as a copper pipe carrying lightning current ian`t very well
> described by a tunnel in AM broadcast bands)."
>
> Pulses can be described as a composition of d-c and sine waves. Roy has
> surely heard of Fourier analysis which allows any complex waveform to be
> resolved into a fundamental and a finite number of terms involving its
> harmonics.

Any *repetitive* waveform can be described as a combination of DC and sine waves. The spectrum of a non-repetitive waveform is continuous, and not composed of discrete frequency components. Lightning falls into the latter category. This isn't to say that a Fourier analysis isn't sometimes useful in dealing with single-shot events. But you always have to keep in mind that it's not actually representative of reality.

> There is not a long steady-state in a lightning stroke. There is a very
> steep rise, a short conduction interval, and a fast decline in the
> waveform. Rise and fall are the R-F sources.
>
> A copper tube as discussed in this thread has low d-c resistance.
>
> A steady-state r-f has two alternations per cycle. The reactance which
> opposes alternations is opposing any change in the current. Reactance
> uses the same counter-emf generation to oppose the changing current in a
> pulse. Amplitude is: kL(di/dt).
>
> Skin effect is caused by increasing inductance at increased depth within
> a conductor. Deep enough, and far enough along a conductor, the
> direction of the current is reversed. Roy`s denial does not change the
> truth.

Sorry, if you apply a unidirectional potential to a conductor, there's no depth at which the current reverses direction. I'll be happy to be proven wrong if you can supply a reference.

I also stand by my other statements regarding time domain effects.

> Tunnel and waveguide low-frequency cut-offs are truths too. . .

As are maragritas and apple pie. What's in question is whether or not they apply to the problem at hand.

I'm rather used to responses like this -- very few engineers have had to deal directly with the time domain, so most find it a bit disorienting. One of the several difficulties most people have -- but by no means the only one -- is in remembering the conditions for which Fourier analysis is valid. It can be a pretty serious trap, particularly because it sort of works for pulses, which often gives the illusion that it's really correct.

Roy Lewallen, W7EL

> . . .

4947. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 05:59:49 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <lrCBa.15861$pK2.21746@news.indigo.ie>
Source record: 116599

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Humm! You noticed :-)
I use full crypto for a lot of emails but just sigs on the NG.
Maybe it's a little over the top!!

Cheers,
Xanax.
"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:2txBa.4473$ME.738721@news20.bellglobal.com...
> "Xanax"
> > What value cap would you use for 240-270Mhz?
> > Is there a formula to calc what cap to use as a DC Block?
>
> Are you still trying to tap into MilSatCom ? Tsk tsk tsk... ;-)
>
> 100pF is probably in the right ballpark, but it's not critical.
>
> BTW - why all the PGP nonsense with every post ?
>
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtbzUCGakPXr24F/EQI2ewCg/axutty3xbEbrOz/v2CZCkNTJOQAoLE+
h7yFND8N9IqC7GqrnKqHndt9
=I1VQ
-----END PGP SIGNATURE-----

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Humm! You noticed :-)
I use full crypto for a lot of emails but just sigs on the NG.
Maybe it's a little over the top!!

Cheers,
Xanax.
"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:2txBa.4473$ME.738721@news20.bellglobal.com...
> "Xanax"
> > What value cap would you use for 240-270Mhz?
> > Is there a formula to calc what cap to use as a DC Block?
>
> Are you still trying to tap into MilSatCom ? Tsk tsk tsk... ;-)
```

>
> 100pF is probably in the right ballpark, but it's not critical.
>
> BTW - why all the PGP nonsense with every post ?
>
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtbzUCGakPXr24F/EQI2ewCg/axutty3xbEbrOz/v2CZCkNTJOQAoLE+
h7yFND8N9IqC7GqrnKqHndt9
=I1VQ
-----END PGP SIGNATURE-----

4948. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 06:02:40 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <ZtCBa.15862$pK2.21745@news.indigo.ie>
Source record: 116600

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thanks dude!
Xanax.
"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0305291918.625afb1b@posting.google.com...
> The usual way is to put a capacitor in series with the center
> conductor of the line at the receiver, and an RF choke from the
> center conductor of the line (on the antenna side of the
> capacitor!) to the power source. Other side of the power source to
> the coax outer
> conductor of course. Presumably the preamp at the antenna has
> something similar. The sizes of the capacitor a choke should be
> appropriate to the frequency range you want to cover: the
> capacitor should have a reactance of around 10 ohms max at the
> lowest operating frequency, and the choke should have a reactance
> of at least a couple hundred ohms at that frequency. Avoid using a
> choke whose
> self-resonance is much lower than your max operating frequency.
> (There are situations where different feeds might be appropriate,
> but probably not for what you are trying to do.)
>
> Cheers,
> Tom
>
> "Xanax" <keepItInTheNewsGroups@news.com> wrote in message
> news:<tewBa.15825$pK2.21656@news.indigo.ie>...
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all,
> > How do I get 9~12v dc on to the coax to a preamp with out frying my
> > expensice RX??
> > Any how do I pick off the rf from the coax to my RX?
> >
> > Any ideas welcome!
> > Xanax.
> > -----BEGIN PGP SIGNATURE-----
> > Version: PGP 8.0 (Build 294) Beta
> >
> > iQA/AwUBPtaQJiGakPXr24F/EQK/qwCggDKmt0TOT/0pHc3njlRIy0mOy5YAn2d0
> > 0qP4JK5C7rFzkHZh2/T9gDFy
> > =xsPF
```

> > -----END PGP SIGNATURE-----
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPtbz/SGakPXr24F/EQJd3wCffhSPEL2KJ053pODGt+lIckzM1r8AoJlM
YxLP1BwLVYt5flY4RByU4UGu
=PFqW
-----END PGP SIGNATURE-----

4949. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 06:58:27 UTC
From: richardharrison@webtv.net
Message-ID: <9542-3ED70113-288@storefull-2316.public.lawson.webtv.net>
Source record: 116603

Roy, W7EL wrote:
"Sorry, if you apply a unidirectional potential to a conductor, there`s no depth at which the current reverses direction. I`ll be happy to be proven wrong if you can supply a reference."

I can find one and I`ve seen others but I doubt you`ll accept that they prove you wrong. Never-the-less, Here is a quotation verbatim from "Radio-Electronic Transmission Fundamentals" by B. Whitfield Griffith, Jr., McGraw-Hill, 1962, page 234:
"The rellative phase of the current, in addition, is not the same at all depths; because of slow velocity of propagation of the wave within the conductor, the phase of the current is progressively delayed as we examine it at greater depths. At some depth, the phase of the current may be 180-degrees behind that of the surface current, which means that it is flowing in the opposite direction!"

I`ve read similar remarks in other texts. I have no great desire to dig for more.

I also took a course in non-sinusoidal waveforms over 50 years ago and spent many hours finding coefficients for the terms in the fourier series, then identifying the the constituents and finding their values in many different problems involving many different pulses and other wave forms. No one ever said this stuff doesn`t really work, and in fact, I know it really does. A corporation I spent 26 years serving owned among many companies one called Walker Muffler. A colleague of mine supplied Walker a Fourier computer program (this was when a memory bit was a little core wound upon by a little oriental lady somewhere for a user price of more than $1 per bit). There were no off-the-shelf Fourier programs then. My colleague also installed the computer and its program at Walker and taught the muffler designers there how to use it. Walker thanked the corporate headquarters for a very successful program. This was all about exhaust pulses and the best mufflers to handle them.

Best regards, Richard Harrison, KB5WZI

4950. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 07:05:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5c0edvgs4kvo8kebf77mjbtmgn50c21bat@4ax.com>
Source record: 116601

On Thu, 29 May 2003 21:08:56 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Tdonaly wrote:
>> He's obfuscating. There's no relation whatsoever between his answer and the
>> question. This is getting to be typical.
>
>Tom, I answered it to the best of my ability. I wasn't obfuscating.
>The impedance transformation is accomplished by the forward wave
>superposing with the reflected wave. The power in the forward wave
>is Vfor*Ifor. The power in the reflected wave is Vref*Iref. Without
>power in the waves you cannot have any superposition. This ain't rocket
>science.

A rose that obfuscated by any other name would smell as bad.

>> Impedance = (Vfor+Vref)/(Ifor+Iref)
>> --
>> 73, Cecil, W5DXP
>
>Can you please identify the power term in the last equation?

HAS NOT BEEN RESPONDED TO. Unless Roy finds your tautology
satisfactory. Barring his correspondence to the contrary, his
expectations being denied follow similar paths we have all trod.

73's
Richard Clark, KB7QHC

4951. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 07:12:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hm0edvs2kd6p5raqe35ahhgqb8acjhp4lv@4ax.com>
Source record: 116602

On Thu, 29 May 2003 22:51:25 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> There is no such thing as zero power.
>
>Good Lord, Richard, is that the best you can do? My
>IC-756PRO is putting out zero power at this very minute.

Sitting at absolute zero? Get off it Cecil, I simply beat you to your
own sucker punch and you are out with the standard TKO you attempt on
others in debate.

You cry foul, but you expect the decision when you throw it first.

73's
Richard Clark, KB7QHC

4952. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 07:36:46 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <3005200300363989 87%nospam@nospam.come>
Source record: 116604

In article <bb5t2j$7nc$1@sparta.btinternet.com>, Reg Edwards
<g4fgq.regp@btinternet.com> wrote:

> What I was hoping for was that somebody had observed the end effects of a
> lightning stroke of a critical strength just not powerful enough to destroy
> the evidence.

When I was a teenager lightning hit my CB vertical antenna. Don't know
if it was a direct hit, but It melted the top of the aluminum tube and
part of the thick aluminum base. The RG8 cable was severed in 3 places.
Inside the house the coax was connected to a short wave receiver
through a small gauge jumper cable. The copper inside the jumper cable
dissapeared but its insulation wasn't damaged at all. That is what
amazed me the most. There was some minor damage to the house's concrete
roof.

I was in the garage at the time and it sounded as if a bomb had
exploded in the backyard. I must have jumped 5 feet in the air from the
surprise, or maybe it was from electric shock? I had nightmares for
quite a while after that event.

4953. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:10:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <or3edvs1s7mhva769r6hhs5ll98mnol9iq@4ax.com>
Source record: 116605

This appears to be as good a place as any to offer my rendition of "I remember when...."

As a teenager working in a TV repair shop, I observed a set in the corner that had its blackened plastic shell completely slumped in, over the chassis within it (obvious case of a massive meltdown to the casual observer - nothing subtle about it at all).

I asked the boss just how we (meaning me, as I inherited the "tough dogs") were expected to fix it and he smiled. "Nothing to fix at all" he flicked the charred switch and the screen lit up with a quiz show (afternoon stuff) as though nothing had happened. Changing channels was a bit dicey (it took pliers), but that was par for the course back then with those barrel tuners.

73's
Richard Clark, KB7QHC

4954. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:30:39 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb74rfcol1@hercules.btinternet.com>
Source record: 116606
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3ED660DA.3010802@attbi.com...
> I was thinking about Abbott and Costello in their famous "Who's on First?"

At the time I didn't realise just how brilliant those sketches were.
Most enjoyable to see them now;
unfortunately since Ondigital went broke I can't get Carlton Cinema
so I don't see those loverly old B&W films.

Gary7SLL

> DD, W1MCE
>
> Richard Clark wrote:
> > On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
> > <garypeach@btinternet.com> wrote:
> >
> >
> >
> >>After you Claude, no after you Cecil
> >
> >
> >
> > Hi Gary,
> >
> > That's Alphonse and Gaston, isn't it?
> >
> > 73's
> > Richard Clark, KB7QHC
>

4955. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:30:39 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb74rfcol2@hercules.btinternet.com>
Source record: 116607
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Dave Shrader" wrote:
> I was thinking about Abbott and Costello in their famous "Who's on First?"

At the time I failed to recognise just how brilliant those A&C sketches
were.
Unfortunately since ON digital went broke I no longer get Carlton Cinema so
I miss those great B&W Films

Gary7SLL

4956. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:35:39 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb754r$d8o$1@hercules.btinternet.com>
Source record: 116608
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED66711.40507@ieee.org...
> Gary Peach wrote:
> > in transit, they will reach teh load in a time proportional to the
velocoity
> > factor of the transmission line and teh electrical length of that line.
> > All that it means is that the energy radiated is delayed by the length
of
> > teh line.
>
> The point is, Gary, that with a rho of 0.707, three times as much energy
> is delayed by the length of the line as with a flat line. Three times as
> much energy has not reached the load as with a flat line. Where do you
> think the energy that has been generated but has not reached the load
goes?
>
> > Yes but is available only one time, you can't say that there is 300
watts
> > stored in teh line because that would imply that you could draw from it
and
> > keep on drawing from it.
>
> Not true. That 100 watts of reflected and 100 watts of re-reflected power
is
> being used for impedance transformation.

???? ???????? ?????
Where did you get that whacky idea from?

>You cannot draw upon energy that is being used for another purpose.

Is that Newton's Law or folklore?

> Trying to do such would violate the conservation of energy principle.

What about the Entropy?

> When that energy is no longer being used for impedance transformation,
> i.e. when the transmitter is shut off, the energy can and will
> be delivered somewhere, probably to the load.

I didn't know that Enid Brightone wrote technical books.

Gary7SLL

4957. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:52:17 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb7641elt1@hercules.btinternet.com>
Source record: 116609
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

<lucifer@eternal-flames.gov> wrote in message
news:72qcdvk5me5ds6j9kl002nmmc2e0lh2u2s@4ax.com...
> On Thu, 29 May 2003 18:53:35 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> making strenuous efforts to prove that
> intelligent life and train-spotting can mutually exist, wrote:
>
> >I'd just like somebody to do spot checks on their radiated power now and
> >then during a contest. Ther would be a lot of disqualifications not to
> >mention prosecutions.
>
> Just wait until the new EU Constitution. Prosecutions are to be
> replaced by a Spanish Inquisition.... That's the last thing people
> expect.

Bring back the strappado, Torquemada would be proud of them.
Presumably the examination board is to be headed by Ignatio Loyola.
Perhaps you'd have a word with Matthew Hopkins to see if he would
like to take over the English section again.

Gary7SLL

4958. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 08:56:52 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb76ck$8bi$1@sparta.btinternet.com>
Source record: 116610
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:apqcdv8n1uh21tdjfqr7691qmeeunuhgnn@4ax.com...
> On Thu, 29 May 2003 19:01:32 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> wrote:
>
> >
> >"Richard Clark" <kb7qhc@attbi.com> wrote in message
> >news:qjicdvs2qqr8rtm9ieb6vk6s9geqloki8s@4ax.com...
> >> On Thu, 29 May 2003 17:24:07 +0000 (UTC), "Gary Peach"
> >> <garypeach@btinternet.com> wrote:
> >>
> >> >After you Claude, no after you Cecil
> >>
> >> Hi Gary,
> >>
> >> That's Alphonse and Gaston, isn't it?
> >
> >I don't know to be honest,
> >I was very young when I heard them on the Radio.
> >
> >Some of the older G#??s might remember them.
> >
> >Gary7SLL
>
> They were an early cartoon strip - much like Mutt'n'Jeff

That was a WWII double agent.
SEE "British Intelligence in the Second World War"
FH Hinsley Vol 4 page 92

Was it not Claude Hulbert,
but just who Cecil was evades me.

Gary7SLL

4959. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 09:20:40 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0305300120.4f7112ec@posting.google.com>
Source record: 116611

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<22893-3ED66592-304@storefull-2318.public.lawson.webtv.net>...
> Roy, W7EL wrote:
> "I am, of course, excluding nonlinear response to out-of-band signals
> here."
>
> That is a main value of preselection. The other is image rejection by a
> superhet.
>
> The question asked is simply:
> "Does a tuner help on receive?"
>
> Emphatically, it can. How much, depends on many things. Quality of help
> is not specified. Ouantity of help is not specified. An MFJ tuner is not
> specified. The general answer to the general question is yes.

Might depend on the antenna and feedline being used though. Also the
quality of the radio.
Here, if I use my coax fed 80/40/20 parallel dipoles as a general
coverage receive antenna, there is no need whatsoever to use a tuner.
Adding one, does not improve the s/n ratio at all, except in the
single case of reducing AM-BC in the 160m, and also LW part of the
bands. And here, that only applies to my 706. If I change to my 830,
the AM-BC becomes a non issue to that radio in particular, and the
results are the same with or without a tuner. But on any of the higher
bands, I don't have any of these BC spurs, and the overall performance
of both radios are about the same. So seems to me, whether or not an
"out of band" signal is a problem or not, will depend on the quality
of the radio being used.
For the most part, my radios are fairly decent, so this is not usually
a problem. Reducing out of band signals or noise does not seem to have
any real effect at all on my radios, unless it's to cure a specific
problem such as the strong MW signals I receive here. But I could see
where it might effect a cheaper radio more. But overall, on the vast
majority of the SW bands, adding a tuner makes not a whit of
difference in s/n ratio on my radios. I NEVER use a tuner when I'm
just SWL'ing above 2 mhz. Just don't need it. I've never noticed an
increase of s/n ratio by adding the tuner, except in the case of
reducing the AM-BC on 160m. And there would be no difference there, if
icom had built a little better MW rejection filters into the radio.
"on 160m, I believe would be a "high pass" filter that is the filter
failing to completely do it's job." Also, that problem shows up only
when I'm here at home on big antennas. I don't think I would notice it
mobile. Anyway, while I see your point, I think the point applies more

to cheaper radios with possible image problems, rather than the usually fairly tight radios ham's or more serious SWL's usually use. Adding a tuner doesn't do much at all here. Only on a certain band on the 706. Most certainly not at all with my cleaner TS-830. So seems to me, the quality of the radio being used is the deciding factor whether "out of band" signals can cause trash or not. As far as a "clean" freq, where no image problems are noticed, it makes for no increase in s/n ratio at all. Or at least on my radios. So overall, I'd have to be considered a "nay-sayer" also. :(But, I'm not using any cheap portable radios with poorer image rejection that would benefit more from a preselector or tuner. MK

4960. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 09:22:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vde8na4j9nrbaa@corp.supernews.com>
Source record: 116612

I said "if you apply a unidirectional potential to a conductor, there's no depth at which the current reverses direction."

You seem to not have noticed that the author of that text is speaking of a sine wave, or for some reason consider a sine wave to be unidirectional(*). And don't see that while a sine wave delayed half a cycle is reversed relative to the undelayed wave (because it has changed polarity in that time interval), but that a delayed unipolar pulse is still going in the same direction.

If not, I hope at least some of the other readers have picked up on this. Probably everyone who will ever understand it has gotten it by now, so I won't trouble you by repeating it yet again. I'll gladly let Richard have the last word now if he chooses.

And there's certainly no need to produce more citations telling about what happens to a sine wave when it's delayed. I certainly understand and agree with that.

Just in case anyone is interested in what happens to a single step traveling along a conductor, it first encounters a high resistance since the current initially travels only on the outside. Then, as time goes on, the current penetrates deeper, the loss decreases, and the step amplitude approaches its final, full value. The resulting waveform superficially resembles a single pole response like an RC, but anyone familiar with the phenomenon can recognize the distinctive shape immediately. In the time domain community, it's known as "dribble up", because of the slow approach to the final value. When analyzed, the shape of the waveform turns out to be the mathematical error function (often written as erf), which also describes the penetration of the current into the conductor. It can be seen even with relatively slow steps if the line is long enough. (I'll bet Reg has seen it plenty of times in the course of his work with transatlantic cables.) Magnetic materials, such as the Kovar leads used for reed relays, are particularly bad for this, since the penetration depth is shallower than for non-magnetic materials. I spent quite a bit of time designing networks having a complementary response to flatten delay lines.

Roy Lewallen, W7EL

(*) Maybe I should have said "unipolar", which is really what I meant. But until a reflection occurs, the two are synonymous.

Richard Harrison wrote:
> Roy, W7EL wrote:
> "Sorry, if you apply a unidirectional potential to a conductor, there`s

> no depth at which the current reverses direction. I`ll be happy to be
> proven wrong if you can supply a reference."
>
> I can find one and I`ve seen others but I doubt you`ll accept that they
> prove you wrong. Never-the-less, Here is a quotation verbatim from
> "Radio-Electronic Transmission Fundamentals" by B. Whitfield Griffith,
> Jr., McGraw-Hill, 1962, page 234:
> "The rellative phase of the current, in addition, is not the same at
> all depths; because of slow velocity of propagation of the wave within
> the conductor, the phase of the current is progressively delayed as we
> examine it at greater depths. At some depth, the phase of the current
> may be 180-degrees behind that of the surface current, which means that
> it is flowing in the opposite direction!"
>
> I`ve read similar remarks in other texts. I have no great desire to dig
> for more.
>
> I also took a course in non-sinusoidal waveforms over 50 years ago and
> spent many hours finding coefficients for the terms in the fourier
> series, then identifying the the constituents and finding their values
> in many different problems involving many different pulses and other
> wave forms. No one ever said this stuff doesn`t really work, and in
> fact, I know it really does. A corporation I spent 26 years serving
> owned among many companies one called Walker Muffler. A colleague of
> mine supplied Walker a Fourier computer program (this was when a memory
> bit was a little core wound upon by a little oriental lady somewhere for
> a user price of more than $1 per bit). There were no off-the-shelf
> Fourier programs then. My colleague also installed the computer and its
> program at Walker and taught the muffler designers there how to use it.
> Walker thanked the corporate headquarters for a very successful program.
> This was all about exhaust pulses and the best mufflers to handle them.
>
> Best regards, Richard Harrison, KB5WZI
>

4961. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 10:58:03 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed73897.1262437@news.melbpc.org.au>
Source record: 116614

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote:

>What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
>diameter, after it has done its job and cooled off?

If it is only draining built up charge it will be
virtually unchanged.
>
>What sort of changes take place, if any?

If it is carrying the full current of a direct hit
on a mast it will probably have vapourised'

Alan.
>----
>Reg, G4FGQ
>

4962. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 11:01:14 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED739FA.28229622@uwe.ac.uk>
Source record: 116613
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
>
> Power is what boils the water for a cuppa tea.
> I just realised our electric jug heats up a couple of litres of water about
> six times as fast as the maximum legal power on HF.
>
> Tea anyone?
>
> All a load of bolometers I think.
>
> Hands up, How many in this newsgroup measure their output power by the
> temperature rise in a known volume of water in a given time?
>

Does measuring it with a bolometer count? I know it isn't water but the
principal is the same, you just don't get the cup of tea at the end.

vy 73

Andy, M3ABC

4963. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 11:29:04 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed83ac1.1816962@news.melbpc.org.au>
Source record: 116615

richardharrison@webtv.net (Richard Harrison) wrote:

>Alan Fowler wrote:
>"9. The important point is that there is a large DC current flowing from
>the positive source to the negative sink. There is no rapidly changing
>current direction, so there will not be an r.f. signal generated."
>
>Surely Alan jests.
All the time - see
http://member.melbpc.org.au/~amfowler/jests.htm
>
>Everyone has heard radio static!

See my earlier postings. The static is produced
during the early stage of a stroke as the leader grows from
the charged cloud towards the ground in a series of rush
forward, stop until charge builds up at the end of the
leader, another rush forwards, etc.
>
>False! D-C from plus to minus only? Why is it important which direction
>current is instantaneously flowing in a huge "static" discharge? Is
>polarity relevant to protection or utilization? Electrons are likely
>more mobile than positive ions which are about 2000 times more massive
>than electrons.

It's not really important. But I understand that
the bottom of a cloud is more likely to carry a large
positive charge, while the image on the ground will be
negative. Plus to minus - just conventional notation.
>
>False! No rapidly changing current direction? The rapidly changing
>current directions are generated by the transient nature of lightning.
>There`s no way a current can be abruptly changed and not generate a
>spectrum of alternations.

But the transfer of energy is unidirectional.
>
>False! No r-f signals generated?
>Radio started with a spark-gap oscillator, an interrupted high voltage
>discharge. A lightning bolt is a manifestation of the above, in spades!
>Confirmation is in the concurrent radio noise tunable across a wide
>spectrum in radios far from the lightning discharge.

As I said earlier the static is generated during the
initial stage as the leader heads for the ground in a series
of short rushes. This probably looks like a series of

pulses which will produce a signals across a broad spectrum.

Alan. [Hobbies - Hunting down furphies and unstuffing
stuffed shirts.]
>
>Such baloney!
>
>Best regards, Richard Harrison, KB5WZI

4964. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 11:45:40 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <Fqacncgbz5DC2UqjXTWcoQ@crocker.com>
Source record: 116616

"Alan Fowler" <amfowler@melbpc.org.au> wrote in message
news:3ed83ac1.1816962@news.melbpc.org.au...
> richardharrison@webtv.net (Richard Harrison) wrote:
>
> >Alan Fowler wrote:
> >"9. The important point is that there is a large DC current flowing from
> >the positive source to the negative sink. There is no rapidly changing
> >current direction, so there will not be an r.f. signal generated."
> >
> >Surely Alan jests.
> All the time - see
> http://member.melbpc.org.au/~amfowler/jests.htm
> >
> >Everyone has heard radio static!
>
> See my earlier postings. The static is produced
> during the early stage of a stroke as the leader grows from
> the charged cloud towards the ground in a series of rush
> forward, stop until charge builds up at the end of the
> leader, another rush forwards, etc.

these are relatively small sources of noise. they have been used to track
the development of leaders within the cloud using a network of ground based
receivers. the large source of energy is the draining of charge out of the
leader channel once the connection to the ground streamer is made.

> >
> >False! D-C from plus to minus only? Why is it important which direction
> >current is instantaneously flowing in a huge "static" discharge? Is
> >polarity relevant to protection or utilization? Electrons are likely
> >more mobile than positive ions which are about 2000 times more massive
> >than electrons.
>
> It's not really important. But I understand that
> the bottom of a cloud is more likely to carry a large
> positive charge, while the image on the ground will be
> negative. Plus to minus - just conventional notation.

the most common situation is when the base of the cloud is negatively
charged and the ground becomes positive.

> >
> >False! No rapidly changing current direction? The rapidly changing
> >current directions are generated by the transient nature of lightning.
> >There`s no way a current can be abruptly changed and not generate a

> >spectrum of alternations.
>
> But the transfer of energy is unidirectional.
> >
> >False! No r-f signals generated?
> >Radio started with a spark-gap oscillator, an interrupted high voltage
> >discharge. A lightning bolt is a manifestation of the above, in spades!
> >Confirmation is in the concurrent radio noise tunable across a wide
> >spectrum in radios far from the lightning discharge.
>
> As I said earlier the static is generated during the
> initial stage as the leader heads for the ground in a series
> of short rushes. This probably looks like a series of
> pulses which will produce a signals across a broad spectrum.

yes, but relatively weakly compared with the large surge when the
accumulated charge drains in the visible part of the stroke.

>
> Alan. [Hobbies - Hunting down furphies and unstuffing
> stuffed shirts.]
> >
> >Such baloney!
> >
> >Best regards, Richard Harrison, KB5WZI
>

4965. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:05:39 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED748C8.6080706@attbi.com>
Source record: 116618

I have an impedance discontinuity whenever Zo <> ZL. All I need is a significant length of transmission line to get an impedance transformation!

In the limit as the derivative of Power [Energy] goes to zero I still have the impedance transformation. Ergo! Power or Energy is not required to produce the transformation only a mismatch and a significant length of transmission line.

This whole discussion has attributed as causality the ability to measure the results of causality. Restated, a signal is required to make a measurement of the transformed impedance. The signal does NOT cause the transformation but only allows it to be measured. The transformation is caused by Zo, ZL and wavelength of the line.

Deacon Dave, W1MCE

W5DXP wrote:
> Dave Shrader wrote:
>
>> I don't need any power to achieve an impedance transformation in a
>> transmission line system. All I need is a mismatch!
>
>
> If power is zero, then voltage and current are also zero. How are
> you going to achieve an impedance transformation without any
> voltages and currents?

4966. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:12:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED74AA1.9020103@ieee.org>
Source record: 116519

Richard Clark wrote:
>>Can you please identify the power term in the last equation?
>
> HAS NOT BEEN RESPONDED TO.

The last equation was Z=(Vfor+Vref)/(Ifor+Iref)

or Z=(Vfor+Vref)/(Pfor/Vfor + Pref/Vref) if you prefer.

Does it take a genius to put power in the equation?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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4967. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:15:08 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3ED74B4C.6077B1B5@uwe.ac.uk>
Source record: 116617
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

```
Andy Cowley wrote:
>
> Gary Peach wrote:
> >
> > Power is what boils the water for a cuppa tea.
> > I just realised our electric jug heats up a couple of litres of water about
> > six times as fast as the maximum legal power on HF.
> >
> > Tea anyone?
> >
> > All a load of bolometers I think.
> >
> > Hands up, How many in this newsgroup measure their output power by the
> > temperature rise in a known volume of water in a given time?
> >
>
> Does measuring it with a bolometer count? I know it isn't water but the
> principal is the same, you just don't get the cup of tea at the end.
>

principle, principle, principle, principle, principle, principle,
```

4968. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:15:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED74B70.3020801@ieee.org>
Source record: 116520

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Good Lord, Richard, is that the best you can do? My
>>IC-756PRO is putting out zero power at this very minute.
>
> Sitting at absolute zero?

Richard, you are obviously a follower of Plato, i.e. nothing can be
known. If that makes you happy, who am I to object?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4969. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:17:29 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED74B8F.7040304@attbi.com>
Source record: 116521

The reflected current has ONE additional phase term! That phase term is
the phase of the load impedance. So, your claim of cos(180)n = -1 is
incorrect. The actual phase is cos (180 +/- arctan(Rl/SQRT(RL^2+XL^2)).
You cannot neglect the phase shift caused by the mismatch.

A 180 degree phase shift is valid ONLY for a purely resistive mismatch!!
For all other conditions the Cos (theta) is less than 1.

Back to basics: Power, in any AC system is P = V*I*Cos(theta); Reactive
Volt*Amperes = V*I*Sin(theta). In my Physics books, transformer books,
AC systems books, Power is always the Cross Product.

Net power is defined in EE machinery texts as the result of efficiency
that is Power out divided by power in.

Your definition of terms is totally at odds with my referencs.

DD, W1MCE

W5DXP wrote:
> Dave Shrader wrote:
>
>> Cecil, can I throw a Cosine into your forward and reflected power
>> equations?
>>
>> Forward power is indeed Vfor * Ifor * Cos (0) because Ifor is Vfor/Zo
>> and Cos(0)=1. Your omission of the cosine term, which is required for
>> power, is not a fault in the forward power calculation.
>>
>> However, when the load contains a reactive as well as a resistive
>> component the resultant phase shift of Vref or Iref, either voltage or
>> current, now has an additional term added by the reactance of the load.
>>
>> Conclusion: Reflected power = Vref * Iref * Cos (theta) where Cos
>> (theta) is less than 1.
>
>
> Nope, what you seem to be talking about just above is *net* power.
>
> The forward voltage and forward current are in zero phase by definition so
> you got that right.
>
> The reflected voltage and reflected current are 180 degrees out of phase
> because of the rearward direction of travel of the current. Cos(180)=-1
> so reflected power is simply reflected voltage times reflected current.
>

> Total voltage at any point = forward voltage + reflected voltage
> Total current at any point = forward current + reflected current
> These two totals are phasor quantities.
>
> *Net* power equals total voltage times total current times cos(theta)
> where theta is the angle between the total voltage and total current.

4970. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:23:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED74D56.30706@ieee.org>
Source record: 116522
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
>>Not true. That 100 watts of reflected and 100 watts of re-reflected power
>> is being used for impedance transformation.
>
> ???? ???????? ?????
> Where did you get that whacky idea from?

From my EE and Physics profs at Texas A&M. They believed in conservation
of energy. When more RF energy has entered a lossless transmission line
than has exited, it is still there probably performing some useful
function. That useful function is impedance transformation without
which there wouldn't be any SWR circles on the Smith Chart.

>>You cannot draw upon energy that is being used for another purpose.
>
> Is that Newton's Law or folklore?

Simple conservation of energy. I honor that principle with more than
just lip service.

> What about the Entropy?

Entropy doesn't destroy energy.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

4971. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:36:43 UTC
From: wess@gtii.com
Message-ID: <vdek1e8f6nk2a8@corp.supernews.com>
Source record: 116523

'Doc <w5lz@cwis.net> wrote:

>
>
>wes,
> "Funkblaster" works locally in a munitions plant in
>the ECM department, where they make the 'foil' bundles
>to 'spoof' radar. He's the one that folds the 'foil'
>pieces into teensy-tiny airplanes. I work at the next
>bench, I test fly the folded 'foil' planes. If they
>don't fly, I send them back to "Funkblaster" to re-fold.
>After three failures and three re-folds, they have to be
>scrapped. At the end of a shift there are usually a few
>hundred ponds of rejects, so there's really no shortage
>of aluminum scrap...
> 'Doc

I understand what you are saying. Chaff bundles. Once upon a time
when F4-J phantoms flew the sky I was a MOS 6657 radar tech in the
Marines.

Wes

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

4972. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:39:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7510D.2010503@ieee.org>
Source record: 116524

Dave Shrader wrote:
> In the limit as the derivative of Power [Energy] goes to zero I still
> have the impedance transformation. Ergo! Power or Energy is not required
> to produce the transformation only a mismatch and a significant length
> of transmission line.

The virtual impedance caused by the impedance transformation is the
ratio of two superposed voltages to two superposed currents. If the
voltages are zero and the currents are zero, the virtual impedance
is undefined. Please describe a bench experiment that proves the
virtual impedance even exists when the voltages and currents are zero.
I can prove on paper that I will never finish this posting.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4973. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 12:55:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED754BB.5040303@ieee.org>
Source record: 116525

Dave Shrader wrote:
> The reflected current has ONE additional phase term! That phase term is
> the phase of the load impedance. So, your claim of cos(180)n = -1 is
> incorrect.

Nope, it's not. The angle between the reflected voltage and reflected
current is exactly 180 degrees for a lossless transmission line with
a purely resistive Z0 no matter what is the impedance of the load.

> The actual phase is cos (180 +/- arctan(Rl/SQRT(RL^2+XL^2)).
> You cannot neglect the phase shift caused by the mismatch.
>
> A 180 degree phase shift is valid ONLY for a purely resistive mismatch!!
> For all other conditions the Cos (theta) is less than 1.

I'm not talking about the phase shift at the load. I'm talking about
the relative phase angle between the reflected voltage and reflected
current. The reflected voltage and reflected current are shifted by
the same angle, whatever it happens to be. That is true no matter what
the impedance of the load. The Kirchhoff convention of adding a 180
degree phase shift to rearward traveling current causes the reflected
voltage and reflected current to be exactly 180 degrees out of phase
(in a lossless transmission line with a purely resistive Z0).

Bottom line, in a lossless system with a purely resistive Z0, the
cosine of the angle between the reflected voltage and reflected
current is ALWAYS -1 so the power in the reflected wave is Vref*Iref.

I'm sorry if I wasn't clear about that at first.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

4974. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 13:09:16 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vdelu5lmjvl38a@corp.supernews.com>
Source record: 116526

Another example of what Roy is describing may be seen/heard with
Whistlers (sp?). Because of dispersion in the ionosphere at VLF, a
lightning caused EM pulse in (say) the Southern hemisphere arrives in
the Northern hemisphere with its frequency components (note Fourier
expansion does not apply as a pulse is involved, not a periodic
waveform) spread in time.
Because some of a signal travels at a different velocity does not
indicate that part of that signal is traveling in the other direction.
The so called application of an apparent Fourier analysis to
non-periodic signals can provide insight into the nature of the signal.
It is important to understand the limitations of such a tool. Steady
state signals are not the same as one-time events. Roy understands.
73 Mac N8TT
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vde8na4j9nrbaa@corp.supernews.com...
> I said "if you apply a unidirectional potential to a conductor,
there's
> no depth at which the current reverses direction."
>
> You seem to not have noticed that the author of that text is speaking
of
> a sine wave, or for some reason consider a sine wave to be
> unidirectional(*). And don't see that while a sine wave delayed half a
> cycle is reversed relative to the undelayed wave (because it has
changed
> polarity in that time interval), but that a delayed unipolar pulse is
> still going in the same direction.
>
> If not, I hope at least some of the other readers have picked up on
> this. Probably everyone who will ever understand it has gotten it by
> now, so I won't trouble you by repeating it yet again. I'll gladly let
> Richard have the last word now if he chooses.
>
> And there's certainly no need to produce more citations telling about
> what happens to a sine wave when it's delayed. I certainly understand
> and agree with that.
>
> Just in case anyone is interested in what happens to a single step
> traveling along a conductor, it first encounters a high resistance
since

> the current initially travels only on the outside. Then, as time goes
> on, the current penetrates deeper, the loss decreases, and the step
> amplitude approaches its final, full value. The resulting waveform
> superficially resembles a single pole response like an RC, but anyone
> familiar with the phenomenon can recognize the distinctive shape
> immediately. In the time domain community, it's known as "dribble up",
> because of the slow approach to the final value. When analyzed, the
> shape of the waveform turns out to be the mathematical error function
> (often written as erf), which also describes the penetration of the
> current into the conductor. It can be seen even with relatively slow
> steps if the line is long enough. (I'll bet Reg has seen it plenty of
> times in the course of his work with transatlantic cables.) Magnetic
> materials, such as the Kovar leads used for reed relays, are
> particularly bad for this, since the penetration depth is shallower
than
> for non-magnetic materials. I spent quite a bit of time designing
> networks having a complementary response to flatten delay lines.
>
> Roy Lewallen, W7EL
>
> (*) Maybe I should have said "unipolar", which is really what I meant.
> But until a reflection occurs, the two are synonymous.
>

4975. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:18:19 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bb7p7e$6rasi$1@ID-134747.news.dfncis.de>
Source record: 116528

WING WIPER I was a 2747, we grunts were the real
radar techs, we carried them on our back. Semper
Fi

BTW my bother in law, Paul McInerney, was in one
MAW or another for 26 years,

73 es cul

wb3fup
a Salty Bear

<wess@gtii.com> wrote in message
news:vdek1e8f6nk2a8@corp.supernews.com...
> 'Doc <w5lz@cwis.net> wrote:
>
> >
> >
> >wes,
> > "Funkblaster" works locally in a munitions
plant in
> >the ECM department, where they make the 'foil'
bundles
> >to 'spoof' radar. He's the one that folds the
'foil'
> >pieces into teensy-tiny airplanes. I work at
the next
> >bench, I test fly the folded 'foil' planes. If
they
> >don't fly, I send them back to "Funkblaster" to
re-fold.
> >After three failures and three re-folds, they
have to be
> >scrapped. At the end of a shift there are
usually a few
> >hundred ponds of rejects, so there's really no
shortage
> >of aluminum scrap...
> > 'Doc
>
>
> I understand what you are saying. Chaff
bundles. Once upon a time
> when F4-J phantoms flew the sky I was a MOS 6657
radar tech in the

> Marines.
>
> Wes
>
> --
> Reply to:
> Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE
dot COM
> Lycos address is a spam trap.

4976. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:33:20 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030530103320.04226.00000512@mb-m15.aol.com>
Source record: 116530

Balloon antennas are doable and fun if you like to fool around, experiment and mostly wrestle with baloons rather than operate. Tried that, definitely not the stuff to do for contesting without ather antennas.

Now I would rather use (loaded) vertical as the main antenna, and if situation permits, have balloon supported vertical. I was eager to read the article about balloon supported vertical by some W5's in Antenna Compendium #7, only to find that it didn't work :-(

Rain, wind and low flying airplanes are enemies of balloon antennas.

Yuri, K3BU

4977. nova-686?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:34:00 UTC
From: aa1ll@email.com
Message-ID: <e85be400.0305300634.4930b859@posting.google.com>
Source record: 116529
Cross-posted to: sci.electronics.design,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Hi, I was wondering if anybody knows where to get the nova-686 shareware circuit analysis program. The link http://www.nova2002.com does not work.

Please also respond to aa1ll@email.com, thanks.

73, Paul, AA1LL
Mason, NH
http://www.qsl.net/aa1ll

4978. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:39:40 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <stqedv0gvr5qs568o9ga7o5fh1mpqeore7@4ax.com>
Source record: 116531

On Thu, 29 May 2003 09:11:45 -0400, wess@gtii.com wrote:

>You have a cite on that? I'd like to read that one.

I don't have details. The incident happened in the early 1990's. I believe the court case was filed in Montgomery County Maryland, the airport in question was Gaithersburg/Montgomery County airport. If I'm not mistaken, it was settled out of court. Fighting it would have been an expensive up-hill battle, so Obie (I know this guy by his nickname only) chose to settle out of court.

The SOB lawyer knew this would be the case, and that's why he abused the system in the way that he did.

Jake Brodsky, AB3A mailto:frussle@erols.com
"Beware of the massive impossible!"

4979. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:44:37 UTC
From: richardharrison@webtv.net
Message-ID: <22893-3ED76E55-429@storefull-2318.public.lawson.webtv.net>
Source record: 116535

Roy, W7EL wrote:
"I said, "If you apply a unidirectional potential to a conductor, there`s no depth at which the current reverses direction."

The current is unidirectional for 1/2-cycle. That`s all the time the current has to reach its maximum depth.

"Lags by 180-degrees" does not apply to d-c. Neither does penetration depth. D-C current density is nearly uniform through a cross-section.

The topic is lightning which most agree is composed of d-c and r-f. Static in the loudspeaker originates from r-f, not d-c. Roy`s statement is off-the-wall.

Best regards, Richard Harrison, KB5WZI

4980. Re: Help with SONY ICF2001D/ICF 2010

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 14:59:40 UTC
From: Bruce Wilson <b.e.wilson@usa.net>
Message-ID: <wIKBa.1036251$3D1.606772@sccrnsc01>
Source record: 116532

Truly a great radio.

I've had good luck with a 100 foot wire (30m or so) using anything from a 4:1 to 9:1 balun on the end (I also have a separate ground at the near end of the antenna to ground the balun). This antenna responds very nicely to 80m, but 20m is very weak. Does well on most broadcast and utility bands also. Keep it on the Local mode, though, as the antenna amp is prone to overload.

I think the chief advantage of an external is to get the antenna farther from the RFI in the house. I notice when camping (no RFI) that the whip antenna works as well when the radio is set to DX mode.

Also, I find that the 100Hz tuning increment means that most SSB is slightly mistuned at best, but it's usually less than the mistuning experienced in any HF net.

I presume you got it used? Sony doesn't even make the 2010 anymore, and the 2001 went out of production years ago.

--
Bruce Wilson
http://research.uvsc.edu/wilson
"Leader of The Lower Sideband" <Roxy.Muzak@gmx.net> wrote in message
news:3ed5fd4a_2@news.arcor-ip.de...
> G'day out there,
>
> I've just bought an ICF-2001D. I'd like to know about your positive &
> negative experiences with antennas.
> Is there any antenna-equipment that significantly improves reception?
> Looking forward to get your opinions...
>
>
>

4981. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:02:23 UTC
From: Bruce Wilson <b.e.wilson@usa.net>
Message-ID: <3oKBa.1036275$3D1.606751@sccrnsc01>
Source record: 116533
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

I have a HamStick on my new Subaru Forester. When I transmit 100W in parts of the 20m band my windshield wipers operate. I avoid 20m now, but I also know that other bands might be doing something else to the computer, so I never operate while driving.

--
Bruce Wilson
http://research.uvsc.edu/wilson
<Mary5615@com.net> wrote in message news:3ED66C63.A6B88674@com.net...
> Come on people, who is bs-ing who.
> I had a kenwood ts-430 in my subaru for 3 years, used it all of the time
> and nothing happened to my car.
>
> Did I just get lucky? Maybe.
>
> Vito wrote:
> >
> > Russ wrote:
> > >
> > > So tell me, how are BMW NA, Toyota and Subaru going to tell if the
> > > damage was caused by RF or lightning?
> >
> > All service managers hear "the voices". They say (ghostly voice) "It's
> > the customers fault" or "RF or lightning? doesn't matter cuz both are
> > excluded from warranty. Bwoooo"
> >
> > (c: K3DWW

4982. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:11:35 UTC
From: radioranch <radioranch@qth.com>
Message-ID: <3ED774A7.4020402@qth.com>
Source record: 116534
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Have no trouble in my Subaru Legacy, of course I did have to put lots of ferrite beads around to clean it up. Thats whats wrong with most of you guys systems, not clean!! Try exact proper lengths on coax...plenty of grounding...ANY< I SAY any of these foreign cars can be used with 500 watt ham any where, if you just get em RIGHT... If all else fails, cover the computer module and ground it ! 73 Murray

Bruce Wilson wrote:
> I have a HamStick on my new Subaru Forester. When I transmit 100W in parts
> of the 20m band my windshield wipers operate. I avoid 20m now, but I also
> know that other bands might be doing something else to the computer, so I
> never operate while driving.
>

4983. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:20:07 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED77659.2060308@attbi.com>
Source record: 116536
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Jerry wrote:

! Before the days of imports, we used to joke
> that we could hear a Ford come by while we were listening to the AM
> radio--still happens sometimes. Chevrolets always seemed (or all GM cars
> seemed to be) to be "tighter" in the RF department. I could put a
> radio in a Ford and the ignition noise would be horrific. Put the same
> radio in a GM car--quiet as
> a mouse. Seems to still be that way after all those years.
>
>
> 34
>
> Jerry

[SNIP]

Cuss those darn Ford fuel injectors!! Praise the Lord for good Noise
Blankers!

Deacon Dave, W1MCE
2003 Ford Ranger, Icom 706 MK IIg

4984. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:26:14 UTC
From: tdonaly@aol.com
Message-ID: <20030530112614.08597.00000576@mb-m24.aol.com>
Source record: 116537

Aitch wrote,
>Match the voltages and currents across the boundaries.
>Use equations for "traveling waves", they've been documented in detail for
>centuries.
>It's called matching wave functions across boundaries.
>buy a book
>
>"Tdonaly" <tdonaly@aol.com> wrote in message
>news:20030529235606.04402.00000185@mb-m04.aol.com...
>> Aitch wrote,
>> >When the impedances are mismatched at the connections (impedance
>> >discontinuities), there is some energy stored in the source and the line
>> >such that the voltages and currents match across the boundaries.
>> >In Quantum Mechanics it was matching wave functions across boundaries.
>> >73
>> >H.
>> >NQ5H
>> >
>>
>> Care to get more specific?
>> 73,
>> Tom Donaly, KA6RUH
>>

That's all you can say? "Buy a book?" If you're a physicist, Aitch, I'm a
three-headed
leghorn in cowboy boots.
73,
Tom Donaly, KA6RUH

4985. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:34:29 UTC
From: Bruce Wilson <b.e.wilson@usa.net>
Message-ID: <9SKBa.4091$M01.292@sccrnsc02>
Source record: 116538
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Quite true, I haven't grounded the radio chassis, and I haven't placed ferrite beads anywhere. I did keep my coax as short as possible, though.

Where should the ferrite beads be placed? I'll put a choke on the power and power ground wires close to the radio and get a good chassis RF ground. Are there places in the auto wiring that need some chokes?
--
Bruce Wilson
http://research.uvsc.edu/wilson
"radioranch" <radioranch@qth.com> wrote in message
news:3ED774A7.4020402@qth.com...
> Have no trouble in my Subaru Legacy, of course I did have to put lots of
> ferrite beads around to clean it up. Thats whats wrong with most of you
> guys systems, not clean!! Try exact proper lengths on coax...plenty of
> grounding...ANY< I SAY any of these foreign cars can be used with 500
> watt ham any where, if you just get em RIGHT... If all else fails,
> cover the computer module and ground it ! 73 Murray
>
> Bruce Wilson wrote:
> > I have a HamStick on my new Subaru Forester. When I transmit 100W in
parts
> > of the 20m band my windshield wipers operate. I avoid 20m now, but I
also
> > know that other bands might be doing something else to the computer, so
I
> > never operate while driving.
> >
>

4986. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 15:48:55 UTC
From: richardharrison@webtv.net
Message-ID: <22893-3ED77D67-443@storefull-2318.public.lawson.webtv.net>
Source record: 116540

Mac, N8TT wrote:
"Another example of what Roy is describing may be seen/heard with Whistlers---."

That could be relevant. Whistler is the name given to a high-pitched sound derived from natural low-frequency radio waves traveling between the earth`s poles. The sound varies in pitch.

Another type of whistler: Audio-frequency waves from lightning-stroke radiation that has reached the ionosphere. This type may pertain to wires somehow and surely pertains to r-f, more than to d-c.

Mac also wrote:
(note Fourier expansion does not apply as a pulse is involved, not a periodic waveform)

Well, Fourier analysis isn`t required on a sinewave.

When I worked in Tierra del Fuego, we had a visit from researchers in Antarctica, who, thanks to a grant, were down there studing Whistlers. Grants are the important item and often fund studies that seem useless but who knows? Something of great importance may evolve.

Best regards, Richard Harrison, KB5WZI

4987. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 16:13:49 UTC
From: tdonaly@aol.com
Message-ID: <20030530121349.08432.00000656@mb-m24.aol.com>
Source record: 116539

MattD.. wrote,
>On 30 May 2003, Andy Cowley <andy.cowley@uwe.ac.uk> choked back the
>nausea and found the strength to type:
>
>> Andy Cowley wrote:
>
>>> Does measuring it with a bolometer count? I know it isn't water but
>>> the principal is the same, you just don't get the cup of tea at the
>>> end.
>>>
>>
>>
>> principle, principle, principle, principle, principle, principle,
>>
>
>Oh, I don't know. There's a headmaster in my son's school that I would
>quite happily use to measure RF. Methods on a postcard, please...
>
>--
>MattD..
>

The results of measuring r.f with an ass aren't valid unless done at
high power.
73,
Tom Donaly, KA6RUH

4988. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 16:15:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bb7vk5$da3$1@news.service.uci.edu>
Source record: 116541

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:d6kddv0c8qfod1dlb39rp2ihmsr3srdafu@4ax.com...
> Hi Jim,
>
> So the long and the short of it is that Cecil has solved for one
> condition and rendered it into another? That is, he has turned the
> matched condition solution into performing math for a mismatched load?
>
> 73's
> Richard Clark, KB7QHC

I don't know if there's a simple answer to it. It's difficult to conceptualize a set of conditions for which the equation with the substitution would hold. His final solution, P1+P2+P3+P4=Ptot is certainly correct, as is the equivalence to Pfwd1+Pref2. It's just that you can't get there from here, so to speak. He may have worked the problem backward from the solution. It's certainly possible to do an energy analysis based on the wave analysis. But as has already been said, it's apparently not possible to simply sum power components in the way that has been attempted - except apparently as absolute values. It might still be possible to flesh out that idea further. But from here it looks to be much simpler than that. I just see 100 watts emerging from the source. With no reflection from the match point; 100 watts traverses the discontinuity. With forward power between the match point and the load measuring 100 watts plus reflection, the power to the load equals forward measured power minus measured reflected power. But from this exercise it becomes apparent to me at least, that power meter readings cannot be taken literally as energy flow measurements.

73, Jim AC6XG

4989. Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 16:35:39 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030530123539.15851.00000558@mb-m28.aol.com>
Source record: 116542

I am considering buying an FT-8900 and if I do, I've been trying to decide if I should get a triband antenna or use a duplexer with my current dualband antenna and buy a 6m hamstick. The cost difference is less than $20 if I get the hamstick when you throw in the cost of the mount for either antenna and the duplexer. The triband antennas I am thinking of are either the Comet SB14 or the SB15. If I get one of those, I might go for the SB14 because of the shorter size. According to what I've read, the gain on 6m on both antennas is the same, with the SB15 showing more gain on 2m/70cm, but I'm not real concerned with gain on those bands. The mounts I'm considering are the Comet CP-5M or the Diamond K400C (or 3/8c for the hamstick). Any opinions?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

4990. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 16:43:32 UTC
From: Vito <vito@crosslink.net>
Message-ID: <3ED78A34.C6E14FAC@crosslink.net>
Source record: 116527
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

Mary5615@com.net wrote:
>
> Come on people, who is bs-ing who.

Certain mfgr's are BSing owners. I dunno about Subaru but BMW says their warranty only covers defects in materials and workmanship. So if your new BM's computer controlled brakes put you in a ditch because it is susceptable to common RFI then that's a design fault and not covered.

> I had a kenwood ts-430 in my subaru for 3 years, used it all of the time
> and nothing happened to my car. Did I just get lucky?
>
Yes, altho "lucky" may be inappropriate. Sort of like me being lucky I wasn't shot by a jealous young husband. (c:
73, K3DWW

4991. Re: Attenuator vs RF Gain Pot - The Real Deal

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 16:55:48 UTC
From: Ed Senior <eseniorsREMOVE@earthlink.net>
Message-ID: <o2MBa.25739$lo.2112925@newsread2.prod.itd.earthlink.net>
Source record: 116543

Hi Bob -

In the typical HF receiver, RF gain is simply manual control
of the AGC (Automatic Gain Control) circuitry... nothing more,
and nothing less. This is why when you turn down the RF gain,
the S-meter moves up as though a strong signal was being received.
This also means that using MGC does nothing to protect the receiver
from strong signals that the AGC wouldn't do as well or better.

Unless you just enjoy diddling the RF Gain knob, about the only
reason to do so is if you don't want AGC action bringing up the
background noise between elements of your desired signal.
And "Slow" AGC should do about as well in those cases.

In the typical HF receiver, the preamp and first mixer are not
included in the AGC loop. So reducing gain via MGC/AGC
will not protect those components from strong-signal overload.
That is what the front end attenuator is for.

My FT-1000D has a more versatile front-end attenuator setup.
It offers preamp in, preamp bypassed, 6, 12, and 18 dB attenuation
positions. If I increase attenuation by 6 dB, and the noise level
indicated by the S-meter goes down by MORE than 6 dB, this
means that the noise level is dominated by intermodulation products.
That means that the attenuator is needed, and that using it will
IMPROVE weak-signal SNR.

But that is the sophisticated approach. Yaesu's recommended
short-cut is just to bypass preamp and/or increase attenuation
until the background noise level does not exceed S 1 on the meter.
Normally, the need for this only occurs on 7 MHz and below.

The bottom line: I suggest you run AGC all the time. And if
the background noise (to include background signal clutter) is
so high that it reads S1 or S2 with the 20 dB attenuator ON, then
leave the attenuator ON. But if the attenuator drops your noise
and clutter to S0, then do not use the attenuator.

Enjoy your listening,

73, Ed W6LOL

"Robert11" <rgsrose@tiac.net> wrote in message
news:bb28rc$79p$1@slb1.atl.mindspring.net...
> Hello:
>
> Have a JRC NRD 545, but am a newbie re using it.

> But, the folowing question is probably general in scope, irrespective of
> receiver, I would think.
>
> Could someone explain, please, the difference in attenuating a "too
strong"
> input signal
> by using the radio's Attenuator (button; -20 db) vs just turning down the
rf
> gain pot ?
>
> I understand that the attn works immediately at the antenna input, and the
> rf gain pot on the IF,
> but when, and under what conditions, would one use each ?
>
> Thanks,
> Bob
>
>

4992. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 17:27:39 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb84abnrb1@titan.btinternet.com>
Source record: 116544
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3ED739FA.28229622@uwe.ac.uk...
> Gary Peach wrote:
> >
> > Power is what boils the water for a cuppa tea.
> > I just realised our electric jug heats up a couple of litres of water
about
> > six times as fast as the maximum legal power on HF.
> >
> > Tea anyone?
> >
> > All a load of bolometers I think.
> >
> > Hands up, How many in this newsgroup measure their output power by the
> > temperature rise in a known volume of water in a given time?
> >
>
>
> Does measuring it with a bolometer count? I know it isn't water but the
> principal is the same, you just don't get the cup of tea at the end.

Yes if the calibration of your coupler is accurately known.
I think that accurate power measurement is one of the most difficult to
achieve with any sort of precision.

If you can't have the tea then you'll have to drink Scottish Water.

Gary7SLL

4993. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 17:28:46 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb84cenvn1@titan.btinternet.com>
Source record: 116545
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3ED74B4C.6077B1B5@uwe.ac.uk...
> Andy Cowley wrote:
> >
> > Gary Peach wrote:
> > >
> > > Power is what boils the water for a cuppa tea.
> > > I just realised our electric jug heats up a couple of litres of water
about
> > > six times as fast as the maximum legal power on HF.
> > >
> > > Tea anyone?
> > >
> > > All a load of bolometers I think.
> > >
> > > Hands up, How many in this newsgroup measure their output power by the
> > > temperature rise in a known volume of water in a given time?
> > >
> >
> > Does measuring it with a bolometer count? I know it isn't water but the
> > principal is the same, you just don't get the cup of tea at the end.
> >
>
>
> principle, principle, principle, principle, principle, principle,

I can't get the Principle, will the Headmaster do instead? :)

Gary7SLL

4994. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 17:59:32 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb8664$r4u$1@titan.btinternet.com>
Source record: 116546
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED74D56.30706@ieee.org...
> Gary Peach wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> >>Not true. That 100 watts of reflected and 100 watts of re-reflected
power
> >> is being used for impedance transformation.
> >
> > ???? ???????? ?????
> > Where did you get that whacky idea from?
>
> From my EE and Physics profs at Texas A&M.
> They believed in conservation of energy.

Does that mean they found it difficult to get out of bed in time for the
first tutorial?

> When more RF energy has entered a lossless transmission line than has
exited,

Of infinite length?

> it is still there probably performing some useful function.

Only probably?

>That useful function is impedance transformation without
> which there wouldn't be any SWR circles on the Smith Chart.

If you would like a good exposition of the Smith Chart I recomend:
Chapter 9 of "The Circuit Analysis of Transmission Lines"
by John L Stewart, Associate Professor of Electrical Engineering, University
of Southern California, Los Angeles.
Library of Congres Catalog Card Number 58-10734.

The shrinking impedence as the vector rotates around the chart is due to
e^(-2alpha d) the line attenuation.

Stewart gives the instructions for drawing your own Smith Chart and works
some examples for you including a Cavity impedence plot.

The first problem is
Invert the following complex numbers using the Smith Chart:
1+j1, 0.5+j2, 2+j0.5, 500-j100, -20+j3

> >>You cannot draw upon energy that is being used for another purpose.
> >

> > Is that Newton's Law or folklore?
>
> Simple conservation of energy.

Not so simple in this Universe of Chaos.

> I honor that principle with more than just lip service.

> > What about the Entropy?
>
> Entropy doesn't destroy energy.

Arguable.
Is the total energy in the Universe constant?

It's lucky for you that we are talking perfect lines,
presumably they are held at a very low temperature and are superconductive.

Gary7SLL

4995. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:19:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7A0C0.5000908@ieee.org>
Source record: 116548
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:

> W5DXP wrote:
>>When more RF energy has entered a lossless transmission line than has
>> exited,
>
> Of infinite length?

Of any length of lossless line. Feel free to try the exercise
for yourself. Take 100 feet of lossless line and calculate the
RF energy dynamically stored in it for different conditions of
SWR. It is absolutely a no-brainer to realize that the energy that
has been input into a system and has not yet exited the system
is still in the system. Incidentally, that is why high SWR systems
are more lossy than flat systems. There is more energy flowing
in the high SWR system.

>>it is still there probably performing some useful function.
>
> Only probably?

Performing some function, no doubt. Whether it is a useful
function may be open to question.

> The shrinking impedence as the vector rotates around the chart is due to
> e^(-2alpha d) the line attenuation.

We don't have that conceptual problem with lossless lines. :-)

> Is the total energy in the Universe constant?

The total energy in any closed system is supposed to
be constant. Is the Universe a closed system? :-)
--
73, Cecil, W5DXP

4996. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:20:21 UTC
From: RadioNerd <RadioNerd@127.0.0.1>
Message-ID: <br6fdv8b3oj5gqun39ujkagdjj2hge7s25@4ax.com>
Source record: 116547

Great... A group of real smart guys here.

Since when did current flow from positive to negative?

Go reread your Physics 101 text.

If you ever could comprehend what you read.

No wonder some of the guys that have ham licenses give the few with
real educations a bad name. That's why I returned my extra class ham
license and dumped all my gear 20 years ago.

Also, if you ever manage to punch the right buttons on your TV remote
and see The Weather Channel, they've run a story on lightning several
times. MOST lightning strikes originate ON THE GROUND and GO UP as
proved by many high speed films taken during thunderstorms. Also what
you see as a single lightning strike is usually 3 to 25 (and sometimes
more) seperate strikes in a small fraction of a second, all following
the ionization trail of the first strike. This has been known since
the 1940s.

RadioNerd
Spammers are mailbombed and their websites DOS attacked.
Stupid spammers with telephone numbers listed get phone DOS attacked.

On Fri, 30 May 2003 11:45:40 -0000, "David Robbins" <k1ttt@arrl.net>
wrote:

>
>"Alan Fowler" <amfowler@melbpc.org.au> wrote in message
>news:3ed83ac1.1816962@news.melbpc.org.au...
>> richardharrison@webtv.net (Richard Harrison) wrote:
>>
>> >Alan Fowler wrote:
>> >"9. The important point is that there is a large DC current flowing from
>> >the positive source to the negative sink. There is no rapidly changing
>> >current direction, so there will not be an r.f. signal generated."
>> >
>> >Surely Alan jests.
>> All the time - see
>> http://member.melbpc.org.au/~amfowler/jests.htm
>> >
>> >Everyone has heard radio static!
>>
>> See my earlier postings. The static is produced
>> during the early stage of a stroke as the leader grows from
>> the charged cloud towards the ground in a series of rush

>> forward, stop until charge builds up at the end of the
>> leader, another rush forwards, etc.
>
>these are relatively small sources of noise. they have been used to track
>the development of leaders within the cloud using a network of ground based
>receivers. the large source of energy is the draining of charge out of the
>leader channel once the connection to the ground streamer is made.
>
>> >
>> >False! D-C from plus to minus only? Why is it important which direction
>> >current is instantaneously flowing in a huge "static" discharge? Is
>> >polarity relevant to protection or utilization? Electrons are likely
>> >more mobile than positive ions which are about 2000 times more massive
>> >than electrons.
>>
>> It's not really important. But I understand that
>> the bottom of a cloud is more likely to carry a large
>> positive charge, while the image on the ground will be
>> negative. Plus to minus - just conventional notation.
>
>the most common situation is when the base of the cloud is negatively
>charged and the ground becomes positive.
>
>> >
>> >False! No rapidly changing current direction? The rapidly changing
>> >current directions are generated by the transient nature of lightning.
>> >There`s no way a current can be abruptly changed and not generate a
>> >spectrum of alternations.
>>
>> But the transfer of energy is unidirectional.
>> >
>> >False! No r-f signals generated?
>> >Radio started with a spark-gap oscillator, an interrupted high voltage
>> >discharge. A lightning bolt is a manifestation of the above, in spades!
>> >Confirmation is in the concurrent radio noise tunable across a wide
>> >spectrum in radios far from the lightning discharge.
>>
>> As I said earlier the static is generated during the
>> initial stage as the leader heads for the ground in a series
>> of short rushes. This probably looks like a series of
>> pulses which will produce a signals across a broad spectrum.
>
>yes, but relatively weakly compared with the large surge when the
>accumulated charge drains in the visible part of the stroke.
>
>>
>> Alan. [Hobbies - Hunting down furphies and unstuffing
>> stuffed shirts.]
>> >
>> >Such baloney!

>> >
>> >Best regards, Richard Harrison, KB5WZI
>>
>

4997. Re: Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:23:33 UTC
From: Allodoxaphobia <nobody@frontier.net>
Message-ID: <slrnbdf8d4.hrf.nobody@animas.frontier.net>
Source record: 116549

On 30 May 2003 16:35:39 GMT, VHFRadioBuff hath writ:
> I am considering buying an FT-8900 and if I do, I've been trying to decide if I
> should get a triband antenna or use a duplexer with my current dualband antenna
> and buy a 6m hamstick.

err, ummm... Would this be for 6M SSB, or 6M FM?

FYI: http://jonz.net/W#DHJ/6mhalo.html

73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | frontier.net | DM68mn SK

4998. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:24:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7A1EC.4030704@ieee.org>
Source record: 116551

RadioNerd wrote:
> Since when did current flow from positive to negative?

Since Benjamin Franklin said so. Didn't you know that
holes can flow just as easily as electrons?
--
73, Cecil, W5DXP

4999. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:25:33 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7A1CB.20603@attbi.com>
Source record: 116550

Here is your experiment.

Materials required:
1) Smith Chart
2) Drawing Compass
3) Straight edge

Action required:

1) Using the drawing compass draw a circle around the normalized center
on the Smith Chart at any VSWR level you choose.
2) Using the straight edge draw a straight line from the normalized
center of the Smith Chart to any point on the circumference at any
wavelength you choose.
3) The intersection of the straight line and the VSWR circle is the
normalized transformed impedance.

Question: Where's the power/energy in this experiment?

You can create all the words you want but they do not change the
operation of a transmission line under VSWR.

The CAUSATIVE Event is the mismatch at the load.
The Impedance transforming event is the result of that mismatch and the
LENGTH, in wavelengths, OF THE TRANSMISSION LINE.

Energizing the transmission line DOES NOT CAUSE the transformation it
simply allows it to be measured and you will get the same results as the
Smith Chart.

Deacon Dave, W1MCE
+ + +
W5DXP wrote:
> Dave Shrader wrote:
>
>> In the limit as the derivative of Power [Energy] goes to zero I still
>> have the impedance transformation. Ergo! Power or Energy is not
>> required to produce the transformation only a mismatch and a
>> significant length of transmission line.
>
>
> The virtual impedance caused by the impedance transformation is the
> ratio of two superposed voltages to two superposed currents. If the
> voltages are zero and the currents are zero, the virtual impedance
> is undefined.

[SNIP] No, the impedance is still there! All that you've described is
the inability to measure it!!
[UNSNIP]

Please describe a bench experiment that proves the
> virtual impedance even exists when the voltages and currents are zero.
> I can prove on paper that I will never finish this posting.

You will never concede that the impedance is there if you insist on
measurement as the only method to determine it. It can be easily
determined from a Smith Chart, or, from the transmission line equations
or from first principles using the solutions of 2nd order differential
equations.

For me it's simple: I have finished this posting!

Deacon Dave, W1MCE

5000. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:27:00 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7A223.1030006@attbi.com>
Source record: 116552

Your equations are WRONG!! You must include the phase angle[s] between
the voltages and currents!!

DD

W5DXP wrote:
> Richard Clark wrote:
>
>>> Can you please identify the power term in the last equation?
>>
>>
>> HAS NOT BEEN RESPONDED TO.
>
>
> The last equation was Z=(Vfor+Vref)/(Ifor+Iref)
>
> or Z=(Vfor+Vref)/(Pfor/Vfor + Pref/Vref) if you prefer.
>
> Does it take a genius to put power in the equation?

5001. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:28:15 UTC
From: Allodoxaphobia <nobody@frontier.net>
Message-ID: <slrnbdf8lu.hrf.nobody@animas.frontier.net>
Source record: 116553
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Fri, 30 May 2003 09:43:32 -0700, Vito hath writ:
> Mary5615@com.net wrote:
>>
>> Come on people, who is bs-ing who.
>
> Certain mfgr's are BSing owners. I dunno about Subaru but BMW says their
> warranty only covers defects in materials and workmanship. So if your
> new BM's computer controlled brakes put you in a ditch because it is
> susceptable to common RFI then that's a design fault and not covered.

Ah, but, it should pique the interest of a Product Liability Lawyer.

Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | frontier.net | DM68mn SK

5002. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:29:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pl8fdvstt5n5445pnfismaccrgc3bed3ku@4ax.com>
Source record: 116554

On Fri, 30 May 2003 07:15:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
> who am I to object?
WHO indeed. Not the ghost of Galileo? Not O'Cam? Which personality
this time?

73's
Richard Clark, KB7QHC

5003. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:32:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9r8fdvgflomt1ulhhtc63i5a4881ftqd6r@4ax.com>
Source record: 116555

On Fri, 30 May 2003 07:12:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Does it take a genius to put power in the equation?
I will let Roy take the measure of that.

5004. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:38:52 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7A4EA.4010704@attbi.com>
Source record: 116556
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

> Certain mfgr's are BSing owners. I dunno about Subaru but BMW says their
> warranty only covers defects in materials and workmanship. So if your
> new BM's computer controlled brakes put you in a ditch because it is
> susceptable to common RFI then that's a design fault ...

[SNIP] Are not manufacturers responsible for design faults?? Lawyers
love those design faults!!!
[UNSNIP]
... and not covered.
>
>
>>I had a kenwood ts-430 in my subaru for 3 years, used it all of the time
>>and nothing happened to my car. Did I just get lucky?
>>
>
> Yes, altho "lucky" may be inappropriate. Sort of like me being lucky I
> wasn't shot by a jealous young husband. (c:
> 73, K3DWW

5005. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 18:42:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdfccasmpfka24@corp.supernews.com>
Source record: 116561

Actually, power is the derivative of energy; energy is the integral of power. When the power is zero, energy can still be present. An example is in a tank circuit, at the points in the cycle where I or V is zero. When I or V is zero, power is zero because there's no energy being moved. When I is zero, the energy is all stored in the electric field in the capacitor. When V is zero, it's all stored in the magnetic field in the inductor. Power is non-zero while the energy is being swapped back and forth. Examination of the power waveform on a transmission line shows an identical phenomenon -- energy is moved back and forth each cycle, and is completely in storage at four instants during each cycle of V and I (unless the net power transfer is zero due to an open, short, or purely reactive load, in which case the power is zero only for two instants per cycle of V and I).

In a lot of these discussions, power and energy are being used interchangeably, which aids in reaching wrong conclusions. And of course, simply throwing away time information and dealing only with average power or energy (and then freely interchanging those) further obscures what's really happening.

I personally think the whole argument of whether power, energy, voltage, or current "causes" an impedance transformation is silly. But different things are important to different folks.

Roy Lewallen, W7EL

Dave Shrader wrote:
> I have an impedance discontinuity whenever Zo <> ZL. All I need is a
> significant length of transmission line to get an impedance
> transformation!
>
> In the limit as the derivative of Power [Energy] goes to zero I still
> have the impedance transformation. Ergo! Power or Energy is not required
> to produce the transformation only a mismatch and a significant length
> of transmission line.
>
> This whole discussion has attributed as causality the ability to measure
> the results of causality. Restated, a signal is required to make a
> measurement of the transformed impedance. The signal does NOT cause the
> transformation but only allows it to be measured. The transformation is
> caused by Zo, ZL and wavelength of the line.
>
> Deacon Dave, W1MCE
>
> W5DXP wrote:

>
>> Dave Shrader wrote:
>>
>>> I don't need any power to achieve an impedance transformation in a
>>> transmission line system. All I need is a mismatch!
>>
>>
>>
>> If power is zero, then voltage and current are also zero. How are
>> you going to achieve an impedance transformation without any
>> voltages and currents?
>
>

5006. Re: nova-686?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:17:14 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <_6OBa.1047814$F1.124180@sccrnsc04>
Source record: 116557
Cross-posted to: sci.electronics.design,rec.radio.amateur.equipment,rec.radio.amateur.antenna

"Paul Gili" <aa1ll@email.com> wrote in message
news:e85be400.0305300634.4930b859@posting.google.com...
> Hi, I was wondering if anybody knows where to get the nova-686 shareware
> circuit analysis program. The link http://www.nova2002.com does not work.
>
> Please also respond to aa1ll@email.com, thanks.

Paul, I believe that Robert met his demise some time back. He presented a moving target the last few years around 586 and 686. I've tried to contact him on more than one occasion.

I have 586 and 686, as well as the original which I paid for. He sent the others gratuiously when they became available. If you have a high speed connection, I can zip the files and send them, if you'd like to just give me an address, I can send a floppy.

Regards

W4ZCB

5007. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:20:10 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <-w-dnS9SAIL1MkqjXTWcpQ@crocker.com>
Source record: 116558

"RadioNerd" <RadioNerd@127.0.0.1> wrote in message
news:br6fdv8b3oj5gqun39ujkagdjj2hge7s25@4ax.com...
> Great... A group of real smart guys here.
>
> Since when did current flow from positive to negative?

engineers talk about current flowing from positive to negative. physicists talks electron flow from negative to positive most of the time. solid state physicists/engineers talk about hole and electron flow... I never did like flowing holes, but that concept is as good as anything. when I got out of college and my sister got out of airforce electronics school I had to reverse all my currents when trying to answer a question for her as they were taught electron flow.

two conventions, they have always been at odds, but as long as you are consistent you will get the same answers(except for an arrow here and there and a few +/- signs maybe).

5008. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:22:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kqbfdvo483d3cd1u8s2b9fc2n9a6mdafqk@4ax.com>
Source record: 116559

On Fri, 30 May 2003 06:59:38 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Roy Lewallen wrote:
>> Sounds like H and Cecil have a bit of talking to do with each other.
>
>Why?
With an existentialist cry like that, Roy, perhaps you should have
added Sartre.

5009. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:28:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <v0cfdvku6jc0n1h8kq8nj1o24q26ejuto5@4ax.com>
Source record: 116560
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 30 May 2003 08:35:39 +0000 (UTC), "Gary Peach"
<garypeach@btinternet.com> wrote:

>
>What about the Entropy?

Cecil's getting on, and lacks the energy to pursue that. The positive
evidence is found in the rise of his chaotic postings over time. I
doubt it took him a year to shop an editor in the flower of his youth.
Gutenberg had more patience.

73's
Richard Clark, KB7QHC

5010. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:34:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7B237.6010206@ieee.org>
Source record: 116562

Dave Shrader wrote:
> 3) The intersection of the straight line and the VSWR circle is the
> normalized transformed impedance.
>
> Question: Where's the power/energy in this experiment?

What experiment? There's no experiment. All there is is a sheet of
paper. This is what I mean by otherwise rational individuals being
seduced by their math models. Of course there's no power/energy
on that sheet of paper. If there were, it would probably burn up.
Why do I have to state that fact?

Earth to Dave: Sheets of paper do not cause anything to happen
inside a transmission line. In fact, it is supposed to be exactly
the opposite. Just because there's a virtual impedance on a sheet
of paper doesn't mean it exists in reality.

> Energizing the transmission line DOES NOT CAUSE the transformation it
> simply allows it to be measured and you will get the same results as the
> Smith Chart.

Uhhhhhhh Dave, the Smith Chart is a piece of paper, not a transmission
line. The Smith Chart is NOT an actual real experiment.

> [SNIP] No, the impedance is still there!

Please prove it somewhere else besides on a sheet of paper.

> You will never concede that the impedance is there if you insist on
> measurement as the only method to determine it.

You're right! I will never concede that the impedance is there if
all I ever see is a sheet of paper. Take an ohm-meter and put the
probes on that sheet of paper. What's the measured impedance at the
1.0+j1.0 point on that sheet of paper?
--
73, Cecil http://www.qsl.net/w5dxp

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5011. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:39:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7B375.7050501@ieee.org>
Source record: 116563

Dave Shrader wrote:
> Your equations are WRONG!! You must include the phase angle[s] between
> the voltages and currents!!

Shirley you jest! The phase angles are all taken care of because phasor addition is being performed on voltage phasors and current phasors.
--
73, Cecil http://www.qsl.net/w5dxp

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5012. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:42:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7B411.2090007@ieee.org>
Source record: 116564
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Richard Clark wrote:
> I doubt it took him a year to shop an editor in the flower of his youth.

In the flower of my youth, Intel guaranteed publication.
--
73, Cecil http://www.qsl.net/w5dxp

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5013. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:44:48 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7B45D.3050100@attbi.com>
Source record: 116565

There are many types of experiments. Recall those conducted by Albert
Einstein.

W5DXP wrote:
> Dave Shrader wrote:
>
>> 3) The intersection of the straight line and the VSWR circle is the
>> normalized transformed impedance.
>>
>> Question: Where's the power/energy in this experiment?
>
>
> What experiment? There's no experiment. All there is is a sheet of
> paper. This is what I mean by otherwise rational individuals being
> seduced by their math models. Of course there's no power/energy
> on that sheet of paper. If there were, it would probably burn up.
> Why do I have to state that fact?
>
> Earth to Dave: Sheets of paper do not cause anything to happen
> inside a transmission line. In fact, it is supposed to be exactly
> the opposite. Just because there's a virtual impedance on a sheet
> of paper doesn't mean it exists in reality.
>
>> Energizing the transmission line DOES NOT CAUSE the transformation it
>> simply allows it to be measured and you will get the same results as
>> the Smith Chart.
>
>
> Uhhhhhhh Dave, the Smith Chart is a piece of paper, not a transmission
> line. The Smith Chart is NOT an actual real experiment.
>
>> [SNIP] No, the impedance is still there!
>
>
> Please prove it somewhere else besides on a sheet of paper.
>
>> You will never concede that the impedance is there if you insist on
>> measurement as the only method to determine it.
>
>
> You're right! I will never concede that the impedance is there if
> all I ever see is a sheet of paper. Take an ohm-meter and put the
> probes on that sheet of paper. What's the measured impedance at the
> 1.0+j1.0 point on that sheet of paper?

5014. Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:50:36 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <gCOBa.606$xM5.914815@news2.news.adelphia.net>
Source record: 116566

What troubles will I run into by using 8 awg stranded (twisted) copper cable for ground. Wire used to make up cable looks like at about 14 awg. Everything is bare copper, no steel or aluminum.

Jim

5015. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:57:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qjdfdv40bsrpqqcqtc7ndsillhbmfsg0id@4ax.com>
Source record: 116567
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 30 May 2003 14:42:09 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>In the flower of my youth, Intel guaranteed publication.

I hesitated to point that out....

5016. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 19:58:37 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb8d5djbn1@hercules.btinternet.com>
Source record: 116568
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED7A0C0.5000908@ieee.org...
> Gary Peach wrote:
>
> > W5DXP wrote:
> >>When more RF energy has entered a lossless transmission line than has
> >> exited,
> > >
> > > Of infinite length?
>
> Of any length of lossless line. Feel free to try the exercise
> for yourself. Take 100 feet of lossless line and calculate the
> RF energy dynamically stored in it for different conditions of
> SWR. It is absolutely a no-brainer to realize that the energy that
> has been input into a system and has not yet exited the system
> is still in the system. Incidentally, that is why high SWR systems
> are more lossy than flat systems. There is more energy flowing
> in the high SWR system.

GIVEN a line of length n lamda, and loss alpha: how many times will the
energy traverse the line before it reaches one thousandth of its starting
power when the line is terminated in a "perfect short circuit"?

> >>it is still there probably performing some useful function.
> > >
> > > Only probably?
>
> Performing some function, no doubt. Whether it is a useful
> function may be open to question.
>
> > The shrinking impedence as the vector rotates around the chart is due to
> > e^(-2alpha d) the line attenuation.
>
> We don't have that conceptual problem with lossless lines. :-)

We don't have the lossless lines either.
So a Smith Chart becomes more than academic.

> > Is the total energy in the Universe constant?
>
> The total energy in any closed system is supposed to
> be constant.
>Is the Universe a closed system? :-)

You tell me.

If we observe that the Universe tends to be a sphere with us apparently at teh centre, then the probability is that we are not seeing the edges of the universe, but the limits of precision of teh instruments used to do teh looking.
Under these circumstances it is not possible to say empirically that it is closed or not closed.
I hope that as a purist you will concede that theory must give way to observation.

Gary7SLL

5017. Re: Attenuator vs RF Gain Pot - The Real Deal

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:06:19 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <65efdvodbt78qmtv4ko80hf71o6s03d6g1@4ax.com>
Source record: 116470

On Fri, 30 May 2003 16:55:48 GMT, "Ed Senior"
<eseniorsREMOVE@earthlink.net> wrote:

>Hi Bob -
>
>In the typical HF receiver, RF gain is simply manual control
>of the AGC (Automatic Gain Control) circuitry... nothing more,
>and nothing less. This is why when you turn down the RF gain,
>the S-meter moves up as though a strong signal was being received.
>This also means that using MGC does nothing to protect the receiver
>from strong signals that the AGC wouldn't do as well or better.
>
>Unless you just enjoy diddling the RF Gain knob, about the only
>reason to do so is if you don't want AGC action bringing up the
>background noise between elements of your desired signal.
>And "Slow" AGC should do about as well in those cases.
>
>In the typical HF receiver, the preamp and first mixer are not
>included in the AGC loop. So reducing gain via MGC/AGC
>will not protect those components from strong-signal overload.
>That is what the front end attenuator is for.
>
>My FT-1000D has a more versatile front-end attenuator setup.
>It offers preamp in, preamp bypassed, 6, 12, and 18 dB attenuation
>positions. If I increase attenuation by 6 dB, and the noise level
>indicated by the S-meter goes down by MORE than 6 dB, this
>means that the noise level is dominated by intermodulation products.
>That means that the attenuator is needed, and that using it will
>IMPROVE weak-signal SNR.
>
>But that is the sophisticated approach. Yaesu's recommended
>short-cut is just to bypass preamp and/or increase attenuation
>until the background noise level does not exceed S 1 on the meter.
>Normally, the need for this only occurs on 7 MHz and below.

Fuck Yaesu.

>
>The bottom line: I suggest you run AGC all the time. And if
>the background noise (to include background signal clutter) is
>so high that it reads S1 or S2 with the 20 dB attenuator ON, then
>leave the attenuator ON. But if the attenuator drops your noise
>and clutter to S0, then do not use the attenuator.
>
>Enjoy your listening,

>
>73, Ed W6LOL
>
>
>"Robert11" <rgsrose@tiac.net> wrote in message
>news:bb28rc$79p$1@slb1.atl.mindspring.net...
>> Hello:
>>
>> Have a JRC NRD 545, but am a newbie re using it.
>> But, the folowing question is probably general in scope, irrespective of
>> receiver, I would think.
>>
>> Could someone explain, please, the difference in attenuating a "too
>strong"
>> input signal
>> by using the radio's Attenuator (button; -20 db) vs just turning down the
>rf
>> gain pot ?
>>
>> I understand that the attn works immediately at the antenna input, and the
>> rf gain pot on the IF,
>> but when, and under what conditions, would one use each ?

I have a NRD 535, (the last good radio JRC built),
it has an attenuator switch, but it does not need it actually.

I never encountered an "overload" situation on any antenna I used.

Fuck Yaesu. Of course, they need the ATTENUATOR to survive!
It's their live vest.

Fuck them.

w.

5018. Re: nova-686?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:07:21 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ed7b9f8$0$48912$edfadb0f@dtext02.news.tele.dk>
Source record: 116469
Cross-posted to: sci.electronics.design,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Hello Harold

> I have 586 and 686, as well as the original which I paid for. He sent the
> others gratuiously when they became available. If you have a high speed
> connection, I can zip the files and send them, if you'd like to just give
me
> an address, I can send a floppy.

Can I ask of you to send me a copy of nova-686 ???

Thanks in advance

Pse: remove .invalid in my e-mail adress

Regards Max

5019. Re: Attenuator vs RF Gain Pot - The Real Deal

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:09:25 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <qfefdv8nsjhtn0p5atappgj6jj2l6q1ktv@4ax.com>
Source record: 116471

On Fri, 30 May 2003 22:06:19 +0200, Helmut Wabnig <hXwabnig@aXon.at>
wrote:

>Fuck Yaesu. Of course, they need the ATTENUATOR to survive!
>It's their live vest.
>
>Fuck them.

I should have mentioned that I did compare the FT100
and the NRD535 on the same antenna, same time, same station,
I know what I am talking.

w.

5020. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:31:43 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED7BFAF.A47A6B92@cwis.net>
Source record: 116472

Jim,
Probably none...
'Doc

5021. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:41:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED7C1EF.871A7D2F@uci.edu>
Source record: 116476

W5DXP wrote:
> I assume we share common meanings for "destructive interference" and
> "constructive interference". If the destructive interference is ever
> zero, then the constructive interference will also be zero, according
> to Hecht. When I1 = I2, IT IS IMPOSSIBLE for the constructive interference
> to be 4*I1, as you assert. Your assertions are so extremely false, I cannot
> proceed with the discussion.
> --
> 73, Cecil, W5DXP

For the record, the situation referred to as constructive interference
is the sum of (I1+I2) and 2*SQRT(I1*I2), i.e. I > (I1+I2), and the
situation referred to as destructive interference is the difference
between (I1+I2) and 2*SQRT(I1*I2), i.e. I < (I1+I2).

73 de AC6XG

5022. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:42:48 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <cnPBa.518688$Si4.448611@rwcrnsc51.ops.asp.att.net>
Source record: 116473

Probably not,

but I usually find 6 AWG or larger specified for grounding of electrical service entrances in the USA.

GB

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:gCOBa.606$xM5.914815@news2.news.adelphia.net...
What troubles will I run into by using 8 awg stranded (twisted) copper cable for ground. Wire used to make up cable looks like at about 14 awg. Everything is bare copper, no steel or aluminum.

Jim

5023. Wanted: Manual for ISOLOOP Auto Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 20:49:06 UTC
From: "Mitch, W4OA" <w4oa@arrl.net>
Message-ID: <vdfgu3mpah2ecd@corp.supernews.com>
Source record: 116474

Help! I have the IsoTune auto tuner for my Isoloop,
but no instruction manual. I desperately need a copy
of the tuner manual (I have the regular IsoLoop
manual.) Can someone please help me out with
a copy of the auto tuner manual?

Thanks in advance...

Mitch, W4OA
w4oa@arrl.net

5024. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 21:16:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bb8hmjrgu1@hercules.btinternet.com>
Source record: 116475
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary, it's time you realised you are wasting your time.

5025. WTB: AR-30 or AR-40

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:10:10 UTC
From: James Hilins <jhilins@wi.rr.com.REMOVE>
Message-ID: <6FQBa.33359$ek2.621832@twister.rdc-kc.rr.com>
Source record: 116477

Want to buy a working AR-30 or AR-40 antenna rotator controller box.

Need B4 Field Day

Jim
jhilins@wi.rr.com
ka4upw@wi.rr.com

5026. Re: Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:12:58 UTC
From: James Hilins <jhilins@wi.rr.com.REMOVE>
Message-ID: <KHQBa.33372$ek2.622034@twister.rdc-kc.rr.com>
Source record: 116478

Who cares your not going to talk to anyone on 6M anyhow !
"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030530123539.15851.00000558@mb-m28.aol.com...
> I am considering buying an FT-8900 and if I do, I've been trying to decide
if I
> should get a triband antenna or use a duplexer with my current dualband
antenna
> and buy a 6m hamstick. The cost difference is less than $20 if I get the
> hamstick when you throw in the cost of the mount for either antenna and
the
> duplexer. The triband antennas I am thinking of are either the Comet SB14
or
> the SB15. If I get one of those, I might go for the SB14 because of the
> shorter size. According to what I've read, the gain on 6m on both antennas
is
> the same, with the SB15 showing more gain on 2m/70cm, but I'm not real
> concerned with gain on those bands. The mounts I'm considering are the
Comet
> CP-5M or the Diamond K400C (or 3/8c for the hamstick). Any opinions?
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

5027. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:29:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7DB3A.5040303@ieee.org>
Source record: 116479

Dave Shrader wrote:
> There are many types of experiments. Recall those conducted by Albert
> Einstein.

Recall that proof had to wait until it was possible to *measure* the
light of a star bending around the sun.
--
73, Cecil http://www.qsl.net/w5dxp

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5028. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:34:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3ED7DC90.4708684A@uci.edu>
Source record: 116484

W5DXP wrote:
> Nope, that's the total irradiance.

Well, it's irradiance to be sure. I guess that would make I12 a partial irradiance - an indirectly measurable quantity. ;-)

> The constructive interference equals
> the constructive interference term of 2*Sqrt*I1*I2). The destructive
> interference equals the destructive interference term of -2*Sqrt(I1*I2).

I know you think that, but here's what it says in Hecht:

"Whenever I1 + I2 < I the situation is referred to as constructive interference, and whenever I1 + I2 > I it is spoken of as destructive interference."

The point is, the interference term isn't constructive or destructive until and unless it's summed with I1+I2. It's like giving names to a the terms in a simplified quadratic equation. Nothing wrong with it until you assign some greater meaning to it. The sign of the interference term does determine whether the interference is constructive or destructive, but you're the only one who has ever split the hair quite this thin. I guess that makes you a pioneer, like Galileo or Copernicus!

As a humorous aside, there is actually an example in Hecht in which I12 is equal to zero. ;-)

ac6xg

5029. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:35:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED7DCBC.9080509@ieee.org>
Source record: 116480

Jim Kelley wrote:
> For the record, the situation referred to as constructive interference
> is the sum of (I1+I2) and 2*SQRT(I1*I2), i.e. I > (I1+I2), and the
> situation referred to as destructive interference is the difference
> between (I1+I2) and 2*SQRT(I1*I2), i.e. I < (I1+I2).

Nope, that's the total irradiance. The constructive interference equals
the constructive interference term of 2*Sqrt*I1*I2). The destructive
interference equals the destructive interference term of -2*Sqrt(I1*I2).

The equation can be written.

Total irradiance equals I1 plus I2 plus or minus the magnitude of
interference.
--
73, Cecil http://www.qsl.net/w5dxp

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5030. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:38:31 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <B3RBa.740$H67.162845@news20.bellglobal.com>
Source record: 116482

"RadioNerd"
> Great... A group of real smart guys here.
> Since when did current flow from positive to negative?
> Go reread your Physics 101 text.

Calculate the average speed of an electron in a 14-ga wire powering a 100watt light bulb. For purposes of the exercise, assume DC. Now, go see how long it takes for a light bulb to turn on.

This exercise is highly illuminating... :-)

5031. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 22:46:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jhnfdv0jucosh0esvhuodvv29n9cmsl387@4ax.com>
Source record: 116481

On Fri, 30 May 2003 17:35:40 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Jim Kelley wrote:
>> For the record, the situation referred to as constructive interference
>> is the sum of (I1+I2) and 2*SQRT(I1*I2), i.e. I > (I1+I2), and the
>> situation referred to as destructive interference is the difference
>> between (I1+I2) and 2*SQRT(I1*I2), i.e. I < (I1+I2).
>
>Nope, that's the total irradiance. The constructive interference equals
>the constructive interference term of 2*Sqrt*I1*I2). The destructive
>interference equals the destructive interference term of -2*Sqrt(I1*I2).
>
>The equation can be written.
>
>Total irradiance equals I1 plus I2 plus or minus the magnitude of
>interference.

The correct equation that satisfies all boundaries simultaneously:

>reprint:
>>
>>The mother science of RF, Optics, has always had the answer:
>> "Optics," Miles Klein, John Wiley & Sons,
>> Chptr. 5.2 "Two-Beam Interference"
>>page 185 shows illustration for "Intensity Distribution" that you can
>>do for yourself with simple math:
>> I = 2 * I1 * (1 + cos(phi2 - phi1 - delta))
>> ave(I) = 2*I1 for an integral number of waves
>> where:
>> I: The intensity over the variation in phase (delta)
>> I1: The intensity of each, coherent source (being equal)
>> phi2: source2 phase (fixed over interval of delta)
>> phi1: source1 phase (fixed over interval of delta)
>> delta: vary phase to observe full 360ï¿½ interference pattern
>>

73's
Richard Clark, KB7QHC

5032. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 23:27:10 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <s1qfdv8lr986675pnsdanqvou2chh6k8kn@4ax.com>
Source record: 116483

On Fri, 30 May 2003 02:22:45 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Just in case anyone is interested in what happens to a single step
>traveling along a conductor, it first encounters a high resistance since
>the current initially travels only on the outside. Then, as time goes
>on, the current penetrates deeper, the loss decreases, and the step
>amplitude approaches its final, full value. The resulting waveform
>superficially resembles a single pole response like an RC, but anyone
>familiar with the phenomenon can recognize the distinctive shape
>immediately. In the time domain community, it's known as "dribble up",
>because of the slow approach to the final value. When analyzed, the
>shape of the waveform turns out to be the mathematical error function
>(often written as erf), which also describes the penetration of the
>current into the conductor. It can be seen even with relatively slow
>steps if the line is long enough. (I'll bet Reg has seen it plenty of
>times in the course of his work with transatlantic cables.) Magnetic
>materials, such as the Kovar leads used for reed relays, are
>particularly bad for this, since the penetration depth is shallower than
>for non-magnetic materials. I spent quite a bit of time designing
>networks having a complementary response to flatten delay lines.
>
>Roy Lewallen, W7EL

Roy,

I believe this is the explanation for why a lightning pulse will cause
a pulse to appear on the center conductor of a coax cable that is
otherwise grounded. (grounded antenna)
Although there are also those that believe that does not happen
either.

Regards
Gary K4FMX

5033. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 23:52:30 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7EE7E.40406@attbi.com>
Source record: 116486

No argument! But the bending of light was there before the measurement!

Ergo, Impedance transformation is there before the measurement! :-)

DD, W1MCE

W5DXP wrote:
> Dave Shrader wrote:
>
>> There are many types of experiments. Recall those conducted by Albert
>> Einstein.
>
>
> Recall that proof had to wait until it was possible to *measure* the
> light of a star bending around the sun.

5034. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-30 23:53:44 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3ED7EEC8.70404@attbi.com>
Source record: 116487
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary, he defined LOSSLESS line. Therefore no alpha term.

DD, W1MCE

Gary Peach wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ED7A0C0.5000908@ieee.org...
>
>>Gary Peach wrote:
>>
>> > W5DXP wrote:
>>
>>>>When more RF energy has entered a lossless transmission line than has
>>>>exited,
>>>
>>>Of infinite length?
>>
>>Of any length of lossless line. Feel free to try the exercise
>>for yourself. Take 100 feet of lossless line and calculate the
>>RF energy dynamically stored in it for different conditions of
>>SWR. It is absolutely a no-brainer to realize that the energy that
>>has been input into a system and has not yet exited the system
>>is still in the system. Incidentally, that is why high SWR systems
>>are more lossy than flat systems. There is more energy flowing
>>in the high SWR system.
>
>
> GIVEN a line of length n lamda, and loss alpha: how many times will the
> energy traverse the line before it reaches one thousandth of its starting
> power when the line is terminated in a "perfect short circuit"?
>
>
>>>>it is still there probably performing some useful function.
>>>
>>>Only probably?
>>
>>Performing some function, no doubt. Whether it is a useful
>>function may be open to question.
>>
>>
>>>The shrinking impedence as the vector rotates around the chart is due to
>>>e^(-2alpha d) the line attenuation.
>>
>>We don't have that conceptual problem with lossless lines. :-)

>
>
> We don't have the lossless lines either.
> So a Smith Chart becomes more than academic.
>
>
>>>Is the total energy in the Universe constant?
>>
>>The total energy in any closed system is supposed to
>>be constant.
>>Is the Universe a closed system? :-)
>
>
> You tell me.
>
> If we observe that the Universe tends to be a sphere with us apparently at
> teh centre, then the probability is that we are not seeing the edges of the
> universe, but the limits of precision of teh instruments used to do teh
> looking.
> Under these circumstances it is not possible to say empirically that it is
> closed or not closed.
> I hope that as a purist you will concede that theory must give way to
> observation.
>
> Gary7SLL
>
>

5035. Re: If it requires a license you cant put it in a Toyota?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 00:42:21 UTC
From: Lloyd Mitchell <lloydm75@hotmail.com>
Message-ID: <bSRBa.7157$L75.1640@fe05.atl2.webusenet.com>
Source record: 116485
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

This is not 100% true. I work for a State Forestry Unit here in SC. We have installed a Motorola unit in a Honda, Toyota and just about every brand of american vechicle you can name.

In fact the Toyota dealer looked up a Service Bullentin and helped us ensure we kept power wiring and antenna cable away from any of the computer stuff in the vehicle. They showed us where the power wiring and input cables for the on car computer controls were located for no cost. this on a 2003 toyota.

Verify your facts gentlemen..

Mitch

5036. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 00:50:21 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <300520031750104876%nospam@nospam.come>
Source record: 116488

In article <270520030713345302%nospam@nospam.come>, Tidris
<nospam@nospam.come> wrote:

> What has lower impedance, 1 foot of 2 awg solid copper wire or 1 foot
> of 1" wide by 0.070 in thick tin plated copper braid?

Here is a different but related question. The Polyphaser tech note on
lightning protection for Ham Radio says:

"When the radial runs in highly conductive moist soil (or doped soil),
the inductance of the wire is shunted by the soil's conductivity,
making it unimportant. "

Does that mean cheap 6 awg bare wire could have as little inductance as
expensive 3 inch wide solid strap as long as it is burried in highly
conductive moist soil? How deep should the wire be burried in order to
get this inductance shunting effect? Is there natural soil out there
conductive enough to allow that to happen?

5037. SCAN APCO 25 DIGITAL - new list server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 00:54:09 UTC
From: NEWS <jm@drsmesh.com>
Message-ID: <1054342502.792054@nnrp2.phx1.gblx.net>
Source record: 116489

Are you a fan of scanning the MSPCS system? Digital 800Mhz
communications of interest to you? Does scanning APCO25 communications
interest you?

A new list devoted to discussing this system, it's techniques and
technology is up and running that you can subscribe to for FREE at:
http://groups.yahoo.com/group/mpscs/messages

5038. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 00:59:59 UTC
From: Tidris <nospam@nospam.come>
Message-ID: <3005200317594895 61%nospam@nospam.come>
Source record: 116490

In article <3ED5314C.FA45EB94@cellsource.com>,
<phamilton@cellsource.com> wrote:

> We also use a copper paste instead of nolox for copper to copper connections on buss
> bars and coax grounds.

I noticed the Polyphaser tech note on lightning protection for Ham
Radio says one should use joint compounds when using high compression
clamps to the grounding rods. However it doesn't say which type of
joint compound is acceptable. Do you see any reason not to use the
zinc-based Noalox? I know copper is more conductive than zinc, and I
would use copper-based compound if I had it, however the zinc is
conductive enough for aluminum to copper connections, so why not also
for copper to copper connections if that is what one has at hand?

5039. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:11:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED80128.90201@ieee.org>
Source record: 116491

Jim Kelley wrote:
> "Whenever I1 + I2 < I the situation is referred to as constructive
> interference, and whenever I1 + I2 > I it is spoken of as destructive
> interference."

I agree and the sign of the interference term indicates whether the
interference is destructive or constructive.

> The point is, the interference term isn't constructive or destructive
> until and unless it's summed with I1+I2.

If it is negative, it is destructive. If it is positive, it is constructive.
All you are saying is that interference cannot exist without two waves that
interfere. I agree with that trivially true statement but so what?

> As a humorous aside, there is actually an example in Hecht in which I12
> is equal to zero. ;-)

That's when the two waves are orthogonal to each other and interference
is neither destructive nor constructive.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5040. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:14:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED801F3.7000808@ieee.org>
Source record: 116492

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Total irradiance equals I1 plus I2 plus or minus the magnitude of
>>interference.
>
> The correct equation that satisfies all boundaries simultaneously:

Your equation reduces to exactly the equations in _Optics_, by Hecht.
What is your point in repeating it?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5041. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:19:38 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <310gdvk0eklgc6g945eg8o9gdgh8k3i8qe@4ax.com>
Source record: 116493

On Thu, 29 May 2003 14:37:50 -0500, 'Doc <w5lz@cwis.net> wrote:
>
>wes,
> "Funkblaster" works locally in a munitions plant in
>the ECM department, where they make the 'foil' bundles
>to 'spoof' radar. He's the one that folds the 'foil'
>pieces into teensy-tiny airplanes. I work at the next
>bench, I test fly the folded 'foil' planes. If they
>don't fly, I send them back to "Funkblaster" to re-fold.
>After three failures and three re-folds, they have to be
>scrapped. At the end of a shift there are usually a few
>hundred ponds of rejects, so there's really no shortage
>of aluminum scrap...
> 'Doc

sigh

Doc's making stuff up again. I work for "a really big
U.S. manufacturer of commercial and military aircraft"
(take a guess). He's right about one thing though, at
end of shift there's *lots* of aluminum shavings and
chips.

And Doc - it's bastler, not blaster. Try to keep that
straight ;-)

-fb-

5042. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:22:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED803EE.2080809@ieee.org>
Source record: 116494

Dave Shrader wrote:
> No argument! But the bending of light was there before the measurement!
>
> Ergo, Impedance transformation is there before the measurement! :-)

The point is that the impedance transformation is NOT there after the
measurement using zero volts and zero current.

We are going to have to agree to disagree on this one, Dave. Some things
fall apart in the limit. I think virtual impedance transformation is one
of those things. A virtual impedance is defined by voltages and currents.
When voltages and currents don't exist, the virtual impedance is undefined.
--
73, Cecil http://www.qsl.net/w5dxp

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5043. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:26:25 UTC
From: RadioNerd <RadioNerd@127.0.0.1>
Message-ID: <g01gdvcii3dbrbfeckspi4pmfqq9vm97pa@4ax.com>
Source record: 116495

It works out to just about 88% of the speed of light.

The 100 watt bulb will turn on very slowly in comparison to the speed
of electron flow as the filament in the bulb has to heat from room
temperature to incandescence.

Are we illuminated yet?

On Fri, 30 May 2003 18:38:31 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>"RadioNerd"
>> Great... A group of real smart guys here.
>> Since when did current flow from positive to negative?
>> Go reread your Physics 101 text.
>
>Calculate the average speed of an electron in a 14-ga wire powering a
>100watt light bulb. For purposes of the exercise, assume DC. Now, go see
>how long it takes for a light bulb to turn on.
>
>This exercise is highly illuminating... :-)
>
>

5044. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:39:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED807D0.50009@ieee.org>
Source record: 116497
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> GIVEN a line of length n lamda, and loss alpha: how many times will the
> energy traverse the line before it reaches one thousandth of its starting
> power when the line is terminated in a "perfect short circuit"?

Sounds like a good exam question for university EEs.

> I hope that as a purist you will concede that theory must give way to
> observation.

As a matter of fact, I think present day astronomers are being fooled
by what they observe. Consider that if the present second of time being
used to measure the frequency of light from a distant galaxy is shorter
than the second of time was when the light was emitted, the Red Shift
is just a measurement error, not an indication that the universe is
expanding. The measured speed of rotation of that galaxy would be just
an illusion.
--
73, Cecil http://www.qsl.net/w5dxp

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5045. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:41:20 UTC
From: dplatt@radagast.org
Message-ID: <vdg220j7po0db7@corp.supernews.com>
Source record: 116496

In article <g01gdvcii3dbrbfeckspi4pmfqq9vm97pa@4ax.com>,
RadioNerd <RadioNerd@127.0.0.1> wrote:

>>Calculate the average speed of an electron in a 14-ga wire powering a
>>100watt light bulb. For purposes of the exercise, assume DC. Now, go see
>>how long it takes for a light bulb to turn on.

>>This exercise is highly illuminating... :-)

>It works out to just about 88% of the speed of light.

That's quite a few orders of magnitude too high to be the correct
answer!

That's likely a good estimate the right speed for the rate at which
the change in electrical field propagates down through the filament.
However, that wasn't the question which was asked.

The drift speed of any individual electron, in the conductor, is far
lower. My recollection is that it's on the order of a few metres per
second.

So, if you build a long enough filament, and then turn on the current,
you'll find that it reaches incandescence long before the first
electron you pushed in at one end actually bounces its way all the way
down to the other end.

>Are we illuminated yet?

I don't know. I guess we have to check out skins to see if any monks
have pressed gold leaf into our pores? ;-)

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

5046. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:50:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oi2gdvk6mlvmdhoapf6clnaug9v5ecmhf7@4ax.com>
Source record: 116498

On Fri, 30 May 2003 20:14:27 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Total irradiance equals I1 plus I2 plus or minus the magnitude of
>>>interference.
>>
>> The correct equation that satisfies all boundaries simultaneously:
>
>Your equation reduces to exactly the equations in _Optics_, by Hecht.
>What is your point in repeating it?

Because there is no need to reduce it, to then prostitute it.

73's
Richard Clark, KB7QHC

5047. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 01:56:33 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <dZTBa.822$H67.182223@news20.bellglobal.com>
Source record: 116499

"RadioNerd"
> It works out to just about 88% of the speed of light.

You ~obviously~ didn't do the math. As already mentioned by Dave Platt, it works out to something on the order of a few feet per second (roughly walking speed).

So if the electrons aren't moving fast enough to make the light bulb turn on in a reasonable time frame, it must be something else...

Thanks for playing...

5048. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:26:10 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <877k8726nx.fld@barrow.com>
Source record: 116500

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote:
>"RadioNerd"
>> Great... A group of real smart guys here.
>> Since when did current flow from positive to negative?
>> Go reread your Physics 101 text.
>
>Calculate the average speed of an electron in a 14-ga wire powering a
>100watt light bulb. For purposes of the exercise, assume DC. Now, go see
>how long it takes for a light bulb to turn on.
>
>This exercise is highly illuminating... :-)

That proves, BTW, that the speed of dark is faster than the
speed of light.

--
Floyd L. Davidson <http://www.ptialaska.net/~floyd>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

5049. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:30:56 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vdg4t9fdgtc214@corp.supernews.com>
Source record: 116501

I have placed some comments below...

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:22893-3ED77D67-443@storefull-2318.public.lawson.webtv.net...
> Mac, N8TT wrote:
> "Another example of what Roy is describing may be seen/heard with
> Whistlers---."
>
> That could be relevant. Whistler is the name given to a high-pitched
> sound derived from natural low-frequency radio waves traveling between
> the earth`s poles. The sound varies in pitch.
>
> Another type of whistler: Audio-frequency waves from lightning-stroke
> radiation that has reached the ionosphere. This type may pertain to
> wires somehow and surely pertains to r-f, more than to d-c.
---One whistler type exists. Sometimes one may hear multiple hops. The
major point is that media exists having dispersion or, as one of my
colleagues put it at today's Noon hour seminar in the student mess,
other-than-ideal-group delay. Such media is the ionosphere at
frequencies that we might otherwise call AF. Such media is a Cu wire to
a pulse.

>
> Mac also wrote:
> (note Fourier expansion does not apply as a pulse is involved, not a
> periodic waveform)
>
> Well, Fourier analysis isn`t required on a sinewave.
---True enough. Part of the point is that a pulse is not a sinewave nor
a set of sinewaves.

>
> When I worked in Tierra del Fuego, we had a visit from researchers in
> Antarctica, who, thanks to a grant, were down there studing Whistlers.
> Grants are the important item and often fund studies that seem useless
> but who knows? Something of great importance may evolve.
---Now this is interesting. Remembering your great stories about way
down South, this might have been at about the same time the rest of the
group was making my life uncomfortable. I was working at Green Bank and
a fellow with a name like crankshaft set up a huge loop out of about #4
wire to capture signals. He housed his equipment in the house where we
were housed and used a very crude timer scheme to turn on tape recorders

(for what he wanted and for WWV). We would get blasted by the sound
from these things at all sorts of hours. He was a klutz with equipment.
I had presented a major paper on whistlers and knew more about the
subject than he did. However, grant money was to be spent. 73 Mac
N8TT

>
> Best regards, Richard Harrison, KB5WZI
>

5050. Re: If it requires a license then you can't use it in a (Subaru also!)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:31:26 UTC
From: Alex V Flinsch <avflinsch@att.net>
Message-ID: <pan.2003.05.31.02.36.29.174434@att.net>
Source record: 116502
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc
Body handling: HTML body converted to readable text

On or about Fri, 30 May 2003 15:02:23 +0000, "Bruce Wilson"
wrote about the following in article
<3oKBa.1036275$3D1.606751@sccrnsc01>:

> I have a HamStick on my new Subaru Forester. When I transmit 100W in parts
> of the 20m band my windshield wipers operate. I avoid 20m now, but I also

Of course you can always look at it another way, now you hav remote
controlled windshield wipers

--
Alex / KC2IVL
ft100 software for Linux http://www.qsl.net/kc2ivl
"Good judgment comes from experience,
and a lot of that comes from bad judgment"

5051. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:33:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdg53mk2cnm7ab@corp.supernews.com>
Source record: 116503

According to Allen and Bacon's _Elementary Classical Physics_, Vol. 2, the electron drift velocity is directly proportional to the current and inversely proportional to the cross-sectional area of the wire, which makes sense. In Example 1 on p. 730, they calculate the velocity for a one ampere current in a wire of one square mm of cross-sectional area, and get 0.074 mm/sec, which is about 126 feet per hour, or 0.02 miles per hour. You'd have to dump a whole lotta current through a really skinny wire to prod the little buggers up to walking speed!

Roy Lewallen, W7EL

J. Harvey wrote:
> "RadioNerd"
>
>>It works out to just about 88% of the speed of light.
>
>
> You ~obviously~ didn't do the math. As already mentioned by Dave Platt, it
> works out to something on the order of a few feet per second (roughly
> walking speed).
>
> So if the electrons aren't moving fast enough to make the light bulb turn on
> in a reasonable time frame, it must be something else...
>
> Thanks for playing...
>
>

5052. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:52:24 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3ED818E8.BB722BD8@sympatico.ca>
Source record: 116504

'Doc wrote:
>
> wes,
> "Funkblaster" works locally in a munitions plant in
> the ECM department, where they make the 'foil' bundles
> to 'spoof' radar. He's the one that folds the 'foil'
> pieces into teensy-tiny airplanes. I work at the next
> bench, I test fly the folded 'foil' planes. If they
> don't fly, I send them back to "Funkblaster" to re-fold.
> After three failures and three re-folds, they have to be
> scrapped. At the end of a shift there are usually a few
> hundred ponds of rejects, so there's really no shortage
> of aluminum scrap...
> 'Doc

Now that has to be just about the funniest post I've seen since April 1.

Dave

5053. Re: Putting DC on the coax without killing my RX

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 02:55:28 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3ED819A0.E105AB0C@sympatico.ca>
Source record: 116505

Well, now the PGP thing is more than a little over the top - count em!

Dave

Xanax wrote:
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Thanks dude!
> Xanax.
> "Tom Bruhns" <k7itm@aol.com> wrote in message
> news:3200347.0305291918.625afb1b@posting.google.com...
> > The usual way is to put a capacitor in series with the center
> > conductor of the line at the receiver, and an RF choke from the
> > center conductor of the line (on the antenna side of the
> > capacitor!) to the power source. Other side of the power source to
> > the coax outer
> > conductor of course. Presumably the preamp at the antenna has
> > something similar. The sizes of the capacitor a choke should be
> > appropriate to the frequency range you want to cover: the
> > capacitor should have a reactance of around 10 ohms max at the
> > lowest operating frequency, and the choke should have a reactance
> > of at least a couple hundred ohms at that frequency. Avoid using a
> > choke whose
> > self-resonance is much lower than your max operating frequency.
> > (There are situations where different feeds might be appropriate,
> > but probably not for what you are trying to do.)
> >
> > Cheers,
> > Tom
> >
> > "Xanax" <keepItInTheNewsGroups@news.com> wrote in message
> > news:<tewBa.15825$pK2.21656@news.indigo.ie>...
> > > -----BEGIN PGP SIGNED MESSAGE-----
> > > Hash: SHA1
> > >
> > > Hi all,
> > > How do I get 9~12v dc on to the coax to a preamp with out frying my
> > > expensice RX??
> > > Any how do I pick off the rf from the coax to my RX?
> > >
> > > Any ideas welcome!
> > > Xanax.
> > > -----BEGIN PGP SIGNATURE-----

> > > Version: PGP 8.0 (Build 294) Beta
> > >
> > > iQA/AwUBPtaQJiGakPXr24F/EQK/qwCggDKmt0TOT/0pHc3njlRIy0mOy5YAn2d0
> > > 0qP4JK5C7rFzkHZh2/T9gDFy
> > > =xsPF
> > > -----END PGP SIGNATURE-----
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPtbz/SGakPXr24F/EQJd3wCffhSPEL2KJ053pODGt+lIckzM1r8AoJlM
> YxLP1BwLVYt5flY4RByU4UGu
> =PFqW
> -----END PGP SIGNATURE-----

Well, now the PGP thing is more than a little over the top - count em!

Dave

5054. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 03:19:18 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED81F36.E15A2BF1@cwis.net>
Source record: 116506

Why?
'Doc

5055. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 03:29:01 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <2kVBa.849$H67.192683@news20.bellglobal.com>
Source record: 116507

"Roy Lewallen"
> ...about... 0.02 miles per hour.

Years ago, I did the math from first principles (free electrons per cc, etc) and I got an answer that wasn't quite that slow. But I won't argue - except that it isn't anywhere near 'c'.

When I taught a Ham Radio class, I brought along a clear tube filled with blue tinted water and a clear bubble. I turned it over a few times and asked the students what was happening. Of course they all focused on the bubble rapidly moving upward about 40 cm - not the water slowly trickling down only about 2 cm. It made them receptive to the idea of hole flow (saved hours!). Two short classes later, they all understood the details of electrical current flow and how diodes and transistors work.

5056. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 03:37:11 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <IrVBa.854$H67.193334@news20.bellglobal.com>
Source record: 116508

The other day, we bought a 'slinky' toy (big spring - made of colorful plastic these days) for my 5-year old son. We played with it for about ten minutes and now he seems to understand transverse and longitudinal waves, reflections, superposition, etc.

He really got a kick out of circular polarization until we had a tangled mess...

They're available for Cdn$1.

5057. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 03:50:41 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <mEVBa.859$H67.194820@news20.bellglobal.com>
Source record: 116509

"Richard Harrison"
> Something of great importance may evolve.

'Stormscopes' are the weather radar installed on many aircraft. When I saw the antenna (trivially simple), I knew that they must do 'something funny' ('sferics) to estimate range.

<quote>
All newer Stormscopes and Strikefinders are classed as
"series II" 'Sferics, with a substantial amount of compute
power inside. It was discovered that, although a lightning
discharge generates RF over a large frequency range,
different parts of that frequency range are attenuated at
different amounts over distance. So what they do now is
map a fairly broadband spectrum of energy in the discharge.
By comparing this profile (shape) to a "standard" discharge
they get a much better feel for distance, regardless of amplitude.
</quote>

I wonder if this is related to those grants from days gone by ?

5058. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 04:09:09 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdgao0fjm6mtbe@corp.supernews.com>
Source record: 116510

BA, UT, 79
MA, UT, 83
Physics
In July I return to UT working on particle detectors.

Specifically buy a sophomore waves course book.
There's a nice one in the Berkely series.
Like them boots boy?
H.

"Tdonaly" <tdonaly@aol.com> wrote in message
news:20030530112614.08597.00000576@mb-m24.aol.com...
> Aitch wrote,
> >Match the voltages and currents across the boundaries.
> >Use equations for "traveling waves", they've been documented in detail
for
> >centuries.
> >It's called matching wave functions across boundaries.
> >buy a book
> >
> >"Tdonaly" <tdonaly@aol.com> wrote in message
> >news:20030529235606.04402.00000185@mb-m04.aol.com...
> >> Aitch wrote,
> >> >When the impedances are mismatched at the connections (impedance
> >> >discontinuities), there is some energy stored in the source and the
line
> >> >such that the voltages and currents match across the boundaries.
> >> >In Quantum Mechanics it was matching wave functions across boundaries.
> >> >73
> >> >H.
> >> >NQ5H
> >> >
> >>
> >> Care to get more specific?
> >> 73,
> >> Tom Donaly, KA6RUH
> >>
>
> That's all you can say? "Buy a book?" If you're a physicist, Aitch, I'm a
> three-headed
> leghorn in cowboy boots.
> 73,
> Tom Donaly, KA6RUH
>
>

5059. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 06:07:09 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb9gqd$9uh$1@titan.btinternet.com>
Source record: 116511
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bb8hmjrgu1@hercules.btinternet.com...
> Gary, it's time you realised you are wasting your time.

Thank you Reg, I had an inkling of that several posts back.
But one can hope that new onlookers will want to comment,
it is possible that something good can like the phoenix rise from the ashes.
As Mr Smith said in 1657
Oxymoron, "Acutifatuum aut stulte acutum", subtilly foolish

Gary7SLL, do all the morons come from Oxford?
If not what do they call the Cambridge morons (if any)?

5060. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 06:13:50 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb9h6tair1@titan.btinternet.com>
Source record: 116512
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3ED7EEC8.70404@attbi.com...
> Gary, he defined LOSSLESS line. Therefore no alpha term.

That is just a special case of the general case with alpha equal to zero.
Let us approach this problem carefully so as not to scare it off. :)
By considering the practical case where alpha has some value then
to resolve the difficulty we need then to take it to the limit;
Tortoise and hare fashion.

Thanks,
Gary7SLL
>
> DD, W1MCE
>
> Gary Peach wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> > news:3ED7A0C0.5000908@ieee.org...
> > >
> >>Gary Peach wrote:
> >>
> >> > W5DXP wrote:
> >>
> >>>>When more RF energy has entered a lossless transmission line than has
> >>>>exited,
> >>>
> >>>Of infinite length?
> >>
> >>Of any length of lossless line. Feel free to try the exercise
> >>for yourself. Take 100 feet of lossless line and calculate the
> >>RF energy dynamically stored in it for different conditions of
> >>SWR. It is absolutely a no-brainer to realize that the energy that
> >>has been input into a system and has not yet exited the system
> >>is still in the system. Incidentally, that is why high SWR systems
> >>are more lossy than flat systems. There is more energy flowing
> >>in the high SWR system.
> > >
> > >
> > > GIVEN a line of length n lamda, and loss alpha: how many times will the
> > > energy traverse the line before it reaches one thousandth of its
starting
> > > power when the line is terminated in a "perfect short circuit"?
> > >
> > >

> >>>>it is still there probably performing some useful function.
> >>>
> >>>Only probably?
> >>
> >>Performing some function, no doubt. Whether it is a useful
> >>function may be open to question.
> >>
> >>
> >>>The shrinking impedence as the vector rotates around the chart is due
to
> >>>e^(-2alpha d) the line attenuation.
> >>
> >>We don't have that conceptual problem with lossless lines. :-)
> >
> >
> > We don't have the lossless lines either.
> > So a Smith Chart becomes more than academic.
> >
> >
> >>>Is the total energy in the Universe constant?
> >>
> >>The total energy in any closed system is supposed to
> >>be constant.
> >>Is the Universe a closed system? :-)
> >
> >
> > You tell me.
> >
> > If we observe that the Universe tends to be a sphere with us apparently
at
> > teh centre, then the probability is that we are not seeing the edges of
the
> > universe, but the limits of precision of teh instruments used to do teh
> > looking.
> > Under these circumstances it is not possible to say empirically that it
is
> > closed or not closed.
> > I hope that as a purist you will concede that theory must give way to
> > observation.
> >
> > Gary7SLL
> >
> >
>

5061. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 06:28:14 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bb9i1u$jk6$1@sparta.btinternet.com>
Source record: 116513
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED807D0.50009@ieee.org...
> Gary Peach wrote:
> > GIVEN a line of length n lamda, and loss alpha: how many times will the
> > energy traverse the line before it reaches one thousandth of its
starting
> > power when the line is terminated in a "perfect short circuit"?
>
> Sounds like a good exam question for university EEs.
>
> > I hope that as a purist you will concede that theory must give way to
> > observation.
>
> As a matter of fact, I think present day astronomers are being fooled
> by what they observe. Consider that if the present second of time being
> used to measure the frequency of light from a distant galaxy is shorter
> than the second of time was when the light was emitted, the Red Shift
> is just a measurement error, not an indication that the universe is
> expanding. The measured speed of rotation of that galaxy would be just
> an illusion.

Here's a good one to try, sit on the back of a truck full of potatoes.
As the truck goes along the road throw out a potato every half of a second.
Be sure that you are accurate with the time.
Now when you have run out of spuds stop the truck and walk back down the
road with your tape measure and measure the distance between the spuds.
Now tell me where the truck accelerated and where it decelerated?
Is it possible to calculate a mean velocity?
Is it possible to calculate a standard deviation for the velocity of the
truck?
Is it possible to distribute the errors?

Reviewing your answers for the places where the truck accelerated and
decelerated in the knowledge of the standard deviation for the mean velocity
of the truck is it possible to determine which places are true changes of
velocity and which are within the deviation for the set of data?
a) with 60% certainty?
b) with 99% certainty?

Gary7SLL

5062. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 06:30:36 UTC
From: tdonaly@aol.com
Message-ID: <20030531023036.22953.00000373@mb-m13.aol.com>
Source record: 116514

Aitch wrote,
>
>BA, UT, 79
>MA, UT, 83
>Physics
>In July I return to UT working on particle detectors.
>
>Specifically buy a sophomore waves course book.
>There's a nice one in the Berkely series.
>Like them boots boy?
>H

Yep, that proves it; you're a physicist. BA, MA from UT.
I've met a number of fellows with physics degrees over the
years. Some of them even knew something about physics.
Of course, it takes more than a couple of degrees from UT
to really understand physics.
I repeat: Care to get more specific?
Tom Donaly, KA6RUH
(P.S. Another dismissive "get a book" answer will tell me all
I need to know about your knowledge of physics.)
(P.P.S. I didn't know UT hired people with just an MA to do
important research work.)

5063. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 06:34:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bb9ieicnc1@titan.btinternet.com>
Source record: 116515
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Cecil says -
> As a matter of fact, I think present day astronomers are being fooled
> by what they observe. Consider that if the present second of time being
> used to measure the frequency of light from a distant galaxy is shorter
> than the second of time was when the light was emitted, the Red Shift
> is just a measurement error, not an indication that the universe is
> expanding.

Not quite right Cecil. The red shift of the remote galaxies is not due to the universe expanding. The universe verges on the infinite and is static. The amount of mass far beyond OUR horizon drags back light from OUR remote galaxies towards THEIR even more distant horizons.

Time is merely an illusion. It has no direction. The universe is just a black hole turned inside-out. It's so obvious even the little green man sitting on the top of my head can see it.

Reg, G4FGQ

5064. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 07:15:19 UTC
From: amfowler@melbpc.org.au
Message-ID: <3ed853d6.2110222@news.melbpc.org.au>
Source record: 116516

"David Robbins" <k1ttt@arrl.net> wrote:

>
>"Alan Fowler" <amfowler@melbpc.org.au> wrote in message
>news:3ed83ac1.1816962@news.melbpc.org.au...
>> richardharrison@webtv.net (Richard Harrison) wrote:
>>
>> >Alan Fowler wrote:
>> >"9. The important point is that there is a large DC current flowing from
>> >the positive source to the negative sink. There is no rapidly changing
>> >current direction, so there will not be an r.f. signal generated."
>> >
>> >Surely Alan jests.
>> All the time - see
>> http://member.melbpc.org.au/~amfowler/jests.htm
>> >
>> >Everyone has heard radio static!
>>
>> See my earlier postings. The static is produced
>> during the early stage of a stroke as the leader grows from
>> the charged cloud towards the ground in a series of rush
>> forward, stop until charge builds up at the end of the
>> leader, another rush forwards, etc.
>
>these are relatively small sources of noise. they have been used to track
>the development of leaders within the cloud using a network of ground based
>receivers. the large source of energy is the draining of charge out of the
>leader channel once the connection to the ground streamer is made.

Fully agree.
>> >
>> >False! D-C from plus to minus only? Why is it important which direction
>> >current is instantaneously flowing in a huge "static" discharge? Is
>> >polarity relevant to protection or utilization? Electrons are likely
>> >more mobile than positive ions which are about 2000 times more massive
>> >than electrons.
>>
>> It's not really important. But I understand that
>> the bottom of a cloud is more likely to carry a large
>> positive charge, while the image on the ground will be
>> negative. Plus to minus - just conventional notation.
>
>the most common situation is when the base of the cloud is negatively
>charged and the ground becomes positive.

Thank you for the correction. It's about twenty
years ago when I was sorting out problems with a lightning
location system in Victoria, Australia.

It had been installed by our own staff, not the
contractor or the local agent. The results were highly
inaccurate - out by 30 or 40 miles. It turned out that the
staff concerned had little or no experience of radio
propagation, re-radiation from power lines, reflections from
metal buildings, etc.

I had to learn a great deal about lightning in a
hurry.

I retired ten years ago and cannot find my notes at
present - (They are "filed" in dozens of boxes in the
garage, and the car is parked outside.

I apologise for the errors. It's been an
interesting discussion, and I've learnt a bit more.

Alan.
>
>> >
>> >False! No rapidly changing current direction? The rapidly changing
>> >current directions are generated by the transient nature of lightning.
>> >There`s no way a current can be abruptly changed and not generate a
>> >spectrum of alternations.
>>
>> But the transfer of energy is unidirectional.
>> >
>> >False! No r-f signals generated?
>> >Radio started with a spark-gap oscillator, an interrupted high voltage
>> >discharge. A lightning bolt is a manifestation of the above, in spades!
>> >Confirmation is in the concurrent radio noise tunable across a wide
>> >spectrum in radios far from the lightning discharge.
>>
>> As I said earlier the static is generated during the
>> initial stage as the leader heads for the ground in a series
>> of short rushes. This probably looks like a series of
>> pulses which will produce a signals across a broad spectrum.
>
>yes, but relatively weakly compared with the large surge when the
>accumulated charge drains in the visible part of the stroke.
>
>>
>> Alan. [Hobbies - Hunting down furphies and unstuffing
>> stuffed shirts.]
>> >
>> >Such baloney!
>> >
>> >Best regards, Richard Harrison, KB5WZI
>>

>

5065. Re: Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 07:28:52 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <UQYBa.4073$Jt6.7177463@newssvr15.news.prodigy.com>
Source record: 116517

Totally untrue. I rarely get on 6, but I did yesterday and worked a station
in Kent, WA, and Northern Idaho, all from the Bay Area, CA.

Six, the "Magical" band. :)

73,
-IanCT, WA6ODQ

"James Hilins" <jhilins@wi.rr.com.REMOVE> wrote in message
news:KHQBa.33372$ek2.622034@twister.rdc-kc.rr.com...
> Who cares your not going to talk to anyone on 6M anyhow !
> "VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
> news:20030530123539.15851.00000558@mb-m28.aol.com...
> > I am considering buying an FT-8900 and if I do, I've been trying to
decide
> if I
> > should get a triband antenna or use a duplexer with my current dualband
> antenna
> > and buy a 6m hamstick. The cost difference is less than $20 if I get the
> > hamstick when you throw in the cost of the mount for either antenna and
> the
> > duplexer. The triband antennas I am thinking of are either the Comet
SB14
> or
> > the SB15. If I get one of those, I might go for the SB14 because of the
> > shorter size. According to what I've read, the gain on 6m on both
antennas
> is
> > the same, with the SB15 showing more gain on 2m/70cm, but I'm not real
> > concerned with gain on those bands. The mounts I'm considering are the
> Comet
> > CP-5M or the Diamond K400C (or 3/8c for the hamstick). Any opinions?
> > =-
> > 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> > Beachwood, NJ USA! Grid FM29vw
> > http://vhfradiobuff.tripod.com
> > Fight Spam! http://spamcop.net
>
>

5066. Re: Anyone using a Comet SB-14?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 07:30:41 UTC
From: IanCT <IanCThurston@nospam.hotmail.com>
Message-ID: <BSYBa.4102$6u6.7203016@newssvr15.news.prodigy.com>
Source record: 116518

It's good. Worked Washington and Idaho last night
on 50.125 using this antenna and hatchback mount on my Explorer.

73,
-IanCT, WA6ODQ
http://www.IanThurston.com/radiogear

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030529162004.09777.00000460@mb-m26.aol.com...
> I was wondering if anyone used a Comet SB-14 triband mobile antenna. I was
> thinking of picking one up with the Comet CP-5M mount. Any opinions?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

5067. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 08:11:49 UTC
From: Tom S <toms@spamlesspacbell.net>
Message-ID: <9tZBa.78$1F1.8684743@newssvr13.news.prodigy.com>
Source record: 116419
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

"Jerry Oxendine" <joxendi@bellsouth.net> wrote in message
news:2HzBa.773$UM4.736@fe08.atl2.webusenet.com...
> Chevrolets always seemed (or all GM cars
> seemed to be) to be "tighter" in the RF department. I could put a
> radio in a Ford and the ignition noise would be horrific. Put the same
> radio in a GM car--quiet as
> a mouse. Seems to still be that way after all those years.

That's probably a non-issue these days. The new cars and trucks don't have high voltage distributors like in the old days. Instead of long stretches of 40KV wires from the distributor, there are individual coils at each spark plug and the distributed juice is 12 Volts. That's a _much_ cleaner way to do things - especially as far as RFI is concerned.

Tom S

5068. who can help me with PCAAD

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 09:00:07 UTC
From: happyhitman@163.com
Message-ID: <afaf56c8.0305310100.205dce3@posting.google.com>
Source record: 116420

i'm working on a microstrip patch antenna now
I need a sufficient simulate software such as PCAAD
Does anyone here can help me?
Pls contact with me to happyhitman@163.com
Tks!

5069. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 09:01:17 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <xb_Ba.725$xM5.1060722@news2.news.adelphia.net>
Source record: 116421

When I said ground, I meant RF ground. I know it will be ok for the electrical ground.

Jim, kf4tun
"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:gCOBa.606$xM5.914815@news2.news.adelphia.net...
What troubles will I run into by using 8 awg stranded (twisted) copper cable for ground.
Wire used to make up cable looks like at about 14 awg. Everything is bare copper, no steel
or aluminum.

Jim

5070. Re: who can help me with PCAAD

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 09:33:09 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ed876d0$0$48916$edfadb0f@dtext02.news.tele.dk>
Source record: 116422

Hello

> i'm working on a microstrip patch antenna now
> I need a sufficient simulate software such as PCAAD

http://www.antennadesignassociates.com/pcaad4.htm

Regards Max

5071. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 11:53:07 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdh5u19gn5i211@corp.supernews.com>
Source record: 116423

Tom
Consider a connection between two transmission lines of impedances Z1 and Z2.
An electromagnetic wave propagates from the left to the impedance discontinuity.
If Z1 = Z2 the wave continues through the connection without reflection.
If Z1 is NOT equal to Z2 reflection occurs; there is more energy in the line on the left than on the right.
The left side now has a superposition of travelling waves going right and left and the right side has a travelling wave continuing on to the right, albeit of less amplitude than when the impedances were matched.
There is an energy difference across the impedance discontinuity.
To write a general expression with source and load and all the reflections back and forth would require an infinite series, difficult to express in ascii, but it's a superposition of travelling waves with the voltages and currents matched across the boundaries.
I disavow any credit for notions like "virtual resistance" or "superposition of currents".
As far as my UT employment, my last job there, 1984 - 1987 was as a Research Associate in the Microelectronics Research Center. I built their first Gallium Arsenide MBE lab. I was still working on the PhD at the time, but Motorola offered me $$$$$ to join the Process Engineering SWAT Team (I did not make that up) so I blew off finishing grad school and worked for Moto for ten years. In '97 I sold the DELL I bought in '91 and thought I'd retired.
Turns out I didn't buy enough DELL in '91, but who knew?
73
H.
NQ5H

"Tdonaly" <tdonaly@aol.com> wrote in message news:20030531023036.22953.00000373@mb-m13.aol.com...
> Aitch wrote,
> >
> >BA, UT, 79
> >MA, UT, 83
> >Physics
> >In July I return to UT working on particle detectors.
> >
> >Specifically buy a sophomore waves course book.
> >There's a nice one in the Berkely series.
> >Like them boots boy?
> >H
>

> Yep, that proves it; you're a physicist. BA, MA from UT.
> I've met a number of fellows with physics degrees over the
> years. Some of them even knew something about physics.
> Of course, it takes more than a couple of degrees from UT
> to really understand physics.
> I repeat: Care to get more specific?
> Tom Donaly, KA6RUH
> (P.S. Another dismissive "get a book" answer will tell me all
> I need to know about your knowledge of physics.)
> (P.P.S. I didn't know UT hired people with just an MA to do
> important research work.)
>

5072. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 12:08:13 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED89B2D.E8D1CD2D@cwis.net>
Source record: 116424

funkbastler,
I got all the right letters in it! One or two
just were in the wrong place...
'Doc

5073. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 12:09:13 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3ED89B69.A887206F@cwis.net>
Source record: 116425

Wes,
A '6657' is a 'GIB', right?
'Doc

5074. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 12:49:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED8A4E5.3020504@ieee.org>
Source record: 116426
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
> Time is merely an illusion.

I said the same thing, just in a different way. Why
should we be so arrogant as to believe that change,
based on the motion of our small planet, is constant
throughout the universe?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5075. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 12:55:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED8A631.1070407@ieee.org>
Source record: 116427

H. Adam Stevens wrote:
> To write a general expression with source and load and all the reflections
> back and forth would require an infinite series, difficult to express in
> ascii, but it's a superposition of travelling waves with the voltages and
> currents matched across the boundaries.

That situation can be greatly simplified by using a signal generator
equipped with a circulator+load. That way, the first reflection is the
only reflection.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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5076. Re: If it requires a license you cant put it in a Toyota?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 13:03:34 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <su9hdvo54opnu03445bu5vqnj8adf13e7g@4ax.com>
Source record: 116428
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc

On Fri, 30 May 2003 19:42:21 -0500, "Lloyd Mitchell"
<lloydm75@hotmail.com> wrote:

>This is not 100% true. I work for a State Forestry Unit here in SC. We
>have installed a Motorola unit in a Honda, Toyota and just about every brand
>of american vechicle you can name.
>
>In fact the Toyota dealer looked up a Service Bullentin and helped us ensure
>we kept power wiring and antenna cable away from any of the computer stuff
>in the vehicle. They showed us where the power wiring and input cables for
>the on car computer controls were located for no cost. this on a 2003
>toyota.

The Toyota dealer here in Midland who just moved to Bay City,
installed my duobander and ran the wiring in my 4-Runner.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S/N CD-2)

>
>Verify your facts gentlemen..
>
>Mitch
>
>

5077. Need source for antenna parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 13:08:25 UTC
From: Dennis <douglasfirlyx@charter.com>
Message-ID: <vdhaakn3h8opaf@corp.supernews.com>
Source record: 116429

Hello,

I'm building a horizontal dipole to receive 15Mhz. I need to
have a source for wire, and the insulating spacers. Anybody
have any ideas?

TIA,

Dennis

DELETE "lyx" TO RESPOND.

5078. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 13:31:41 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdhbmqhkd87471@corp.supernews.com>
Source record: 116430

Cecil
I said "general expression".
Let's try your specific case and I'll show why you are correct in you energy description.

System: Source matched to line mismatched to load.
Ignore losses.

Source and line are matched, therefore the reflected waves from the load mismatch just go back into the source without further reflection.
As the mismatch increases, the the net power from the source and the power to the load decrease.
The net power out of the source equals the power into the load, yet there is more energy in the line per unit power at the load than there would be if the line and load had the same impedance.
This is necessary to satisfy the boundary conditions that the voltage and current at the line/load interface be equal to their first derivatives across the connection; that they be equal in magnitude and slope across the boundary.
So the solution would be the superposition of two opposing traveling waves and the boundary conditions are set by the load.

73
H.
NQ5H

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED8A631.1070407@ieee.org...
> H. Adam Stevens wrote:
> > To write a general expression with source and load and all the
reflections
> > back and forth would require an infinite series, difficult to express in
> > ascii, but it's a superposition of travelling waves with the voltages
and
> > currents matched across the boundaries.
>
> That situation can be greatly simplified by using a signal generator
> equipped with a circulator+load. That way, the first reflection is the
> only reflection.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----

> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5079. Re: Need source for antenna parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 13:53:55 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <Tt2Ca.746$xM5.1100437@news2.news.adelphia.net>
Source record: 116431

For wire go to your local building supply. For spacers, pick up three "3/4 PVC joints (allows you to join two sections together). All you now need to do is to drill horizontal holes at each end, to mount the wire and support lines Use the extra one for the center support. Split and solder the feedline / coax to the wires. Total cost, under 10 bucks and it will last well past the time you want to get rid of it.

Jim

"Dennis" <douglasfirlyx@charter.com> wrote in message
news:vdhaakn3h8opaf@corp.supernews.com...
> Hello,
>
> I'm building a horizontal dipole to receive 15Mhz. I need to
> have a source for wire, and the insulating spacers. Anybody
> have any ideas?
>
> TIA,
>
> Dennis
>
> DELETE "lyx" TO RESPOND.
>

5080. Re: Need source for antenna parts

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 14:06:14 UTC
From: for-sale <nospam@spam.net>
Message-ID: <qldhdvsiph4h83uv6cli9br2f6jh71psjs@4ax.com>
Source record: 116432

The Wire Man
www.thewireman.com

On Sat, 31 May 2003 08:08:25 -0500, Dennis <douglasfirlyx@charter.com>
wrote:

>Hello,
>
>I'm building a horizontal dipole to receive 15Mhz. I need to
>have a source for wire, and the insulating spacers. Anybody
>have any ideas?
>
>TIA,
>
>Dennis
>
>DELETE "lyx" TO RESPOND.

5081. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 14:22:12 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bbadot$7gje1$1@ID-185765.news.dfncis.de>
Source record: 116433
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED8A4E5.3020504@ieee.org...
> Reg Edwards wrote:
> > Time is merely an illusion.
>
> I said the same thing, just in a different way. Why
> should we be so arrogant as to believe that change,
> based on the motion of our small planet, is constant
> throughout the universe?

It has been shown on many occasions that the laws of Physics, Mathematics,
Electronics and Sheep Farming are different on the planet TheAnus.
;>)
--
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

5082. Re: How much RF energy in a lightning strike (was solid wire or b...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 14:37:24 UTC
From: richardharrison@webtv.net
Message-ID: <17991-3ED8BE24-50@storefull-2314.public.lawson.webtv.net>
Source record: 116434

Alan Fowler wrote:
"But the transfer of energy is unidirectional."

Kinetic energy comes and goes. It is moving by definition. Whatever goes comes from somewhere.

A steady d-c transfers energy in one direction through a conductor. Lightning is a transient. A changing current in the lightning rises and falls.

Unidirectional energy transfer may have meant away from the generator, the lightning discharge beinng the generator. Lightning is a kinetic energy generator. Energy had to be collected in a cloud and on the earth under it for the discharge between them. Charging current had to flow into the discharge points for the lightning to occur.

So, energy transfer is not exactly unidirectional.

A pulse that starts at zero and ends at zero does not say that volts and amps never have negative polarity. Inductance and capacitance are storage mechanisms. What charges, discharges. The outflow from storage produces polarity reversals.

Direct current does not produce radio waves directly. It must be altered to make waves. Lightning makes waves that can be heard around the world. Thus lightning has alternations.

Whatever Alan meant by unidirectional energy transfer is questionable.

Best regards, Richard Harrison, KB5WZI

5083. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 14:49:31 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LuWdnWTXvedvXUWjXTWcpg@comcast.com>
Source record: 116435

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED803EE.2080809@ieee.org...
....
> When voltages and currents don't exist, the virtual impedance is
undefined.....................
> --
> 73, Cecil http://www.qsl.net/w5dxp

Cecil,

I am not sure about your use of the word "virtual" , but if you connect a
450 Ohm transmission line to a generator, with a 50 Ohm load at the far end,
the generator thinks it is driving 450 Ohms until the reflection comes back.

Tam/WB2TT

5084. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 15:04:13 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <-wmdndPv1ZyJWEWjXTWcqg@crocker.com>
Source record: 116436

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:17991-3ED8BE24-50@storefull-2314.public.lawson.webtv.net...
> Alan Fowler wrote:
> "But the transfer of energy is unidirectional."
>
> Kinetic energy comes and goes. It is moving by definition. Whatever goes
> comes from somewhere.
>
> A steady d-c transfers energy in one direction through a conductor.
> Lightning is a transient. A changing current in the lightning rises and
> falls.
>
> Unidirectional energy transfer may have meant away from the generator,
> the lightning discharge beinng the generator. Lightning is a kinetic
> energy generator. Energy had to be collected in a cloud and on the earth
> under it for the discharge between them. Charging current had to flow
> into the discharge points for the lightning to occur.
>
> So, energy transfer is not exactly unidirectional.
>
> A pulse that starts at zero and ends at zero does not say that volts and
> amps never have negative polarity. Inductance and capacitance are
> storage mechanisms. What charges, discharges. The outflow from storage
> produces polarity reversals.
>
> Direct current does not produce radio waves directly. It must be altered
> to make waves. Lightning makes waves that can be heard around the world.
> Thus lightning has alternations.
>
> Whatever Alan meant by unidirectional energy transfer is questionable.
>
> Best regards, Richard Harrison, KB5WZI
>
even without current or voltage reversals a non-repeating waveform of any
shape has frequency components from zero to infinity. so you can transfer
energy in just one direction and still end up with rf all over the spectrum.

5085. Re: balun at the top, balun at the bottom, baluns all around

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 15:18:55 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <qihhdv49geur4i57eid3k1a4ougi6kf8ef@4ax.com>
Source record: 116437

On Thu, 22 May 2003 22:54:53 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

|EZNEC is an antenna modeling program, and doesn't have provision for
|modeling impedance matching networks. If you do a frequency sweep with
|EZNEC, it can be made to generate input files for MicroSmith (no longer
|available) and WinSMITH. These programs enable you to build an impedance
|matching network, adjusting the component values as desired, and to see
|the results on a Smith chart. With one of these programs and the
|information EZNEC gives about the antenna or feedline input impedance,
|you can design a network to do the impedance matching you need to do.
|There are also a number of programs that will design L or other simple
|networks to match a given impedance at a particular frequency. I believe
|Reg offers one or more, for free, at his web site.

If you have Excel, then I highly recommend going to:

www.qsl.net/ac6la

and downloading xlzizl.xls

The rest of the stuff is outstanding also.

|
|While it isn't appropriate to use this newsgroup to regularly conduct
|EZNEC support, there are enough EZNEC users (including demo version
|users) reading this group to make it seem appropriate to answer
|occasional questions that are likely to be of interest to a substantial
|number of people -- particularly ones like these which apply also to
|other modeling programs. If anyone objects to my occasionally doing this
|on the newsgroup, please let your objections be known, either publicly
|or privately. It's not my intent to make commercial use of the newsgroup.

Not a problem for me. The group is lucky to have you.

5086. Re: Wanted: Manual for ISOLOOP Auto Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 15:31:55 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0305310731.2a2997b8@posting.google.com>
Source record: 116438

"Mitch, W4OA" <w4oa@arrl.net> wrote in message news:<vdfgu3mpah2ecd@corp.supernews.com>...
> Help! I have the IsoTune auto tuner for my Isoloop,
> but no instruction manual. I desperately need a copy
> of the tuner manual (I have the regular IsoLoop
> manual.) Can someone please help me out with
> a copy of the auto tuner manual?
>
> Thanks in advance...
>
> Mitch, W4OA
> w4oa@arrl.net

Mitch,what exactly is the problem ?
Art

5087. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 15:44:27 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbaikr$m1v$1@sparta.btinternet.com>
Source record: 116439
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Frank Turner-Smith G3VKI" <g3vki@ntlworld.com> wrote in message
news:bbadot$7gje1$1@ID-185765.news.dfncis.de...
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ED8A4E5.3020504@ieee.org...
> > Reg Edwards wrote:
> > > Time is merely an illusion.
> >
> > I said the same thing, just in a different way. Why
> > should we be so arrogant as to believe that change,
> > based on the motion of our small planet, is constant
> > throughout the universe?
>
> It has been shown on many occasions that the laws of Physics, Mathematics,
> Electronics and Sheep Farming are different on the planet TheAnus.

Herschel had some good figures for Uranus:
Which see the Herschel museum Bath.

Gary7SLL

5088. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 16:17:11 UTC
From: richardharrison@webtv.net
Message-ID: <17991-3ED8D587-55@storefull-2314.public.lawson.webtv.net>
Source record: 116440

Mark Keith wrote:
"So overall, I`d have to be considered a "nay-sayer" also. (But, I`m not using any cheap portable radios with poorer image rejection that wouldn`t benefit more from a preselector or tuner."

The question:
"Does a tuner help on receive?"

Does the antenna trimmer on a car radio help on receive?

One can always say I don`t need any help for satisfactory reception. That may be entirely correct. It doesn`t make a device unhelpful. Radios are sometimes relocated. You could be next to a BC station. A ham I know is a couple blocks from the 1320 KHz tower. He hasn`t been able to participate in a 3960 KHz net. A tuner may help him on receive from his location. He doesn`t need more 3960 KHz if he has less 1360 KHz signal, and a tuner could give him more of what he needs in his situation and less of what`s bugging him.

The real answer is sometimes yes and sometimes no. That`s an answer to almost an question of: Do you need help? Do you need help? may stimulate more conversation than: Is something helpful?

Just because you don`t find something helpful now does not mean you never will.

Best regards, Richard Harrison, KB5WZI

5089. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 16:43:39 UTC
From: richardharrison@webtv.net
Message-ID: <17992-3ED8DBBB-26@storefull-2314.public.lawson.webtv.net>
Source record: 116443

David Robbins wrote:
"even without current or voltage reversals a non-repeating waveform of any shape has frequency components from zero to infinity."

The single energy event has two opportunities to generate frequency components. You have pribably seen the statement that a square wave consists of a fundamental and all its odd-harmonics. what goes up must come down. It`s the change in the start and stop of the square waveform that gererates all the harmonics.

Best regards, Richard Harrison, KB5WZI

5090. Antenna Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 16:51:25 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bbamhv$a6a$1@slb1.atl.mindspring.net>
Source record: 116441

Hi,

Trying to decide on what kind of antenna to go to for the under 30 MHz
freequencies.

a. Presently have a random-length wire running around the four walls of my
attic (resultant loop is opern at the end)
Do listening only.

Would the S/N likely improve if I replaced the present vertical run of wire
from my attic to my receiver below with coax ?

If so, what does one do with the shield at the attic end; just leave it
alone ?
(the shield would, of course, be grounded at the receiver end via the
receiver chassis, and the ground I now have for it)

Does the present vertical wire run (attic to study) contribute "much" for
these frequencies, that I would be giving up
going to coax? Worth the tradeoff ?

b. Not sure what the proper terminology is, but would one of those
"vertical whip like" antennas be superior
to the random length around the four walls that I now have ?

Would still want fairly omni, and broadband coverage up to 30 MHz.

Thanks,
Bob

5091. Re: Antenna Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 17:02:12 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <oe5Ca.7330$nr.721809@twister.southeast.rr.com>
Source record: 116442

If you have a coax connection on your radio, you could create a loop antenna by closing the gap in you attic antenna and connecting the loop between the center conductor and the shield of the coax lead. Loops are generally quieter from a static perspective. For simply receiving, the more wire the better, shape is less important.

I'd encourage you to study for your ham license, there's lots of material on antennas in the various study guides that are available.

Good luck, Bill, W4WNT
"Robert11" <rgsrose@tiac.net> wrote in message
news:bbamhv$a6a$1@slb1.atl.mindspring.net...
> Hi,
>
> Trying to decide on what kind of antenna to go to for the under 30 MHz
> freequencies.
>
> a. Presently have a random-length wire running around the four walls of
my
> attic (resultant loop is opern at the end)
> Do listening only.
>
> Would the S/N likely improve if I replaced the present vertical run of
wire
> from my attic to my receiver below with coax ?
>
> If so, what does one do with the shield at the attic end; just leave it
> alone ?
> (the shield would, of course, be grounded at the receiver end via the
> receiver chassis, and the ground I now have for it)
>
> Does the present vertical wire run (attic to study) contribute "much" for
> these frequencies, that I would be giving up
> going to coax? Worth the tradeoff ?
>
> b. Not sure what the proper terminology is, but would one of those
> "vertical whip like" antennas be superior
> to the random length around the four walls that I now have ?
>
> Would still want fairly omni, and broadband coverage up to 30 MHz.
>
> Thanks,
> Bob
>

5092. Re: Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 17:45:36 UTC
From: fmmck@aol.com
Message-ID: <20030531134536.19481.00000841@mb-m10.aol.com>
Source record: 116444

<< I am considering buying an FT-8900 and if I do, I've been trying to decide if I
should get a triband antenna or use a duplexer with my current dualband antenna and buy a 6m hamstick. The cost difference is less than $20 if I get the hamstick when you throw in the cost of the mount for either antenna and the duplexer. >>

Andy-

Is the hamstick cheaper than a stainless whip? I suppose it may be lighter, but a quarter wave on Six Meters isn't very long. Using inductive loading to shorten the antenna would offer little advantage.

I have the Diamond CR627NMOB tri-band antenna. It is somewhat heavy and came with a warning NOT to use it with a magnet mount. I have a large-magnet NMO mount, so decided to try it. At highway speeds, the wind from a passing semi knocks it off every time!

If you ever consider getting on HF, take a look at the Hustler mobile antenna that uses a resonator for each band. Without any resonator, the mast is a quarter wave on Six Meters. The resonator coil acts as an RF choke, so the antenna works on Six Meters in addition to the intended band.

73, Fred, K4DII

5093. steel whip for 6 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 17:55:38 UTC
From: bruceandkarla@ziggycom.net
Message-ID: <7192d525.0305310955.73da456e@posting.google.com>
Source record: 116445

I want to run a still whip antenna for 6 meters how long would i make the antenna would it just be 1/4 wave or what?

5094. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 18:27:20 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <WfGdnWN8jJKZaUWjXTWcow@crocker.com>
Source record: 116446

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:17992-3ED8DBBB-26@storefull-2314.public.lawson.webtv.net...
> David Robbins wrote:
> "even without current or voltage reversals a non-repeating waveform of
> any shape has frequency components from zero to infinity."
>
> The single energy event has two opportunities to generate frequency
> components. You have pribably seen the statement that a square wave
> consists of a fundamental and all its odd-harmonics. what goes up must
> come down. It`s the change in the start and stop of the square waveform
> that gererates all the harmonics.
>
> Best regards, Richard Harrison, KB5WZI
>

a single step function (turn on the light and leave it on forever) still has
harmonics from zero to infinity... its a math thing.

5095. Re: steel whip for 6 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 18:52:20 UTC
From: fmmck@aol.com
Message-ID: <20030531145220.19481.00000851@mb-m10.aol.com>
Source record: 116447

<< I want to run a still whip antenna for 6 meters how long would i make the antenna would it just be 1/4 wave or what? >>

Bruce & Karla-

Divide 300 by frequency in MHz for a full wave in Meters. Take one quarter of that and multiply by 0.95. That is the length of a quarter wave antenna, which includes the whip and any other mounting hardware such as a spring. I think it should be somewhere in the range of 56 inches for 50 MHz.

I suggest you cut it a little long, check SWR and trim as necessary. One of the MFJ 249 or 259 meters would be quite useful for trimming the antenna. If the meter indicates best SWR at a lower frequency, you need to trim a little more off. If the meter indicates best SWR at a higher frequency, you trimmed too much!

If you intend to operate both SSB and FM repeaters, you might trim it for a mid-band frequency of 52 MHz. Otherwise choose the frequency you plan to use most.

73, Fred, K4DII

5096. Re: Balloon-lofted random wire antenna: doable?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 19:30:04 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <lk0idvkc6upm7fl9mrqgebbsas53boc9hs@4ax.com>
Source record: 116448

On Fri, 30 May 2003 22:52:24 -0400, Dave Holford
<holford@sympatico.ca> wrote:

>
>
>'Doc wrote:
>>
>> wes,
>> "Funkblaster" works locally in a munitions plant in
>> the ECM department, where they make the 'foil' bundles
>> to 'spoof' radar. He's the one that folds the 'foil'
>> pieces into teensy-tiny airplanes. I work at the next
>> bench, I test fly the folded 'foil' planes. If they
>> don't fly, I send them back to "Funkblaster" to re-fold.
>> After three failures and three re-folds, they have to be
>> scrapped. At the end of a shift there are usually a few
>> hundred ponds of rejects, so there's really no shortage
>> of aluminum scrap...
>> 'Doc
>
>
>Now that has to be just about the funniest post I've seen since April 1.
>
>
>Dave

Don't encourage him ;-)

-fb-

5097. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 19:38:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ihuhdvkclgfheciccsqcen99uhnkuojd6m@4ax.com>
Source record: 116449

On Fri, 30 May 2003 22:30:56 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:

>> Well, Fourier analysis isn`t required on a sinewave.
>---True enough. Part of the point is that a pulse is not a sinewave nor
>a set of sinewaves.
>

Hi All,

It's hard to let this pass because it poorly represents the subject
with a fairly old state of the art (at least mid 50's vintage).

R.B. Blackman and J.W. Tukey wrote "The Measurement of Power Spectra,"
in 1958 and presented a seminal work in the development of the FFT.
Their singlemost compelling illustration of that mathematics value
came from the measure of a pulse buried in a literal sea of noise:
"'... we were able to discover in the general wave
record a very weak low-frequency peak which would
surely have escaped our attention without spectral
analysis. This peak, it turns out, is almost certainly
due to a swell from the Indian Ocean, 10,000 miles
distant. Physical dimensions are: 1mm high and
a kilometer long.'"

Myself, I spent some many months contracting at HP's AF spectrum
analyzer development division here in Washington. I tested the
practical application of their FFT design employing pulses of many
shapes to evidence commonly used techniques. Such pulses were the
chirp, sawtooth, step, sweep, and others all easily garnered and
rendered into a multitude of Fourier relationships that revealed
distortion, delay, coherence, and a host of other correlatives from a
single incidence. Such measurements could easily identify the nature
of the network function through which the pulse traversed.

Lest some roll their eyes as this being another cable tester, I was
using a speaker and microphone (the instrument was designed for
realtime FFT of audio DC to 100KHz). The scientific literature has
many references to this kind of application to now analyze data from a
field of noise rather than from a coherent source.

The notion that pulses are somehow special and a breed that defy
analysis due to some myopic reading of scripture has been long
abandoned.

The greatest source of failure to repeat these applications is
entirely due to pilot error, and is frequently due to the lack of

pre-processing or what the authors called "pre-whitening" or their other term which is more common, windowing. The poor choice (or more typically, no choice) of window function can lead to abysmal results.

As for the notion that Sine waves require no Fourier analysis, that is in itself a statement of lack of experience. I had designed my own FFT package 20 years ago that vividly illustrated the quality of a Sine wave. Such a Sine wave, serving as the reference signal to calibrate the software, should exhibit one and only one bin of frequency content from a transformed linear sampled data of 1024 points. The filling of other bins represented what I called a mathematical noise floor. At the time Microsoft Pascal was being trounced by TurboPascal. When I used Microsoft transcendental math libraries, my noise floor was 80dB below the peak value of the Microsoft generated Sine wave. When I used the TurboPascal package, my noise floor fell to 200dB below that same value. If I attempted to measure a Sine wave of 359 degrees of rotation, the results were all across the spectrum with spurs nearby and a noise floor perhaps only down 20dB.

73's
Richard Clark, KB7QHC

5098. Re: Using Attenuator vs using RF Gain Pot; Differences ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:13:50 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <228Ca.23063$jp.388673@twister.southeast.rr.com>
Source record: 116452

I use this method too, especially on old rx that were not designed for SSB like my old Halicrafter S-40B. AVC off, volume all the way usually BFO on for SSB and CW.

"Dave Shrader" <david.shrader@attbi.com> wrote in message news:3ED4D5EB.3060003@attbi.com...
> Very strong signals can cause distortion in the receiver, splatter in
> the receiver, and if it's close to your frequency it can reduce the gain
> of your receiver.
>
> These have technical names: desense, IMD [intermodulation distortion],
> 3rd order intercept [side band splatter], etc.
>
> These are best controlled by keeping them out of the receiver, typically
> by reducing the signal level by using the attenuator.
>
> So, if there is a S9+30 or greater signal on your frequency or close to
> it [example +/- 5 KHz] then use the attenuator to minimize undesired
> effects such as splatter on the channel you want to work.
>
> Now, for the RF gain. There are many uses for RF Gain. When set to
> maximum your receiver can hear very weak signals. However, there are
> days when the background noise is high and the RF Gain can be used to
> tone it down a bit.
>
> In my case I use the RF Gain when I operate CW. I set the AF Gain to a
> comfortable level, turn OFF the AVC and control the volume of the signal
> with the RF Gain. This gives me the cleanest CW signal I can listen to [
> minimum false key clicks, minimum HF background noise, etc.]
>
> Deacon Dave, W1MCE
>
> Robert11 wrote:
> > Hello:
> >
> [SNIP]
> >
> > Could someone explain, please, the difference in attenuating a "too strong"
> > input signal
> > by using the radio's Attenuator (button; -20 db) vs just turning down the rf
> > gain pot ?
> >

> >[SNIP]
>

5099. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:16:40 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vdi3be2u259a24@corp.supernews.com>
Source record: 116450

My goodness. I too am keen on the use of FFT. I said in an earlier
message that such schemes are able to give insight - and, of course,
they are able to do even more. The fact that one does not need to do
any such analysis with a sinewave impacts in no way on anyone using
whatever scheme they wish to use with a sinewave. It is difficult to
mess-up linear analysis with the use of one sinewave. (I have seen it
done, but only by the very inexperienced and some on this group)
Let us not read too much into a simple statement that was concerned
with a particular application.
My goodness, I have caused the donation of close to $200k worth of
HP (well, Agilent) spectrum/network analyzers (six of them) to use in
our student lab. They are the cat's-meow.
I am disinclined to supply every conceivable caveat with every
statement. Thank you for extending my brief remark. 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:ihuhdvkclgfheciccsqcen99uhnkuojd6m@4ax.com...
> On Fri, 30 May 2003 22:30:56 -0400, "J. McLaughlin"
> <JCM@Power-Net.Net> wrote:
>
> >> Well, Fourier analysis isn`t required on a sinewave.
> >---True enough. Part of the point is that a pulse is not a sinewave
nor
> >a set of sinewaves.
> >
>
> Hi All,
>
> It's hard to let this pass because it poorly represents the subject
> with a fairly old state of the art (at least mid 50's vintage).
>
> R.B. Blackman and J.W. Tukey wrote "The Measurement of Power Spectra,"
> in 1958 and presented a seminal work in the development of the FFT.
> Their singlemost compelling illustration of that mathematics value
> came from the measure of a pulse buried in a literal sea of noise:
> "'... we were able to discover in the general wave
> record a very weak low-frequency peak which would
> surely have escaped our attention without spectral
> analysis. This peak, it turns out, is almost certainly
> due to a swell from the Indian Ocean, 10,000 miles
> distant. Physical dimensions are: 1mm high and

> a kilometer long.'"
>
> Myself, I spent some many months contracting at HP's AF spectrum
> analyzer development division here in Washington. I tested the
> practical application of their FFT design employing pulses of many
> shapes to evidence commonly used techniques. Such pulses were the
> chirp, sawtooth, step, sweep, and others all easily garnered and
> rendered into a multitude of Fourier relationships that revealed
> distortion, delay, coherence, and a host of other correlatives from a
> single incidence. Such measurements could easily identify the nature
> of the network function through which the pulse traversed.
>
> Lest some roll their eyes as this being another cable tester, I was
> using a speaker and microphone (the instrument was designed for
> realtime FFT of audio DC to 100KHz). The scientific literature has
> many references to this kind of application to now analyze data from a
> field of noise rather than from a coherent source.
>
> The notion that pulses are somehow special and a breed that defy
> analysis due to some myopic reading of scripture has been long
> abandoned.
>
> The greatest source of failure to repeat these applications is
> entirely due to pilot error, and is frequently due to the lack of
> pre-processing or what the authors called "pre-whitening" or their
> other term which is more common, windowing. The poor choice (or more
> typically, no choice) of window function can lead to abysmal results.
>
> As for the notion that Sine waves require no Fourier analysis, that is
> in itself a statement of lack of experience. I had designed my own
> FFT package 20 years ago that vividly illustrated the quality of a
> Sine wave. Such a Sine wave, serving as the reference signal to
> calibrate the software, should exhibit one and only one bin of
> frequency content from a transformed linear sampled data of 1024
> points. The filling of other bins represented what I called a
> mathematical noise floor. At the time Microsoft Pascal was being
> trounced by TurboPascal. When I used Microsoft transcendental math
> libraries, my noise floor was 80dB below the peak value of the
> Microsoft generated Sine wave. When I used the TurboPascal package,
> my noise floor fell to 200dB below that same value. If I attempted to
> measure a Sine wave of 359 degrees of rotation, the results were all
> across the spectrum with spurs nearby and a noise floor perhaps only
> down 20dB.
>
> 73's
> Richard Clark, KB7QHC

5100. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:19:35 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ed90fe0_3@news1.prserv.net>
Source record: 116451

"Tidris" <nospam@nospam.come> wrote in message
news:300520031759489561%nospam@nospam.come...
> In article <3ED5314C.FA45EB94@cellsource.com>,
> <phamilton@cellsource.com> wrote:
>
> > We also use a copper paste instead of nolox for copper to copper
connections on buss
> > bars and coax grounds.
>
> I noticed the Polyphaser tech note on lightning protection for Ham
> Radio says one should use joint compounds when using high compression
> clamps to the grounding rods. However it doesn't say which type of
> joint compound is acceptable. Do you see any reason not to use the
> zinc-based Noalox? I know copper is more conductive than zinc, and I
> would use copper-based compound if I had it, however the zinc is
> conductive enough for aluminum to copper connections, so why not also
> for copper to copper connections if that is what one has at hand?

You have to be a little familiar with the characteristics of the materials. Aluminum forms an insulating film on the surface in air. It takes a lot of pressure to penetrate it. Zinc particles have sharp edges. The material they are suspended in is chosen to exclude oxygen. The combination does as good a job as is practical in an oxygen atmosphere to provide long term continuity between aluminum and whatever.

Copper, on the other hand, displays a highly conductive surface when cleaned. Any foreign (i. e. non-copper) material between the surfaces reduces conductivity. I haven't looked at what Roger is selling these days, but the way to handle copper to copper is to clean it thoroughly, mechanically if necessary, to a bright smooth finish, clamp the two copper surfaces together with as much force as possible (big strong bolts), and then apply a protective coat of Scotchcoat or equivalent over the connection to keep moisture out. Cleanliness counts.

--
Crazy George
Remove NO and SPAM from return address

5101. Re: If it requires a license then you can't use it in a 2003 Toyota

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:43:47 UTC
From: Jerry Oxendine <joxendi@bellsouth.net>
Message-ID: <qA8Ca.28318$Vf5.7230@fe08.atl2.webusenet.com>
Source record: 116453
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,alt.autos.toyota.camry,alt.autos.toyota.trucks

Tom S <toms@spamlesspacbell.net> wrote in message
news:9tZBa.78$1F1.8684743@newssvr13.news.prodigy.com...
>
> "Jerry Oxendine" <joxendi@bellsouth.net> wrote in message
> news:2HzBa.773$UM4.736@fe08.atl2.webusenet.com...
> > Chevrolets always seemed (or all GM cars
> > seemed to be) to be "tighter" in the RF department. I could put a
> > radio in a Ford and the ignition noise would be horrific. Put the same
> > radio in a GM car--quiet as
> > a mouse. Seems to still be that way after all those years.
>
> That's probably a non-issue these days. The new cars and trucks don't
have
> high voltage distributors like in the old days. Instead of long stretches
> of 40KV wires from the distributor, there are individual coils at each
spark
> plug and the distributed juice is 12 Volts. That's a _much_ cleaner way
to
> do things - especially as far as RFI is concerned.
>
> Tom S

Except for those Ford fuel pumps. LOL!

Jerry
>
>

5102. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:54:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdi5k0jfbs68a@corp.supernews.com>
Source record: 116454

David Robbins wrote:
>
> even without current or voltage reversals a non-repeating waveform of any
> shape has frequency components from zero to infinity. so you can transfer
> energy in just one direction and still end up with rf all over the spectrum.
>

This is true. The spectrum is continuous, which means that it contains all frequencies, rather than the discrete fundamental and harmonics of a periodic waveform. But take a look at what this means. A Fourier frequency component is a sine wave that has always existed and will always exist -- they're not parts of waves that start at some arbitrary time. So if you wanted to make a single pulse from a bunch of sine waves, you'd first have to have an infinite number of sine waves, of every possible frequency and of the correct relative phases and amplitudes. They'd also have to each be of infinitesimal amplitude. Then you'd have to turn them all on long before the pulse is to occur. Because of their phases and magnitudes, all the sine waves would add to zero for all time until the pulse is to begin. At that moment, they add to the correct value to make the pulse. For all time after the pulse, they all add to zero again. That, briefly, is the meaning of the spectrum of a single shot event.(*)

In practical terms, what it means is that you can excite a resonant circuit with a pulse (unipolar if you choose), and the circuit will ring, producing a (bipolar) sine wave at its resonant frequency. However, it won't begin ringing until the pulse occurs, so it's not really extracting the Fourier frequency components. (The real Fourier components, remember, last forever but are infinitesimal in amplitude.) A tank circuit tuned to virtually any frequency will ring, although the magnitude at each frequency depends on the pulse shape. So a resonant circuit can convert the unipolar pulse into bipolar sine waves. When lightning strikes, the filters and resonant circuits in your receiver ring, making the sound you know as QRN.

(*) In Carlson's _Communication Systems: An Introduction to Signals and Noise in Electrical Communincation_, the author says it like this:

"To summarize, the difference between line spectra and continuous spectra can be stated as follows. A line spectrum represents a signal that can be constructed from a *sum* of discrete frequency components (sinusoids); the signal power is concentrated at specific frequencies. On the other hand, a continuous spectrum represents a signal that is constructed by *integrating* over a continuum of frequency components (they can be thought of as sinusoids of infinitesimal amplitude);

similarly, the energy is distributed continuously in frequency."

Roy Lewallen, W7EL

5103. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 20:56:55 UTC
From: richardharrison@webtv.net
Message-ID: <24762-3ED91717-30@storefull-2311.public.lawson.webtv.net>
Source record: 116455

Richard Clark wrote:
"As for the notion that Sine waves require no Fourier analysis, that is in itself a statement of lack of experience."

OK. Undistorted sinewaves require no Fourier analysis.

Trig tables tell you about sinewaves except for their amplitudes, start and stop points, and their period or frequency.

A pure sinewave consists of only one period or frequency.

Best regards, Richard Harrison, KB5WZI

5104. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 21:35:46 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <Ue9Ca.1628$H67.292730@news20.bellglobal.com>
Source record: 116456

"Roy Lewallen"
> So if you wanted to make a single pulse from a bunch
> of sine waves, you'd first have to have an infinite number
> of sine waves, of every possible frequency and of the
> correct relative phases and amplitudes. <etc.>

God/Nature can fold a complex protein in less than a microsecond - it would take all the computers in the world roughly forever to simulate it.

God/Alien Intelligences can also, apparently, solve Rubik's Cube in about 13 moves every single time (using the unknown God's algorithm).

Smart chap, that God/Nature/Alien Intelligences.

(Actually - it really shows something extremely important about present day human mathematics, although I'm not sure exactly what... ...but something that is not a compliment regarding human mathematical abilities.)

5105. Re: Solid Wire vs Copper Braid

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 21:42:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <vl9Ca.1632$H67.293698@news20.bellglobal.com>
Source record: 116457

"Richard Harrison"
> A pure sinewave consists of only one period or frequency.

Provide you can spare the (infinite) time...

;-)

5106. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-05-31 22:36:38 UTC
From: jgboyles@aol.com
Message-ID: <20030531183638.01971.00000622@mb-m05.aol.com>
Source record: 116458

>Why?
> 'Doc

Because.
'Gary
That is the Ancient Tibetan monk's answer to the Universal question of the ages asked by the unknowing, "Why?"
73 Gary N4AST

5107. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 00:14:58 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030531201458.04299.00001059@mb-m15.aol.com>
Source record: 116459

>..... the energy is distributed continuously in frequency."
>
>Roy Lewallen, W7EL
>
>

...and subject to propagation conditions between the source and receiver.
When direct hit by lightning, one gets all of it and resonances in the system contribute to magnifying or damping the effects. That's why TV on the other end of house can get wiped out, while 2m rig next to coax entrance to house still works. Weird things happen, house wiring can look like a bunch of resonant circuits with "intelligent" dummy loads spread around the house (and I am ignoring reflected waves :-).

If we could only strategically place bunch of Unwin "directing reflectors" around the house, we could sleep well thorugh the angry thunderous wide frequency RF optical pulses.

There is too much energy in lightning strikes, the best defense is good grounding, disconecting and a sincere prayer.
I have noticed (maybe just coincidence) that having large antenna at the top of the tower seems to "repudiate" lightning, maybe it just drains the static build up better ?

73 Yuri, K3BU/m

5108. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 00:42:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3ED94C02.9050608@ieee.org>
Source record: 116460

Tarmo Tammaru wrote:
> I am not sure about your use of the word "virtual" , but if you connect a
> 450 Ohm transmission line to a generator, with a 50 Ohm load at the far end,
> the generator thinks it is driving 450 Ohms until the reflection comes back.

I use virtual, in general, to designate a point at which there exists an
impedance but no reflections are taking place. The virtual impedance at
any point along a transmission line with reflections is
(Vfor+Vref)/(Ifor+Iref) using phasor math on phasors.

What I have a hard time accepting is that (0+0)/(0+0) equals something
that is defined. It gives me a warm, fuzzy feeling to call that
expression "undefined". It gives others a warm, fuzzy feeling to call
that expression an impedance.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5109. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 01:26:34 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <eDcCa.1086716$S_4.1097856@rwcrnsc53>
Source record: 116461

Jim -

You should start by reviewing Glen Zook's (K9STH) articles on RF Grounding

RF Grounding Primer
http://home.attbi.com/~zcomco/R.F._Grounding_primer_2.htm

Lightning Primer
http://home.attbi.com/~zcomco/Lightning_Primer_1.htm

You should also reference pertinent local and state electrical codes may apply for your location

The Kentucky electrical section only certifies Master Electrical Contractors (not Journeyman.) Licensing is done on a local level (county or city that they will be working in.) By obtaining state certification, an electrician is not required to take a local exam but still has to meet local qualifications to receive a license.

The 2002 NEC was adopted by Kentucky & effective as of 01/03/02 for field use only.

NEC Grounding
http://www.mikeholt.com/technical.php?id=technicalgeneral#Grounding

Amateur Radio is covered under NEC Article 810 (Radio & TV Equipment)
http://www.mikeholt.com/technical.php?id=grounding/unformatted/hamradio&type=u&title=Ham%20Radio%20Equipment%20(12-30-99)

w9gb

--
Do not reply directly (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:xb_Ba.725$xM5.1060722@news2.news.adelphia.net...
When I said ground, I meant RF ground. I know it will be ok for the electrical ground.

Jim, kf4tun
"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:gCOBa.606$xM5.914815@news2.news.adelphia.net...
What troubles will I run into by using 8 awg stranded (twisted) copper cable for ground. Wire used to make up cable looks like at about 14 awg. Everything is bare copper, no steel or aluminum.

Jim

5110. guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 04:34:01 UTC
From: PBB <n4cod.spamless@bellnorth.net>
Message-ID: <mh0jdvoe3iitsvu288lhndhql31t90rfjb@4ax.com>
Source record: 116462

I would like to build a dipole for attic mounting for 40m, but don't have enough room for a full-size one. I have seen commercially available shortened dipoles, but think I could wind wire around pvc as well as any to build coils. Is there a formula or chart for such or just cut and try?

Thanks,
Phil
N4COD

5111. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 07:45:59 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbcavncab1@hercules.btinternet.com>
Source record: 116463

Phil, download in a few seconds program MIDLOAD from website below. Find a length of pipe and program will tell you how many turns of what wire diameter to wind on it over what length. Feed with coax or balanced twin line.
--
==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========
"PBB" wrote
> I would like to build a dipole for attic mounting for 40m, but don't
> have enough room for a full-size one. I have seen commercially
> available shortened dipoles, but think I could wind wire around pvc as
> well as any to build coils. Is there a formula or chart for such or
> just cut and try?
>
> Thanks,
> Phil
> N4COD
>

5112. Tower Installer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 09:41:29 UTC
From: Mel <k2at@comcast.net>
Message-ID: <VEydnbkyvczHV0SjXTWcoA@comcast.com>
Source record: 116464

Luking for name and phone number of a tower installer in New Brunswick area. Think his first name was is Mike. If not him, do u know of any others in this area? Tnx.

5113. van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 14:24:23 UTC
From: pdrunen@aol.com
Message-ID: <20030601102423.25889.00000397@mb-m03.aol.com>
Source record: 116465

Hi Group,

Anyone comment on the van gorden 4:1 balun?

I measure like 12 ohms between center and shield on the coax connector and 14 ohms between the antennas connections. Is this normal?

Anyway I can test my balun to see if it is working?

Tnx
de KJ4UO

5114. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 14:58:17 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns938D5117A4E8pookster@129.250.170.96>
Source record: 116468

"G.Beat" <abuse@comcast.com> wrote in
news:eDcCa.1086716$S_4.1097856@rwcrnsc53:

> Jim -
>
> You should start by reviewing Glen Zook's (K9STH) articles on RF
> Grounding
>
> RF Grounding Primer
> http://home.attbi.com/~zcomco/R.F._Grounding_primer_2.htm
>

If you *must* ground your antenna system, that is a good way to do it, but the performance (especially for transmitting) will be better if you do not use an RF ground at all. Even *good* earth is lossy. Keep all of your RF flowing in copper and you'll be a lot louder at the other end.

--
Bill, W7TI

5115. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 15:11:12 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDA1790.991999B0@cwis.net>
Source record: 116466

PDRUNEN,
What kind of meters do you have other than
an ohm meter?
'Doc

5116. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 15:14:15 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDA1847.594FED2@cwis.net>
Source record: 116467

Gary,
I'm not an "Ancient Tibetan monk", and the question
certainly wasn't "Universal". Does that mean that you
don't know the answer either?
'Doc

5117. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 15:21:39 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <gt2cnTF1sNIkh0ejXTWcqg@comcast.com>
Source record: 116319

Shouldn't he be measuring 0 Ohms DC?

Tam/WB2TT
"'Doc" <w5lz@cwis.net> wrote in message news:3EDA1790.991999B0@cwis.net...
>
>
> PDRUNEN,
> What kind of meters do you have other than
> an ohm meter?
> 'Doc

5118. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 15:58:07 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <kg8kdv0151i8ga6cn63glphhde16ls5tjk@4ax.com>
Source record: 116320

On Sat, 31 May 2003 09:01:17 GMT, "Jim Simmons" <jimsim@adelphia.net>
wrote:

>When I said ground, I meant RF ground. I know it will be ok for the electrical ground.

Wouldn't a good rf ground constitute a number of radials in the dirt?
I'm sure twisted pair would work fine...

Bob
k5qwg

>
>Jim, kf4tun
> "Jim Simmons" <jimsim@adelphia.net> wrote in message
news:gCOBa.606$xM5.914815@news2.news.adelphia.net...
> What troubles will I run into by using 8 awg stranded (twisted) copper cable for ground.
Wire used to make up cable looks like at about 14 awg. Everything is bare copper, no steel
or aluminum.
>
> Jim

5119. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 16:34:41 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306010834.1384f2d9@posting.google.com>
Source record: 116321

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bbcavncab1@hercules.btinternet.com>...
> Phil, download in a few seconds program MIDLOAD from website below. Find a
> length of pipe and program will tell you how many turns of what wire
> diameter to wind on it over what length. Feed with coax or balanced twin
> line.
> --
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================
> "PBB" wrote
> > I would like to build a dipole for attic mounting for 40m, but don't
> > have enough room for a full-size one. I have seen commercially
> > available shortened dipoles, but think I could wind wire around pvc as
> > well as any to build coils. Is there a formula or chart for such or
> > just cut and try?
> >
> > Thanks,
> > Phil
> > N4COD
> >

Reg,
I have a question in the same area.
I am going to have a try at building a coil for a
computorised setup where switching is added
at 1,2,4,8 coils and so on to remove the effect
of ununused coils when using a 'slider' system.
Got any ideas as how to accomplish this without problems?
Ideally I would like to have the coil balanced around
the center for a 'balanced' coupling use but I cannot
see a way to do this, so it may well not improve on
the present unbalanced used and 'unused' coil forms.
Would appreciate any suggestions in this area.
Regards
Art

5120. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 16:38:20 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306010838.4c9df466@posting.google.com>
Source record: 116322

richardharrison@webtv.net (Richard Harrison) wrote in message
>
> The question:
> "Does a tuner help on receive?"

The original question...

>As you tune your antenna for SWR=1.0, the received signal becomes
>significantly louder.
>Does this mean that a tuned antenna will give you better reception?
>Or will a decent radio be able to pull the same quality signal from
>the same antenna without the tuner?

>
> Does the antenna trimmer on a car radio help on receive?

Of course. But thats not the same as adding a tuner to a SW radio.
>
> One can always say I don`t need any help for satisfactory reception.
> That may be entirely correct. It doesn`t make a device unhelpful. Radios
> are sometimes relocated. You could be next to a BC station. A ham I know
> is a couple blocks from the 1320 KHz tower. He hasn`t been able to
> participate in a 3960 KHz net. A tuner may help him on receive from his
> location. He doesn`t need more 3960 KHz if he has less 1360 KHz signal,
> and a tuner could give him more of what he needs in his situation and
> less of what`s bugging him.

The "net" is on 3.915 now. He shouldn't have much problem now, unless
a different station is a problem.
>
> The real answer is sometimes yes and sometimes no.

Of course. Thats why I said it would depend on the radio being used.
>
> Just because you don`t find something helpful now does not mean you
> never will.

I have found them helpful at times as already mentioned. But the
question asked about a "decent" radio. And also just "general"
conditions, without mentioning any specific problem he was trying to
avoid. In his case, I still stand by what I said. Using the tuner
should not change his s/n ratio in general. MK

5121. Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 16:57:56 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbdbalbmb1@slb1.atl.mindspring.net>
Source record: 116323

I'm planning on adding mobile HF capability to my new Ford Expedition and I was reviewing antenna choices.

At Dayton this year I noted the "Stealth Family" of Hi-Q mobile screwdriver antennas by VE7BOC.

I am seeking some further information/opinions on the VE7BOC Hi-Q antenna series.

As ya'll know there are several manufacturers of screwdriver antennas, and all but Hi-Q are using bottom
loading. VE7BOC uses center loading on his Hi-Q series which should, all other things being equal, yeild a higher efficiency than that of the bottom loaded screwdrivers.

From my visual inspections I saw that the Hi-Q screwdriver antennas on display at VE7BOC's table at Dayton had some very fine mechanical workmanship. Of course at a "show" one cannot evaluate other "things", such as mechanical stability at highway speeds, actual Q of the coils, etc, etc... I did learn that the tuning motor of the Hi-Q's is not "brushless" and so probably generates Rx noise when tuning, perhpaps making it difficult to "zero" in by listening to Rx band noise, while some other screwdrivers use "brushless" [Pittman] motors which are very quiet electrically.

I think I have sorted out my preferences among the bottom loaded screwdrivers.

So what I am now looking for is information viz a viz center versus bottom loaded... does anyone have any comments/suggestions/warnings/hints regarding the Hi-Q center loaded versus bottom loaded screwdrivers?

--
Peter K1PO
Indialantic By-the-Sea, FL.

5122. Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 17:02:45 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306010815.3404e281@posting.google.com>
Source record: 116324

Gentlemen,
I may be mistaken but I seem to hearing more complaints of
'band' noise on the three top bands (7,3.8 and 1.8 meters).
I know that we all can get a 1 or 2 'S' meter reading in
some areas or more if a thunderstorm is nearby, but now
it seems to be a main topic and removed from the drooping
sun spot cycle.
I live on the outskirts of town so I may be extra
fortunate but is there a trend for more received noise
or are the present radios more vunerable?
What is the 'average' low noise level that various areas
or countries get on these bands if one doesn't take
'extra' precautions and to the exclusion of pointing
to rain forests?
Regards
Art

5123. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 17:12:09 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030601131209.01752.00001098@mb-m05.aol.com>
Source record: 116325

>
>So what I am now looking for is information viz a viz center versus bottom
>loaded... does anyone have any comments/suggestions/warnings/hints regarding
>the Hi-Q center loaded versus bottom loaded screwdrivers?
>
>--
>Peter K1PO
>Indialantic By-the-Sea, FL.
>
>
>

Aren't all screwdrivers center loaded? They usually have base tube about half way up, then finger stock on the top and coil sliding inside the tube. The longer the (copper or Al) base tube, the better efficiency. Match to the feedline (on 40 and down) is usually via few turn coil or capacitor at the base.

Basic rule is the longer the base mast, the smaller inductance coil, the longer stinger, the higher up - the mo' better. Cecil knows and has some results of measurements of various systems somewhere.

Yuri, K3BU/m

5124. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 17:34:11 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbddem$7ci$1@slb6.atl.mindspring.net>
Source record: 116326

Hi Yuri:

Thanks for the input.

Yes I realize that most screwdrivers do have some base length followed by the coil and then the stinger, but the VE7BOC design seems to have a clearly longer base length with a clearly shorter coil.

I believe Cecil runs some of his mobile antennas in/on the bed of his 1/2 ton pickup, and that's a very nice scenario which is different from a rear bumper mounting on an SUV.

I like the big Ford Expedition cuz I can tow big boats and sleep in the back, while on "expeditions", etc...

In my case [Ford Expedition there is no truck bed per se as Cecil has, and the base of the antenna and part of the coil of any rear bumper mounted screwdriver will be very close to the back of the Expedition, it may not make much difference, but then again, maybe.

It just seemed to me from seeing the antennas at Dayton that the Hi-Q mechanical design gets more of the coil and antenna radiators away from the metal frame of the back cabin of the SUV.

I wonder if anyone has taken a Hi-Q screwdriver bumper mounted on an SUV to a shootout?

Any further inputs out there?

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message news:20030601131209.01752.00001098@mb-m05.aol.com...
> >
> >So what I am now looking for is information viz a viz center versus bottom
> >loaded... does anyone have any comments/suggestions/warnings/hints regarding
> >the Hi-Q center loaded versus bottom loaded screwdrivers?
> >
> >--
> >Peter K1PO
> >Indialantic By-the-Sea, FL.
> >
> >

> >
>
> Aren't all screwdrivers center loaded? They usually have base tube about
half
> way up, then finger stock on the top and coil sliding inside the tube. The
> longer the (copper or Al) base tube, the better efficiency. Match to the
> feedline (on 40 and down) is usually via few turn coil or capacitor at the
> base.
>
> Basic rule is the longer the base mast, the smaller inductance coil, the
longer
> stinger, the higher up - the mo' better. Cecil knows and has some results
of
> measurements of various systems somewhere.
>
> Yuri, K3BU/m

5125. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 17:41:36 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <kVqCa.1465$xM5.1433278@news2.news.adelphia.net>
Source record: 116327

Many thanks for the comments. I was just trying to get opinions on the stranded cable at RF. My current rf ground system consists of two 5' 3/4" copper tubes (with necessary holes). Tubes were filled with rock salt and copper sulfate. 6' holes as drilled for the tubes and after the tubes were in the holes, they were filled with a mixture of dirt, rock salt & copper sulfate. My electrical ground is a 9' copper/brass rod.The rods form a triangle and are the proper distance apart. Again, what I was trying to ask was; how the stranded wire would act at radio frequency's. I want to use 5' of it.

Jim

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns938D5117A4E8pookster@129.250.170.96...
> "G.Beat" <abuse@comcast.com> wrote in
> news:eDcCa.1086716$S_4.1097856@rwcrnsc53:
>
> > Jim -
> >
> > You should start by reviewing Glen Zook's (K9STH) articles on RF
> > Grounding
> >
> > RF Grounding Primer
> > http://home.attbi.com/~zcomco/R.F._Grounding_primer_2.htm
> >
> ____
>
> If you *must* ground your antenna system, that is a good way to do it, but
> the performance (especially for transmitting) will be better if you do not
> use an RF ground at all. Even *good* earth is lossy. Keep all of your RF
> flowing in copper and you'll be a lot louder at the other end.
>
>
> --
> Bill, W7TI
>

5126. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 17:59:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA3EE4.5050400@ieee.org>
Source record: 116328

PDRUNEN wrote:
> Hi Group,
>
> Anyone comment on the van gorden 4:1 balun?
>
> I measure like 12 ohms between center and shield on the coax connector and 14
> ohms between the antennas connections. Is this normal?

If that's a DC measurement, you are wasting your time. Baluns are
transmission line transformers. DC impedance is virtually meaningless
when dealing with AC transformers.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5127. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 18:21:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA4413.8090506@ieee.org>
Source record: 116329

Jim Kelley wrote:
> W5DXP wrote:
>>Since P3/P1 = P2/P4 = rho^2, then P1*P2 = P3*P4
>
> Correct
>
>>Ptot = P1 + P2 + 2*Sqrt(P3*P4) Note: P3 = P4 so
>
> Wrong
> 2*SQRT(P1*P2)*cos 0 is not equal to 2*SQRT(P3*P4)*cos 180

You are contradicting yourself. You say (P1*P2 = P3*P4) is
correct and then turn around and disagree with a trivial
mathematical substitution.

Ptot = P1 + P2 + 2*Sqrt(P1*P2) = P1 + P2 + 2*Sqrt(P3*P4)

All I did was take the equation that you said was correct
and substitute (P3*P4) for (P1*P2). So which of your above
assertions, "correct" or "wrong" is wrong?

Your problem is in trying to use the plus and minus signs for
two completely different purposes. You cannot simultaneously
use the sign to indicate direction of energy flow *and* what kind
of interference exists. I had to choose between the two uses. I
chose to use the sign for the kind of interference, not the
direction of energy flow. That's why I have absolute magnitude
marks around the reflected powers in my article.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5128. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 18:30:46 UTC
From: Mike H <1newsATstelliteDOTmailshellDOTcom>
Message-ID: <6iudnRxgbqHH20ejXTWcrg@comcast.com>
Source record: 116330

There has been some geomagnetic storms going on.
http://www.spaceweather.com/

--
Mike H-KB3IMY

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0306010815.3404e281@posting.google.com...
> Gentlemen,
> I may be mistaken but I seem to hearing more complaints of
> 'band' noise on the three top bands (7,3.8 and 1.8 meters).
> I know that we all can get a 1 or 2 'S' meter reading in
> some areas or more if a thunderstorm is nearby, but now
> it seems to be a main topic and removed from the drooping
> sun spot cycle.
> I live on the outskirts of town so I may be extra
> fortunate but is there a trend for more received noise
> or are the present radios more vunerable?
> What is the 'average' low noise level that various areas
> or countries get on these bands if one doesn't take
> 'extra' precautions and to the exclusion of pointing
> to rain forests?
> Regards
> Art

5129. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 18:46:20 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDA49B8.4010208@attbi.com>
Source record: 116331

Your measurements are not normal!!

Assuming you are using a multimeter or equivalent meter then you should be reading close to 0 [zero] ohms. Sounds like some corrosion has gotten into the balun. A reading in the ohm[+] range will cause significant heating in the balun.

A good measurement can be made with an antenna analyzer similar to the MFJ 259B.

A second method is to set the power on your rig to it's lowest value, mine is 2 watts; connect a 1 or 2 watt 220 ohm resistor across the output of the Van Gorden and measure the VSWR either with a VSWR meter or the one in your rig if it has one. VSWR should be approximately 1.1 to 1.

Deacon Dave, W1MCE

PDRUNEN wrote:
> Hi Group,
>
> Anyone comment on the van gorden 4:1 balun?
>
> I measure like 12 ohms between center and shield on the coax connector and 14
> ohms between the antennas connections. Is this normal?
>
> Anyway I can test my balun to see if it is working?
>
> Tnx
> de KJ4UO
>
>

5130. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 18:54:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbdi5t$1f5$1@sparta.btinternet.com>
Source record: 116332

Art wrote -
> I have a question in the same area.
> I am going to have a try at building a coil for a
> computorised setup where switching is added
> at 1,2,4,8 coils and so on to remove the effect
> of ununused coils when using a 'slider' system.
> Got any ideas as how to accomplish this without problems?
> Ideally I would like to have the coil balanced around
> the center for a 'balanced' coupling use but I cannot
> see a way to do this, so it may well not improve on
> the present unbalanced used and 'unused' coil forms.
> Would appreciate any suggestions in this area.
==========

Art I've been gazing up at the ceiling for a few minutes and I think you will loose as much as you gain in the switching.

To do what you have in mind you need two ganged rotary multi-pole switches. The coils have to be reasonably well separated from each other. All the coil centre taps have to connected to each other. The wiring beween coils and switch contacts will be a mess - stray capcitance all over the place. The wire in all the un-used coils is hanging up doing nothing except adding to stray capacitance to the single used coil and with mutual couplings galore. There will be long connections to all coils even the one with only two turns which might then only need half a turn. And where will the twin-gang tuning capacitor be located.

The ONLY way of achieving your objective is to have a 3-pin socket with a set of plug-in coils. That's what the old timers did.

But by what trivial amount in hundredths of a dB do you hope to gain anyway? Is it measurable? Look at the problem as a matter of practical cost-benefit engineering economics.

Reg.

5131. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 18:56:35 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDA4C63.C5716B85@cwis.net>
Source record: 116333

Art,
The lower frequencies are always noisy, even more so
in the summer months. Normal...
'Doc

5132. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:02:23 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDA4DBF.416E27ED@cwis.net>
Source record: 116334

Tarmo,
Not really. There will be some resistance, no idea
how the thing is wound, so no guess as to how much there
should be. Although, 14 ohms seems like maybe just a
bit much(?)...
'Doc

5133. Re: Twisted copper wire for grounding?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:05:03 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDA4E5F.3180207B@cwis.net>
Source record: 116335

Jim,
It would depend on the frequency of use, but I sort
of doubt that 5 feet of stranded wire will be a problem.
'Doc

5134. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:14:34 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDA5057.3070400@attbi.com>
Source record: 116336

DITTO!!!!!!!!!!

'Doc wrote:
>
> Art,
> The lower frequencies are always noisy, even more so
> in the summer months. Normal...
> 'Doc

5135. 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:48:07 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86vfvp60lk.fsf@duchess.twilley.org>
Source record: 116337

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Due to the peculiar layout of my apartment, I am limited to how I can
mount my 2m dipole used exclusively for APRS. I've got a six-foot
dowel with the dipole taking up roughly the distant two-thirds leaving
one-third for mounting. The only available mounting point is part of
a metal plant holder which extends roughly one foot away from the
house. My original plan was to mount the dowel to the plant holder in
a horizontal configuration to extend the antenna away from the house
as far as possible, but now I'm wondering if a vertical mount might be
better.

On the one hand, most mobile installations use a vertical mount, so
polarization would be the same, if that matters. On the other
hand, the antenna would be much closer to the house so its performance
would suffer. I'm running 5W so there's no safety issue with the
antenna that close to the house.

So, does polarization matter for digital modes? Was I right in my
initial decision to mount as far away from the house as possible?

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+2lh/GPFSfAB/ezgRAhyqAKDgmTTdZRE/VUTkBgVRRZRzVW2vMQCeOzjO
KlWUxzIPiGY1GnRmWjgvey4=
=57pV
-----END PGP SIGNATURE-----

5136. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:54:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u0mkdv8m53si2fgof33la4b8nd74f59m2d@4ax.com>
Source record: 116338

On Sun, 01 Jun 2003 13:21:07 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>
>All I did was take the equation that you said was correct
>and substitute

Cecil,

You spend more time arguing problematic substitution instead of using the fuller mathematics that ALWAYS works. The enumeration of faulty math that plagues your publication problems (however perceived by anyone) now run well past 1000 postings to no obvious resolution (and no obvious publication for over a year). Just what impedes your path to success such that you must stop and decry the pebbles you stumble over?

73's
Richard Clark, KB7QHC

5137. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 19:56:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ohmkdv423lc70t4t18r9u5v3057iupk8un@4ax.com>
Source record: 116339

On Sun, 01 Jun 2003 14:02:23 -0500, 'Doc <w5lz@cwis.net> wrote:

>
>
>Tarmo,
> Not really. There will be some resistance, no idea
>how the thing is wound, so no guess as to how much there
>should be. Although, 14 ohms seems like maybe just a
>bit much(?)...
> 'Doc
or not enough....

The first step in resistance measurement is to subtract lead
resistance (zero the meter).

73's
Richard Clark, KB7QHC

5138. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:15:16 UTC
From: richardharrison@webtv.net
Message-ID: <20819-3EDA5ED4-115@storefull-2312.public.lawson.webtv.net>
Source record: 116344

Ken, KC2JDY wrote:
"Does this (larger signal from a tuned antenna) mean that a tuned antenna will give you a better reception? Or will a decent radio be able to pull the same quality of signal from the same antenna without the tuner?"

A poorly designed or defective tuner may peak the signal to a lower level than obtainable without the tuner. Excluding such an anomaly, the amount of help if any depends on several variables. A good tuner is unlikely to do any harm.

Tuning the antenna increased the signal as Ken testified. Tuning the antenna also limits the received bandwidth and that too should be indisputably helpful in some cases. Noise external to the receiver exists in the bandwidth rejected by the tuned antenna system.

Increased signal and decreased nonproductive bandwidth are almost always beneficial. The nay-sayers` argument is: "Who needs it?"

Receiver sensitivity is often given in minimum microvolts of receiver input required for a given useable receiver output. It tends to vary somewhat depending on the received frequency. A receiver`s internally generated noise may determine the minimum useable signal when the receiver is in a quiet environment. In a noisy environment, a receiver`s internal noise may be irrelevant.

External noise usually limits receiver weak signal reception at low and medium frequencies, but at higher frequencies, noise external to the receiver usually declines as the received frequency rises. H-F receivers usually contain one or more stages of preselection to improve noise figure and to reject the superhet image frequency.

While local and distant external noises dominate low and medium-frequency reception, receiver noise figure becomes important at 30 MHz and above. At VHF, noise external to the receiver tends to become insignificant. Automobile ignition noise can still be a pain. At VHF, receiver internal noise tends to limit the weakest useable signal.

At VHF, antenna gain is certainly helpful in improving signal to noise ratio because internal receiver noise is a threshold to be exceeded.

At medium frequencies, internal noise in a good receiver makes little difference because the environment is so noisy.

H-F reception is sensitive to noise inside and outside the receiver and is inteermediate in behavior between reception at M-F and VHF, as might be expected.

At frequencies between 2 and 30 MHz, radio static noise declines with increasing frequency. Signal strength, restricted bandwidth, and receiver internal noise are all important in determining the minimum signal that can be received. For confirmation, see page 961 of Terman`s 1955 edition.

Best regards, Richard Harrison, KB5WZI

5139. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:18:18 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <sh2dnQ3f84ATwkejXTWcqw@comcast.com>
Source record: 116340

I took one of their 1:1 baluns apart, after an unsuccessful attempt to replace severely rusted screws. Each winding appears to contain about 3 feet of #16 wire. That would be .012 Ohm.

There is no point to measuring SWR, because a reading of 1.25 could be due to either the 12 ohms series resistance, or dummy load tolerance.

Tam/WB2TT
"'Doc" <w5lz@cwis.net> wrote in message news:3EDA4DBF.416E27ED@cwis.net...
>
>
> Tarmo,
> Not really. There will be some resistance, no idea
> how the thing is wound, so no guess as to how much there
> should be. Although, 14 ohms seems like maybe just a
> bit much(?)...
> 'Doc

5140. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:25:26 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <r_WdndQd9rb0_Eej4p2dnA@comcast.com>
Source record: 116341

Art,

There was a recent QST article that described something like this. They used relays to switch between 10 or so coils. Believe there were 2 relays per coil. This prevents running long leads to switches.

Tam/WB2TT
"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message news:85ed38d.0306010834.1384f2d9@posting.google.com...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:<bbcavncab1@hercules.btinternet.com>...
> > Phil, download in a few seconds program MIDLOAD from website below. Find a
> > length of pipe and program will tell you how many turns of what wire
> > diameter to wind on it over what length. Feed with coax or balanced twin
> > line.
> > --
> > ========================
> > Regards from Reg, G4FGQ
> > For Free Radio Design Software
> > go to http://www.g4fgq.com
> > ========================
> > "PBB" wrote
> > > I would like to build a dipole for attic mounting for 40m, but don't
> > > have enough room for a full-size one. I have seen commercially
> > > available shortened dipoles, but think I could wind wire around pvc as
> > > well as any to build coils. Is there a formula or chart for such or
> > > just cut and try?
> > >
> > > Thanks,
> > > Phil
> > > N4COD
> > >
>
> Reg,
> I have a question in the same area.
> I am going to have a try at building a coil for a
> computorised setup where switching is added
> at 1,2,4,8 coils and so on to remove the effect
> of ununused coils when using a 'slider' system.
> Got any ideas as how to accomplish this without problems?
> Ideally I would like to have the coil balanced around
> the center for a 'balanced' coupling use but I cannot
> see a way to do this, so it may well not improve on

> the present unbalanced used and 'unused' coil forms.
> Would appreciate any suggestions in this area.
> Regards
> Art

5141. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:27:42 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <11okdv4cvsugndp0u56npigh0ocjbge6aa@4ax.com>
Source record: 116342

I have never seen a bottom loaded screwdriver antenna. If by that you mean that the coil is in the center vs being at the bottom. High Sierra, DK3, BB3 and others I have seen are all center loaded. I owned a BB3 for several years, and can assure you it is center loaded. I have been to their factory 3 times. What may be confusing you is that the large part of the antenna containing the coil and motor are at the bottom of the antenna. However, the coil itself is at the top of that assembly right under the whip. If you want to split hairs, I will acknowledge that the coil is not "exactly" in the center, and depends upon how long a whip you are using.

Dick - W6CCD

On Sun, 1 Jun 2003 12:57:56 -0400, "Peter Brackett" <ab4bc@ix.netcom.com> wrote:

>I'm planning on adding mobile HF capability to my new Ford Expedition and I
>was reviewing antenna choices.
>
>At Dayton this year I noted the "Stealth Family" of Hi-Q mobile screwdriver
>antennas by VE7BOC.
>
>I am seeking some further information/opinions on the VE7BOC Hi-Q antenna
>series.
>
>As ya'll know there are several manufacturers of screwdriver antennas, and
>all but Hi-Q are using bottom
>loading. VE7BOC uses center loading on his Hi-Q series which should, all
>other things being equal, yeild a higher efficiency than that of the bottom
>loaded screwdrivers.

5142. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:41:34 UTC
From: Dick <rhughes33@cableone.net>
Message-ID: <oookdvsq4gvsf6jo9jdqd2l5vsuicuu5hi@4ax.com>
Source record: 116343

Look at the High Sierra on the white van at
http://www.cq73.com/FramePages/hsaSet.htm
Also see the HS-2700/Pro on the same site.

I checked all of the antenna base heights on the VE7BOC antenna, and
NONE are as tall as the High Sierra 2700 Pro. The VE7BOC looks like a
fine antenna, but other than coil diameter, it is not that much
different from many others on the market. They do look like high
quality antennas, but you obviously are paying for that quality.

Dick - W6CCD

On Sun, 1 Jun 2003 13:34:11 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:

>Hi Yuri:
>
>Thanks for the input.
>
>Yes I realize that most screwdrivers do have some base length followed by
>the coil and then the stinger, but the VE7BOC design seems to have a clearly
>longer base length with a clearly shorter coil.
>
>I believe Cecil runs some of his mobile antennas in/on the bed of his 1/2
>ton pickup, and that's a very nice scenario which is different from a rear
>bumper mounting on an SUV.
>
>I like the big Ford Expedition cuz I can tow big boats and sleep in the
>back, while on "expeditions", etc...
>
>In my case [Ford Expedition there is no truck bed per se as Cecil has, and
>the base of the antenna and part of the coil of any rear bumper mounted
>screwdriver will be very close to the back of the Expedition, it may not
>make much difference, but then again, maybe.
>
>It just seemed to me from seeing the antennas at Dayton that the Hi-Q
>mechanical design gets more of the coil and antenna radiators away from the
>metal frame of the back cabin of the SUV.
>
>I wonder if anyone has taken a Hi-Q screwdriver bumper mounted on an SUV to
>a shootout?
>
>Any further inputs out there?

5143. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:47:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA6649.5060303@ieee.org>
Source record: 116345

Richard Clark wrote:
> You spend more time arguing problematic substitution instead of using
> the fuller mathematics that ALWAYS works.

You spend more time arguing irrelelvant points that you do
contributing anything of value. To each his own.

BTW, your "fuller mathematics" does NOT work for transmission
lines. It has the same problem that Jim is accusing me of. You
see, light doesn't have Kirchhoff's directional conventions to
worry about.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5144. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 20:50:08 UTC
From: richardharrison@webtv.net
Message-ID: <20820-3EDA6700-40@storefull-2312.public.lawson.webtv.net>
Source record: 116346

Mark Keith wrote:
"Of course, but that`s not the same as adding a tuner to a SW radio."

It helps more to tune the SW antenna for maximum signal than to tune the MW antenna for maximum signal. This is due to higher noise content in the MW signal which overwhelms internal receiver generated noise. Lower noise at HF means the receiver`s low noise figure can benefit from a stronger, quieter signal. S/N is more related to the external signal and the internal receiver noise at HF.

At MF, you may be stuck with whatever the S/N is at the antenna because the internal receiver noise is so much lower than the noise at the antenna that it doesn`t figure into the S/N.

Best regards, Richard Harrison, KB5WZI

5145. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 21:18:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qarkdv4i808jrpgk2e92bcemiabrehd3gf@4ax.com>
Source record: 116347

On Thu, 29 May 2003 14:24:44 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>That is almost universally true. That demonstrates the virtue of the
>superhet. The fixed-tuned I-F amplifier is easily much sharper than TRF
>circuits.
>
Hi Richard,

You forgot super-regenerative receivers.

73's
Richard Clark, KB7QHC

5146. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 21:21:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <gfrkdv82mi76p49n6kn4vs70a9j9cdkv91@4ax.com>
Source record: 116348

On Sun, 01 Jun 2003 15:47:05 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>"fuller mathematics" does NOT work
There's your problem because you admittedly derive your insubtantial
work from them. Such is faith.

5147. Re: Tower Installer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 21:47:01 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vdkt0oppgcdtc3@corp.supernews.com>
Source record: 116349

Dear Mel, K2AT:
What state/province are you in? (A K2 could be a lot of places) One of the best firms for serious work is based in NH.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Mel" <k2at@comcast.net> wrote in message news:VEydnbkyvczHV0SjXTWcoA@comcast.com...
> Luking for name and phone number of a tower installer in New Brunswick area.
> Think his first name was is Mike. If not him, do u know of any others in
> this area? Tnx.
>
>

5148. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:01:01 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bbdt1b$tg5$1@slb9.atl.mindspring.net>
Source record: 116350

Keep it away from the house as far as possible. The mode does not effect
the polarization. However since it is FM you would need to be vertical.

In most to all areas horizontal is only used on the long haul ssb/cw modes
found on the lower end of the bands.

Dan/W4NTI

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
news:86vfvp60lk.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Due to the peculiar layout of my apartment, I am limited to how I can
mount my 2m dipole used exclusively for APRS. I've got a six-foot
dowel with the dipole taking up roughly the distant two-thirds leaving
one-third for mounting. The only available mounting point is part of
a metal plant holder which extends roughly one foot away from the
house. My original plan was to mount the dowel to the plant holder in
a horizontal configuration to extend the antenna away from the house
as far as possible, but now I'm wondering if a vertical mount might be
better.

On the one hand, most mobile installations use a vertical mount, so
polarization would be the same, if that matters. On the other
hand, the antenna would be much closer to the house so its performance
would suffer. I'm running 5W so there's no safety issue with the
antenna that close to the house.

So, does polarization matter for digital modes? Was I right in my
initial decision to mount as far away from the house as possible?

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+2lh/GPFSfAB/ezgRAhyqAKDgmTTdZRE/VUTkBgVRRZRzVW2vMQCeOzjO
KlWUxzIPiGY1GnRmWjgvey4=
=57pV
-----END PGP SIGNATURE-----

5149. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:07:38 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86y90l4fkl.fsf@duchess.twilley.org>
Source record: 116351

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Dan" == Dan <Dan> writes:

Dan> Keep it away from the house as far as possible.

This will require me to mount the antenna in a horizontal manner.

Dan> The mode does not effect the polarization.

This is good to know. I hadn't found any evidence either way in my
research.

Dan> However since it is FM you would need to be vertical.

What happens if I go horizontal? Do I lose efficiency or range, or
will some people not be able to receive my packets, or what?

Jack.
(these must be simple questions for some of you.)
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+2nk4GPFSfAB/ezgRAoY8AKCBuRro+4sBVOxekSGzxLUlmFclawCg2srB
9VZ0G6QDQFQwJlT7RmhjCY0=
=OyVN
-----END PGP SIGNATURE-----
```

5150. Need info on roof mounting a small tower?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:21:05 UTC
From: Pat <pmk2002@foxhollow.ca>
Message-ID: <BAFFF490.10301%pmk2002@foxhollow.ca>
Source record: 116354

Here's the story:

I moved and took my tower with me. (48' Delhi)
There is no ideal place to put it back up at the new house due to the pool, deck, trees, etc. I thought I had a place for it, but my TH-3-Jr beam will overhang the neighbours yard and possibly even slightly over his roof. (his house is 2' from lot line, and 10' from mine. Oh to live in a city...)

I'm thinking about mounting some structure on the roof. (It's a two storey home.) Perhaps a Rohn saddle mount or some homebrew welded steel mounting assembly that would allow me to install perhaps a mast with rotor or possibly even the top one or two tower sections on it. That would give me about the same height, and guarantee the beam is not overhanging anything but my own home. The other obvious benefit is no tower base anywhere in the yard.

On this structure, I would plan on installing a mast containing the following antennae:

Beams for HF, 2m, 220, and 440. (the 3 VHF/UHF beams all reside on one cross arm mounted on the rotate-able centre vertical mast.)
At the very top would be a 1200MHz vertical for my repeater.

I realise this is a fair bit of hardware, but with some reinforced roof trusses and a good grounding system, I'm pretty sure this would work well.

THE QUESTIONS:

1. Has anyone here had any experiences with this type of project? If so, what unforeseen problems arose?

2. What about lightening? I'm on pretty high ground as it is, but there's a 980ft TV tower about 2 miles to the east (on even higher ground), and another few commercial radio towers about 3 miles to the west. I know about the 11 to 1 strike cone ratio, but is it necessary go hog-wild on 3OT grounding cables and a seeded ground field?

3. RFI radiating back into the house? If the shack (which has yet to be placed in the house) was on the 2nd floor, would I be inviting a pile of ambient RF into the shack? Would it be better to place the shack in the basement?

If anyone could share some experiences or expertise on this concept, I'd be very grateful.

Thanks for listening!
de Pat, VE3PMK

5151. Re: van gorden 4:1 balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:26:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdkvbsjuhivj87@corp.supernews.com>
Source record: 116352

'Doc wrote:
>
> Tarmo,
> Not really. There will be some resistance, no idea
> how the thing is wound, so no guess as to how much there
> should be. Although, 14 ohms seems like maybe just a
> bit much(?)...
> 'Doc

Only by a factor of a thousand or so.

Roy Lewallen, W7EL

5152. Modulation power and SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:32:03 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0306011432.18d62703@posting.google.com>
Source record: 116353

During the years I've been working HF I've noticed that there's occasions where the transmitter seems to reach higher peak output power easier than others. It seems to me that sometimes you don't get maximum output power at the point where your SWR is the lowest.

The question is... does this sound right? Common sense would tell me that I'm reading the meters wrong: a low SWR should indicate a better antenna adjustment and higher power transfer.

There's no evidence to show that there might be an RFI problem which is causing the ALC to cut back the modulation and therefore the power.

I dunno, it could be that I'm not looking at the reflected and forward power readings right. Seems to me that when there's a higher SWR you have a higher reflected higher forward power reading, which could account for the illusion of a higher peak power.

Am I making any sense here? :)

Mario

5153. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 22:41:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdl08goi7q1v82@corp.supernews.com>
Source record: 116355

Without knowing anything about the equations being discussed, this caught my eye. I don't recall ever having to choose what plus and minus signs mean in an equation. If there are two orthogonal processes going on, vector or phasor math can be used to keep the processes separate. For example, the sign of the E field's instantaneous value is kept separate from the sign of the direction of propagation along the z axis when dealing with a propagating field by constructing the equations properly. A single equation unambiguously describes both properties -- one doesn't need to choose whether to use + and - to represent one or the other. And any time an absolute value is substituted for a vector or phasor quantity, information is lost, and great care has to be taken in reversing the process or drawing conclusions from the results.

I suggest that you look carefully at why you need to make a choice -- it might be a key to the difficulty you're having in communicating your ideas. You might also look at how you can construct your equations to include both direction of energy flow and kind of interference without confusion between the two.

This is offered not as criticism but simply as a suggestion. It might go a long way in enabling you to explain what you're quite obviously having a great deal of difficulty communicating using your current methods.

Roy Lewallen, W7EL

W5DXP wrote:
> . . .
> Your problem is in trying to use the plus and minus signs for
> two completely different purposes. You cannot simultaneously
> use the sign to indicate direction of energy flow *and* what kind
> of interference exists. I had to choose between the two uses. I
> chose to use the sign for the kind of interference, not the
> direction of energy flow. That's why I have absolute magnitude
> marks around the reflected powers in my article.

5154. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-01 23:42:26 UTC
From: PBB <philbrownfla@NOSPAMPleaseyahoo.com>
Message-ID: <1o3ldvgmd0a51ip38i4hf6og4jlefadhjv@4ax.com>
Source record: 116356

Thanks to all for the good advice and references. I should soon have a good attic-mounted stealth doublet on 40m.

73
Phil
N4COD

5155. Re: Need info on roof mounting a small tower?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:01:35 UTC
From: Taliesin MacAran <taliesin@cox.nospam.net>
Message-ID: <ztwCa.340770$vU3.297956@news1.central.cox.net>
Source record: 116357

Can't help you directly, but I suggest you check with local laws
and home-owners association for any restrictions.
Not fun to do all the work only to find it's not permitted.

Talie
Phoenix, Az.

"Pat" <pmk2002@foxhollow.ca> wrote in message
news:BAFFF490.10301%pmk2002@foxhollow.ca...
> Here's the story:
>
> I moved and took my tower with me. (48' Delhi)
> There is no ideal place to put it back up at the new house due to the
pool,
> deck, trees, etc. I thought I had a place for it, but my TH-3-Jr beam will
> overhang the neighbours yard and possibly even slightly over his roof.
(his
> house is 2' from lot line, and 10' from mine. Oh to live in a city...)
>

5156. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:10:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA95FB.7050804@ieee.org>
Source record: 116358

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>"fuller mathematics" does NOT work
>
> There's your problem because you admittedly derive your insubtantial
> work from them. Such is faith.

Not faith at all. One simply needs to recognize the limits of the
model. If one uses a negative sign to denote destructive interference,
one cannot, at the same time, use a negative sign to denote direction
of energy flow.
--
73, Cecil http://www.qsl.net/w5dxp

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5157. Re: Modulation power and SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:13:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA96A7.7040501@ieee.org>
Source record: 116359

Q wrote:
> The question is... does this sound right? Common sense would tell me
> that I'm reading the meters wrong: a low SWR should indicate a better
> antenna adjustment and higher power transfer.

A maximum field strength meter reading doesn't always correspond
with a minimum SWR reading.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5158. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:21:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDA989E.60407@ieee.org>
Source record: 116360

Roy Lewallen wrote:
> Without knowing anything about the equations being discussed, this
> caught my eye. I don't recall ever having to choose what plus and minus
> signs mean in an equation.

For light, the energy flow can be in one of an infinite number of
directions. Plus and minus alone simply won't hack it.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5159. Re: Tower Installer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:25:39 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDA9941.2060603@attbi.com>
Source record: 116361

XX Towers
Matt Strelow, KC1XX
Mason, NH.
<http://www.xxtowers.com>

He has installed, repaired and uninstalled my tower/beam.

He works Cell/commercial towers and travels extensively in the USA on jobs.

Contact him and see if New Brunswick is on his schedule.

Deacon Dave, W1MCE

Mel wrote:
> Luking for name and phone number of a tower installer in New Brunswick area.
> Think his first name was is Mike. If not him, do u know of any others in
> this area? Tnx.
>
>

5160. Re: Modulation power and SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 00:34:20 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDA9B49.8090309@attbi.com>
Source record: 116362

You are making sense.

When a VSWR exists the reflected component can be in or out of phase
with the 'forward' power measured by a common VSWR meter. If it's in
phase you will 'apparently have more power output'; if it's out of phase
you will 'apparently have less output power'. [Note: APPARENTLY]

It's an issue of your VSWR meter's response to the phases of the signals
that it is seeing. It shows up on my Daiwa CN101L but not on my Icom 746.

Deacon Dave, W1MCE

Q wrote:
> During the years I've been working HF I've noticed that there's
> occasions where the transmitter seems to reach higher peak output
> power easier than others. It seems to me that sometimes you don't get
> maximum output power at the point where your SWR is the lowest.
>
> The question is... does this sound right? Common sense would tell me
> that I'm reading the meters wrong: a low SWR should indicate a better
> antenna adjustment and higher power transfer.
>
> There's no evidence to show that there might be an RFI problem which
> is causing the ALC to cut back the modulation and therefore the power.
>
> I dunno, it could be that I'm not looking at the reflected and forward
> power readings right. Seems to me that when there's a higher SWR you
> have a higher reflected higher forward power reading, which could
> account for the illusion of a higher peak power.
>
> Am I making any sense here? :)
>
> ---
> Mario

5161. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 01:31:27 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <PNxCa.34356$jp.565003@twister.southeast.rr.com>
Source record: 116363

Hi Phil,

The largest current (and RF) should be near the center of the dipole, so you could run as far as possible, then bend the rest to fit the space without sacrificing too much. It would allow a full dipole in the attic.

Good luck,
Bill, W4WNT

"PBB" <n4cod.spamless@bellnorth.net> wrote in message news:mh0jdvoe3iitsvu288lhndhql31t90rfjb@4ax.com...
> I would like to build a dipole for attic mounting for 40m, but don't
> have enough room for a full-size one. I have seen commercially
> available shortened dipoles, but think I could wind wire around pvc as
> well as any to build coils. Is there a formula or chart for such or
> just cut and try?
>
> Thanks,
> Phil
> N4COD
>

5162. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 01:57:08 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <S9yCa.975$VS5.102960@news20.bellglobal.com>
Source record: 116367

"W5DXP"
> For light, the energy flow can be in one of
> an infinite number of directions.

Why just one ? ;-)

5163. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:00:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdlbt5tdjj0a0d@corp.supernews.com>
Source record: 116364

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Without knowing anything about the equations being discussed, this
>> caught my eye. I don't recall ever having to choose what plus and
>> minus signs mean in an equation.
>
>
> For light, the energy flow can be in one of an infinite number of
> directions. Plus and minus alone simply won't hack it.

I see you missed my point. Last I heard, light is an EM wave, and equations describing propagation of EM waves can be found in many texts. In all the texts, I've never seen a case where the reader or author has to choose between two possible meanings of + and -.

Oh, well, it was just meant as a helpful suggestion. Carry on.

Roy Lewallen, W7EL

5164. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:02:22 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030601220222.01043.00000694@mb-m18.aol.com>
Source record: 116365

F. Art writes:

>I may be mistaken but I seem to hearing more complaints of
>'band' noise on the three top bands (7,3.8 and 1.8 meters).

I hope you are not going to patent this sentence. You mean tree top bags? Did we get new bands? Do we have to retune our 2m rigs to 1.8 m? Complaints of band noise should be directed to FCC or music industry ass-ociation. Yes, some bands produce more noise than music and wrap is the worst :-)

>What is the 'average' low noise level that various areas
>or countries get on these bands if one doesn't take
>'extra' precautions and to the exclusion of pointing
>to rain forests?

I am lost here, I leave it to some Ph. Duhh.

Bada BUm Incognito

5165. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:06:45 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbebfl$277$1@hercules.btinternet.com>
Source record: 116366

I've never seen a case where the reader or author has
> to choose between two possible meanings of + and -.
>
==========

How about choosing between the two possible roots of a quadratic

A+jB and A-jB

5166. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:29:24 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030601222924.01043.00000695@mb-m18.aol.com>
Source record: 116368

K1PO writes:
>
>I like the big Ford Expedition cuz I can tow big boats and sleep in the
>back, while on "expeditions", etc...
>
>In my case [Ford Expedition there is no truck bed per se as Cecil has, and
>the base of the antenna and part of the coil of any rear bumper mounted
>screwdriver will be very close to the back of the Expedition, it may not
>make much difference, but then again, maybe.
>

Peter,
When I installed mobile in Yukon Denali, I was treated to instrument shock. All the gages went bananas, speedometer jumped and was hitting end, even when standing still while transmitting with 100W. New electronics and computer crap in recent cars suck. No RFI proofing, even radios are "wideband" receiving the local station that you are passing by on any frequency on the dial. No front end selectivity. I am hesitant to install mobile in Escalade, that thing is so computerized that it already called me "unindentified driver" without even seeing the rig.

Mounting mobile antenna on the trailer hitch or back of SUV is not the best (sucks), effciency and pattern deteriorate. Not sure if Cecil did some tests with SUVs, most guys at shootouts try for the best installation. If you must do it, try to have your loading coil as high as possible and antenna as far as possible from the back (body) of the car. Some say that it is better to place the shorter antenna on the roof. I have not compared them.

W9UCW had interesting comments on TOPBAND reflector (May) about the tests and measurements on various configurations. Interesting thing they found is that size of wire and Q of loading coil does not have significant effect on efficiency (fractions of dB). Location of the coil (as high as possible) and top loading have significant benefit (10 -15 dB). VE2CV had an article about modeling mobile whip on SUV somewhere.

I love my 72 Buick LeSabre Radiomobile, no problem running kW, drilling holes for antennas. Good capacitive coupling to ground, low body and nice ground plane, 350 Chevy, no screwy computers except the notebook for logging.

Yuri, K3BU/m

5167. emanations

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:31:18 UTC
From: Matt Roos <XXmatt.roos@verizon.net>
Message-ID: <WFyCa.28814$Pb.5414@nwrddc01.gnilink.net>
Source record: 116369

Hi, All. I'm an electrical engineer but don't really know squat about antennas. I'm looking for a broadband antenna that could pick up signals ~5-15 MHz. What might I try? Log periodic? Yagi? What manufacturers? Are there smaller antennas (mobile or indoor) that could be used?

I'm looking for something that could pick up emanations from a CAT-3 cable, i.e., 10BaseT Ethernet which transmits at 10 Mbps with Manchester encoding. Obviously the signal levels will be low unless the cable is poorly connected, shielded, etc. I'm guessing the antenna would have to be places within a few inches of the cable.

Thanks,
Matt

p.s. - Remove Xs to reply via e-mail.

5168. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:36:13 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3edab92a_2@news1.prserv.net>
Source record: 116370

Art:

The book: "Reference Data for (Radio) Engineers" addresses this briefly
under "Atmospheric Noise", but its reference to CCIR Report 322 is where you
need to go to get the full story. My copy of 322 has strayed, but there
will be a discussion article in Radio Science in a few months about it.

--
Crazy George
Remove NO and SPAM from return address
"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0306010815.3404e281@posting.google.com...
> Gentlemen,
> I may be mistaken but I seem to hearing more complaints of
> 'band' noise on the three top bands (7,3.8 and 1.8 meters).
> I know that we all can get a 1 or 2 'S' meter reading in
> some areas or more if a thunderstorm is nearby, but now
> it seems to be a main topic and removed from the drooping
> sun spot cycle.
> I live on the outskirts of town so I may be extra
> fortunate but is there a trend for more received noise
> or are the present radios more vunerable?
> What is the 'average' low noise level that various areas
> or countries get on these bands if one doesn't take
> 'extra' precautions and to the exclusion of pointing
> to rain forests?
> Regards
> Art

5169. FS Tek 492 Spec Analyzer Mixer set

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:43:07 UTC
From: tonys2@aol.com
Message-ID: <20030601224307.23187.00001056@mb-m13.aol.com>
Source record: 116371

WM490 set of 5 490 series mixers in case with adaptor and book.
Photo available. Mint condition $900 Range to 140Ghz
220Ghz option available
D & T
Alex Va

5170. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:51:56 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EDABBC9.2485C900@nospam.com>
Source record: 116372

Hi Dan,

You will loose lot of your signal by using wrong polarization,
so best to use vertical for FM and horizontal for SSB CW.
Plus, most repeaters use vertical as well as mobile radios.

Here is a link for you for two other types of antenna with gain

http://www.cebik.com/hs.html low cost direct fed 2m antenna with
gain.

http://www.cebik.com/mvhf.html low cost direct fed antenna with gain
similar to a yagi.

Both can be used vertical or horizontal.

Even if you keep the dipole, the information on the above site is good
reading.

73 james

> Dan> However since it is FM you would need to be vertical.
>
> What happens if I go horizontal? Do I lose efficiency or range, or
> will some people not be able to receive my packets, or what?
>

5171. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:53:09 UTC
From: richardharrison@webtv.net
Message-ID: <7974-3EDABC15-4@storefull-2314.public.lawson.webtv.net>
Source record: 116376

uri, K3BU wrote:
"Some bands produce more noise than music and wrap is the worst."

Back when I was in broadcasting, the announcer would say:
"Whoopie John Wilfahrt, and the band will play.

It`s never been the same in Polka Land since 1961 when Whoopie John gassed away.

Best regards, Richard Harrison, KB5WZI

5172. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 02:59:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDABD80.5050004@ieee.org>
Source record: 116373

J. Harvey wrote:
> "W5DXP"
>>For light, the energy flow can be in one of
>>an infinite number of directions.
>
> Why just one ? ;-)

I'm thinking coherent light, i.e. a laser beam.
--
73, Cecil http://www.qsl.net/w5dxp

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5173. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:07:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDABF81.7080302@ieee.org>
Source record: 116374

Roy Lewallen wrote:
> I see you missed my point. Last I heard, light is an EM wave, and
> equations describing propagation of EM waves can be found in many texts.
> In all the texts, I've never seen a case where the reader or author has
> to choose between two possible meanings of + and -.

Well, let's see where that leads. If energy flowing toward the load is
plus and energy flowing toward the source is minus, then the two equations
for a Z0-matched system would be:

Pfwd2 = P1 + P2 + 2*Sqrt(P1*P2)

Pref1 = -P3 + -P4 -(-2*Sqrt(P3*P4))

One negative sign indicates direction and the other indicates
destructive interference and it seems consistent. As a matter
of fact, since two negatives make a positive, it indicates
that the destructive interference changes direction and flows
toward the load as constructive interference. Thanks, Roy.
--
73, Cecil http://www.qsl.net/w5dxp

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5174. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:09:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDABFFF.8000501@ieee.org>
Source record: 116375

Reg Edwards wrote:

> W7EL wrote:
>> I've never seen a case where the reader or author has
>> to choose between two possible meanings of + and -.
>
> How about choosing between the two possible roots of a quadratic
> A+jB and A-jB

How about choosing between the two possible square roots?
--
73, Cecil http://www.qsl.net/w5dxp

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5175. Re: emanations

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:27:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <UuzCa.1010$VS5.119522@news20.bellglobal.com>
Source record: 116377

"Matt Roos"
> Hi, All. I'm an electrical engineer
> but don't really know squat <snip>

Opps, sorry... unfortunate snippage.

> ~5-15 MHz. Log periodic? Yagi?
> pick up emanations from a CAT-3 cable,
> i.e., 10BaseT Ethernet which transmits
> at 10 Mbps with Manchester encoding.
> ...within a few inches of the cable.

Rather than try to sneak an HF Log Periodic antenna (about fifty feet wide)
into the ceiling, why not just insert a tap ?

5176. Re: Does a tuner help on receive?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:45:13 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306011945.360076c4@posting.google.com>
Source record: 116378

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<20820-3EDA6700-40@storefull-2312.public.lawson.webtv.net>...
> Mark Keith wrote:
> "Of course, but that`s not the same as adding a tuner to a SW radio."
>
> It helps more to tune the SW antenna for maximum signal than to tune the
> MW antenna for maximum signal. This is due to higher noise content in
> the MW signal which overwhelms internal receiver generated noise. Lower
> noise at HF means the receiver`s low noise figure can benefit from a
> stronger, quieter signal. S/N is more related to the external signal and
> the internal receiver noise at HF.
>
> At MF, you may be stuck with whatever the S/N is at the antenna because
> the internal receiver noise is so much lower than the noise at the
> antenna that it doesn`t figure into the S/N.

True. I guess my point is, my radios are that way on the SW bands, not
only MW.
Even on 10m, I get plenty of external noise that always overrides the
internal noise. I'm testing it right now on my 706. I have a switch on
my tuner that lets me switch antennas, dummy loads, etc. I'm on 10m
right now at 10:30 pm. The band is "dead". The antenna is my 80/40/20
parallel dipoles, single coax fed. The tuner is bypassed and not in
use. Even with the radio "nuetral" with the pre-amp off, and the
attentuator off, I get plenty of noise. If I switch to the dummy load,
it goes totally dead. I imagine this is probably the case nearly to
2m, even with my 213 coax feedline. The 706 is a sensistive radio
though. BTW, I may have been wrong on the new net freq. It may be
3.910. It's either 3.910 or 3.915...I forgot which...So that pesky AM
station may not be a problem for him now. On HF, I'd have to have a
really lousy antenna and feedline to reduce the level down to a point
where it would compete with internal noise. With the 706,I suspect a
20 ft piece of wire with no tuning, stuck in the center pin, would
give the radio enough signal level on any band to override internal
noise. Maybe less than 20 ft...My 830 about the same...Drakes too, if
they have good tubes..:) I don't disagree a tuner can help block or
reduce problem signals, but if there is no problem signal, there will
be no change. And if you did have a problem, a preselector should be
better than the tuner. MK

5177. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:47:04 UTC
From: richardharrison@webtv.net
Message-ID: <21290-3EDAC8B8-7@storefull-2312.public.lawson.webtv.net>
Source record: 116381

Cyber space did that Yuri. It left here with a Y. It must be that bad band stuff. I apologize.

Best regards, Richard Harrison, KB5WZI

5178. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 03:58:57 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306011958.350c0622@posting.google.com>
Source record: 116379

Jack Twilley <jmt+usenet@twilley.org> wrote in message
news:<86vfvp60lk.fsf@duchess.twilley.org>...
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Due to the peculiar layout of my apartment, I am limited to how I can
> mount my 2m dipole used exclusively for APRS. I've got a six-foot
> dowel with the dipole taking up roughly the distant two-thirds leaving
> one-third for mounting. The only available mounting point is part of
> a metal plant holder which extends roughly one foot away from the
> house. My original plan was to mount the dowel to the plant holder in
> a horizontal configuration to extend the antenna away from the house
> as far as possible, but now I'm wondering if a vertical mount might be
> better.
>
> On the one hand, most mobile installations use a vertical mount, so
> polarization would be the same, if that matters. On the other
> hand, the antenna would be much closer to the house so its performance
> would suffer. I'm running 5W so there's no safety issue with the
> antenna that close to the house.
>
> So, does polarization matter for digital modes? Was I right in my
> initial decision to mount as far away from the house as possible?
>
> Jack.

I think most of the users running digi modes use vertical
polarization. I'd run an actual vertical antenna such as a ground
plane, or whatever. You want decent decoupling from the feedline, and
a vertical dipole will probably have problems being the coax is run
out at an angle from the antenna and then brought into the shack. I'd
mount a GP or vertical on the end of the dowel.
You might consider an indoor 1/4 wave ground plane hung from the
ceiling. Can be made from an so-239 connector and 5 appx 19 inch
pieces of wire. Stick a tack in the ceiling, and hang the antenna with
fishing line as an insulator from the tack to the end of the wire.
It's kind of ugly, but it can be easily taken down when not in use. I
used to keep one in here, but I since have moved it to the attic to
get it higher. MK

5179. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 04:01:03 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306012001.11759c83@posting.google.com>
Source record: 116380

Jack Twilley <jmt+usenet@twilley.org> wrote in message
>
> What happens if I go horizontal? Do I lose efficiency or range, or
> will some people not be able to receive my packets, or what?

The usual loss from cross polarization will usually be about 20 db or
so. That can amount to a good bit on 2m FM. MK

5180. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 05:42:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fnoldvo1mdnj0k4p5ds48m1i99h8ie229k@4ax.com>
Source record: 116382

On Sun, 01 Jun 2003 19:10:36 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>
>>>"fuller mathematics" does NOT work
>>
>> There's your problem because you admittedly derive your insubtantial
>> work from them. Such is faith.
>
>Not faith at all. One simply needs to recognize the limits of the
>model. If one uses a negative sign to denote destructive interference,
>one cannot, at the same time, use a negative sign to denote direction
>of energy flow.

Your model simply has too many flaws - that is its limit. The fuller
mathematical progenitor of your strained calculations already answers
ALL questions.

73's
Richard Clark, KB7QHC

5181. A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 08:02:38 UTC
From: Dave Pitzer <dpitzer@sonic.net>
Message-ID: <vdm14uigl8eha8@corp.supernews.com>
Source record: 116383

I have recently become interested in standard broadcast band DXing. Is there a newsgroup that specializes in this hobby.

Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+ brand radio (from C. Crain Co.) This desktop is said to have exceptional A.M. sensitivity and has a connection for an outdoor/external A.M. antenna.

Any suggestions?

Many thanks,

Dave P.
Pocono Lake, PA

5182. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 08:17:36 UTC
From: vswrref@hotmail.com
Message-ID: <3edb07e8.1475249@national-news.stargate.net>
Source record: 116384

Hi Dave,

rec.radio.shortwave should do the trick. A combination of both
shortwave and BCB DXing, though it tends to be more shortwave.

Jeff Y.

On Mon, 2 Jun 2003 01:02:38 -0700, "Dave Pitzer" <dpitzer@sonic.net>
wrote:

>I have recently become interested in standard broadcast band DXing. Is
>there a newsgroup that specializes in this hobby.
>
>Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+
>brand radio (from C. Crain Co.) This desktop is said to have exceptional
>A.M. sensitivity and has a connection for an outdoor/external A.M. antenna.
>
>Any suggestions?
>
>Many thanks,
>
>Dave P.
>Pocono Lake, PA
>
>

5183. The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 09:48:46 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbf6hu$8ei$1@hercules.btinternet.com>
Source record: 116385

The electric field of a dipole is strongest and most intense at its ends and falls to zero in the middle. It is obvious, therefore, most of the radiation from a dipole occurs near to and from its ends.

Reg, G4FGQ

5184. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 10:09:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB2274.7030303@ieee.org>
Source record: 116386

Richard Clark wrote:
> Your model simply has too many flaws - that is its limit. The fuller
> mathematical progenitor of your strained calculations already answers
> ALL questions.

No it doesn't, Richard. Your equation is designed for three dimensional light, not for a one-dimensional transmission line. There is no allusion to direction in your equation. Two light beams traveling toward Canada use exactly the same equation as two light beams traveling toward Brazil. Light has no Kirchhoff conventions to worry about. It is the integration of light theory and transmission line theory that presents a slight problem but it is certainly solvable.

It is true that one sign cannot perform double duty but two signs can. So Roy has probably provided a solution. I first solved the energy direction problem by dealing with absolute magnitudes and just remembering the directions (like the sign on a slide rule). Roy's suggestion seems to allow integration of direction into the light equations, assuming there are only two directions (plus and minus) to worry about.
--
73, Cecil http://www.qsl.net/w5dxp

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5185. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 10:18:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB2486.4060104@ieee.org>
Source record: 116387

Reg Edwards wrote:
> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.

Why does the electric field radiate better than the magnetic field?

Why does a 75m mobile antenna's field strength increase as the
radiation from the electric field is decreased by a properly
designed top hat?
--
73, Cecil http://www.qsl.net/w5dxp

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5186. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 10:38:28 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <oF-dnanl1IK_tEajXTWcpA@crocker.com>
Source record: 116388

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbf6hu$8ei$1@hercules.btinternet.com...
> The electric field of a dipole is strongest and most intense at its ends
and
> falls to zero in the middle. It is obvious, therefore, most of the
radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>
the magnetic field of a dipole is the strongest and most intense at its
middle and falls to zero at the ends. it is obvious, therefore, most of the
radiation from a dipole occurs near to and from its middle.

5187. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 10:54:15 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDB2CD7.54BE11BD@uwe.ac.uk>
Source record: 116389
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
>
> "Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
> news:3ED739FA.28229622@uwe.ac.uk...
> > Gary Peach wrote:
> > >
> > > Power is what boils the water for a cuppa tea.
> > > I just realised our electric jug heats up a couple of litres of water
> about
> > > six times as fast as the maximum legal power on HF.
> > >
> > > Tea anyone?
> > >
> > > All a load of bolometers I think.
> > >
> > > Hands up, How many in this newsgroup measure their output power by the
> > > temperature rise in a known volume of water in a given time?
> > >
> >
> >
> > Does measuring it with a bolometer count? I know it isn't water but the
> > principal is the same, you just don't get the cup of tea at the end.
>
> Yes if the calibration of your coupler is accurately known.
> I think that accurate power measurement is one of the most difficult to
> achieve with any sort of precision.
>
> If you can't have the tea then you'll have to drink Scottish Water.
>
> Gary7SLL

One of the big advantages of a bolometer like the one I have is
that it is a line termination, i.e. its own dummy load, and can
therefore be calibrated at DC. You just need a couple of meters
and a variable PSU. No coupler with an unknown (negative) gain
which is also likely to be a tad frequency dependent.
Good for calibrating in-line meters like the Bird and has about
1/5th. of the error of a Bird.

vy 73

Andy, M3ABC

5188. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 10:59:05 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <V5GCa.2482$IR1.143842@news20.bellglobal.com>
Source record: 116395

"Dave Pitzer"
> ...standard broadcast band DXing.
> Any suggestions?

Find an old car stereo. Typically these have exceptional sensitivity and performance. Digital display. Even with AM Stereo if you choose the right one. Use a short (~30 feet) random wire antenna. At night, there should be a station (or, unfortunately, several) on every single 10kHz channel.

For your current radio, same antenna to start - random wire. Later, you might want to see about directional loops.

5189. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:01:10 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDB2E76.709F86D6@uwe.ac.uk>
Source record: 116390
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3ED7A0C0.5000908@ieee.org...
> > Gary Peach wrote:
> >
> > > W5DXP wrote:
> > >>When more RF energy has entered a lossless transmission line than has
> > >> exited,
> > >
> > > Of infinite length?
> >
> > Of any length of lossless line. Feel free to try the exercise
> > for yourself. Take 100 feet of lossless line and calculate the
> > RF energy dynamically stored in it for different conditions of
> > SWR. It is absolutely a no-brainer to realize that the energy that
> > has been input into a system and has not yet exited the system
> > is still in the system. Incidentally, that is why high SWR systems
> > are more lossy than flat systems. There is more energy flowing
> > in the high SWR system.
>
> GIVEN a line of length n lamda, and loss alpha: how many times will the
> energy traverse the line before it reaches one thousandth of its starting
> power when the line is terminated in a "perfect short circuit"?
>
> > >>it is still there probably performing some useful function.
> > >
> > > Only probably?
> >
> > Performing some function, no doubt. Whether it is a useful
> > function may be open to question.
> >
> > > The shrinking impedence as the vector rotates around the chart is due to
> > > e^(-2alpha d) the line attenuation.
> >
> > We don't have that conceptual problem with lossless lines. :-)
>
> We don't have the lossless lines either.
> So a Smith Chart becomes more than academic.
>
> > > Is the total energy in the Universe constant?
> >
> > The total energy in any closed system is supposed to

> > be constant.
> >Is the Universe a closed system? :-)
>
> You tell me.
>
> If we observe that the Universe tends to be a sphere with us apparently at
> teh centre, then the probability is that we are not seeing the edges of the
> universe, but the limits of precision of teh instruments used to do teh
> looking.
> Under these circumstances it is not possible to say empirically that it is
> closed or not closed.
> I hope that as a purist you will concede that theory must give way to
> observation.
>
> Gary7SLL

Microwave background? Anyway by definition the universe is closed. The
universe is a shorthand for 'everything there is' so it must be closed.
Whether the 'known universe' and the universe are the same or even similar
is the open question.

vy 73

And, M3ABC

5190. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:04:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbfavd$7a0$1@titan.btinternet.com>
Source record: 116392

Cec, you'll be plagiarising next the oft-repeated dilapidated old wives' tale about all radiation coming from the middle portion of dipoles.

Could you recommend any references in addition to Heaviside? ;o)

Reg

5191. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:07:41 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <%dGCa.2484$IR1.144221@news20.bellglobal.com>
Source record: 116396

"Reg Edwards", being naughty, wrote...

> The electric field of a dipole is strongest
> and most intense at its ends and falls to
> zero in the middle. It is obvious, therefore,
> most of the radiation from a dipole occurs
> near to and from its ends.

The electric field (voltage) doesn't quite "fall to zero" at the middle but it does fall ~towards~ zero. Obviously the voltage at the middle isn't quite zero for any antenna with a non-zero feed point impedance and actually being used.

Now - if you're proposing to move humans away from use of the magnetic field as the primary launch mechanism of EM waves and towards use of the electric field as the primary launch mechanism of EM waves, then your antenna should start to look more like a capacitor plate and less like a conductor. Unfortunately, your 'electric field antenna' will also start to look more like a kite...

5192. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:08:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB3016.1050600@ieee.org>
Source record: 116393
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Andy Cowley wrote:
> Microwave background? Anyway by definition the universe is closed. The
> universe is a shorthand for 'everything there is' so it must be closed.
> Whether the 'known universe' and the universe are the same or even similar
> is the open question.

That logic was good before they discovered the blue shift at the edge
of our universe possibly caused by colliding universes.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5193. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:11:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB30DA.2010001@ieee.org>
Source record: 116394

Reg Edwards wrote:
> Cec, you'll be plagiarising next the oft-repeated dilapidated old wives'
> tale about all radiation coming from the middle portion of dipoles.
>
> Could you recommend any references in addition to Heaviside? ;o)

All the CA 75m mobile antenna shootouts. The top hats, which
decrease radiation from the end of the antenna, increase average
current along with the measured field strength.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5194. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:11:39 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDB30EB.468565A@uwe.ac.uk>
Source record: 116391
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>
> As a matter of fact, I think present day astronomers are being fooled
> by what they observe. Consider that if the present second of time being
> used to measure the frequency of light from a distant galaxy is shorter
> than the second of time was when the light was emitted, the Red Shift
> is just a measurement error, not an indication that the universe is
> expanding. The measured speed of rotation of that galaxy would be just
> an illusion.

Relative red shift is what determines rotation, are you saying
one half of one of these galaxies is older than the other? Weird.
Your theory might well explain the observed absolute red shift
but not the relative red shift of the approaching and receding
parts of an individual galaxy. Anyway the second is determined
by the value of c or really mu0 and epsilon0 so couldn't be used
to determine variations in c. Perhaps you are suggesting that
only one of the propagation velocity or phase velocity is
changing with time?

vy 73

Andy, M3ABC

5195. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:21:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB3327.6070703@ieee.org>
Source record: 116397
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Andy Cowley wrote:
> Relative red shift is what determines rotation, are you saying
> one half of one of these galaxies is older than the other?

Of course not. I was talking about the average red shift.

> Your theory might well explain the observed absolute red shift
> but not the relative red shift of the approaching and receding
> parts of an individual galaxy. Anyway the second is determined
> by the value of c or really mu0 and epsilon0 so couldn't be used
> to determine variations in c.

Exactly! A second could be half as long as it was a billion years
ago and we would never know it. But if you measure the frequency
of billion year old light with a second that is too short by 50%,
you certainly might assume the lower frequency was a red shift.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5196. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:38:37 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030602073837.27337.00000600@mb-m03.aol.com>
Source record: 116398

>
>The electric field of a dipole is strongest and most intense at its ends and
>falls to zero in the middle. It is obvious, therefore, most of the radiation
>from a dipole occurs near to and from its ends.
>---
>Reg, G4FGQ
>
>

Sooo,
then shorten the middle (low radiating) portion of your electric dipole with loading coil, give the ends few bends and voilaaa (pardon my French fries) - you got Fractal something like CFA, EH?

Sun must be really violent, bands dead, so the brain energy is being channeled to provocative subjects on this debate thirsty NG :-)
Add some reflections and reactances. shake it, and it should be good for 100 postings. Let the games begin!

Yuri BUm

5197. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 11:57:00 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <CUydnQA4tLUbpkajXTWcoQ@crocker.com>
Source record: 116399

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030602073837.27337.00000600@mb-m03.aol.com...
> >
> >The electric field of a dipole is strongest and most intense at its ends
and
> >falls to zero in the middle. It is obvious, therefore, most of the
radiation
> >from a dipole occurs near to and from its ends.
> >---
> >Reg, G4FGQ
> >
> >
>
> Sooo,
> then shorten the middle (low radiating) portion of your electric dipole
with
> loading coil, give the ends few bends and voilaaa (pardon my French
fries) -
> you got Fractal something like CFA, EH?
>
> Sun must be really violent, bands dead, so the brain energy is being
channeled
> to provocative subjects on this debate thirsty NG :-)
> Add some reflections and reactances. shake it, and it should be good for
100
> postings. Let the games begin!
>
> Yuri BUm

at least if they are all concentrated in one thread i know which one not to
read.

5198. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 12:03:44 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbfef0$3gq$1@sparta.btinternet.com>
Source record: 116400
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

> Good for calibrating in-line meters like the Bird and has about
> 1/5th. of the error of a Bird.
>
> vy 73
>
> Andy, M3ABC
==========
1/5the of the error of a Bird ? What's that then ?

What gives you that impression? What evidence do you have? Personal feelings?

Anyway, what do you think are the measurement uncertainties of your bolometer at say 1 KHz and 100 MHz and at what power levels do those uncertainties apply.

Where and when was it last calibrated? Do you have a calibration certificate issued by an accredited/approved laboratory?

What is the calibration period?

What is the frequency response of your transmission system?

What is the stability of your DC and RF power generators.

Do you allow anyone else but yourself to use your measurements bench?

Are measurement procedures fully standardised and documented?

How closely is your laboratory temperature and humidity controlled?

Have your laboratory thermometers ever been calibrated.

Reg, G4FGQ

5199. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 12:39:24 UTC
From: Bernhard Rhondin <bernhard_rhondin@hotmail.com>
Message-ID: <3EDB457C.AF51BADC@hotmail.com>
Source record: 116401

Consequenly, You can simply remove the "bad" parts of the antenna, and
condensing
the antenna into two gigantic capacitive hats to receive maximum radiation.
So, the simple capacitor is the best radiator!

Er... NOT!

(Go home and study Maxwell once more!)
BR.

Reg Edwards wrote:

> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ

5200. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 12:51:42 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbfh8u$g4o$1@titan.btinternet.com>
Source record: 116402
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

```
"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3EDB2CD7.54BE11BD@uwe.ac.uk...
> Gary Peach wrote:
> >
> > "Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
> > news:3ED739FA.28229622@uwe.ac.uk...
> > > Gary Peach wrote:
> > > >
> > > > Power is what boils the water for a cuppa tea.
> > > > I just realised our electric jug heats up a couple of litres of
water
> > about
> > > > six times as fast as the maximum legal power on HF.
> > > >
> > > > Tea anyone?
> > > >
> > > > All a load of bolometers I think.
> > > >
> > > > Hands up, How many in this newsgroup measure their output power by
the
> > > > temperature rise in a known volume of water in a given time?
> > > >
> > >
> > >
> > > Does measuring it with a bolometer count? I know it isn't water but
the
> > > principal is the same, you just don't get the cup of tea at the end.
> >
> > Yes if the calibration of your coupler is accurately known.
> > I think that accurate power measurement is one of the most difficult to
> > achieve with any sort of precision.
> >
> > If you can't have the tea then you'll have to drink Scottish Water.
> >
> > Gary7SLL
>
> One of the big advantages of a bolometer like the one I have is
> that it is a line termination, i.e. its own dummy load, and can
> therefore be calibrated at DC. You just need a couple of meters
> and a variable PSU. No coupler with an unknown (negative) gain
> which is also likely to be a tad frequency dependent.
> Good for calibrating in-line meters like the Bird and has about
> 1/5th. of the error of a Bird.
```

Bolometers are usually in the mW range and the sorts of powers that you will most probably want to be measuring are legally up to 400 Watts.
In order to do this the bolometer only takes a sniff of part of the power into any load that may be provided to dissipate the majority of the power.
Accurate calibration of the coupling coefficient of the device can be sufficiently difficult at RF to make the measurement quite inaccurate.
1% accuracy would probably be ambitious for a Ham calibration.
Yes of course the Bolometer is calibrated against DC.
The Hewlett Packard Watt meters have a bridge arrangement where as RF power is added to tend to change the temperature DC power is removed to restore the balance and the change in DC power is what is actually measured. Other devices us choppers and by changing the chopper ratio the power is inferred.
Water in a calorimeter makes a direct heat measurement.

Much nicer at 20 kW plus as coupler values are getting up to 40 dB plus.

Gary7SLL

5201. Re: Modulation power and SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 12:54:06 UTC
From: mmelendez@celeridad.net
Message-ID: <6298a68d.0306020454.2f754925@posting.google.com>
Source record: 116403

Dave Shrader <david.shrader@attbi.com> wrote in message
news:<3EDA9B49.8090309@attbi.com>...

> When a VSWR exists the reflected component can be in or out of phase
> with the 'forward' power measured by a common VSWR meter. If it's in
> phase you will 'apparently have more power output'; if it's out of phase
> you will 'apparently have less output power'. [Note: APPARENTLY]
>
> It's an issue of your VSWR meter's response to the phases of the signals
> that it is seeing. It shows up on my Daiwa CN101L but not on my Icom 746.

Why doesn't it happen on CW? When I key, I normally get the full 100W
reading on the meter along with the VSWR.

What would be the best way to obtain a more realistic measure of
output power on SSB?

Mario

5202. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 12:54:46 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbfhem$o6j$1@hercules.btinternet.com>
Source record: 116404
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3EDB2E76.709F86D6@uwe.ac.uk...
> Gary Peach wrote:
> >
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> > news:3ED7A0C0.5000908@ieee.org...
> > > Gary Peach wrote:
> > >
> > > > W5DXP wrote:
> > > >>When more RF energy has entered a lossless transmission line than
has
> > > >> exited,
> > > >
> > > > Of infinite length?
> > >
> > > Of any length of lossless line. Feel free to try the exercise
> > > for yourself. Take 100 feet of lossless line and calculate the
> > > RF energy dynamically stored in it for different conditions of
> > > SWR. It is absolutely a no-brainer to realize that the energy that
> > > has been input into a system and has not yet exited the system
> > > is still in the system. Incidentally, that is why high SWR systems
> > > are more lossy than flat systems. There is more energy flowing
> > > in the high SWR system.
> >
> > GIVEN a line of length n lamda, and loss alpha: how many times will the
> > energy traverse the line before it reaches one thousandth of its
starting
> > power when the line is terminated in a "perfect short circuit"?
> >
> > > >>it is still there probably performing some useful function.
> > > >
> > > > Only probably?
> > >
> > > Performing some function, no doubt. Whether it is a useful
> > > function may be open to question.
> > >
> > > > The shrinking impedence as the vector rotates around the chart is
due to
> > > > e^(-2alpha d) the line attenuation.
> > >
> > > We don't have that conceptual problem with lossless lines. :-)
> >
> > We don't have the lossless lines either.

> > So a Smith Chart becomes more than academic.
> >
> > > > Is the total energy in the Universe constant?
> > >
> > > The total energy in any closed system is supposed to
> > > be constant.
> > >Is the Universe a closed system? :-)
> >
> > You tell me.
> >
> > If we observe that the Universe tends to be a sphere with us apparently
at
> > teh centre, then the probability is that we are not seeing the edges of
the
> > universe, but the limits of precision of teh instruments used to do teh
> > looking.
> > Under these circumstances it is not possible to say empirically that it
is
> > closed or not closed.
> > I hope that as a purist you will concede that theory must give way to
> > observation.
> >
> > Gary7SLL
>
> Microwave background?

That can still be the limit of precision, I've done some of that stuff for
real.

> Anyway by definition the universe is closed.

Definitions don't make tea.

>The universe is a shorthand for 'everything there is' so it must be closed.

Which is fine until you can't reconcile some practical measurements.

> Whether the 'known universe' and the universe are the same or even similar
> is the open question.

Venn will we know?

Gary7SLL

5203. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:04:19 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <q9imdv0utj8s3sco7cib9fncb14soj667m@4ax.com>
Source record: 116405

On Sun, 01 Jun 2003 12:48:07 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>-----BEGIN PGP SIGNED MESSAGE-----
>Hash: SHA1
>
>Due to the peculiar layout of my apartment, I am limited to how I can
>mount my 2m dipole used exclusively for APRS. I've got a six-foot
>dowel with the dipole taking up roughly the distant two-thirds leaving
>one-third for mounting. The only available mounting point is part of
>a metal plant holder which extends roughly one foot away from the
>house. My original plan was to mount the dowel to the plant holder in
>a horizontal configuration to extend the antenna away from the house
>as far as possible, but now I'm wondering if a vertical mount might be
>better.
>
>On the one hand, most mobile installations use a vertical mount, so
>polarization would be the same, if that matters. On the other
>hand, the antenna would be much closer to the house so its performance
>would suffer. I'm running 5W so there's no safety issue with the
>antenna that close to the house.
>
>So, does polarization matter for digital modes? Was I right in my
>initial decision to mount as far away from the house as possible?
>
>Jack.

If you go with vertical polarization, you might consider a j-pole
built from twinlead. I made one yesterday from instructions at

http://www.qsl.net/ares_d24/techtalk.html

and it works fine, hanging from a small tree by the house. It's maybe
two feet from the house, one foot from a tree, with the bottom only
about 7 feet off the ground, but it gets out great.

Bob
k5qwg

5204. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:06:40 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <AZHCa.33598$Pc5.2271@fed1read01>
Source record: 116406

Dave -- The best bet for a NG on AM DXing is rec.radio.shortwave

Here is a list of the big USA, Canada, and Mexico AM stations. Some are
"clear channel"
URL: http://ac6v.com/clearam.htm

You should be able to pick up many of these during the night hours. And
winter is usually better than summer. Daytime is pretty much limited to
local stations -- a propagation phenomena. URL:
http://www.ae4rv.com/tn/propflash.htm

A long outdoor antenna will definitely help. Antennas at URL:
http://ac6v.com/swl.htm#ANT

Good DXing

"Dave Pitzer" <dpitzer@sonic.net> wrote in message
news:vdm14uigl8eha8@corp.supernews.com...
> I have recently become interested in standard broadcast band DXing. Is
> there a newsgroup that specializes in this hobby.
>
> Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+
> brand radio (from C. Crain Co.) This desktop is said to have exceptional
> A.M. sensitivity and has a connection for an outdoor/external A.M.
antenna.
>
> Any suggestions?
>
> Many thanks,
>
> Dave P.
> Pocono Lake, PA
>
>

5205. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:46:09 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bbfkcv$7t1pc$1@ID-185765.news.dfncis.de>
Source record: 116408
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDB3016.1050600@ieee.org...
> That logic was good before they discovered the blue shift at the edge
> of our universe possibly caused by colliding universes.

What they saw was the brown ring round the planet TheAnus.
;>)
--
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

5206. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:49:15 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDB55DB.20495A78@uwe.ac.uk>
Source record: 116407
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:
>
> Andy Cowley wrote:
> > Microwave background? Anyway by definition the universe is closed. The
> > universe is a shorthand for 'everything there is' so it must be closed.
> > Whether the 'known universe' and the universe are the same or even similar
> > is the open question.
>
> That logic was good before they discovered the blue shift at the edge
> of our universe possibly caused by colliding universes.
> --

No Cecil, the logic is still good, the universe is just
a bit bigger. Universes is an oxymoron. Perhaps you are
confusing 'space-time continuum' and 'universe'?

vy 73

Andy, M3ABC

5207. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:49:57 UTC
From: richardharrison@webtv.net
Message-ID: <4377-3EDB5605-59@storefull-2313.public.lawson.webtv.net>
Source record: 116411

Reg, G4FGQ wrote:
"The electric field of a dipole is strongest and most intense at its ends---."

Yes, but the ends are small.

J.C. Maxwell speculated, and his speculation was confirmed, that an alternating displacement current, as is found in a capacitor, produces an alternating magnetic field, just as current in a wire does.

That is the key to radiation. In free-space there is a shortage of good conductors but there is room for displacement currents. The E field makes an M field which reciprocates by making an E field, ad infinitum.

Practioners of radio have found it easier to initiate the radiation process by an alternating magnetic field from the alternating current in a wire.

Best regards, Richard Harrison, KB5WZI

5208. Re: Modulation power and SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 13:52:36 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbfkr4smo1@hercules.btinternet.com>
Source record: 116409

> What would be the best way to obtain a more realistic measure of
> output power on SSB?
> ---
> Mario
==========

Whistle into the microphone, or better still because it's the same peak power, hold down the key and measure RF volts across a good dummy load. It is much more accurate and easier way to make the measurement.

Drill a hole in your dummy-load box and tap off a known fraction of the volts across it. Then diode + capacitor + high-value resistor + 0-100 microamp meter.

Can be calbrated at DC. Applied DC = Peak RF Volts.

All so-called swr/forward/reverse-power meters should have their scale markings completely erased and renamed TLI's.

PS: such a voltmeter can be connected across the antenna or feeder. It serves the same purpose as an antenna current meter. Maximum meter reading corresponds to maximum power into the antenna regardless of antenna impedance.

Reg, G4FGQ

5209. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:12:57 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDB5B69.6416A9F6@uwe.ac.uk>
Source record: 116410
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Reg Edwards wrote:
>
> > Good for calibrating in-line meters like the Bird and has about
> > 1/5th. of the error of a Bird.
> >
> > vy 73
> >
> > Andy, M3ABC
> ==========
> 1/5the of the error of a Bird ? What's that then ?

1% FSD. Bird claim 5% FSD.

>
> What gives you that impression? What evidence do you have? Personal
> feelings?

Published data.

>
> Anyway, what do you think are the measurement uncertainties of your
> bolometer at say 1 KHz and 100 MHz and at what power levels do those
> uncertainties apply.

Within 1% FSD 0 - 300 MHz. 300 mW, 1 W, 3 W, 10 W.
>
> Where and when was it last calibrated? Do you have a calibration
> certificate issued by an accredited/approved laboratory?

Last cal at my shack with Beckman DMMs. Both cal from
Muirhead saturated Weston cell @ 20 C. March this year.
I'm not offering a standards service so calibration
certificates are beside the point. You certainly didn't
get one with any Bird 43 now did you? Bird element have
a frequency dependent response due to variations in
coupling efficiency, a bolometer doesn't.
>
> What is the calibration period?

6 months according to manufs data.

>
> What is the frequency response of your transmission system?

1.5 or 2.5 metres of RG213, 1 x PL259 pair, 1 x N pair. Within 1% at HF
>

> What is the stability of your DC and RF power generators.

What difference does that make? The DC has sensibly no ripple
(lead acid batteries).

>
> Do you allow anyone else but yourself to use your measurements bench?

Under supervision, yes.
>
> Are measurement procedures fully standardised and documented?

No and yes.
>
> How closely is your laboratory temperature and humidity controlled?

It is measured. I'd be under water if the humidity made any difference.
>
> Have your laboratory thermometers ever been calibrated.

Yes, they came with NPL certificates.

This is not rocket science. Measuring power to better accuracy
than a Bird guess meter is very easy indeed. Quite a lot easier
than getting correct results from DIPOLE3.EXE, OM.

vy 73

Andy, M3ABC

5210. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:15:48 UTC
From: richardharrison@webtv.net
Message-ID: <7976-3EDB5C14-13@storefull-2314.public.lawson.webtv.net>
Source record: 116416

Dave Pitzer wrote:
"---I`m interested in adding an outdoor A.M. antenna---."

Success comes from separating the weak signal from noise which includes signals from other stations. This dictates a directional antenna away from local sources of interference.

Practical directional antennas include ferrite rod and loop antennas. These are most effective in larger sizes.

Best regards, Richard Harrison, KB5WZI

5211. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:19:40 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <r5nmdvcup4dr6ddkb9pjicv0qe7nn27nfc@4ax.com>
Source record: 116412

On Mon, 2 Jun 2003 09:48:46 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

|The electric field of a dipole is strongest and most intense at its ends and
|falls to zero in the middle. It is obvious, therefore, most of the radiation
|from a dipole occurs near to and from its ends.

Ah yes, let the trolling begin.

5212. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:21:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbfmhdfec1@sparta.btinternet.com>
Source record: 116413
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary says -
> 1% accuracy would probably be ambitious for a Ham calibration.

==========
Only probably ?

You can't be serious ! - as an angry tennis player once balled.

99% of hams and a lot of professionals suffer from delusions of accuracy ranging up to psychotic. There's at least one afflicted person who frequents this newsgroup who regularly hears direct from the devil.

Reg, G4FGQ

5213. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:27:19 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3edb5d2c_1@newsfeed>
Source record: 116414

Nice troll, Reg. You de man. 73, Dave, N3HE

Reg Edwards <g4fgq.regp@btinternet.com> wrote in message
news:bbf6hu$8ei$1@hercules.btinternet.com...
> The electric field of a dipole is strongest and most intense at its ends
and
> falls to zero in the middle. It is obvious, therefore, most of the
radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>

5214. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:39:04 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbfni8$d47$0@208.206.142.90>
Source record: 116415

So, Reg, ur usual trolling aside, please explain why it is that when the ends of a dipole are dropped to near-ground, but the center feedpoint remains elevated, very little deterioration in radiated signal takes place.
All that happens is a change (lowering) in feedpoint impedance which can be handled by matching.

Meanwhile the reverse-dropped center feedpoint and elevated ends- produces a great reduction in radiated signal and matching helps little to compensate

The evidence doesn't support your troll.

Dick

Reg Edwards wrote:

> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ

5215. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:53:08 UTC
From: richardharrison@webtv.net
Message-ID: <713-3EDB64D4-42@storefull-2316.public.lawson.webtv.net>
Source record: 116219

Dave Pitzer wrote:
"---I`m interested in adding an outdoor A.M. antenna---."

Success comes from separating the weak signal from noise which includes signals from other stations. This dictates a directional antenna away from local sources of interference.

Practical directional antennas include ferrite rod and loop antennas. These are most effective in larger sizes.

Best regards, Richard Harrison, KB5WZI

5216. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 14:56:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbfo3j$5sa$1@news.service.uci.edu>
Source record: 116417

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3ED80128.90201@ieee.org...
> Jim Kelley wrote:
> > As a humorous aside, there is actually an example in Hecht in which I12
> > is equal to zero. ;-)
>
> That's when the two waves are orthogonal to each other and interference
> is neither destructive nor constructive.

He talks about the situation where there are non-coherent waves in the mix.

73, Jim AC6XG

5217. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 15:03:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbfoh2$657$1@news.service.uci.edu>
Source record: 116418

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDA4413.8090506@ieee.org...
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Since P3/P1 = P2/P4 = rho^2, then P1*P2 = P3*P4
> >
> > Correct
> >
> >>Ptot = P1 + P2 + 2*Sqrt(P3*P4) Note: P3 = P4 so
> >
> > Wrong
> > 2*SQRT(P1*P2)*cos 0 is not equal to 2*SQRT(P3*P4)*cos 180
>
> You are contradicting yourself. You say (P1*P2 = P3*P4) is
> correct and then turn around and disagree with a trivial
> mathematical substitution.

Apparently you're unable to understand your error. I've explained very
clearly why your substitution is invalid.

73, ac6xg

5218. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 15:43:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB7087.8060808@ieee.org>
Source record: 116220
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Andy Cowley wrote:
> No Cecil, the logic is still good, the universe is just
> a bit bigger. Universes is an oxymoron. Perhaps you are
> confusing 'space-time continuum' and 'universe'?

Tell it to "Astronomy" magazine. The cover story a few years
ago was about multiple universes, some colliding, some isolated.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5219. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 15:44:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDB70E5.FF70A1FD@uci.edu>
Source record: 116237

W5DXP wrote:
>
> Jim Kelley wrote:
> > Apparently you're unable to understand your error. I've explained very
> > clearly why your substitution is invalid.
>
> Please explain why mathematically, if a=b,
> then b cannot be substituted for a.

Are V3 and V4, and I3 and I4 out of phase, or not? You derived your equivalence by ignoring relative phase, and then plugged the "equivalent" numbers into an equation in which relative phase cannot be ignored. You mathematically assumed that the relative phase between P3 and P4 is zero degrees, and you plugged in values for waves that are not involved in the constructive interference between P1 and P2. Using your argument, one could justify plugging any two numbers who's product equals P1*P2 into the equation. Not only that, the argument that Ptot=P1+P2+P3+P4 falls apart when P3 is not exactly equal to P4. It's certainly not true that
Ptot=P1+P2+P1+P2, so it's clear that relationship doesn't hold true when used with the correct terms in the irradiance equation.

It's a bogus mathematical treatment.

73, AC6XG

5220. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 15:46:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB7168.1000401@ieee.org>
Source record: 116221

Jim Kelley wrote:
> Apparently you're unable to understand your error. I've explained very
> clearly why your substitution is invalid.

Please explain why mathematically, if a=b,
then b cannot be substituted for a.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5221. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 15:55:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDB7363.DEA93B02@uci.edu>
Source record: 116243

W5DXP wrote:
> Your problem is in trying to use the plus and minus signs for
> two completely different purposes. You cannot simultaneously
> use the sign to indicate direction of energy flow *and* what kind
> of interference exists. I had to choose between the two uses. I
> chose to use the sign for the kind of interference, not the
> direction of energy flow. That's why I have absolute magnitude
> marks around the reflected powers in my article.

Well, direction of energy flow is not one of the options here anyway. You've asserted on many occasions that the waves must be traveling in the same direction in order to observe this phenomenon. The equation describes the effect between interfering waves. P3 and P4 do not interfere with P1 and P2, yet you have them in the same equation. P3 and P4 neither constructively nor destructively interfere with P1 and P2, and are not even traveling in the same direction as P1 and P2. You've written a totally bogus equation.

73, AC6XG

5222. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:03:38 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <u6tmdvkpev8r57f4230cufepb4u0ds4ovl@4ax.com>
Source record: 116222

On Mon, 2 Jun 2003 01:02:38 -0700, "Dave Pitzer" <dpitzer@sonic.net>
wrote:

>I have recently become interested in standard broadcast band DXing. Is
>there a newsgroup that specializes in this hobby.
>
>Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+
>brand radio (from C. Crain Co.) This desktop is said to have exceptional
>A.M. sensitivity and has a connection for an outdoor/external A.M. antenna.
>
>Any suggestions?
>
>Many thanks,
>
>Dave P.
>Pocono Lake, PA
>

If you're out in the country, but up a big outdoor antenna. If you're
in the city, get some kind of indoor loop that you can turn to null
out the local stations, otherwise, you won't get squat.

Bob
k5qwg

5223. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:11:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dftmdv063etrocemapkm1se691flrk6c90@4ax.com>
Source record: 116223
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 10:43:03 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Andy Cowley wrote:
>> No Cecil, the logic is still good, the universe is just
>> a bit bigger. Universes is an oxymoron. Perhaps you are
>> confusing 'space-time continuum' and 'universe'?
>
>Tell it to "Astronomy" magazine. The cover story a few years
>ago was about multiple universes, some colliding, some isolated.

Cecil,

Once again poor research skills (no references offered with the bald
claim above).

Simply visit:
http://www.astronomy.com/home.asp
enter either
colliding universes (your goal)
zip, nada, zero
or enter
colliding galaxies to reveal:

http://www.astronomy.com/content/dynamic/articles/000/000/000/052ditdh.asp
which is about cluster galaxies, not universes.

73's and holding your hand
Richard Clark, KB7QHC

5224. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:14:18 UTC
From: richardharrison@webtv.net
Message-ID: <21289-3EDB77DA-59@storefull-2312.public.lawson.webtv.net>
Source record: 116230

Cecil, W5DXP wrote:
"Your equation is designed for three-dimensional light, not for a one-dimensional transmission line."

What? Then why introduce "interference" into transmission line discussions?

In spatial situations, path difference is equivalent to phase difference. A signal traveling a distance 1/2-wave longer than the same signal by a more direct route to the same point, destructively interferes. As there are many possible routes, interference is a useful description. But, on wires, why is anything beyond phase difference and amplitude of the waves needed or desirable to explain wave action on the line?

Best regards, Richard Harrison, KB5WZI

5225. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:15:10 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <S5qdnd1-HNfjBkajXTWcpA@comcast.com>
Source record: 116257

Richard,

It takes all kinds. I once heard a guy calling "This is WXYYY calling CQ on 79.5755968 meters ".

5226. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:21:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <89umdvgt0cgv358k5e2jadj8opjeba1gnt@4ax.com>
Source record: 116224
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 11:54:15 +0100, Andy Cowley
<andy.cowley@uwe.ac.uk> wrote:

>
>One of the big advantages of a bolometer like the one I have is
>that it is a line termination, i.e. its own dummy load, and can
>therefore be calibrated at DC. You just need a couple of meters
>and a variable PSU. No coupler with an unknown (negative) gain
>which is also likely to be a tad frequency dependent.
>Good for calibrating in-line meters like the Bird and has about
>1/5th. of the error of a Bird.
>
>vy 73
>
>Andy, M3ABC

Hi Andy,

One of the principle components, the fluid used, is important. Do you
use Dow Corning 200 centipoise silicone fluid?

73's
Richard Clark, KB7QHC

5227. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:24:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oeumdv4puvk7beg00nkkpm92odqdgotvnr@4ax.com>
Source record: 116225
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 15:12:57 +0100, Andy Cowley
<andy.cowley@uwe.ac.uk> wrote:

>
>This is not rocket science. Measuring power to better accuracy
>than a Bird guess meter is very easy indeed. Quite a lot easier
>than getting correct results from DIPOLE3.EXE, OM.
>
>
>vy 73
>
>Andy, M3ABC

Hi Andy,

You obviously know the drill to outmarch Punchinello.

73's
Richard Clark, KB7QHC

5228. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:27:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1kumdvsjfv07ui9dpgfc5fe6u4o5v6fv71@4ax.com>
Source record: 116226
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 2 Jun 2003 14:21:34 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Gary says -
>> 1% accuracy would probably be ambitious for a Ham calibration.
>
>==================================
>Only probably ?
>
>You can't be serious ! - as an angry tennis player once balled.
>
>99% of hams and a lot of professionals suffer from delusions of accuracy
>ranging up to psychotic. There's at least one affllicted person who
>frequents this newsgroup who regularly hears direct from the devil.
>---
>Reg, G4FGQ
>

Ah Punchinello!

You cannot be corresponding with him that frequently now, can you?
You wouldn't have time for the rest of us - probably. ;-)

73's
Richard Clark, KB7QHC

5229. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:32:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <urumdvgfvursi8l69uvpmh5srpjgv9tuns@4ax.com>
Source record: 116227

On Mon, 02 Jun 2003 05:09:56 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
> three dimensional light
your problems of math coping skills are accumulating into fantasy.

5230. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:37:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <e8vmdv0ego1npg91rnclteq3hn1so51ldk@4ax.com>
Source record: 116228

On Mon, 02 Jun 2003 07:19:40 -0700, Wes Stewart <n7ws@!#!arrl.net>
wrote:

>On Mon, 2 Jun 2003 09:48:46 +0000 (UTC), "Reg Edwards"
><g4fgq.regp@btinternet.com> wrote:
>
>|The electric field of a dipole is strongest and most intense at its ends and
>|falls to zero in the middle. It is obvious, therefore, most of the radiation
>|from a dipole occurs near to and from its ends.
>
>Ah yes, let the trolling begin.

And Punchinello wonders where respect has gone....

5231. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:37:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbfugv$s2v$1@sparta.btinternet.com>
Source record: 116229

Dick, I have heard from reliable experimenters it is true a V antenna performs worse than an inverted-V on such occasions as field days.

The radiation pattern of the V is more high angle than than the inverted-V. The radio waves penetrate the ionosphere rather than bounce back. This is just my guess. Eznec could perhaps demonstrate. Apex angle of 100 degrees is about best.

There are 2 ways in which an antenna couples and loses power in the soil beneath it - magnetic coupling via mutual inductance between the wire and soil, and electric coupling via capacitance between wire and soil.

Depending on soil constants and frequency the magnetically induced losses tend to be greater than the electric variety. The "efficiency" of the way in which losses get transferred from antenna (the generator) to soil (the load) is a matter of coupling coefficients and "impedance matching" in the near field. The effects are calculable with sufficient accuracy to show what happens.

Is further explanation necessary? The current at the bottom of the V is more closely coupled to the ground than the volts at the near-to-the-ground ends of the inverted-V. And so the V suffers a greater loss.

Note that with a very high resistance soil (usually considered lossy) it is not inconceivable the V may do better than the inverted-V.

Also note the foregoing has nothing to do with from where on the antenna radiation may or may not emanate.

Performances are the same when height above ground is a wavelength or more, both antennas behaving almost identical to a horizontal dipole.

Reg G4FGQ

5232. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:39:05 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <720gbb-bf5.ln@p400bob.lse.com.au>
Source record: 116232

And remember that not all of the world uses 10kHz channel spacing. Australia
for example uses 9kHz...

> Find an old car stereo. Typically these have exceptional sensitivity and
> performance. Digital display. Even with AM Stereo if you choose the
> right
> one. Use a short (~30 feet) random wire antenna. At night, there should
> be a station (or, unfortunately, several) on every single 10kHz channel.
>
> For your current radio, same antenna to start - random wire. Later, you
> might want to see about directional loops.

5233. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 16:54:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8cvmdv0arnsk03bhr00komc17il2shcnec@4ax.com>
Source record: 116231

On Mon, 2 Jun 2003 06:59:05 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>"Dave Pitzer"
>> ...standard broadcast band DXing.
>> Any suggestions?
>
>Find an old car stereo. Typically these have exceptional sensitivity and
>performance. Digital display. Even with AM Stereo if you choose the right
>one. Use a short (~30 feet) random wire antenna. At night, there should be
>a station (or, unfortunately, several) on every single 10kHz channel.
>
>For your current radio, same antenna to start - random wire. Later, you
>might want to see about directional loops.
>

Hi Jeff,

Your advice may be more apropos for when car radios were front end
tuned with those Rube Goldberg pulley driven slugs. While driving to
Denver from San Francisco years ago (before the dinosaurs had
completely decomposed to the oil I was using), I could hear KFRC for
nearly the entire distance - at least to Cheyenne. Philips made some
good transistorized sets back in the 60's.

Using a RBB-1 US Navy shipboard general coverage receiver (0.5 -
4MHz), I could DX any state from Colorado Springs with a 50' antenna
draped along a 6' fence. The RBB had triple tuned RF front end much
like the venerable R-390. I tapped its IF to feed a BC-458 tank radio
(LF receiver covering 100 - 500KHz) to perform a second conversion to
its 95KHz IF. Talk about sharp skirts back then. The RBB-1 was/is a
desk crusher measuring something like two feet on each side.

73's
Richard Clark, KB7QHC

5234. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:14:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB85E8.2050707@ieee.org>
Source record: 116233
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Richard Clark wrote:
> Once again poor research skills (no references offered with the bald
> claim above).

Once again, you simply have no clue. The "Astronomy" article
search doesn't go back nearly far enough to find the article
I was referencing. That article was around 1990 plus or minus.
It was a cover story and I believe it was about the "Bubble
Universe" where each bubble is an independent universe and
sometimes the bubbles collide. If your research skills are
so good, why didn't you find the article?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5235. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:16:30 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbg0pegvo1@hercules.btinternet.com>
Source record: 116234
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Beware the Green Eyed Goddess.

5236. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:23:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB8804.4080205@ieee.org>
Source record: 116235

Richard Harrison wrote:
> But, on wires, why is anything beyond phase difference and
> amplitude of the waves needed or desirable to explain wave action on the
> line?

How does the rearward-traveling reflected energy get re-reflected
back toward the load? Please be specific.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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5237. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:26:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB88E3.6090202@ieee.org>
Source record: 116236

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>three dimensional light
>
> your problems of math coping skills are accumulating into fantasy.

You don't live in a three dimensional world often filled with
light? Your light bulbs don't emit light in all three dimensions?
How many dimensions exist in your fantasy world?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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5238. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:40:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB8C07.9090607@ieee.org>
Source record: 116238
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Richard Clark wrote:
> Once again poor research skills (no references offered with the bald
> claim above).

I assume you are capable of a web search for "Bubble Universe".
You will find 140,000 references. Here's one from the glossery:

Bubble Universe - One of a number of completely isolated sub-universes,
evolved during the Big Bang in separate nucleation events leading to
exponential expansion, as implied by the inflation scenario of the
Standard Model of cosmology.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5239. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:43:39 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbg2cb$ck2$1@titan.btinternet.com>
Source record: 116240
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbfef0$3gq$1@sparta.btinternet.com...
> > Good for calibrating in-line meters like the Bird and has about
> > 1/5th. of the error of a Bird.
> ==========
> 1/5the of the error of a Bird ? What's that then ?

Coming in on a wing and a prayer.

> What gives you that impression?
> What evidence do you have?
> Personal feelings?
>
> Anyway, what do you think are the measurement uncertainties of your
> bolometer at say 1 KHz and 100 MHz and at what power levels do those
> uncertainties apply.

That's a good question Reg ramp it up to 10 GHz

> Where and when was it last calibrated? Do you have a calibration
> certificate issued by an accredited/approved laboratory?

Now we are back to where we should be,
a thermos flask full of water.

> What is the stability of your DC and RF power generators.

Anyone got a standard cell?

> Do you allow anyone else but yourself to use your measurements bench?

Verifiable results/certification?

> Are measurement procedures fully standardised and documented?

Are they traceable to NPL, or Washington or somewhere like that.
Do RSGB hold any secondary standards?

> How closely is your laboratory temperature and humidity controlled?

To be fair a good bolometer bridge will compensate to a very large extent
for that problem.

> Have your laboratory thermometers ever been calibrated.

Now that's a good one, just how much would it cost for NPL to calibrate your
thermometers?
and what sort of recalibration period is advisable now?

Gary7SLL

5240. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:43:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdn36s8gt1ot85@corp.supernews.com>
Source record: 116239

Things are getting a bit slow out there in Rowley Regis, are they Reg?

Roy Lewallen, W7EL

Reg Edwards wrote:
> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>

5241. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:45:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nl2ndv0a5a49m6v57oei2iohkij3fpv5ta@4ax.com>
Source record: 116241
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 12:14:16 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Once again poor research skills (no references offered with the bald
>> claim above).
>
>Once again, you simply have no clue. The "Astronomy" article
>search doesn't go back nearly far enough to find the article
>I was referencing. That article was around 1990 plus or minus.
>It was a cover story and I believe it was about the "Bubble
>Universe" where each bubble is an independent universe and
>sometimes the bubbles collide. If your research skills are
>so good, why didn't you find the article?

Cecil,

You offer a vague nod for you own lead and challenge my solid
references? This amplifies my comment above.

For one, how is it you couldn't accomplish the simple act of using
their home page search engine, employing the very term you offer to
obtain:
" The search engine did not return any records based on your
criteria. Please try again."

Astronomy of 1990 (even plus or minus), particularly Cosmology, is
terribly dilapidated science and it is no wonder you are falling back
on old chestnuts. Even if you could rummage up a reference, it would
creak before collapsing.

73's
Richard Clark, KB7QHC

5242. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:49:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdn3h5inh8kubb@corp.supernews.com>
Source record: 116242

EZNEC will show better low angle radiation from a V than an inverted Vee, with the highest points being the same, even over (lossless) perfect ground. The vertical radiation pattern from either antenna is very similar to that of a dipole which is at a height corresponding to the point of average current along the wire. On a resonant dipole or vee-type antenna, which has a sinusoidal current distribution, this point is 1/3 of the way out from the center.

EZNEC and other moment method programs (e.g. NEC-2 and MININEC) calculate the field strength as being directly proportional to conductor current.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Dick, I have heard from reliable experimenters it is true a V antenna
> performs worse than an inverted-V on such occasions as field days.
>
> The radiation pattern of the V is more high angle than than the inverted-V.
> The radio waves penetrate the ionosphere rather than bounce back. This is
> just my guess. Eznec could perhaps demonstrate. Apex angle of 100 degrees
> is about best.
>
> There are 2 ways in which an antenna couples and loses power in the soil
> beneath it - magnetic coupling via mutual inductance between the wire and
> soil, and electric coupling via capacitance between wire and soil.
>
> Depending on soil constants and frequency the magnetically induced losses
> tend to be greater than the electric variety. The "efficiency" of the way in
> which losses get transferred from antenna (the generator) to soil (the load)
> is a matter of coupling coefficients and "impedance matching" in the near
> field. The effects are calculable with sufficient accuracy to show what
> happens.
>
> Is further explanation necessary? The current at the bottom of the V is
> more closely coupled to the ground than the volts at the near-to-the-ground
> ends of the inverted-V. And so the V suffers a greater loss.
>
> Note that with a very high resistance soil (usually considered lossy) it is
> not inconceivable the V may do better than the inverted-V.
>
> Also note the foregoing has nothing to do with from where on the antenna
> radiation may or may not emanate.
>
> Performances are the same when height above ground is a wavelength or more,

> both antennas behaving almost identical to a horizontal dipole.
> ----
> Reg G4FGQ
>
>

5243. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 17:51:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ih3ndvc8sf3741efmeackacbgnfpinl3cp@4ax.com>
Source record: 116244

On Mon, 02 Jun 2003 12:26:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>How many dimensions exist in your fantasy world?

There you go again. You have yet to explain three dimensional light.

5244. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:05:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdn4g25ihcsc62@corp.supernews.com>
Source record: 116245
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

You're not down to that cheap Bulgarian stuff now, are you? Save up your pence for something more decent, say at least a spï¿½tlese. Maybe enough of it will flush the toxins out of your system.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Beware the Green Eyed Goddess.
>
>

5245. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:05:55 UTC
From: donut <none@none.com>
Message-ID: <Xns938E6FB5F46BBdonut@216.102.43.227>
Source record: 116247

"Dave Pitzer" <dpitzer@sonic.net> wrote in
news:vdm14uigl8eha8@corp.supernews.com:

> I have recently become interested in standard broadcast band DXing.
> Is there a newsgroup that specializes in this hobby.
>
> Specifically, I'm interested in adding an outdoor A.M.antenna to my
> CC+ brand radio (from C. Crain Co.) This desktop is said to have
> exceptional A.M. sensitivity and has a connection for an
> outdoor/external A.M. antenna.
>
> Any suggestions?
>
> Many thanks,
>
> Dave P.
> Pocono Lake, PA
>
>

No, but there are 2 clubs dedicatated to the hobby: National Radio Club,
and International Radio Club of America. Both have websites.

A large loop is the key. This is one interest field where it's easy to
experiment and homebrew a lot of your stuff. I built an 8 foot doubly
balanced air loop out of PVC. I got transcontinental loggings on that one.

Lots of good info in rec.radio.shortwave. Google is your friend. Good luck.

5246. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:13:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDB93E5.72396E17@uci.edu>
Source record: 116248

W5DXP wrote:
> How does the rearward-traveling reflected energy get re-reflected
> back toward the load?

Sure would like to hear your answer to that question, Cecil.

73, ac6xg

5247. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:15:09 UTC
From: Brian Reay <brian.reay@bigfoot.com>
Message-ID: <bbg46j$95lul$1@ID-140397.news.dfncis.de>
Source record: 116246
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vdn4g25ihcsc62@corp.supernews.com...
> You're not down to that cheap Bulgarian stuff now, are you? Save up your
> pence for something more decent, say at least a sp�tlese. Maybe enough
> of it will flush the toxins out of your system.
>

Better still, take a day trip to France, have the joy of NOT buying French
Wine support our US friends (the Californian wine is excellent), , buy a
few extra cases with Gordon Brown's share, and still save a packet.

Works for me ;-)

--
73
Brian
G8OSN
www.g8osn.org.uk

and

www.qsl.net/g8osn for FREE training material for the UK Foundation and
Intermediate Licences

5248. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:20:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB9581.4020004@ieee.org>
Source record: 116250

Jim Kelley wrote:
> You mathematically assumed that the relative phase between P3
> and P4 is zero degrees, ...

Please stop making false statements about what I have assumed.
Your ESP talents leave a lot to be desired.

I don't assume any phase between two scalar values, Jim. Scalars
don't possess phase. The phase angle between V3 and V4 is 180 degrees.
The phase angle between I3 and I4 is 180 degrees. There is *NO* phase
angle between the dot products of V3*I3=P3 and V4*I4=P4. Until you
correct your multiple misconceptions and contradictions, a reasonable
technical discussion with you is impossible.

> and you plugged in values for waves that are not
> involved in the constructive interference between P1 and P2.

Optics, by Hecht says destructive interference is *always* involved
in constructive interference. See the below quote. The constructive
interference between Wave(V1,I1) and Wave(V2,I2) is ***IMPOSSIBLE***
without the destructive interference between Wave(V3,I3) and Wave(V4,I4).
The destructive interference is supplying the energy for the constructive
interference process.

-(-2*Sqrt(P3*P4)) = 2*Sqrt(P1*P2)

According to Hecht, the magnitude of the destructive interference is
ALWAYS equal to the magnitude of the constructive interference.
Since destructive interference is an excess of energy and constructive
interference is a lack of energy, the destructive interference is
supplying energy to the constructive interference process.

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

What is it about this simple concept that you don't understand? Any
destructive interference event at an impedance discontinuity is feeding
energy into an equal magnitude constructive interference event in the
other direction from the impedance discontinuity. That's how the direction
of the energy gets reversed and it can happen in either direction.

> Using your
> argument, one could justify plugging any two numbers who's product
> equals P1*P2 into the equation.

If a=b, then 'b' can be substituted for 'a' in any equation. If you are
arguing against that mathematical concept, I feel sorry for you.
In a matched system, P3+P4 is the destructive interference so P3+P4
has to be where the constructive interference energy comes from, according
to Hecht. See above quote.

> Not only that, the argument that
> Ptot=P1+P2+P3+P4 falls apart when P3 is not exactly equal to P4.

The equation is true ****ONLY**** for matched systems. The equation
is supposed to fall apart for mismatched systems because it only
applies to matched systems.

If Ptot equals P1+P2+P3+P4, the system is matched, by definition.
If Ptot doesn't equal P1+P2+P3+P4, the system is mismatched, by definition.
Why are these trivially simple concepts too much for you?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5249. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:22:46 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbg4lmgof1@titan.btinternet.com>
Source record: 116249
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbfmhdfec1@sparta.btinternet.com...
> Gary says -
> > 1% accuracy would probably be ambitious for a Ham calibration.
>
> ==========
> Only probably ?

You are begining to sound disillusioned Reg.
Take heart there will be a new crop along in a moment.

> You can't be serious ! - as an angry tennis player once balled.

Actually for an American he was quite emphatic, "You can NOT be serious."

Is he or has he ever been a licenecd Amateiur Radio Operator or a
registered Short Wave Listener?

> 99% of hams and a lot of professionals suffer from delusions of accuracy
> ranging up to psychotic.

Yes for musch of teh time that is quite true, however I can tell you that
the measurement of signal strength from DEEp space spacecraft to very high
precision is of great importance and worth billions of Dollars to do it
accurately. As teh craft gets far out the rate of decay of teh signal is
very slow indeed hunderedths of a dB a day. However the the error rate of
the data due to teh signal to noise ratio can mean many years of tracking
time. At many millions of dollars a day to maintain and staff teh tracking
stations and handle and analyse teh data, small erreors in signal
measurements can be anything from a minor nusience to a national
catastrophe, involving many jobs.
It is neccassary to know that the health of teyh spacecraft is good and to
be able to seperate the variations in time due to engineering changes and
actual change due to signal decay of resession. With well calibrated
instruments coming problems can be detected early on and alternative plans
put into operation. One problem could be loss of pointing of teh spacecraft.
in order to correct attitude at that sort of distance teh signals will take
getting on for a day to get to the spacecraft so one can not move it a bit
and then see how the signal has changed, especially when changes could be
due to drift of equipment in a badly calibrated receiver. With teh pioneer
spacecraft for instance in order to plot the enttena point a very small
weight on an arm withing the space craft was deployed by command. this
changes teh centre of gravity of teh spin stabilised craft and the rotation
is now about a slightly different mass axis, this sweeps teh spacecraft
antenna pattern across the ground station antenna pattern causing minute

signal changes which are extracted by fast fourier transform over a long time period. when teh attitude of teh spacecraft has thus been determined the weight is redepoloyed and the spin axis once more coincides with the boresight of teh spacecraft antenna. A good calibration may take eight to ten hours of data collection add to this teh Round Trip Light Time for commands to deploy the weight, to redeploy the weight and to adjust the spacecraft attitude. thgis proceedure is not lightly performed and is usually reduced to a monthly proceedur depending just how fast teh Earth is drifting through teh Spacecraft amtenna pattern. A slight error and you have lost your bird and years of scientific data. Having a well calibrated ground reciever permits a very careful eye to be kept on the spacecrafts health and teh health of teh ground station performance.
If you want to know how I did it I can E-Mail you either a Word doc or a power point description of teh method and an analysis of teh method.
I am hoping that at some time the method will be adopted for calibrating receivers in teh HF bands and then All that contest data that presently is just wasted could help to produce some meaningful dynamic maps of the propagation conditions of teh Earth.
So also could the logs of participating Hams.

>There's at least one afflicted person who
> frequents this newsgroup who regularly hears direct from the devil.

The Devil he does, send him to Newbury, they have a long record here of burning that sort, started in 1518, at least that is when they started to record the burnings.
You should be very polite when talking to the locals, and if you see them reaching for their matches then get out of here PDQ.

Gary7SLL

5250. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:25:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdn5k4i6j68483@corp.supernews.com>
Source record: 116251

Correction:

Roy Lewallen wrote:
> EZNEC will show better low angle radiation from a V than an inverted
> Vee, with the highest points being the same, even over (lossless)
> perfect ground. . .

That should be,

EZNEC will show better low angle radiation from *an inverted V than a
Vee*, with the highest points being the same, even over (lossless)
perfect ground. . .

I apologize for the slip-up.

The points of average current (1/3 of the way out from the center) are
higher for the inverted vee than for the vee, which is why the inverted
vee has better low angle radiation (at moderate heights).

Roy Lewallen, W7EL

5251. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:28:02 UTC
From: Brian Reay <brian.reay@bigfoot.com>
Message-ID: <bbg4up$99l9d$1@ID-140397.news.dfncis.de>
Source record: 116252
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Gary Peach" <garypeach@btinternet.com> wrote in message
news:bbg4lmgof1@titan.btinternet.com...
> If you want to know how I did it I can E-Mail you either a Word doc or a
> power point description of teh method and an analysis of teh method.

I'd like learn about that, could you send me a copy, please?

--
73
Brian
G8OSN
www.g8osn.org.uk

and

www.qsl.net/g8osn for FREE training material for the UK Foundation and
Intermediate Licences

5252. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:30:11 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbg53j$oh9$1@hercules.btinternet.com>
Source record: 116253

> EZNEC and other moment method programs (e.g. NEC-2 and MININEC)
> calculate the field strength as being directly proportional to conductor
> current.
>
> Roy Lewallen, W7EL
==========

I miss the significance of the above. Don't they all ? It doesn't make any
difference anyway. Its also proportional to VOLTS on the conductor.

Reg

5253. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:33:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB9894.6020700@ieee.org>
Source record: 116254

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>How many dimensions exist in your fantasy world?
>
> There you go again. You have yet to explain three dimensional light.

In your world, in what directions besides (x, y, z) does light
from your bedroom light bulb travel?
--
73, Cecil http://www.qsl.net/w5dxp

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5254. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:36:11 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbg5er$p66$1@hercules.btinternet.com>
Source record: 116255
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Brian Reay" <brian.reay@bigfoot.com> wrote in message
news:bbg4up$99l9d$1@ID-140397.news.dfncis.de...
> "Gary Peach" <garypeach@btinternet.com> wrote in message
> news:bbg4lmgof1@titan.btinternet.com...
> > If you want to know how I did it I can E-Mail you either a Word doc or
a
> > power point description of teh method and an analysis of teh method.
>
> I'd like learn about that, could you send me a copy, please?

Sure it's a big file;
which do you want Word doc or Powerpoint tutorial?

Gary7SLL

5255. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:38:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB998F.9000500@ieee.org>
Source record: 116256

Jim Kelley wrote:
> W5DXP wrote:
>>How does the rearward-traveling reflected energy get re-reflected
>>back toward the load?
>
> Sure would like to hear your answer to that question, Cecil.

Here it is again, Jim.

http://www.mellesgriot.com/products/optics/oc_2_1.htm

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

How many times am I going to have to repeat this stuff before you get it?
--
73, Cecil http://www.qsl.net/w5dxp

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5256. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 18:46:18 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbg61qqal1@hercules.btinternet.com>
Source record: 116258

> Things are getting a bit slow out there in Rowley Regis, are they Reg?
==========
As a matter of fact things are quite hectic at present, likely to get more so. I was looking for some light relief.

5257. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:00:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDB9EC4.1B71B7C7@uci.edu>
Source record: 116259

W5DXP wrote:
>
> Jim Kelley wrote:
> > You mathematically assumed that the relative phase between P3
> > and P4 is zero degrees, ...
>
> Please stop making false statements about what I have assumed.

Please stop asserting that I made false statements. It is a lie. P3
and P4 do not belong in an equation for contructive interference. They
belong in an equation for destructive interference.

Your notion of scalar interference is ludicrous.

> > and you plugged in values for waves that are not
> > involved in the constructive interference between P1 and P2.

> _Optics_, by Hecht says destructive interference is *always* involved
> in constructive interference.

That's a real beauty of a non-sequitur.

> According to Hecht, the magnitude of the destructive interference is
> *ALWAYS* equal to the magnitude of the constructive interference.
> Since destructive interference is an excess of energy and constructive
> interference is a lack of energy, the destructive interference is
> supplying energy to the constructive interference process.

> Quoting _Optics_, by Hecht: "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."

> What is it about this simple concept that you don't understand?

I can't think of anything that I don't understand about it.

> Any
> destructive interference event at an impedance discontinuity is feeding
> energy into an equal magnitude constructive interference event in the
> other direction from the impedance discontinuity. That's how the direction
> of the energy gets reversed and it can happen in either direction.

What's how the direction of the energy gets reversed?

> In a matched system, P3+P4 is the destructive interference so P3+P4
> has to be where the constructive interference energy comes from, according
> to Hecht. See above quote.

No, the forward energy comes from constructive interference between
forward moving waves. Destructive interference cancels any transfer of
energy in the rearward direction.

> > Not only that, the argument that
> > Ptot=P1+P2+P3+P4 falls apart when P3 is not exactly equal to P4.

> The equation is true ****ONLY**** for matched systems. The equation
> is supposed to fall apart for mismatched systems because it only
> applies to matched systems.

The correct equations apply in all cases.

5258. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:02:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDB9F38.1030000@ieee.org>
Source record: 116260

Jim Kelley wrote:
> P3 and P4 do not interfere with P1 and P2, yet you have them in the
> same equation.

You seem to wake up in a new world every morning, Jim, and here's another day that you are confused all over again. P3 and P4 are scalar values. P3+P3 is the magnitude of the destructive interference. P1 and P2 are *scalar* values. The magnitude of the constructive interference is 2*Sqrt(P1*P2) which equals |P3+P4|. Powers, being scalars, do NOT interfere.

> P3 and P4 neither constructively nor destructively interfere with P1 and
> P2, and are not even traveling in the same direction as P1 and P2.

Powers, being scalars, do NOT interfere. I've told you that at least a dozen times yet you keep repeating that false assertion. P3+P4 *IS* the destructive interference event that supplies the constructive interference event with energy just as Hecht says:

Quoting _Optics_, by Hecht: "The principle of conservation of energy makes it clear that if there is constructive interference at one point, the "extra" energy at that location must have come from elsewhere. There must therefore be destructive interference somewhere else."

> You've written a totally bogus equation.

Your concepts that you are using on my equation are totally bogus. Once again, until you correct your concepts and contradictions, a rational technical discussion with you is impossible. You simply declare "bogus" everything you don't understand. And things that you seemed to understand yesterday, you don't understand all over again today.

From the QEX article, Eq:13, for matched systems:

Ptot = P1 + P2 + 2*Sqrt(P1*P2)

2*Sqrt(P1*P2) is the constructive interference term.

2*Sqrt(P3*P4) is the destructive interference term.

P3/P1 = P2/P4 = rho, the reflection coefficient

P3*P4 = P1*P2 cross multiplication

Ptot = P1 + P2 + 2*Sqrt(P3*P4) see the Hecht quote, above

For a matched system, P3=P4 so 2*Sqrt(P3*P4) = P3+P4

For a matched system, Ptot = P1+P2+P3+P4

We already know that to be true and now we have proven it
mathematically. What more do you want?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5259. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:09:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <jp7ndv4u2ufivlcnt9vd36mdufqeqg17sj@4ax.com>
Source record: 116261

On Mon, 02 Jun 2003 13:33:56 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>How many dimensions exist in your fantasy world?
>>
>> There you go again. You have yet to explain three dimensional light.
>
>In your world, in what directions besides (x, y, z) does light
>from your bedroom light bulb travel?

Cecil,

Light is not three dimensional - it is just that simple. There are no
such dimensions in ANY of the complete mathematics that you derive
your erroneous work from.

73's
Richard Clark, KB7QHC

5260. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:10:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l78ndv4bfn6p1ber92lq4gsos6gokorrsf@4ax.com>
Source record: 116262

On Mon, 02 Jun 2003 13:38:07 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>How many times am I going to have to repeat this stuff before you get it?
Which raises the question of who is the greater fool?

5261. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:14:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <sc8ndvki3tlsnd6mgfior7srj0ih7sng46@4ax.com>
Source record: 116263
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 12:40:23 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Once again poor research skills (no references offered with the bald
>> claim above).
>
>I assume you are capable of a web search for "Bubble Universe".
>You will find 140,000 references. Here's one from the glossery:
>
>Bubble Universe - One of a number of completely isolated sub-universes,
>evolved during the Big Bang in separate nucleation events leading to
>exponential expansion, as implied by the inflation scenario of the
>Standard Model of cosmology.
No reputable source? The observation I originally made is now
amplifying into runaway.

5262. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:19:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2o8ndv0jus9u8i3u6ui73mfucli2ra8a6l@4ax.com>
Source record: 116264

On Mon, 02 Jun 2003 13:20:49 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Please stop making false statements about what I have assumed.
>Your ESP talents leave a lot to be desired.
not nearly as good as yours? :-0

5263. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:22:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDBA3E7.6900B776@uci.edu>
Source record: 116265

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>How does the rearward-traveling reflected energy get re-reflected
> >>back toward the load?
> >
> > Sure would like to hear your answer to that question, Cecil.
>
> Here it is again, Jim.
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> Quoting _Optics_, by Hecht: "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."
>
> How many times am I going to have to repeat this stuff before you get it?

What do you mean? All Hecht is saying is if there's constructive interference, there must also be destructive interference. You on the other hand claim that energy not only changes direction, but transforms itself from being involved in destructive to being involved in constructive interference. You're the only one making such claims, Cecil.

The irradiance equations used by Melles-Griot and cited in Hecht say something much different. They say that the irradiance produced by P3 and P4 is equal to zero, and that all of the irradiance in the forward direction is produced by P1 and P2.

ac6xg

5264. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:30:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBA5D1.1080708@ieee.org>
Source record: 116266

Jim Kelley wrote:
> W5DXP wrote:
>>Please stop making false statements about what I have assumed.
>
> Please stop asserting that I made false statements. It is a lie.

So you know what I have assumed and I don't know what I have assumed.
Who am I to argue with an omniscient being such as yourself?

You *are* making false statements about what I have assumed because
you obviously have no clue as to my assumptions.

> P3 and P4 do not belong in an equation for contructive interference.
> They belong in an equation for destructive interference.

Hecht disagrees with you, Jim. He says destructive interference
and constructive are the same energy. Would a diagram help?

Destructive Interference Energy ===> Constructive Interference Energy
2*Sqrt(P3*P4) = P3+P4 ===> 2*Sqrt(P1*P2) = P3+P4

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

What is it about "the constructive interference energy comes from a
destructive interference event" that you do not understand?

> Your notion of scalar interference is ludicrous.

Once again, for the umpteenth time, scalars do NOT interfere. Exactly
what is the phase of a bucket of water?

> What's how the direction of the energy gets reversed?

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

That's how the direction of the energy gets reversed! The destructive
interference energy is traveling rearward. The constructive interference
energy is traveling forward. Last time I looked, that's a reversal of
direction.

> No, the forward energy comes from constructive interference between
> forward moving waves.

Where does the constructive interference energy come from? From the destructive interference event, of course! Read it again:

Quoting _Optics_, by Hecht: "The principle of conservation of energy makes it clear that if there is constructive interference at one point, the "extra" energy at that location must have come from elsewhere. There must therefore be destructive interference somewhere else."

> The correct equations apply in all cases.

Ptot=P1+P2+P3+P4 is correct *only for a matched system* where all rearward-traveling reflections have been canceled by destructive interference at the match point.
--
73, Cecil http://www.qsl.net/w5dxp

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5265. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:41:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBA877.2040504@ieee.org>
Source record: 116267

Richard Clark wrote:
> Light is not three dimensional - it is just that simple.

I guess you are saying photons are dimensionless but a
group of photons from the same source can certainly occupy
three dimensions. And I've seen 3D holigraphs.
--
73, Cecil http://www.qsl.net/w5dxp

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5266. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 19:54:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBAB7D.6060705@ieee.org>
Source record: 116268

Jim Kelley wrote:
> All Hecht is saying is if there's constructive
> interference, there must also be destructive interference.

Nope, that's not all he's saying. Read it again:

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

> The irradiance equations used by Melles-Griot and cited in Hecht say
> something much different. They say that the irradiance produced by P3
> and P4 is equal to zero, and that all of the irradiance in the forward
> direction is produced by P1 and P2.

No, they are not stupid enough to say such a thing. All the irradiance
in the forward direction CANNOT be produced by P1 and P2. P1 and P2
need help from the destructive interference event without which the
constructive interference term is impossible.

They say Pref1 = -P3-P4-(-2*Sqrt(P3*P4)) = zero (no net reflections)

They say Pfwd2 = P1+P2+2*Sqrt(P1+P2)

They say 2*Sqrt(P1+P2) comes from -(-2*Sqrt(P3+P4))

They say the "extra" energy "lost" in the destructive interference
event joins the forward wave. The energy "lost" in the destructive
interference event is P3+P4. They say P3+P4 joins the forward wave.

They say the energy for the constructive interference event comes from
the destructive interference event. The destructive interference event
is a rearward-traveling event. The constructive interference event is
a forward-traveling event.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5267. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:03:41 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <rWSdnSm76K48MEajXTWcpw@comcast.com>
Source record: 116269

Take a tube full of ping pong balls. Now start stuffing more balls into one end. Ping pong balls start coming out the far end long before the first one you stuffed in the tube comes out.

BTW, by conventio current flows from positive to negative external to a source. It flows from negative to positive inside the source, eg a battery.

If anybody need further confusion, look at how a buck converter works. The polarity on the inductor changes, because the current can't.

Tam/WB2TT
"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message news:dZTBa.822$H67.182223@news20.bellglobal.com...
> "RadioNerd"
> > It works out to just about 88% of the speed of light.
>
> You ~obviously~ didn't do the math. As already mentioned by Dave Platt, it
> works out to something on the order of a few feet per second (roughly
> walking speed).
>
> So if the electrons aren't moving fast enough to make the light bulb turn on
> in a reasonable time frame, it must be something else...
>
> Thanks for playing...
>
>

5268. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:05:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ibbndv8co3ojctv9j7fdocfv2l018b30d1@4ax.com>
Source record: 116270

On Mon, 02 Jun 2003 14:41:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Light is not three dimensional - it is just that simple.
>
>I guess you are saying photons are dimensionless but a
>group of photons from the same source can certainly occupy
>three dimensions. And I've seen 3D holigraphs.

A never ending source of amusing mis-cues. Nothing here is evidence
of three dimensional light.

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5269. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:16:05 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <tpbndvooiodgidls8b0p720960th8nrhv4@4ax.com>
Source record: 116271
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 15:12:57 +0100, Andy Cowley
<andy.cowley@uwe.ac.uk> wrote:

[big snip]
|
|>
|> What is the frequency response of your transmission system?
|
|1.5 or 2.5 metres of RG213, 1 x PL259 pair, 1 x N pair. Within 1% at HF

PL259? Can you say, "Mismatch uncertainty"?

|>
|> What is the stability of your DC and RF power generators.
|
|What difference does that make? The DC has sensibly no ripple
|(lead acid batteries).

Can you say, "Source Match"?

If you can say them, but do not know what they mean in this context,
then you have no idea of the accuracy of your measurements.

5270. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:28:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDBB361.1B891351@uci.edu>
Source record: 116273

W5DXP wrote:
>
> Jim Kelley wrote:
> > P3 and P4 do not interfere with P1 and P2, yet you have them in the
> > same equation.

> P3 and P4 are scalar values.

The values must have magnitude and phase in order to interfere. The values in our equation do indeed have relative phase. You cannot simply choose to ignore that to suit your particular needs. P3 and P4 do not constructively interfere, but your equation has them interfering constructively with P1 and P2. It's total nonsense.

> > P3 and P4 neither constructively nor destructively interfere with P1 and
> > P2, and are not even traveling in the same direction as P1 and P2.

> Powers, being scalars, do NOT interfere.

But we know that interference is taking place. We also know that the solutions to the irradiance equations are correct. So apparently you are once again in error.

> I've told you that at least
> a dozen times yet you keep repeating that false assertion.

You make a list of false assumptions, generate a list of bogus equations, and then tell me I'm making false assertions. That's true arrogance.

> Quoting _Optics_, by Hecht: "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."

Yes, we have destructive interference in the direction of the source given by Pref1=P3+P4+(2*SQRT(P3*P4)cos 180), and constructive interference in the forward direction in which Pfwd2=P1+P2+(2*SQRT(P1*P2)cos 0). No energy is reflected back to the source, and all forward energy appears as irradiance from the constructive interference between forward moving waves P1 and P2.
> From the QEX article, Eq:13, for matched systems:
>
> Ptot = P1 + P2 + 2*Sqrt(P1*P2)

True only for zero degrees phase between P1 and P2, as cos 0 = 1. You can't just drop the cos term, or assume that cos theta = 1 for any terms

you happen to plug in.

> 2*Sqrt(P1*P2) is the constructive interference term.

> 2*Sqrt(P3*P4) is the destructive interference term.

> P3/P1 = P2/P4 = rho, the reflection coefficient
>
> P3*P4 = P1*P2 cross multiplication

> Ptot = P1 + P2 + 2*Sqrt(P3*P4)

Ptot = P1 + P2 + 2*Sqrt(P3*P4)* cos 180

> For a matched system, P3=P4 so 2*Sqrt(P3*P4) = P3+P4

> For a matched system, Ptot = P1+P2+P3+P4

What does P1+P2+P3+P4 equal in a mismatched system?

> We already know that to be true and now we have proven it
> mathematically.

Bad math can be used to prove almost anything.

5271. Re: Need info on roof mounting a small tower?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:29:02 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EDBB37D.6BAB556@shaw.ca>
Source record: 116272

Pat wrote:
>
> Here's the story:
>
> I moved and took my tower with me....

I would think that a roof mounted tower, even with a good
base support,and even a short one, would place undue stresses on the roof. You
might want to check that out.

--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

5272. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:35:07 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EDBB4E9.891A37EC@shaw.ca>
Source record: 116274

Reg Edwards wrote:
>
> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ

As soon as I saw the post I told myself "Reg is going to get something
going here!". I was too late! :-)
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

5273. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:36:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdnd9tis7fjja6@corp.supernews.com>
Source record: 116275

Reg Edwards wrote:
>>EZNEC and other moment method programs (e.g. NEC-2 and MININEC)
>>calculate the field strength as being directly proportional to conductor
>>current.
>>
>>Roy Lewallen, W7EL
>
> ============================
>
> I miss the significance of the above. Don't they all ? It doesn't make any
> difference anyway. Its also proportional to VOLTS on the conductor.
> ---
> Reg

Do you mean that the voltage/current ratio is a constant everywhere on the antenna? Including near the end? Even if the wire changes diameter?

By the way, what voltage are you referring to? How could it be measured?

Roy Lewallen, W7EL

5274. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 20:57:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBBA48.7080205@ieee.org>
Source record: 116276

Richard Clark wrote:
> Light is not three dimensional - it is just that simple.

Well, classical EM field theory says that the E-field of
light occupies one dimension, the B-field of light occupies
another dimension, and the direction of travel occupies the
third dimension. So I guess you need to define what you
mean by "light". The light in a translucent cube is certainly
occupying three dimensions.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5275. Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:08:35 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edbbcd4$1_1@news.vo.lu>
Source record: 116277

Hi,

Very interested in buying an Hex-beam multiband, could someone give me the email address of this manufacturer, his website lists only postal adr and fax (http://www.hexbeam.com/contact.shtml).

Thanks in advance

73
Thierry
ON1SKY, LX3SKY
http://www.astrosurf.com/lombry

5276. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:18:05 UTC
From: Alan <alannc44@{nospam}ix.netcom.com>
Message-ID: <haPCa.7862$_w.272879@twister.southeast.rr.com>
Source record: 116278

Naw, it's the two points where the values equal: between the ends and the
middle.

Alan
WN4HOG

--
Windsurfing Club: http://www.ibscc.org

"David Robbins" <k1ttt@arrl.net> wrote in message
news:oF-dnanl1IK_tEajXTWcpA@crocker.com...
>
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:bbf6hu$8ei$1@hercules.btinternet.com...
> > The electric field of a dipole is strongest and most intense at its ends
> and
> > falls to zero in the middle. It is obvious, therefore, most of the
> radiation
> > from a dipole occurs near to and from its ends.
> > ---
> > Reg, G4FGQ
> >
> >
> the magnetic field of a dipole is the strongest and most intense at its
> middle and falls to zero at the ends. it is obvious, therefore, most of
the
> radiation from a dipole occurs near to and from its middle.
>
>

5277. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:21:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0jfndvkgfns8l6bvp2kc6i4ffttg63s4g6@4ax.com>
Source record: 116279

On Mon, 02 Jun 2003 15:57:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Light is not three dimensional - it is just that simple.
>
>Well, classical EM field theory says that the E-field of
>light occupies one dimension, the B-field of light occupies
>another dimension, and the direction of travel occupies the
>third dimension. So I guess you need to define what you
>mean by "light". The light in a translucent cube is certainly
>occupying three dimensions.

Cecil,

More amusing mis-cues. You simply don't have any description for
light being three dimensional.

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5278. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:21:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBBFDD.9040301@ieee.org>
Source record: 116280

Jim Kelley wrote:
>
> W5DXP wrote:
>>P3 and P4 are scalar values.
>
> The values must have magnitude and phase in order to interfere.

Powers don't interfere. Voltages interfere with voltages and
currents interfere with currents.

>>Powers, being scalars, do NOT interfere.
>
> But we know that interference is taking place. We also know that the
> solutions to the irradiance equations are correct. So apparently you
> are once again in error.

That's an amazing leap of faith. Irradiances don't interfere either.
E-fields interfere with E-fields and B-fields interfere with B-fields.

> Yes, we have destructive interference in the direction of the source
> given by Pref1=P3+P4+(2*SQRT(P3*P4)cos 180), and constructive
> interference in the forward direction in which
> Pfwd2=P1+P2+(2*SQRT(P1*P2)cos 0).
> No energy is reflected back to the
> source, ...

On the contrary, s11a1 (V3) *is* reflected back toward the source.
That's the only way it can cancel s12a2 (V4), the voltage reflected
from the load that survives the impedance discontinuity.

> and all forward energy appears as irradiance from the
> constructive interference between forward moving waves P1 and P2.

Nope, that's wrong. Part of the forward energy is ***NOT***
constructive interference. P1 and P2 make their energy contributions
and P3 and P4 make their energy contributions to the forward wave.
What is it about constructive interference "coming from" destructive
interference that you don't understand? I'm going to reword Hecht to
make it easier for you to understand.

Quoting _Optics_, by Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from ... destructive
interference ..."

>> From the QEX article, Eq:13, for matched systems:
>>Ptot = P1 + P2 + 2*Sqrt(P1*P2)

>
> True only for zero degrees phase between P1 and P2, as cos 0 = 1.

Of course! In a matched system, the angle between V1 and V2 is
always zero or 180 degrees and the angle between I1 and I2 is
always zero or 180 degrees. Why make such a trivial point?

> What does P1+P2+P3+P4 equal in a mismatched system?

It always equals (Pfwd2 + Pref1) in any system, i.e. all
the energy flowing away from the impedance discontinuity
equals the sum of the energy components flowing into the
impedance discontinuity. There's that pesky Conservation
of Energy Principle rearing its ugly head again.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5279. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:26:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBC0EB.8000003@ieee.org>
Source record: 116281

Richard Clark wrote:
> Light is not three dimensional - it is just that simple.

Second request: Define what you mean by "light". My dictionary
has 72 definitions of "light". Which one are you using?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5280. bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:33:56 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edbc2c5$1_1@news.vo.lu>
Source record: 116282

Hi,

Before buying this "inversed umbrella", hi, I would like to know if some of you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft mast) have encountered problems : in building it, in using it, servicing, etc.

I read eham.net but all comments are favorable. There is not much comments on the yahoo forum.
I 'd like to have negative opinions, or from experienced users, if there are...

PS. One OM in LX told me he encountered difficulties is building it (mesh of wires, tubing, etc) and that it was not easy to tune (?). I would to confirm or not confirm with others users.

Thanks in advance

73
Thierry
ON1SKY, LX3SKY
http://www.astrosurf.com/lombry

5281. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:49:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbggpv$3h3$1@sparta.btinternet.com>
Source record: 116283
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Andy, to include the blurb issued by an instrument manufacturers' sales and marketting departments automatically invalidates any local assessment of measurement uncertainty. Sales blurbs are as worthless as manufacurers' claims for antenna gains.

Just out of curiosity, what is the uncertainty you claim for your SWR meter?

By the way, when preparing an overall assessment do you use worst-case error summation or statistical summation.

What would be your preferred confidence limits for uncertainty statements should your laboratory plan to issue calibration certificates - 2-sigma or 3-sigma limits ?

Calibration certificates are important legal documents. From personal experience it pays to employ a good typist, not prone to tears, and thoroughly check her output for 'measurement errors'. There's more to measurements than knowing where to connect rusty alligator clips.

Reg, G4FGQ

5282. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 21:58:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8vhndvcrnm7j2le29cs8s4qpj9mj7sdg6q@4ax.com>
Source record: 116284

On Mon, 02 Jun 2003 16:26:03 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Light is not three dimensional - it is just that simple.
>
>Second request: Define what you mean by "light". My dictionary
>has 72 definitions of "light". Which one are you using?

Cecil,

Why don't you simply tell us what reference you have that posits that
light is three dimensional?

There are, in fact, none because:

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5283. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:01:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <a6indvoma5sgt7m18u8jg5ugjdvsrg67pr@4ax.com>
Source record: 116285
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 2 Jun 2003 21:49:51 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Calibration certificates are important legal documents. From personal
>experience it pays to employ a good typist, not prone to tears, and
>thoroughly check her output for 'measurement errors'. There's more to
>measurements than knowing where to connect rusty alligator clips.

Now there is good advice from one whose software has been demonstrably
buggy - harrrumphs and blusters aside.

5284. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:02:54 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edbc98f$1_1@news.vo.lu>
Source record: 116286

Hi,

All depend of events in the near space environment, see SEC/NOAA website, and local conditions of traffic.
More pragmatic, there is maybe a severe QRM source some dozen km from your QTH, not visible, but parasiting the environnement in a radius of 30-50 km around.
But there is also the fact that lower bands are always more noisier than 20m and above.
Then there is the kind of antenna, the polarisation you use : less noise using a horizontal polarization and beams or wires antennas vs i.e. vertical that capture more QRM (man-made).
Also, during these summer months there is always much more noises at daytime than after the sunset on all bands.
At last as surprising it is, in my spot at least, after the sunset my vertical captures usually much less QRM than my wire antenna whereas this is the contrary at daytime...
But saying that, we cannot always easily generalize such ideas. As you see many factors can be responsible of this problem, but the main one seems the "quality" of bands you are working on.

There is no true and full solution against QRM (or QRN).
As I have told in some occasions, at the same time, I capture less QRM on the vertical or on the wire antenna, therefore I keep using both, mainly in reception, reserving the vertical for TX.
Now you can avoid some QRM using a current choke (very limited usage) or erecting your antenna higher above ground (lambda/4 or /2). At last you can reduce your angle of reception using a high gain beam.
Of course all these solution have a price, sometimes rather high.
But the best solution 'd be to work away from all noise sources, on portable, etc, what I do... so go west man !

73
Thierry
ON1SKY, LX3SKY
http://www.astrosurf.com/lombry

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
news:85ed38d.0306010815.3404e281@posting.google.com...
> Gentlemen,
> I may be mistaken but I seem to hearing more complaints of
> 'band' noise on the three top bands (7,3.8 and 1.8 meters).
> I know that we all can get a 1 or 2 'S' meter reading in
> some areas or more if a thunderstorm is nearby, but now
> it seems to be a main topic and removed from the drooping

> sun spot cycle.
> I live on the outskirts of town so I may be extra
> fortunate but is there a trend for more received noise
> or are the present radios more vunerable?
> What is the 'average' low noise level that various areas
> or countries get on these bands if one doesn't take
> 'extra' precautions and to the exclusion of pointing
> to rain forests?
> Regards
> Art

5285. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:04:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbghlg$5bg$1@sparta.btinternet.com>
Source record: 116287

"David Robbins" wrote -
> >
> the magnetic field of a dipole is the strongest and most intense at its
> middle and falls to zero at the ends. it is obvious, therefore, most of
the
> radiation from a dipole occurs near to and from its middle.
>
==========

Dave, Excellent ! You are now getting near to my point. Keep going!

But I suspect you are already there. Don't tell anybody. Let 'em sort it
out for themselves.

Reg

5286. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:14:20 UTC
From: "Randy (from Mikes Computer)" <rwallaceballs@vci.net>
Message-ID: <dGSdnXy5JaenUUajXTWcoA@vci.net>
Source record: 116288

Do like old Ben F. did. Go fly a kite in a thunderstorm and find out.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bb360c$7b5$1@hercules.btinternet.com...
> What is the surface appearance of a lightning conductor, say 0.1" or 0.2"
> diameter, after it has done its job and cooled off?
>
> What sort of changes take place, if any?
> ----
> Reg, G4FGQ
>
>

5287. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:37:24 UTC
From: "M. J. Powell" <mike@pickmere.demon.co.uk>
Message-ID: <TrGzB2KkG92+EwgZ@pickmere.demon.co.uk>
Source record: 116290

In message <dGSdnXy5JaenUUajXTWcoA@vci.net>, "Randy (from Mikes
Computer)" <rwallaceballs@vci.net> writes
>Do like old Ben F. did. Go fly a kite in a thunderstorm and find out.

Apparently he didn't according to latest research.

Mike
--
M.J.Powell

5288. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 22:41:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdnklijisc4968@corp.supernews.com>
Source record: 116289
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

All this from a guy who measures RF ground conductivity with a bucket of
dirt in the kitchen sink, and passes off calculated wire temperature
rise without ever checking against a single measurement at all?

Roy Lewallen, W7EL

Reg Edwards wrote:
> Andy, to include the blurb issued by an instrument manufacturers' sales and
> marketting departments automatically invalidates any local assessment of
> measurement uncertainty. Sales blurbs are as worthless as manufacurers'
> claims for antenna gains.
>
> Just out of curiosity, what is the uncertainty you claim for your SWR meter?
>
> By the way, when preparing an overall assessment do you use worst-case error
> summation or statistical summation.
>
> What would be your preferred confidence limits for uncertainty statements
> should your laboratory plan to issue calibration certificates - 2-sigma or
> 3-sigma limits ?
>
> Calibration certificates are important legal documents. From personal
> experience it pays to employ a good typist, not prone to tears, and
> thoroughly check her output for 'measurement errors'. There's more to
> measurements than knowing where to connect rusty alligator clips.
> ----
> Reg, G4FGQ
>
>
>
>
>
>

5289. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:01:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lolndv4n6026ngnmo5vgbc5mikcftd2ebb@4ax.com>
Source record: 116291

On Mon, 2 Jun 2003 23:37:24 +0100, "M. J. Powell"
<mike@pickmere.demon.co.uk> wrote:

>In message <dGSdnXy5JaenUUajXTWcoA@vci.net>, "Randy (from Mikes
>Computer)" <rwallaceballs@vci.net> writes
>>Do like old Ben F. did. Go fly a kite in a thunderstorm and find out.
>
>Apparently he didn't according to latest research.
>
>Mike
are you guys in the same room?

5290. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:11:19 UTC
From: Bill <n4wc@arrl.net>
Message-ID: <3EDBD997.5000008@arrl.net>
Source record: 116292

I have an early 20, 17, and 12 triband Hex beam.
It has been up on a mast on the roof of my house for
at least 5 years. It is a good 2 element beam. It
is easy to assemble and easy to handle. A Radio Shack
rotator will handle this easily. Now, there is a fair
amount of "voice traffic" about the Hex Beam. If you
are limited in space for a beam antenna the Hex Beam
is a very good choice. It is probably one of the best
small beams around! But, it is not a 4ele monobander
and don't expect that kind of performance. This antenna
still obeys the laws of peewysics and is not magical.
I think Mike Traffie knew, that when you shorten a dipole
you have to increase the current in the antenna to
compensate. I do believe that was his goal. I am
very happy with mine!

73 Bill N4WC

Thierry wrote:
> Hi,
>
> Before buying this "inversed umbrella", hi, I would like to know if some of
> you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft mast)
> have encountered problems : in building it, in using it, servicing, etc.
>
> I read eham.net but all comments are favorable. There is not much comments
> on the yahoo forum.
> I 'd like to have negative opinions, or from experienced users, if there
> are...
>
> PS. One OM in LX told me he encountered difficulties is building it (mesh of
> wires, tubing, etc) and that it was not easy to tune (?). I would to confirm
> or not confirm with others users.
>
> Thanks in advance
>
> 73
> Thierry
> ON1SKY, LX3SKY
> http://www.astrosurf.com/lombry
>
>
>
>
>

>
>

5291. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:27:48 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDBDD2E.9070601@attbi.com>
Source record: 116293

Gee!! Nice to know that Physics models change.

When I took my EM and Antenna course, 1958, I was taught that the
Displacement Current caused the radiation.

When did the Physics models change Reg??

Deacon Dave, W1MCE

Reg Edwards wrote:
> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>

5292. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:30:16 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDBDDC2.2030302@attbi.com>
Source record: 116294

We're going fishing, errr ... trolling, again. :-)

Deacon Dave, W1MCE

Reg Edwards wrote:
> The electric field of a dipole is strongest and most intense at its ends and
> falls to zero in the middle. It is obvious, therefore, most of the radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>

5293. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:30:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDBDE19.2040706@ieee.org>
Source record: 116295

Richard Clark wrote:
> Why don't you simply tell us what reference you have that posits that
> light is three dimensional?

I have one that says that light is four dimensional. Will that do?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5294. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:44:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDBE161.65516BB3@uci.edu>
Source record: 116296

W5DXP wrote:

> All the irradiance
> in the forward direction CANNOT be produced by P1 and P2. P1 and P2
> need help from the destructive interference event without which the
> constructive interference term is impossible.

You seem to have a naive understanding of interference.

> They say Pref1 = -P3-P4-(-2*Sqrt(P3*P4)) = zero (no net reflections)

Well, it's the additive inverse of what they said, assuming cos theta is
minus one.

> They say Pfwd2 = P1+P2+2*Sqrt(P1+P2)

Assuming cos theta is one.

> They say 2*Sqrt(P1+P2) comes from -(-2*Sqrt(P3+P4))
> They say the "extra" energy "lost" in the destructive interference
> event joins the forward wave. The energy "lost" in the destructive
> interference event is P3+P4. They say P3+P4 joins the forward wave.

Essentially, not literally.

> They say the energy for the constructive interference event comes from
> the destructive interference event. The destructive interference event
> is a rearward-traveling event.

....where the destructive event is defined by P3+P4+(2*sqrt(P3*P4)cos
180) and in which P3 and P4 are rearward traveling.

> The constructive interference event is
> a forward-traveling event.

...where the constructive interference event is defined by
P1+P2+(2*sqrt(P1*P2)cos 0) in which P1 and P2 are forward traveling, and
which comprises all of the forward traveling energy. There are no other
forward traveling components, and as evidenced by the solution to the
equation, none are required. That's just the way interference works.

As is always the case, the forward traveling waves are simply the
algebraic compliments of the rearward traveling waves.
P3=P1*(rho^2/1-rho^2) and
P2=P4*(rho^2/1-rho^2).

If you want to show that P3 and P4 add in the forward direction, you'll
have to do it without utilizing irradiance equations and interference.
In fact you'll have to show that interference does not occur at the

discontinuity. And you'll have to come up with a reflection mechanism by which to alter the direction of propagation of two waves that are defined as traveling in the opposite direction. That's a tough one. The thing you can't do is use irradiance equations incorrectly in order to make your point.

73, ac6xg

5295. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:55:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDBE3D9.605C45B4@uci.edu>
Source record: 116299

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>P3 and P4 are scalar values.
> >
> > The values must have magnitude and phase in order to interfere.
>
> Powers don't interfere. Voltages interfere with voltages and
> currents interfere with currents.

We've already established that voltages superpose with voltages, and
currents superpose with currents. The only things that interfere are
those things that are proportional to E^2, like power and light
intensity.

> Irradiances don't interfere either.

Profoundly incorrect. All of the terms in irradiance equations are
irradiances. They are what do the 'interfering'.

> > and all forward energy appears as irradiance from the
> > constructive interference between forward moving waves P1 and P2.

> Nope, that's wrong.

Absurd on its face - and everywhere else.

> Part of the forward energy is ***NOT***
> constructive interference. P1 and P2 make their energy contributions
> and P3 and P4 make their energy contributions to the forward wave.
> What is it about constructive interference "coming from" destructive
> interference that you don't understand?

What is it about P1+P2+(2*sqrt(P1*P2))=Pfwd2 that you don't understand?

73 de ac6xg

5296. Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:55:25 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bbgo5g$9476q$1@ID-134747.news.dfncis.de>
Source record: 116297

Planning to put up the "RPAD" (Radiates Poorly in All Directions) over the weekend. While searching the basement for a bumper jack I know I saved for just an occurrence, the galvanized pipe is 3" to far into the ground, I found a roll of chicken wire. I briefly wondered what did I buy this for, remembered GROUND PLANE, and then remembered someone, sometime, discouraging me from using the wire, do to weathering. Is my old brain correct? Pros, and cons, from the group please.

73 es cul

wb3fup
a Salty Bear

5297. Re: 2m dipole: vertical or horizontal?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-02 23:58:16 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bbgoar$9dpp9$1@ID-134747.news.dfncis.de>
Source record: 116298

Or make it out of 450 ohm ladder line, or rigid
copper pipe. With the pipe approach it is easy to
make it a dual band (or tri-band).

73 es cul

wb3fup
a Salty Bear

"Bob Miller" <bxmiller@texas.netNOSPAM> wrote in
message
news:q9imdv0utj8s3sco7cib9fncb14soj667m@4ax.com...
> On Sun, 01 Jun 2003 12:48:07 -0700, Jack Twilley
> <jmt+usenet@twilley.org> wrote:
>
> >-----BEGIN PGP SIGNED MESSAGE-----
> >Hash: SHA1
> >
> >Due to the peculiar layout of my apartment, I
am limited to how I can
> >mount my 2m dipole used exclusively for APRS.
I've got a six-foot
> >dowel with the dipole taking up roughly the
distant two-thirds leaving
> >one-third for mounting. The only available
mounting point is part of
> >a metal plant holder which extends roughly one
foot away from the
> >house. My original plan was to mount the dowel
to the plant holder in
> >a horizontal configuration to extend the
antenna away from the house
> >as far as possible, but now I'm wondering if a
vertical mount might be
> >better.
> >
> >On the one hand, most mobile installations use
a vertical mount, so
> >polarization would be the same, if that
matters. On the other
> >hand, the antenna would be much closer to the
house so its performance
> >would suffer. I'm running 5W so there's no
safety issue with the
> >antenna that close to the house.

> >
> >So, does polarization matter for digital modes?
Was I right in my
> >initial decision to mount as far away from the
house as possible?
> >
> >Jack.
>
> If you go with vertical polarization, you might
consider a j-pole
> built from twinlead. I made one yesterday from
instructions at
>
> http://www.qsl.net/ares_d24/techtalk.html
>
> and it works fine, hanging from a small tree by
the house. It's maybe
> two feet from the house, one foot from a tree,
with the bottom only
> about 7 feet off the ground, but it gets out
great.
>
> Bob
> k5qwg
>

5298. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:07:09 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bbgorg$8t1vt$1@ID-134747.news.dfncis.de>
Source record: 116300

How about a multi-turn shielded loop. It would be
my choice to get the directivity, and as a side
benefit would eliminate a lot of QRM. I have a
125 foot piece of #12 copperweld attached to my
ground rod. The wire is buried about 2" deep, and
when the band is really noisy I often "ground" the
antennas to improve reception. In the RSGB book
"Practical Wire Antennas" the author describes an
antenna built into pipe and buried, that he uses
for both receive and transmit. BTW, one early
summer evening about 15 years ago I checked into
the WAR net using the counterpoise instead of the
long wire that ran above it. NCOS questioned my
signal strength, but had now problem copying me>

73 es cul

wb3fup
a Salty Bear

"Richard Harrison" <richardharrison@webtv.net>
wrote in message
news:7976-3EDB5C14-13@storefull-2314.public.lawson.webtv.net...
> Dave Pitzer wrote:
> "---I`m interested in adding an outdoor A.M.
antenna---."
>
> Success comes from separating the weak signal
from noise which includes
> signals from other stations. This dictates a
directional antenna away
> from local sources of interference.
>
> Practical directional antennas include ferrite
rod and loop antennas.
> These are most effective in larger sizes.
>
> Best regards, Richard Harrison, KB5WZI
>

5299. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:09:12 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbgov8$pg1$1@titan.btinternet.com>
Source record: 116301

"Roy wrote-
> Reg Edwards wrote:
> >>EZNEC and other moment method programs (e.g. NEC-2 and MININEC)
> >>calculate the field strength as being directly proportional to conductor
> >>current.
> >>
> >>Roy Lewallen, W7EL
> >
> > ============================
> >
> > I miss the significance of the above. Don't they all ? It doesn't make
any
> > difference anyway. Its also proportional to VOLTS on the conductor.
> > ---
> > Reg
==============================
> Do you mean that the voltage/current ratio is a constant everywhere on
> the antenna? Including near the end? Even if the wire changes diameter?
>
> By the way, what voltage are you referring to? How could it be measured?
>
==============================

Roy, you disappoint me. You have evaded my question. For what reason did you make that simple statement? If you made it just to tell me (for the benefit of others) how Eznec works than all's well and good. But I can't see the connection with what preceded it.

Let me be a mind reader and make a guess, and disagree with what you intended to prove.

Because many computer programs calculate distant field strength by assuming a current distribution, which later turns out to be sufficiently accurate, has no bearing whatsoever on from where the radiation emanates. It is merely a mathematically convenient starting point. Heaviside would not have chosen it because he hadn't access to brainless number crunching calculating machines.

Exactly the same result could be obtained by making other assumptions, such as a voltage distribution and begining calculations from there. The distant field can be calculated from the voltage distribution just as well as from the aforesaid current. Then, according to your false logic, you would say radiation emanates from the ends of the antenna because that's where there are most of the volts reside.

There's very little the matter with your program. But I'm afraid you have allowed the way your particular program works to take control of reality as you see it. Your silly remark about how the voltage distributioni is to be measured is just a deliberate red herring in anticipation of what might be coming next. You can do better than that.

Whether volts or amps are the starting point they set up only the near field. On the surface of conductor elements the radiation field is ZERO. It requires DISTANCE and TIME for the radiation field to become apparent. The relationship between the near and radiation fields is elementary mathematics and has been well documented in the literature for 100 years. I'm sure you know what it is. It is used all the time, for example, in assessment of radiation hazards.

RADIATION DOES NOT EMANATE FROM ANYWHERE IN PARTICULAR ON AN ANTENNA. IT DETACHES ITSELF FROM THE NEAR FIELD AS DISTANCE FROM THE ANTENNA ELEMENTS INCREASES WITH TIME

There is a simple widely used diagram which visually explains the 'mechanics' of detachment. I vaguely recall seeing it somehere, believe it or not, in an ARRL publication. And what does it use to illustrate how things work - the voltage/electric field surrounding a dipole!

And of course time and distance decrease with increasing frequency.

Nitpickers can say it's not 100 years - only 99.

Gang together boys - here comes a suicide bomber - load up the B52's - the Radio Establisment is under attack!

Thanks for your patience, Grandad Reg, G4FGQ

>

5300. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:22:47 UTC
From: jgboyles@aol.com
Message-ID: <20030602202247.20386.00000765@mb-m01.aol.com>
Source record: 116303

>When I took my EM and Antenna course, 1958, I was taught that the
>Displacement Current caused the radiation.

That is what the EH advocates say. I thought displacement current was invented to explain the apparent electron (current) movement between the plates of a capacitor. If this is true, then electron acceleration (radiation) occurs between the plates of a capacitor. But then, I thought that the displacement current was produced by the action on the free electrons on the plates of the capacitor by the electric field produced by the AC potential acting on the plates.
If displacement current, as defined by electron accleleration between the plates of a capacitor causes radiation, then the EH and CFA folks are on to something. I guess the displacement current definition is still fuzzy, or quite likely, I have missed something along the way.
73 Gary N4AST

5301. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:25:32 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3edbeaf1.39372908@news1.eircom.net>
Source record: 116302
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 2 Jun 2003 17:43:39 +0000 (UTC), "Gary Peach"
<garypeach@btinternet.com> wrote:

>
>"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
>news:bbfef0$3gq$1@sparta.btinternet.com...
>> > Good for calibrating in-line meters like the Bird and has about
>> > 1/5th. of the error of a Bird.
>> ==========================
>> 1/5the of the error of a Bird ? What's that then ?
>
> Coming in on a wing and a prayer.

or a feather in his cap ? :-)

5302. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:41:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbgqr4$m4t$1@sparta.btinternet.com>
Source record: 116304

Whether or not displacement current causes radiation is not the point at issue.

One thing for certain, the dispacement current does not flow in antenna conductors and so no parts of an antenna radiate.

The radiation field on the surface of an antenna element is zero.

Radiation occurs by detachment from the near field as distance from the antenna increases with time.

Simple, eh?

Reg, G4FGQ

5303. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 00:44:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdnrrufndkr908@corp.supernews.com>
Source record: 116305

Reg, you never disappoint. But can't you be a little more subtle about slipping out from under the sticky questions? There are masters at that, here on this newsgroup. Read and learn.

Roy Lewallen, W7EL
Certified Reg Old Wife and Nitpicker

Reg Edwards wrote:
> "Roy wrote-
>
>>Reg Edwards wrote:
>>
>>>>EZNEC and other moment method programs (e.g. NEC-2 and MININEC)
>>>>calculate the field strength as being directly proportional to conductor
>>>>current.
>>>>
>>>>Roy Lewallen, W7EL
>>>
>>>==========
>>>
>>>I miss the significance of the above. Don't they all ? It doesn't make
>
> any
>
>>>difference anyway. Its also proportional to VOLTS on the conductor.
>>>---
>>>Reg
>
> ==========
>
>>Do you mean that the voltage/current ratio is a constant everywhere on
>>the antenna? Including near the end? Even if the wire changes diameter?
>>
>>By the way, what voltage are you referring to? How could it be measured?
>>
>
> ==========
>
> Roy, you disappoint me. You have evaded my question. For what reason did
> you make that simple statement? If you made it just to tell me (for the
> benefit of others) how Eznec works than all's well and good. But I can't see
> the connection with what preceded it.
>
> Let me be a mind reader and make a guess, and disagree with what you
> intended to prove.

>
> Because many computer programs calculate distant field strength by assuming
> a current distribution, which later turns out to be sufficiently accurate,
> has no bearing whatsoever on from where the radiation emanates. It is merely
> a mathematically convenient starting point. Heaviside would not have chosen
> it because he hadn't access to brainless number crunching calculating
> machines.
>
> Exactly the same result could be obtained by making other assumptions, such
> as a voltage distribution and begining calculations from there. The distant
> field can be calculated from the voltage distribution just as well as from
> the aforesaid current. Then, according to your false logic, you would say
> radiation emanates from the ends of the antenna because that's where there
> are most of the volts reside.
>
> There's very little the matter with your program. But I'm afraid you have
> allowed the way your particular program works to take control of reality as
> you see it. Your silly remark about how the voltage distributioni is to be
> measured is just a deliberate red herring in anticipation of what might be
> coming next. You can do better than that.
>
> Whether volts or amps are the starting point they set up only the near
> field. On the surface of conductor elements the radiation field is ZERO. It
> requires DISTANCE and TIME for the radiation field to become apparent. The
> relationship between the near and radiation fields is elementary mathematics
> and has been well documented in the literature for 100 years. I'm sure you
> know what it is. It is used all the time, for example, in assessment of
> radiation hazards.
>
> RADIATION DOES NOT EMANATE FROM ANYWHERE IN PARTICULAR ON AN ANTENNA. IT
> DETACHES ITSELF FROM THE NEAR FIELD AS DISTANCE FROM THE ANTENNA ELEMENTS
> INCREASES WITH TIME
>
> There is a simple widely used diagram which visually explains the
> 'mechanics' of detachment. I vaguely recall seeing it somehere, believe it
> or not, in an ARRL publication. And what does it use to illustrate how
> things work - the voltage/electric field surrounding a dipole!
>
> And of course time and distance decrease with increasing frequency.
>
> Nitpickers can say it's not 100 years - only 99.
>
> Gang together boys - here comes a suicide bomber - load up the B52's -
> the Radio Establisment is under attack!
> ----
> Thanks for your patience, Grandad Reg, G4FGQ
>
>
>
>

>
>
>
>
>

5304. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:02:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdnst9euv7oa3f@corp.supernews.com>
Source record: 116307
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

The specified accuracy of a Bird model 43 wattmeter is 5% of full scale. That means the error can be up to 2.5 watts on a 50 watt scale. If it reads 10 watts on a 50 watt scale, an applied power of 10 watts can read anywhere between 7.5 and 12.5 watts (+/- 25% of the actual value) and the meter would still be in specification.

Bird advocates have protested that they "always" or "almost always" exceed their specified accuracy, but I don't recall any quantitative data on just how accurate they actually are, or any good reason for Bird to avoid publishing a tighter spec (except for the fact that so many Bird users don't seem to be troubled by sloppy specs). I've learned never to assume that an instrument exceeds its published specifications unless I have solid calibration data in hand indicating otherwise. (And real metrologists have learned never to assume an instrument even meets its specification without solid cal data.) The bottom line is, the specified accuracy of a Bird 43 isn't really hard to beat, especially for readings considerably less than full scale.

Roy Lewallen, W7EL

zpk wrote:
> On Mon, 2 Jun 2003 17:43:39 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> wrote:
>
>
>>"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
>>news:bbfef0$3gq$1@sparta.btinternet.com...
>>
>>>>Good for calibrating in-line meters like the Bird and has about
>>>>1/5th. of the error of a Bird.
>>>
>>>==========================
>>>1/5the of the error of a Bird ? What's that then ?
>>
>> Coming in on a wing and a prayer.
>
>
> or a feather in his cap ? :-)
>

5305. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:02:29 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <qgsndv8f0cu3km338ll3bpnjc0vrfubj1o@4ax.com>
Source record: 116306

On Mon, 2 Jun 2003 19:55:25 -0400, "WB3FUP \(Mike Hall\)"
<wb3fup@msn.com> wrote:

>Planning to put up the "RPAD" (Radiates Poorly in
>All Directions) over the weekend. While searching
>the basement for a bumper jack I know I saved for
>just an occurrence, the galvanized pipe is 3" to
>far into the ground, I found a roll of chicken
>wire. I briefly wondered what did I buy this for,
>remembered GROUND PLANE, and then remembered
>someone, sometime, discouraging me from using the
>wire, do to weathering. Is my old brain correct?
>Pros, and cons, from the group please.
>

Well, it's galvanized, isn't it? If you're gonna
bury it, I don't know. If it's just gonna lay on
top of the ground, it may last a while.

On the other hand, if it's galvanized, that layer
of zinc (some will say) is a killer because of skin
effect and relatively high resistance. However,
even the miserable conductivity of zinc beats the
heck out of the conductivity of dirt (excuse me, I
mean soil).

But since it's gonna be an RPAD instead of some fancy
high-efficiency antenna, I'd say go ahead and use it.

Heck - for MW reception, I'm using some "wire" that's
about two ohms per foot (at DC), and it works pretty darned
good.

Go for it!

-fb-

5306. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:03:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mqsndvcv67oum3f3895r3a5eahstubs2h7@4ax.com>
Source record: 116308

On Mon, 02 Jun 2003 18:30:33 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Why don't you simply tell us what reference you have that posits that
>> light is three dimensional?
>
>I have one that says that light is four dimensional. Will that do?

Cecil,

As I said, no reference for light described as three dimensional
exists simply because:

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5307. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:10:15 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <5v2cnQUCdufoaEajXTWcoQ@comcast.com>
Source record: 116309

Dave,

This is really more of a receiver selectivity issue, rather than antenna. I have local 50 KW stations on 710 and 770. I accasionally listen to DX stations on 700 and 760. There are only two ways I can do it.

1. Switch the receiver to SSB, lower sideband, and tune to 700 or 760.

2. Keep the radio on AM, but switch to the SSB 2.8 KHz filter and tune the radio to around 698.5 or 758.5. This detects the signals as if they were VSB reduced carrier, and gives better quality than the SSB method.

I have a fairly long, high antenna, but I did once pick up BBC with about 20 feet of wire stuck on the back of the receiver. BTW, digital AM is making things worse. Before 710 went digital, I could tune WLW 700 normally.

Tam/WB2TT
"Dave Pitzer" <dpitzer@sonic.net> wrote in message
news:vdm14uigl8eha8@corp.supernews.com...
> I have recently become interested in standard broadcast band DXing. Is
> there a newsgroup that specializes in this hobby.
>
> Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+
> brand radio (from C. Crain Co.) This desktop is said to have exceptional
> A.M. sensitivity and has a connection for an outdoor/external A.M.
antenna.
>
> Any suggestions?
>
> Many thanks,
>
> Dave P.
> Pocono Lake, PA
>
>

5308. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:11:13 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <18tndv803du7ti29b22b93c0jkogs3gjia@4ax.com>
Source record: 116310

On Tue, 3 Jun 2003 00:09:12 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Heaviside would not have chosen
>it because he hadn't access to brainless number crunching calculating
>machines.

Ah Punchinello!

Still whoring his corpse around town after your troll that lead to
this?

And you gust on so about respect from the bottom of a glass. Stick
with wine recommendations and keep unzipped.

73's
Richard Clark, KB7QHC

5309. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:16:51 UTC
From: richardharrison@webtv.net
Message-ID: <21291-3EDBF703-24@storefull-2312.public.lawson.webtv.net>
Source record: 116315

Cecil, W5DXP wrote:
"How does the rearward-traveling reflected energy get re-reflected back toward the load? Please be specific."

Your texts and mine say direction reversal is the result of phase reversal of either the volts or amps in the wave, but not both.

Best regards, Richard Harrison, KB5WZI

5310. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:19:44 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EDBF6C2.6FCDCF20@gte.net>
Source record: 116311

Dave Pitzer wrote:

> I have recently become interested in standard broadcast band DXing. Is
> there a newsgroup that specializes in this hobby.
>
> Specifically, I'm interested in adding an outdoor A.M.antenna to my CC+
> brand radio (from C. Crain Co.) This desktop is said to have exceptional
> A.M. sensitivity and has a connection for an outdoor/external A.M. antenna.
>
> Any suggestions?
>
> Many thanks,
>
> Dave P.
> Pocono Lake, PA

I have recently completed an untuned shielded loop (ala Wellbrook) and find it to be, by far, the best AM antenna I have used. Nulls (even some at night) are deep and balanced. Noise p/u appears to be quite low although I have yet to complete this test.
The loop is 1M in diameter of 5/8" CATV hardline with a J310/2N3904 broadband preamp (no commercial TX within 60 miles of me)

Dale W4OP

5311. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:28:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdnue9rvh88n2f@corp.supernews.com>
Source record: 116312

Actually, zinc isn't all that bad. Its RF resistivity is only about twice that of copper, so loss on zinc-plated wire is generally negligible if the loss is low when using copper. That is, providing the zinc is at least a few skin depths thick. The problem with galvanized wire is that when the zinc goes away (for whatever reason) or if it's not thick enough, current ends up flowing in the underlying steel. The RF resistivity of steel can be many, many times greater than copper. It's pretty resistive stuff to begin with, but because it's magnetic, the current is forced into a much thinner layer (by the square root of the relative permeability, in fact), greatly increasing its RF resistance.

Roy Lewallen, W7EL

funkbastler wrote:
>
> Well, it's galvanized, isn't it? If you're gonna
> bury it, I don't know. If it's just gonna lay on
> top of the ground, it may last a while.
>
> On the other hand, if it's galvanized, that layer
> of zinc (some will say) is a killer because of skin
> effect and relatively high resistance. However,
> even the miserable conductivity of zinc beats the
> heck out of the conductivity of dirt (excuse me, I
> mean soil).
>
> But since it's gonna be an RPAD instead of some fancy
> high-efficiency antenna, I'd say go ahead and use it.
>
> Heck - for MW reception, I'm using some "wire" that's
> about two ohms per foot (at DC), and it works pretty darned
> good.
>
> Go for it!
>
> -fb-
>

5312. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:30:02 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0306021730.25563cf0@posting.google.com>
Source record: 116313

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EDBA5D1.1080708@ieee.org>...
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Please stop making false statements about what I have assumed.
> >
> > Please stop asserting that I made false statements. It is a lie.
>

Jim, one of Cecil's techniques for pissing people off is to do
just that: lie about what they have said, and by misquoting them.

Cecil fails to communicate on many levels, and even when he does,
he doesn't say anything special.

But it makes him feel special to have so much ill-gotten
attention.

Slick

5313. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:37:41 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbgu55$2oi$1@titan.btinternet.com>
Source record: 116314

Roy, you should have thought a little more carefully before you replied.

I have always been careful never to call YOU a nitpicker or an old wife. It can only be your guilty conscience which allows you to refer to yourself as such,

You have already this evening appologised to me for a serious technical error made without thinking or checking. Thank you.

Since you have accepted the whole of my last message without comment it can reasonably be assumed you agree, at least in general, with its content.

And perhaps you would advise your friend, Richard Clark the dictionary swallower, you no longer require his untruthful (to put it mildly), sub-standard technical assistance. He does no good to your reputation.

Reg Edwards.

5314. Inside Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:50:51 UTC
From: Larry <fph01@hotmail.com>
Message-ID: <%9TCa.33680$ca5.24219@nwrdny02.gnilink.net>
Source record: 116316

I just used the inside wiring for my cable, that is not being used any longer, I have 2 annt, connected, 1 on the front of the house, and 1 on the back of the house.

My question, is that I have a cable TV amp, upto 25db I think, can I use that to pick up better signals?
I mean, would this work, or is it not possible?

Just wondering.

Larry
fph@pghmail.com

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.487 / Virus Database: 286 - Release Date: 6/1/2003

5315. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 01:51:43 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <LaTCa.2957$VS5.247677@news20.bellglobal.com>
Source record: 116317

"Bob"
> And remember that not all of the world uses
> 10kHz channel spacing. Australia for example
> uses 9kHz...

I've never heard Australia (on the AM broadcast band) here in Canada. Not yet anyway... ;-)

On the other hand, I have heard AM broadcast band stations from Morocco all the way up to Finland (and dozens in between). It was using my brother's car radio (stock, as found in a Ford Tempo) while parked in eastern Newfoundland (clearly an unfair geographical advantage). The time was early enough in the evening that the propagation was primarily from Europe and North Africa. It was a very interesting experience.

The 9kHz channel spacing versus 10kHz tuning steps was clearly audible as the stations went in and out of acceptable tune as we wandered up and down the AM broadcast band.

5316. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 02:14:32 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <8wTCa.3012$VS5.254381@news20.bellglobal.com>
Source record: 116318

"Richard Clark"
> Your advice may be more apropos for when car radios
> were front end tuned with those Rube Goldberg pulley
> driven slugs.

At the typical junkyard price ($5 - $10), why not have one of each ? One digital (with 10kHz tuning steps and perhaps even AM Stereo) and one old string-and-pulley version in case it offers any advantage (infinite tuning for the 9kHz issue and possibly ? better selectivity). Even the digital car radios I've found to be very acceptable (from my location, at the time, which was relatively quiet).

I believe that I have perhaps a half dozen car radios kicking around in storage (AM DXing is not an active hobby of mine right now). The one that I used the most was a Chrysler radio (Motorola?) that offered AM Stereo (just for laughs).

The antenna (bringing it back on topic) was a short random wire - maybe 20 feet. I didn't get as far as building any directional loops (other distractions overtook my time).

In general, the car radios that I've played with have easily outperformed my primary SW receiver (Kenwood R600) and any other radios that I have tried (home stereo, portables, etc.). This includes sensitivity (a station on ~every~ channel), and selectivity (no interference at all - except, obviously, from other stations on the same channel).

An old car battery is the best power source for quiet reception. And this hobby is best done from a quiet rural location.

5317. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 02:30:42 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <iLTCa.3051$VS5.259963@news20.bellglobal.com>
Source record: 116120

"Tarmo Tammaru"
> Take a tube full of ping pong balls. Now start stuffing
> more balls into one end. Ping pong balls start coming
> out the far end long before the first one you stuffed in
> the tube comes out.

As an analogy, this 'Ping Pong Balls Stuffed in a Tube' theory falls apart pretty quickly if you try to apply it to more advanced subjects, like diodes and transistors. I like the 'Air Bubble in a Tube of Blue-tinted Water' analogy better because it provides a good foundation for solid state theory.

Maybe if you packed the ping pong balls loosely in a clear tube, left a space, and then turned the tube over a few times so that the space (the hole) moved like a bubble...

> BTW, by conventional current flows from positive to
> negative external to a source. It flows from negative
> to positive inside the source, eg a battery.

Good one (the bit about inside the battery).

5318. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 02:34:01 UTC
From: richardharrison@webtv.net
Message-ID: <17970-3EDC0919-176@storefull-2317.public.lawson.webtv.net>
Source record: 116119

Reg, G4FGQ wrote:
"On the surface of conductor elements the radiation field is ZERO."

If those are the antenna radiating elements, that doesn`t square with my idea of radiation. The reactive energy in the near field is all returned to the sender. The radiated energy all departs, not to return.

The in-phase volts and amps on the radiating surfaces of the antenna system describe a radiation resistance. It`s the radiated energy which makes an r-f ammeter move upscale.

Evidence is in the FCC rules in the U.S.A. Broadcast power output is demonstrated according to the rules by an r-f ammeter reading at a designated common-point where the impedance is measured and known in the antenna system. There is no need to account for reactive amps which obviously don`t contribute to the r-f ammeter indication. Impedance at the common-point is a pure resistance by adjustment and measurement.

Best regards, Richard Harrison, KB5WZI

5319. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 02:53:58 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030602225358.02020.00000577@mb-m23.aol.com>
Source record: 116121

K1TTT wisely summarized:
>
>at least if they are all concentrated in one thread i know which one not to
>read.
>
>

Looks like some people are getting infected with radio SARS ('splain anyway you like it) from some of the wizards of radio magik. Get patent for it and it becomes "legit" like one from our famous Art Director of Reflecting Directors.

Guyz! It is simple. Get a piece of wire, feed it some RF, measure if you can or know how and you will find proper answers. Misreading the books and arguing about the obvious makes good trolls and makes Dave's keyboard lose capitals. What's next Reg? Chop the rest of the dipole and leave only 1" of the ends because that's where the most intensive elektrik field radiation lights up the neon bulb? Just brilliant idea hit me, reintroduce the current in the receive antenna from the car battery, just like we do with carrier on SSB and there is no more need for towers, ugly antennas, messy cables. Just stick two choppidy ends of dipole on the window glass and wholaaa, CFA, EH, Freaktals become obsolete overnight. Art, you are free to apply for patent.

Yuri BUm

5320. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 02:55:43 UTC
From: richardharrison@webtv.net
Message-ID: <17970-3EDC0E2F-180@storefull-2317.public.lawson.webtv.net>
Source record: 116122

Mike, WB3FUP wrote:
"Pros, and cons, from the group please."

Ed Laport, author of "Radio Antenna Engineering" and Chief Engineer of RCA International advised against interconnection of radials at any significant distance from their confluence. He said interconnections between radials encourage eddy currents and increase antenna system loss. They are forced to have the same phase where they come together, but at some distance out, various radials may be imbalanced. Lateral connections give rise to flow between the radials which serves no purpose other than loss.

Best regards, Richard Harrison, KB5WZI

5321. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 03:24:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdo56o4lfc3484@corp.supernews.com>
Source record: 116123

I see from your description that there aren't any reactive amps (current not in phase with the voltage) at the measurement point. But one thing you said might be mistaken by some people to imply that if there were reactive amps, an RF ammeter wouldn't respond to them. Of course, it would -- an RF ammeter (like a series resistor) has no way of knowing what the voltage is, so as far as the meter (or resistor) is concerned, an amp is an amp is an amp. The RF ammeter will simply measure the current regardless of its phase, and a series resistor will dissipate power equal to I^2 * R regardless of the phase of the current.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Reg, G4FGQ wrote:
> "On the surface of conductor elements the radiation field is ZERO."
>
> If those are the antenna radiating elements, that doesn`t square with my
> idea of radiation. The reactive energy in the near field is all returned
> to the sender. The radiated energy all departs, not to return.
>
> The in-phase volts and amps on the radiating surfaces of the antenna
> system describe a radiation resistance. It`s the radiated energy which
> makes an r-f ammeter move upscale.
>
> Evidence is in the FCC rules in the U.S.A. Broadcast power output is
> demonstrated according to the rules by an r-f ammeter reading at a
> designated common-point where the impedance is measured and known in the
> antenna system. There is no need to account for reactive amps which
> obviously don`t contribute to the r-f ammeter indication. Impedance at
> the common-point is a pure resistance by adjustment and measurement.
>
> Best regards, Richard Harrison, KB5WZI
>

5322. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 03:42:39 UTC
From: richardharrison@webtv.net
Message-ID: <17970-3EDC192F-182@storefull-2317.public.lawson.webtv.net>
Source record: 116126

J. Harvey wrote:
"I`ve never heard Australia (on the AM broadcast band) here in Canada."

I read an account by some Danes comparing the Wellbrook loop system with a Beverage in acquiring North American stations. The Beverage was the winner by a wide margin, but it was a little hard to rotate.

I lived in Portugal for some years. Both WCBS in New York and WWL in New Orleans were CBS stations and carried the CBS Evening News with Edward R. Murrow. They were only 10 KHz apart on the dial. It was midnight in Portugal and most European stations had signed off. I had a Beverage aimed at New York connected to my SP-600, so I was able to listen regularly. When WCBS faded, just a slight dial rock would bring in WWL just fine.

In Tierra del Fuego, I used my little hand held Hitachi transistor to listen to KTRH in Houston with no external antenna. It`s about 9000 miles, but Tierra del Fuego is a very quiet receiving location. KTRH is 50KW with a North-South directional array. I was on the island during Hurricane Carla in Houston. Dan Rather was an announcer at KTRH at the time and I had no problems hearing his blow by blow description of the storm`s fury. I could listen to South African stations very well but never heard an Australian station. I would think that with a real radio and a real antenna, Australia would be easily received in Tierra del Fuego, but I wasn`t trying. I was working as fast and as long and as hard as I could to finish my work and go home.

Argentines called Tierra del Fuefo: "La ultima confin de la tierra". We gringos said: "If the world requires an enema , we`re at the enjection site!".

Best regards, Richard Harrison, KB5WZI

5323. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 04:02:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDC1DEE.590FA7BA@cwis.net>
Source record: 116124

Mike,
Sorry, I don't know why you bought it, you never
told me. As for using the 'chicken-wire' as a ground,
why not? Would the ground be any better if you didn't
use it? I doubt it...
'Doc

PS - It isn't any good for making cages for parakeets,
the mesh is too large. Not much good for cages for
tigers either, not strong enough. It is pretty good
if you keep chicken, or chihuahuas (heel biters). I
understand they taste like chicken...

5324. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 04:05:39 UTC
From: richardharrison@webtv.net
Message-ID: <17970-3EDC1E93-183@storefull-2317.public.lawson.webtv.net>
Source record: 116125

J. Harvey wrote:
"I believe that I have perhaps a half dozen car radios kicking around in storage."

The best performing car radio I`ve experienced was a WW-2 surplus ARC-5 BC-band set I equipped with a 12-volt dynamotor, front-panel volume control, parallel rewired filaments for 12-volts, etc,, then installed in a 1956 Ford.

Every 10 KHz, there was at least one station exactly on the dial marks. It was made for aircraft, but was easily the most sensitive and selective car radio I`ve ever had.

Best regards, Richard Harrison, KB5WZI

5325. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 04:49:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pg9odvs3fr6qe8j0r6f0fqoqmi69asgedn@4ax.com>
Source record: 116127

On Mon, 2 Jun 2003 22:14:32 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>a Chrysler radio (Motorola?) that offered AM Stereo (just
>for laughs).

Hi Jeff,

Now there's an idea waiting for its time to come - AM Stereo.

It is probably lost in competition with the future available at our stores today: Digital Radio that eliminates that static-y, noisy, distorted FM sound. I'm sure that some can hear the difference, and aliens too (or the song of the whale). 200 stations of the same song in different formats - a cultural bonanza.

Soon by FCC fiat, we will gain that cultural advantage in spite of citizen comment and obtain the same programming over the air (can they spell Milli Vanilli? - I'm not sure I can).

73's
Richard Clark, KB7QHC

5326. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 05:00:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lbaodv462ojrvgmi88fc2pflsa8amsi6go@4ax.com>
Source record: 116128

On Tue, 3 Jun 2003 01:37:41 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>And perhaps you would advise your friend, Richard Clark the dictionary
>swallower, you no longer require his untruthful (to put it mildly),
>sub-standard technical assistance. He does no good to your reputation.

You sound bitter, bloke. It would read with more charm if it hadn't
come in on the tail end of your troll. But no one has ever testified
for your cuddly nature, not even yourself, nor the fellow that
preceded your arrival here to caution us of your strange habits (uh,
the Brits call that eccentricity, don't they?).

As for the dictionary comment, there is nothing more ironic than
quoting your own to you. You play to that like a fish at the end of
the line (you are simply mad that frequent opportunity keeps me
entertained). Do you guys think of English as a second language?

73's
Richard Clark, B.A. English (what's your excuse?)

5327. 10-12-15 meter vertical???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 05:31:35 UTC
From: RoyaltyFreePhotos.com
Message-ID: <bbhbs7$k8k$3@news.chatlink.com>
Source record: 116129

Does anyone have some plans for a 10-12-15 meter vertical or maybe just
a 10 & 12 meter vertical?

May a J-pole for those bands?

Thanks,
Bill

- - - - - - -
Great Glamour Photos
Great European Models

http://RoyaltyFreePhotos.com
- - - - - - -

5328. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 05:35:54 UTC
From: richardharrison@webtv.net
Message-ID: <15199-3EDC33BA-113@storefull-2315.public.lawson.webtv.net>
Source record: 116130

Roy, W7EL wrote:
"But one thing you said might be mistaken by some people to imply that if there were reactive amps, an RF ammeter wouldn`t respond to them,"

I am sorry if anyone infers the wrong thing. An ammeter has no way of knowing what causes current flow, and like any device, the volts across it are simply (I)(Z) and the Z is the impedance of the ammeter alone, which has nothing directly to do with volts anywhere else in the circuit. The ammeter has no way of knowing what is the relation between the volts and amps in the rest of te circuit. The ammeter responds to current only, which is current, which is current, which is current.

The fact is, that there is no reactive current at the chosen location for the ammeter. Since all the reactive current is returned to the sender, it only tends to add to loss which is a resistance too. The sum of the radiation resistance and the loss resistance is the load the resonant antenna presents.

Reg seemed to me to imply that the induction field produced the radiation field. I may be mistaken, but my opinion is that the radiation field is contemporaneously generated with the induction field and is simply the energy segment that gets away too far, and is lost by phase shift due to the distance and the attenuated attraction of the sender.

Best regards, Richard Harrison, KB5WZI

5329. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 05:47:01 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edc3655$1_2@news.vo.lu>
Source record: 116131

Thanks Bill.
Sure it is not a terrific beam (+4.5 dBi, maybe 6, peak F/B to 20 dBi - to see -) but if it can reject more QRM than a vertical (surely) and than a wire antenna too I should already be satisfied.
Completed with its directivity and its portability (for model HBP), if I take all these factors in consideration that seems to be an excellent choise, maybe expensive however (1 HBP = 2 R7 or so).

By the way, what you mean by you 'd have to "increase the current" : using an amplifier ? (probably not, as if you can emit loudly you have first to hear your DX station...) or it work more like the "high" currents flowing in a loop ?

Thierry

"Bill" <n4wc@arrl.net> wrote in message news:3EDBD997.5000008@arrl.net...
> I have an early 20, 17, and 12 triband Hex beam.
> It has been up on a mast on the roof of my house for
> at least 5 years. It is a good 2 element beam. It
> is easy to assemble and easy to handle. A Radio Shack
> rotator will handle this easily. Now, there is a fair
> amount of "voice traffic" about the Hex Beam. If you
> are limited in space for a beam antenna the Hex Beam
> is a very good choice. It is probably one of the best
> small beams around! But, it is not a 4ele monobander
> and don't expect that kind of performance. This antenna
> still obeys the laws of peewysics and is not magical.
> I think Mike Traffie knew, that when you shorten a dipole
> you have to increase the current in the antenna to
> compensate. I do believe that was his goal. I am
> very happy with mine!
>
> 73 Bill N4WC
>
>
> Thierry wrote:
> > Hi,
> >
> > Before buying this "inversed umbrella", hi, I would like to know if some
of
> > you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft
mast)
> > have encountered problems : in building it, in using it, servicing, etc.
> >
> > I read eham.net but all comments are favorable. There is not much

comments
> > on the yahoo forum.
> > I 'd like to have negative opinions, or from experienced users, if there
> > are...
> >
> > PS. One OM in LX told me he encountered difficulties is building it
(mesh of
> > wires, tubing, etc) and that it was not easy to tune (?). I would to
confirm
> > or not confirm with others users.
> >
> > Thanks in advance
> >
> > 73
> > Thierry
> > ON1SKY, LX3SKY
> > http://www.astrosurf.com/lombry
> >
> >
> >
> >
> >
> >
> >
>

5330. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 05:51:15 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306022151.59d962d1@posting.google.com>
Source record: 116132

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<bbgo5g$9476q$1@ID-134747.news.dfncis.de>...
> Planning to put up the "RPAD" (Radiates Poorly in
> All Directions) over the weekend. While searching
> the basement for a bumper jack I know I saved for
> just an occurrence, the galvanized pipe is 3" to
> far into the ground, I found a roll of chicken
> wire. I briefly wondered what did I buy this for,
> remembered GROUND PLANE, and then remembered
> someone, sometime, discouraging me from using the
> wire, do to weathering. Is my old brain correct?
> Pros, and cons, from the group please.
>
> 73 es cul
>
> wb3fup
> a Salty Bear

I can think of a con, but it doesn't really have anything to do with
the metal.
The "chicken wire" cross hatch scheme of a radial system is not as
good as a radial set up like spokes on a wheel. The most losses are at
the base, and if you use the wire layed out as spokes, you have more
area covered with metal around the base, than if you used the chicken
wire. You have less wire farther away, where it's less important.
Chicken wire, it's equal coverage everywhere.
Pound per pound of metal, laying out like spokes on a wheel is more
efficient as far as reducing ground losses than a cross hatch. Another
con is possible "diode" effects from bad spot welds as the stuff gets
weathered. This could lead to a receive problem. "possible increase in
MW interference for one thing".
But saying that, if you have loads of chicken wire, it's a heck of lot
better than nothing. I'd use it. You can always add more radials to
that if needed. MK

5331. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 06:05:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306022205.20ff9ae6@posting.google.com>
Source record: 116133

"Dan, danl, danny boy, Redbeard, actually Greybeard now"
<danlx@execpc.com> I was under the impression some buildings use
> the steel structure for the ground. Now that does not mean none are
> ever damaged, it just means I never saw any damage.

I think many do. Some of the most advanced lightning protection
systems I've seen are on hospitals that are tall buildings. Check it
out next time you go to a hospital that is multi-story. Lightning
terminals a-plenty, and good paths to ground. With the sensitive gear
they use in hospitals these days, lightning protection is critical.
You can't have the gear fry when you are in the middle a triple bypass
operation just because a T-storm decided to roll in...:(
Needless to say they have backup power if the power goes off. MK

5332. Re: A.M. DXing

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 06:21:30 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306022221.2b4934ad@posting.google.com>
Source record: 116134

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
>
> I believe that I have perhaps a half dozen car radios kicking around in
> storage (AM DXing is not an active hobby of mine right now). The one that I
> used the most was a Chrysler radio (Motorola?) that offered AM Stereo (just
> for laughs).

I have an old delco out in my truck. It's a slug tuned AM/FM model.
It's very good on AM with a good antenna. I once tried my loop on it,
and it worked great.
VERY high Q and sensitive. You had to retune the antenna even with
small changes in freq, but when tuned , it was hot.
>
> The antenna (bringing it back on topic) was a short random wire - maybe 20
> feet. I didn't get as far as building any directional loops (other
> distractions overtook my time).
>
A loop works very well. These days, for AM listening I usually use my
IC-706g and a 16 inch round loop. Works very well, and the 706g is a
good MW radio. The filter is pretty wide on AM, and it sounds good.
It's not all pinchy like the average tight SSB filtered ham rig on MW.
The loop will let you weed out the crud. If you have a decent radio to
start with, adding a good loop will make it act like a zenith
transoceanic...:). I have one of those too, but I don't use it anymore
as I'm trying to keep from wearing it out. It's starting to need some
new caps here and there. And TO tubes are not cheap these days. I just
let it sit as a museum piece..It's a 1958 model. I once had an early
50's TO. It was even better, and had a better larger loop than the
'58. But with my loop, my 706 *thinks* it's a TO, which is good enough
for me.. Saves wear and tear on the real deal. Reading freq on the car
radio is a royal PIA compared to the 706. :/ MK

5333. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 07:16:21 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbhi07$70$1@slb6.atl.mindspring.net>
Source record: 116135

Reg:

[snip]
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbf6hu$8ei$1@hercules.btinternet.com...
> The electric field of a dipole is strongest and most intense at its ends
and
> falls to zero in the middle. It is obvious, therefore, most of the
radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
[snip]

Heh, heh... Speaking of ends...

Do you recall the astonished look on the face of Doug Adams G1KID in the photo taken of him while looking at a field strength meter he was holding near the *far end* of his very extended Hertz dipole attached to the flag pole at the "Restaurant at the End of the Universe"?

The field strength meter was stuck at a reading of "42" and would neither increase nor decrease no matter how he adjusted the antenna matching network!

This sort of discussion reminds me of Larsen E. Rapp, W1OU's famous "image antenna", it was buried beneath ground at the appropriate image distance and the further away from the image antenna the field strength meter was placed, the higher the readings!

--
Peter K1PO
Indialantic By-the-Sea, FL.

5334. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 07:26:45 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbhijn$k2r$1@slb4.atl.mindspring.net>
Source record: 116136

Yuri:

[snip]
> Mounting mobile antenna on the trailer hitch or back of SUV is not the
best
> (sucks), effciency and pattern deteriorate. Not sure if Cecil did some
tests
> with SUVs, most guys at shootouts try for the best installation. If you
must do
> it, try to have your loading coil as high as possible and antenna as far
as
> possible from the back (body) of the car. Some say that it is better to
place
> the shorter antenna on the roof. I have not compared them.
>
> W9UCW had interesting comments on TOPBAND reflector (May) about the tests
and
> measurements on various configurations. Interesting thing they found is
that
> size of wire and Q of loading coil does not have significant effect on
> efficiency (fractions of dB). Location of the coil (as high as possible)
and
> top loading have significant benefit (10 -15 dB). VE2CV had an article
about
> modeling mobile whip on SUV somewhere.
>
> I love my 72 Buick LeSabre Radiomobile, no problem running kW, drilling
holes
> for antennas. Good capacitive coupling to ground, low body and nice ground
> plane, 350 Chevy, no screwy computers except the notebook for logging.
>
> Yuri, K3BU/m
[snip]

Thanks for the tips.

I've never had a mobile HF rig before, I'm anxious to try it.

Don't know how the Ford Expedition will fare for EMC/RFI I don't think I'll
do
too much "in motion" HF DXing. Probably mostly while parked...

I'll find out soon.

I'm phantasizing here now...

HF CW while parked on the sand at the surf line at Daytona, or Key West...
If mobile CW DX hunting is no good, then my fishing line might just be
hooking some
big Pompano or Bonefish, guaranteed good fishing either way!

Peter K1PO
Indialantic By-the-Sea, FL.

5335. Re: 10-12-15 meter vertical???

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 08:06:37 UTC
From: Peter Thoms <P.Thoms@T-Online.de>
Message-ID: <bbhl1l$2mj$04$1@news.t-online.com>
Source record: 116137

"RoyaltyFreePhotos.com" <"rffimages"@yahoo.comNO@SPAMyahoo.com> schrieb im
Newsbeitrag news:bbhbs7$k8k$3@news.chatlink.com...
> Does anyone have some plans for a 10-12-15 meter vertical or maybe just
> a 10 & 12 meter vertical?
>
> May a J-pole for those bands?
>
> Thanks,
> Bill
>
> - - - - - - -
> Great Glamour Photos
> Great European Models
>
> http://RoyaltyFreePhotos.com
> - - - - - - -
>

Hi Bill,

try a 6,8m Tripleleg (Lambda 5/8 on 10m), a Monoband-Tripleleg with a autom.
Tuner. It works from 40 to 10m.
And if you whish to use a Balun: Take a Ferritcore FT 240-43 with 6 to 8
turns coaxline.

Peter

5336. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 09:27:02 UTC
From: Bill <n4wc@arrl.net>
Message-ID: <3EDC69E6.9050307@arrl.net>
Source record: 116138

I am not an antenna guru. But I believe if you shorten a dipole
some parameter(other than length)is reduced, so to keep it at the
original effciency you have to increase another parameter. I do
believe Mike increased the current in the antenna. I have found that
W8JI(web page www.w8ji.com) and Les Moxon(Ant for all locations)
provide good explanations on the amature technical level.

73 Bill N4WC

Thierry wrote:
> Thanks Bill.
> Sure it is not a terrific beam (+4.5 dBi, maybe 6, peak F/B to 20 dBi - to
> see -) but if it can reject more QRM than a vertical (surely) and than a
> wire antenna too I should already be satisfied.
> Completed with its directivity and its portability (for model HBP), if I
> take all these factors in consideration that seems to be an excellent
> choise, maybe expensive however (1 HBP = 2 R7 or so).
>
> By the way, what you mean by you 'd have to "increase the current" : using
> an amplifier ? (probably not, as if you can emit loudly you have first to
> hear your DX station...) or it work more like the "high" currents flowing in
> a loop ?
>
> Thierry
>
>
> "Bill" <n4wc@arrl.net> wrote in message news:3EDBD997.5000008@arrl.net...
>
>>I have an early 20, 17, and 12 triband Hex beam.
>>It has been up on a mast on the roof of my house for
>>at least 5 years. It is a good 2 element beam. It
>>is easy to assemble and easy to handle. A Radio Shack
>>rotator will handle this easily. Now, there is a fair
>>amount of "voice traffic" about the Hex Beam. If you
>>are limited in space for a beam antenna the Hex Beam
>>is a very good choice. It is probably one of the best
>>small beams around! But, it is not a 4ele monobander
>>and don't expect that kind of performance. This antenna
>>still obeys the laws of peewysics and is not magical.
>>I think Mike Traffie knew, that when you shorten a dipole
>>you have to increase the current in the antenna to
>>compensate. I do believe that was his goal. I am
>>very happy with mine!
>>
>>73 Bill N4WC

>>
>>
>>Thierry wrote:
>>
>>>Hi,
>>>
>>>Before buying this "inversed umbrella", hi, I would like to know if some
>>
> of
>
>>>you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft
>>
> mast)
>
>>>have encountered problems : in building it, in using it, servicing, etc.
>>>
>>>I read eham.net but all comments are favorable. There is not much
>>
> comments
>
>>>on the yahoo forum.
>>>I 'd like to have negative opinions, or from experienced users, if there
>>>are...
>>>
>>>PS. One OM in LX told me he encountered difficulties is building it
>>
> (mesh of
>
>>>wires, tubing, etc) and that it was not easy to tune (?). I would to
>>
> confirm
>
>>>or not confirm with others users.
>>>
>>>Thanks in advance
>>>
>>>73
>>>Thierry
>>>ON1SKY, LX3SKY
>>>http://www.astrosurf.com/lombry
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>
>
>

5337. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:19:31 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDC7633.3080300@ieee.org>
Source record: 116139

Jim Kelley wrote:
>
> W5DXP wrote:
> Essentially, not literally.

Your opinion, not theirs. Hecht is speaking literally when he says:

"The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

>>The constructive interference event is
>>a forward-traveling event.
>
> ...where the constructive interference event is defined by
> P1+P2+(2*sqrt(P1*P2)cos 0) in which P1 and P2 are forward traveling, and
> which comprises all of the forward traveling energy. There are no other
> forward traveling components, and as evidenced by the solution to the
> equation, none are required. That's just the way interference works.

You obviously don't understand how interference works. Assume P1 = 75
joules/sec and P2 = 8.33 joules/sec. You are reduced to Dr. Best's
argument that 75 joules/sec plus 8.33 joules/sec equals 133.33 joules/sec,
a clear violation of the conservation of energy principle.

P1 + P2 + constructive interference = Total forward power

75W + 8.33W + 50W = 133.33W

The constructive interference energy does NOT come from P1 and P2. There
is not enough energy in P1 and P2 to support constructive interference.
That's why Hecht says literally that there has to be "extra" energy
supplied by the destructive interference event in order for the
constructive interference event to exist. The constructive interference
is mathematically equal to 2*Sqrt(P1*P2) but you are confused in thinking
the constructive interference energy comes from P1 and P2. What you are
saying is that the constructive interference energy comes from the
constructive interference event, a clear confusion of cause and effect.

> If you want to show that P3 and P4 add in the forward direction, you'll
> have to do it without utilizing irradiance equations and interference.

What a ridiculous statement. We know that, for a lossless matched system,
ALL power components add in the forward direction because there are
no power components traveling in the rearward direction. P1+P2+P3+P4 is
all the power that exists and it is traveling toward the load. To deny

that simple fact, confirmed by measurements, is insanity.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5338. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:33:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDC7980.40508@ieee.org>
Source record: 116140

Jim Kelley wrote:
>
> W5DXP wrote:
> The only things that interfere are
> those things that are proportional to E^2, like power and light
> intensity.

With these ridiculous concepts of yours, this discussion cannot
continue. It is the fields that are interfering, not the square
of the fields. P1 and P2 are NOT fields and therefore, cannot
interfere.

> What is it about P1+P2+(2*sqrt(P1*P2))=Pfwd2 that you don't understand?

I understand that, contrary to your ridiculous assertions, P1 and P2 are
NOT constructive interference terms. You are simply being fooled by
a mathematical identity. 2*Sqrt(P1*P2) = P3+P4 for a matched system. THE
DESTRUCTIVE INTERFERENCE ENERGY, P3+P4, IS THE SOURCE OF THE CONSTRUCTIVE
INTERFERENCE ENERGY, 2*Sqrt(P1+P2).

So says Hecht: "The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

So says Melles-Griot: In the absence of absorption or scatter, the principle
of conservation of energy indicates all "lost" reflected intensity will appear
as enhanced intensity in the transmitted beam.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5339. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:40:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDC7B13.4040109@ieee.org>
Source record: 116141

Richard Clark wrote:
> As I said, no reference for light described as three dimensional
> exists simply because:
>
> Light is not three dimensional - it is just that simple.

Do *you* have a reference that says light is not three dimensional?
Guru matras are not very convincing. How many dimensions does the
light from Alpha Centauri occupy? If an antenna's EM radiation
pattern is not three dimensional, then how many dimensions?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5340. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:42:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDC7B91.5090004@ieee.org>
Source record: 116142

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "How does the rearward-traveling reflected energy get re-reflected back
> toward the load? Please be specific."
>
> Your texts and mine say direction reversal is the result of phase
> reversal of either the volts or amps in the wave, but not both.

What causes the phase reversal? Please be specific.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5341. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:49:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDC7D56.9030704@ieee.org>
Source record: 116144

Dr. Slick wrote:
> Jim, one of Cecil's techniques for pissing people off is to do
> just that: lie about what they have said, and by misquoting them.

You mean like you saying there is no current flowing into of out
of a stub and me proving that forward current flows into a stub
and reflected current flows out of a stub?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5342. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 10:54:35 UTC
From: Andy Cowley <andy.cowley@uwe.ac.uk>
Message-ID: <3EDC7E6B.796BC95A@uwe.ac.uk>
Source record: 116143
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Wes Stewart wrote:
>
> On Mon, 02 Jun 2003 15:12:57 +0100, Andy Cowley
> <andy.cowley@uwe.ac.uk> wrote:
>
> [big snip]
> |
> |>
> |> What is the frequency response of your transmission system?
> |
> |1.5 or 2.5 metres of RG213, 1 x PL259 pair, 1 x N pair. Within 1% at HF
>
> PL259? Can you say, "Mismatch uncertainty"?
>
> |>
> |> What is the stability of your DC and RF power generators.
> |
> |What difference does that make? The DC has sensibly no ripple
> |(lead acid batteries).
>
> Can you say, "Source Match"?
>
> If you can say them, but do not know what they mean in this context,
> then you have no idea of the accuracy of your measurements.

The context is measuring the power output of an amateur transmitter
into a 50 ohm load.

The power meter is a DC responding instrument. If I can measure the
current, applied voltage and the DC resistance at the input to the
meter, why would I want to know anything about the characteristics
of the generator? All such considerations collapse into Ohm's law
at DC. That is the calibration method. The manufacturers data
indicates that the meter maintains a 50 ohm resistive impedance
to 300 MHz. I can't measure that to the accuracy they claim, so
I just take that on trust. My real point is that the measurement
method is inherently more accurate than using a coupler to 'sniff'
a fraction of the power, and is relatively simple to calibrate. The
only calibration methods for a Bird 43 or whatever are calorimetric
or involve using a meter of known accuracy.

Bird claim 5% FSD accuracy for sinusoidal sources. A bolometric
method is not affected by the waveform, provided that the highest
frequency components of the waveform are within the allowed

frequency range.

Bird make a fine 30 dB attenuator (Tenuline) which can be used to extend the range of the meter to cover full legal power.

The Bird is a fine instrument for measuring power in-line. The Dymar is a fine instrument for calibrating a Bird. They are designed for different purposes.

vy 73

Andy, M3ABC

5343. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 12:20:34 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030603082034.14213.00000335@mb-m29.aol.com>
Source record: 116145

>Don't know how the Ford Expedition will fare for EMC/RFI I don't think I'll
>do
>too much "in motion" HF DXing. Probably mostly while parked...
>

Then definitely go for mounting the highest beast you can get on the top of the
car. It will work very well.

73 Yuri

5344. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 12:25:38 UTC
From: richardharrison@webtv.net
Message-ID: <13878-3EDC93C2-4@storefull-2317.public.lawson.webtv.net>
Source record: 116146

Roy, W7EL wrote:
"The specified accuracy of a Bird model 43 is 5% of full scale."

That`s pretty good and is typical of analog instruments. Analog instruments like the Bird don`t self destruct from battery eruptions. Much of the error may be a certain angle in the display. The same angle is a small percentage at full scale but much larger at small angular deflection. All the analog instruments the operator uses are likely victims of the same malady. So, when the Bird is not very accurate at small display deflections, it doesn`t shock the operator. It`s what he`s learned to expect from his other instruments. 5% instruments don`t benefit too much from 0.5% scaling components, but it wouldn`t hurt.

Bird shouldn`t be reviled for a common analog instrument characteristic.

Best regards, Richard Harrison, KB5WZI

5345. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 12:58:56 UTC
From: richardharrison@webtv.net
Message-ID: <12639-3EDC9B90-4@storefull-2311.public.lawson.webtv.net>
Source record: 116147

Richard Clark wrote:
"Light is not three dimensional - it is just that simple."

Maybe he`s never seen a 3D movie or a hologram.

A hologram makes a 3D image by interference between a reference wave and the object wave.

Best regards, Richard Harrison, KB5WZI

5346. Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 13:42:48 UTC
From: nono240@altern.org
Message-ID: <63cec822.0306030542.7f6b2284@posting.google.com>
Source record: 116148
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

Hi !

I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
frequency), but i haven't any document about that.
Is someone can help me ?

Thanks.

5347. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 13:43:52 UTC
From: richardharrison@webtv.net
Message-ID: <9828-3EDCA618-28@storefull-2315.public.lawson.webtv.net>
Source record: 116149

Cecil, W5DXP wrote:
"What causes the phase reversal?"

Mismatch.

Take an extreme, a short. The E-wave energy must be absorbed instantaneously by the H-wave, conservation of energy. This generates a new E-wave traveling in the opposite direction because the counter-emf must oppose change. Your texts all tell you that the volts undergo a phase reversal, same as a direction reversal.

In the case of an open circuit, the H-wave energy must be instantaneously be absorbed by the E-wave. The new current is reversed in phase and direction. It is all analogous to what happens in a shorted line.

For poor shorts and opens, the action is reduced in magnitude.

Best regards, Richard Harrison, KB5WZI

5348. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 14:31:37 UTC
From: Mike Luther <mike.luther@ziplog.com>
Message-ID: <vdpc8v2atknsc3@corp.supernews.com>
Source record: 116150

Yes, Richard ..

And from what I have found out in practice, if you tie the end of the radial for each one of the four that protrude to the center of an elevated four-square vertical array together at the post in the center that holds the phase box ..

the performance and tuning of the array change markedly!

Richard Harrison wrote:

>Mike, WB3FUP wrote:
>"Pros, and cons, from the group please."
>
>Ed Laport, author of "Radio Antenna Engineering" and Chief Engineer of
>RCA International advised against interconnection of radials at any
>significant distance from their confluence. He said interconnections
>between radials encourage eddy currents and increase antenna system
>loss. They are forced to have the same phase where they come together,
>but at some distance out, various radials may be imbalanced. Lateral
>connections give rise to flow between the radials which serves no
>purpose other than loss.
>
>Best regards, Richard Harrison, KB5WZI
>
>
>

--

--> Sleep well; OS2's still awake! ;)

Mike Luther

5349. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 14:32:47 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDCB18F.5080308@mwci-news>
Source record: 116151

> Cecil, W5DXP wrote:
> "What causes the phase reversal?"
>

When the forward wave reaches the open-circuit the current in the forward wave must suddenly become zero. Because no power is dissipated in the open-circuit, the current in the reflected wave must be equal to the current in the forward wave. It is also in phase opposition.

The phase opposition is needed to satisfy the zero-current load current requirement and to satisfy Kirchhoff's current law.

Bill W0IYH

5350. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 14:37:04 UTC
From: Lizard Blizzard <NOSPAM@rsccd.org>
Message-ID: <bbibns$2tate$1@hades.csu.net>
Source record: 116152
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

Nono wrote:
> Hi !

> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

How about one of these?
http://www.books4you.addr.com/cell_phone_accesories_antenna_booster.html

But then you go to this website and they're 1/5th the price!!
http://www.boostercell.com/two/

This apparent discrepancy leads one to believe that they're not worth
the powder to blow them up.

--
----------------(from OED Mini-Dictionary)----------------
PUNCTUATION - Apostrophe
Incorrect uses: (i) the apostrophe must not be used with a plural
where there is no possessive sense, as in ~tea's are served here~;
(ii) there is no such word as ~her's, our's, their's, your's~.

Confusions: it's = it is or it has (not 'belonging to it'); correct
uses are ~it's here~ (= it is here); ~it's gone~ (= it has gone);
but ~the dog wagged its tail~ (no apostrophe).
----------------(For the Apostrophe challenged)----------------
From a fully deputized officer of the Apostrophe Police!

<<Spammers use Weapons of Mass Distraction!>>

5351. Re: How much RF energy in a lightning strike (was solid wire orb...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 14:45:13 UTC
From: richardharrison@webtv.net
Message-ID: <14271-3EDCB479-13@storefull-2312.public.lawson.webtv.net>
Source record: 116153

Roy, W7EL wrote:
"---the resonant circuits in your receiver ring, making the sound you know as QRN."

Some reader may infer that QRN is a product of your receiver. Is this a case of a tree falling in the forest when nobody is there to hear? Not exactly. Induction or radiation from the r-f in the stroke travels far and is heard in many receivers, even those without tuned circuits which ring. Moreover, an aperiodic receiver may be capable of greater energy extraction than a tuned receiver as the stroke`s r-f production occurs over a wide frequency range and selectivity rejects some of the energy available to create a response. QRN does not require a ringing resonance to exist. Roy is correct that a pulse can produce a periodic response from a tuned circuit. Collins Radio manufactured a spectrum generator which simply picked off desired frequencies from what it called "The Big Bang" by circuits tuned to the desired constiuent frequencies.

Best regards, Richard Harrison, KB5WZI

5352. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 15:39:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m7gpdv0lq0uv37uehl5shg48ngde8m2uha@4ax.com>
Source record: 116154

On Tue, 03 Jun 2003 05:40:19 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> As I said, no reference for light described as three dimensional
>> exists simply because:
>>
>> Light is not three dimensional - it is just that simple.
>
>Do *you* have a reference that says light is not three dimensional?

Cecil,

You have the burden of proof to show this reference. You have failed
for the simple reason that:

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5353. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 15:48:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u9gpdvo5empo5gpdm6c37f1eolqtpi5tst@4ax.com>
Source record: 116156

On Tue, 3 Jun 2003 07:58:56 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:
>a 3D image

How thick was the image? Give me the x-y-z dimensions for a shadow.
What did you use to measure any/either with? What does an image
"feel" like with its substantive bulk? How much does it weigh? You
are merely speaking of an illusion that is a product of a
psychological moment. This is like insisting your dreams are real,
quantifiable, and have corporeal existence. Absurdities abound around
these unsubstantiated claims that poorly refute the obvious:

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5354. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 15:52:17 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <3EDCC431.9050106@PAMyahoo.ca>
Source record: 116155

I believe that he does not have one or does not want the bother of
getting E-mail related to the Hexbeam..
I saw him in Rochester NY this past week-end..Very nice looking antenna..
If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
There is info there on how to do it...
http://groups.yahoo.com/group/hex-beam
The price of a 5 band Hexbeam is $889.00 US.
73 de VE3JUA..

Thierry wrote:
> Hi,
>
> Very interested in buying an Hex-beam multiband, could someone give me the
> email address of this manufacturer, his website lists only postal adr and
> fax (http://www.hexbeam.com/contact.shtml).
>
> Thanks in advance
>
> 73
> Thierry
> ON1SKY, LX3SKY
> http://www.astrosurf.com/lombry
>
>
>

5355. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:02:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2fhpdv8lpk3v9n4r8233gir79uq0cvhmou@4ax.com>
Source record: 116157

On Tue, 03 Jun 2003 05:40:19 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> As I said, no reference for light described as three dimensional
>> exists simply because:
>>
>> Light is not three dimensional - it is just that simple.
>
>Do *you* have a reference that says light is not three dimensional?

Cecil,

In a more direct response - yes I do.

However, you have demonstrated all to often that you can dismiss any
authority. So it remains for you to carry your own water.

Don't drown in the attempt to do it one mouthful at a time. Simply
accept the obvious:

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5356. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:19:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9ohpdvk6nohcsml1invjhkn1ko74s3cah1@4ax.com>
Source record: 116158

On Tue, 03 Jun 2003 11:52:17 -0400, Eskay <sieb_kNOS@PAMyahoo.ca>
wrote:

>I believe that he does not have one or does not want the bother of
>getting E-mail related to the Hexbeam..
>I saw him in Rochester NY this past week-end..Very nice looking antenna..
>If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
>There is info there on how to do it...
>http://groups.yahoo.com/group/hex-beam
>The price of a 5 band Hexbeam is $889.00 US.
> 73 de VE3JUA..
>
YOW!!!

Given the price and the insulation from contact, no wonder there's an
active group to homebrew it.

Thierry, spend 20 Euros on "HF Antennas For All Locations," Les Moxon
where you will find this (or several suitably like it) and many other
designs described.

73's
Richard Clark, KB7QHC

5357. Re: How much RF energy in a lightning strike (was solid wire or braid)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:37:35 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LIWdncQHE6BOU0GjXTWcoA@comcast.com>
Source record: 116159

I only meant to apply the analogy to a straight piece of wire. Don't feel like doing a search, but suspect the sense of current flow was defined before we knew about electrons.

Tam/WB2TT

5358. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:40:39 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3edccd37.389927296@news.galilei.com>
Source record: 116160

Hi Mike

When I first moved into my new home over 20 years ago. While the yard was still dirt and no grass. I covered the entire backyard with chickenwire fencing and over that 4x4 welded wire fabric.
Then when I determined where I was placing my two ground mounted verticals, I installed an 8 foot ground rod and about 2000 feet of insulated 14 guage copper radials all affixed to the ground rod and to the fencing at the outer ends of the radials.

Although our original intent was to lay sod over this, at first I tried a mixture of peat-moss and seed covered with a layer of straw. The XYL was not happy with this, since the grass wasn't growing very well and we ended up sodding the yard anyhow.

Over the years as I was doing various types of yard work, like planting bushes, trees and making gardening areas, I would encounter the buried wires. The chicken wire was almost completely gone before it was in place 10 years, but the wire fabric was still going strong, albeit quite rusty.
Each time I moved an antenna, I put new insulated copper radials, even though the originals were in just as good a shape as the day I originally buried them. The joint to the ground rods was protected with silicone sealant and or melted plastic that was poured over it as a potting agent.

We just moved last week and the new owner is out there with a LARGE wire cutter trying to make a hole for a new tree, hi hi..... So I assume he is into the wire mesh and it's still strong.

TTUL
Gary

5359. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:45:37 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306030845.78c05982@posting.google.com>
Source record: 116161

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<r_WdndQd9rb0_Eej4p2dnA@comcast.com>...
> Art,
>
> There was a recent QST article that described something like this. They used
> relays to switch between 10 or so coils. Believe there were 2 relays per
> coil. This prevents running long leads to switches.
>
> Tam/WB2TT
> "Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
> news:85ed38d.0306010834.1384f2d9@posting.google.com...
> > "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
> news:<bbcavncab1@hercules.btinternet.com>...
> > > Phil, download in a few seconds program MIDLOAD from website below. Find
> a
> > > length of pipe and program will tell you how many turns of what wire
> > > diameter to wind on it over what length. Feed with coax or balanced
> twin
> > > line.
> > > --
> > > ========================
> > > Regards from Reg, G4FGQ
> > > For Free Radio Design Software
> > > go to http://www.g4fgq.com
> > > ========================
> > > "PBB" wrote
> > > > I would like to build a dipole for attic mounting for 40m, but don't
> > > > have enough room for a full-size one. I have seen commercially
> > > > available shortened dipoles, but think I could wind wire around pvc as
> > > > well as any to build coils. Is there a formula or chart for such or
> > > > just cut and try?
> > > >
> > > > Thanks,
> > > > Phil
> > > > N4COD
> > > >
> >
> > Reg,
> > I have a question in the same area.
> > I am going to have a try at building a coil for a
> > computorised setup where switching is added
> > at 1,2,4,8 coils and so on to remove the effect
> > of ununused coils when using a 'slider' system.
> > Got any ideas as how to accomplish this without problems?

> > Ideally I would like to have the coil balanced around
> > the center for a 'balanced' coupling use but I cannot
> > see a way to do this, so it may well not improve on
> > the present unbalanced used and 'unused' coil forms.
> > Would appreciate any suggestions in this area.
> > Regards
> > Art

O.K. Reg I will not pursue it at this time per your suggestion.
In my readings I came across some stuff from the early days that gave some explanation as to the course taken by Collins with their variable inductances,
but as per your suggestion I maybe going overboard in looking for absolute perfection regarding inductances and ensure that coupling was not 'unbalanced'
as far as loop antennas are concerned.
Thanks you and others for their help.
Art

5360. Re: Inside Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 16:46:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1vjpdvsark45rokro9vq1q6ir8ko2gsdgp@4ax.com>
Source record: 116162

On Tue, 03 Jun 2003 01:50:51 GMT, "Larry" <fph01@hotmail.com> wrote:

>I just used the inside wiring for my cable, that is not being used any
>longer, I have 2 annt, connected, 1 on the front of the house, and 1 on the
>back of the house.
>
>My question, is that I have a cable TV amp, upto 25db I think, can I use
>that to pick up better signals?
>I mean, would this work, or is it not possible?
>
>Just wondering.
>
>Larry
>fph@pghmail.com

Hi Larry,

It wouldn't hurt to try, and you will get no better advice than actual
evidence of its performance.

Be warned that it could work TOO WELL! The evidence of this is that
you get an entirely black screen for a channel that was doing
fair-to-middlin in the first place. You will have over amplified the
signal - but again, this will not hurt, just disappoint (unless the
gain is variable).

73's
Richard Clark, KB7QHC

5361. Re: Band noise

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 17:05:56 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306030905.67f88758@posting.google.com>
Source record: 116163

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:<3edbc98f$1_1@news.vo.lu>...
Well thanks for all the comments since it is a subject that really has
not a good answer. I had heard of the noise withstand capabilities for
listening purposes but had seen no direct reference with comparisons
say, noise level horizontal.....5 S units, verticle 6 S units,
loop.... 0.5 S units.
These numbers alone would not mean too much on their own but would
describe
what are generally accepted conditions on top band with respect to
antenna type. With my present experimental antenna I went thru a
period where there were S9 plus signals against a background of less
than one! Such observations I was not willing to discard very easily
as we are all looking for Utopia.
Thanks again for the comments
Art

>
> All depend of events in the near space environment, see SEC/NOAA website,
> and local conditions of traffic.
> More pragmatic, there is maybe a severe QRM source some dozen km from your
> QTH, not visible, but parasiting the environnement in a radius of 30-50 km
> around.
> But there is also the fact that lower bands are always more noisier than 20m
> and above.
> Then there is the kind of antenna, the polarisation you use : less noise
> using a horizontal polarization and beams or wires antennas vs i.e. vertical
> that capture more QRM (man-made).
> Also, during these summer months there is always much more noises at daytime
> than after the sunset on all bands.
> At last as surprising it is, in my spot at least, after the sunset my
> vertical captures usually much less QRM than my wire antenna whereas this is
> the contrary at daytime...
> But saying that, we cannot always easily generalize such ideas. As you see
> many factors can be responsible of this problem, but the main one seems the
> "quality" of bands you are working on.
>
> There is no true and full solution against QRM (or QRN).
> As I have told in some occasions, at the same time, I capture less QRM on
> the vertical or on the wire antenna, therefore I keep using both, mainly in
> reception, reserving the vertical for TX.
> Now you can avoid some QRM using a current choke (very limited usage) or
> erecting your antenna higher above ground (lambda/4 or /2). At last you can
> reduce your angle of reception using a high gain beam.
> Of course all these solution have a price, sometimes rather high.

> But the best solution 'd be to work away from all noise sources, on
> portable, etc, what I do... so go west man !
>
> 73
> Thierry
> ON1SKY, LX3SKY
> http://www.astrosurf.com/lombry
>
>
>
> "Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
> news:85ed38d.0306010815.3404e281@posting.google.com...
> > Gentlemen,
> > I may be mistaken but I seem to hearing more complaints of
> > 'band' noise on the three top bands (7,3.8 and 1.8 meters).
> > I know that we all can get a 1 or 2 'S' meter reading in
> > some areas or more if a thunderstorm is nearby, but now
> > it seems to be a main topic and removed from the drooping
> > sun spot cycle.
> > I live on the outskirts of town so I may be extra
> > fortunate but is there a trend for more received noise
> > or are the present radios more vunerable?
> > What is the 'average' low noise level that various areas
> > or countries get on these bands if one doesn't take
> > 'extra' precautions and to the exclusion of pointing
> > to rain forests?
> > Regards
> > Art

5362. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 17:54:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdpo73ftrlercf@corp.supernews.com>
Source record: 116164

Why is it considered "reviling" a Bird Wattmeter to simply point out
what its published specification is and what it means?

Roy Lewallen, W7EL

Richard Harrison wrote:
> Roy, W7EL wrote:
> "The specified accuracy of a Bird model 43 is 5% of full scale."
>
> That`s pretty good and is typical of analog instruments. Analog
> instruments like the Bird don`t self destruct from battery eruptions.
> Much of the error may be a certain angle in the display. The same angle
> is a small percentage at full scale but much larger at small angular
> deflection. All the analog instruments the operator uses are likely
> victims of the same malady. So, when the Bird is not very accurate at
> small display deflections, it doesn`t shock the operator. It`s what he`s
> learned to expect from his other instruments. 5% instruments don`t
> benefit too much from 0.5% scaling components, but it wouldn`t hurt.
>
> Bird shouldn`t be reviled for a common analog instrument characteristic.
>
> Best regards, Richard Harrison, KB5WZI
>

5363. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 18:11:24 UTC
From: Lou W <sailounot@home.com>
Message-ID: <fs5Da.2946$1e.1515@fed1read04>
Source record: 116165
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

"Lizard Blizzard" <NOSPAM@rsccd.org> wrote in message
news:bbibns$2tate$1@hades.csu.net...
> Nono wrote:
> > Hi !
>
> > I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> > frequency), but i haven't any document about that.
> > Is someone can help me ?
> >
> > Thanks.
>
> How about one of these?
> http://www.books4you.addr.com/cell_phone_accesories_antenna_booster.html
>
> But then you go to this website and they're 1/5th the price!!
> http://www.boostercell.com/two/
>
> This apparent discrepancy leads one to believe that they're not worth
> the powder to blow them up.
>
>
> --

A tin foil hat, on ones head, will get the same results as the above
antenna's and most folks have the makings for one at home!

5364. Reproducing traps - Aluminium wire vs copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 18:20:38 UTC
From: Sander Wissing <sander@icon.co.za>
Message-ID: <luopdvstgjsrfrg68gcsgamphn5cqle980@4ax.com>
Source record: 116166

Hi all,

Futher to my previous question. I am rebuilding some traps in an old beam antenna.

1. Can I replace the old aluminium wire with copper wire of the same size & windings?

The aluminium is 1mm diam, 27 windings on the one and 41 windings on the other.

2. The capacitance is provided by two aluminium pipes, one withing the other. Due to the available alum. pipes, the inner area of the larger one will become 4.43% smaller and the distance between them will become 1.35mm smaller, a difference of 4.1%. Will this make a significant difference to the capacitance? To me it looks as if it would just about cancel out?

Thanks
Sander Wissing
ZSL103

PS. I am reproducing the traps, because I am missing 2 of the originals, so I am not doing this by choice!

5365. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 18:40:20 UTC
From: chemelec@hotmail.com
Message-ID: <ca76d1a9.0306031040.4ba69b8d@posting.google.com>
Source record: 116167
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

Lizard Blizzard <NOSPAM@rsccd.org> wrote in message news:<bbibns$2tate$1@hades.csu.net>...
> Nono wrote:
> > Hi !
>
> > I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> > frequency), but i haven't any document about that.
> > Is someone can help me ?
> >
> > Thanks.
>
> How about one of these?
> http://www.books4you.addr.com/cell_phone_accesories_antenna_booster.html
>
> But then you go to this website and they're 1/5th the price!!
> http://www.boostercell.com/two/
>
> This apparent discrepancy leads one to believe that they're not worth
> the powder to blow them up.
>
>
> --
> ----------------(from OED Mini-Dictionary)-----------------
> PUNCTUATION - Apostrophe
> Incorrect uses: (i) the apostrophe must not be used with a plural
> where there is no possessive sense, as in ~tea's are served here~;
> (ii) there is no such word as ~her's, our's, their's, your's~.
>
> Confusions: it's = it is or it has (not 'belonging to it'); correct
> uses are ~it's here~ (= it is here); ~it's gone~ (= it has gone);
> but ~the dog wagged its tail~ (no apostrophe).
> ----------------(For the Apostrophe challenged)----------------
> From a fully deputized officer of the Apostrophe Police!
>
> <<Spammers use Weapons of Mass Distraction!>>

I Agree, A waste of time. Its more just a Gimmic than anything.

Gary

5366. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:08:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDCF222.605C7495@uci.edu>
Source record: 116169

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> > The only things that interfere are
> > those things that are proportional to E^2, like power and light
> > intensity.
>
> With these ridiculous concepts of yours, this discussion cannot
> continue. It is the fields that are interfering, not the square
> of the fields. P1 and P2 are NOT fields and therefore, cannot
> interfere.

Here's what I mean. Born and Wolf can say it better than I can.
E = E1 + E2 (superposition of electric fields E1 and E2).
To know how this superposition affects intensity (irradiance) we must look at E^2. E^2 = (E1+E2) * (E1+E2) = E1^2 + E2^2 + 2*(E1*E2).
When E1 and E2 are out of phase,
E = E1 - E2, and E^2 = E1^2 + E2^2 - 2*(E1*E2)
To use intensities or powers in the equation we take the square root of both sides, and the result should look familiar to you.

To arrive at the forward power in our problem we can use V1 and V2. The mistake is in trying to simply take the square of the sum of V1 and V2 and divide by Z0. Superposition and interference don't work that way.
Vfwd2^2 = (V1 + V2)*(V1 + V2) = V1^2 + V2^2 + 2*(V1*V2).
Vfwd2^2/Z0 = (V1^2 + V2^2 + 2*(V1*V2))/Z0 =
Pfwd2 = Vfwd2^2/Z0 = (P1 + P2)*(P1 + P2) = P1 + P2 + 2*sqrt(P1*P2).

You should be able to see where substituting P3 and P4 for P1 and P2 in the last equation is in error. The elements in the sqrt term are the same elements as in the sum which precedes that term.

However we know that Pfwd2 = Pfwd1 + Pref2, Pfwd1 = P1 + P3,
and Pref2 = P2 + P4. And from that we do get Pfwd2 = P1 + P3 + P2 + P4.
But when P3 = 0 as in the matched case, then P1 = Pfwd1,
and Pfdw2 = P1 + P2 + P4. If P3 equals zero, your substitution would give an interference term equal to zero, and would tell us that Pfwd2 = P1 + P2.
We also know Pfwd1 = Psource + Pref1. If P3 were not equal to zero, then Pref1 would not equal zero and Pfwd1 would be greater than Psource by an amount equal to P3.

> > What is it about P1+P2+(2*sqrt(P1*P2))=Pfwd2 that you don't understand?

> I understand that, contrary to your ridiculous assertions, P1 and P2 are
> ***NOT*** constructive interference terms.

Of course they are. They're the only elements moving in the direction
of the load.

> You are simply being fooled by
> a mathematical identity. 2*Sqrt(P1*P2) = P3+P4 for a matched system.

I think you're the one being fooled by that.

> There
> must therefore be destructive interference somewhere else."

There is. But it is not a "source of energy" however. The source of
energy is of course Pfwd1.

> So says Melles-Griot: In the absence of absorption or scatter, the principle
> of conservation of energy indicates all "lost" reflected intensity will appear
> as enhanced intensity in the transmitted beam.

It appears in the transmitted beam because it is NOT LOST! It was not
lost because wave cancellation prevented it from being reflected back to
the source.

73, ac6xg

5367. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:20:58 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edcf519$1_2@news.vo.lu>
Source record: 116170

"Eskay" <sieb_kNOS@PAMyahoo.ca> wrote in message
news:3EDCC431.9050106@PAMyahoo.ca...
> I believe that he does not have one or does not want the bother of
> getting E-mail related to the Hexbeam..

What I suspected. Strange for someone who want to sale products...

> I saw him in Rochester NY this past week-end..Very nice looking antenna..
> If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
> There is info there on how to do it...
> http://groups.yahoo.com/group/hex-beam

I know, but I am not really an handyman and a friend of mine experienced bad
experience trying to build a vertical. So I think that for such a beam that
can be harder... Will however check this forum for ideas, who knows.

> The price of a 5 band Hexbeam is $889.00 US.
> 73 de VE3JUA..

And even more including shipping and taxes... probably near $1k :-((

Thanks
Thierry
>
> Thierry wrote:
> > Hi,
> >
> > Very interested in buying an Hex-beam multiband, could someone give me
the
> > email address of this manufacturer, his website lists only postal adr
and
> > fax (http://www.hexbeam.com/contact.shtml).
> >
> > Thanks in advance
> >
> > 73
> > Thierry
> > ON1SKY, LX3SKY
> > http://www.astrosurf.com/lombry
> >
> >
> >
>

5368. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:25:35 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edcf62e$1_1@news.vo.lu>
Source record: 116171

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:9ohpdvk6nohcsml1invjhkn1ko74s3cah1@4ax.com...
> On Tue, 03 Jun 2003 11:52:17 -0400, Eskay <sieb_kNOS@PAMyahoo.ca>
> wrote:
>
> >I believe that he does not have one or does not want the bother of
> >getting E-mail related to the Hexbeam..
> >I saw him in Rochester NY this past week-end..Very nice looking antenna..
> >If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
> >There is info there on how to do it...
> >http://groups.yahoo.com/group/hex-beam
> >The price of a 5 band Hexbeam is $889.00 US.
> > 73 de VE3JUA..
> >
> YOW!!!
>
> Given the price and the insulation from contact, no wonder there's an
> active group to homebrew it.
>
> Thierry, spend 20 Euros on "HF Antennas For All Locations," Les Moxon
> where you will find this (or several suitably like it) and many other
> designs described.

Ha ? Excellent suggestion Rich. I though it was a website. I go immediately to Amazon to buy it and to take the opportunity to buy - at last - the ARRL antenna hdb too... (if this last is not available it is via my local buro, UBA)

Thanks your help

Thierry
ON1SKY

>
> 73's
> Richard Clark, KB7QHC

5369. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:34:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDCF853.DBBF840D@uci.edu>
Source record: 116173

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Please stop making false statements about what I have assumed.
> >
> > Please stop asserting that I made false statements. It is a lie.
>
> So you know what I have assumed and I don't know what I have assumed.
> Who am I to argue with an omniscient being such as yourself?

One needn't be omniscient to see what assumtions you have made in your mathematical arguments.

> > P3 and P4 do not belong in an equation for contructive interference.
> > They belong in an equation for destructive interference.
>
> Hecht disagrees with you, Jim.

Hecht doesn't know me, and isn't aware of the ways in which you are misinterpreting these statements.

> He says destructive interference
> and constructive are the same energy. Would a diagram help?

It simply means that when it waves cancel in one direction, energy is prevented from moving in that direction, and must be carried by waves moving in the other. Your assumption that energy reflects off the discontinuity and then turns around is flawed and is not supported by Dr. Hecht.

> What is it about "the constructive interference energy comes from a
> destructive interference event" that you do not understand?

I don't understand how you can take it so literally.

> > What's how the direction of the energy gets reversed?
>
> Quoting _Optics_, by Hecht: "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."

Hecht is NOT talking about energy reversing direction. He's simply addressing the fact that the appearance of interference anti-nodes in which the intensity is greater than the sum of wave intensities means that there must also be interference nodes at which the intensity is

LESS than the sum
of the individual wave intensities. He's not saying energy moves to the
nodes and then to tha antinodes. That's what you are saying.

> Where does the constructive interference energy come from?

The question doesn't even make sense.

> From the
> destructive interference event, of course! Read it again:

The answer is just as bad. Reading it an infinite number of times would
still not make it mean what you think it means.

73, AC6XG

5370. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:34:55 UTC
From: nono240@altern.org
Message-ID: <63cec822.0306031134.29793cf@posting.google.com>
Source record: 116172
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

No, i'm looking for an antenna made totally on pcb. (specifications...)

Lizard Blizzard <NOSPAM@rsccd.org> wrote in message news:<bbibns$2tate$1@hades.csu.net>...
> Nono wrote:
> > Hi !
>
> > I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> > frequency), but i haven't any document about that.
> > Is someone can help me ?
> >
> > Thanks.
>
> How about one of these?
> http://www.books4you.addr.com/cell_phone_accesories_antenna_booster.html
>
> But then you go to this website and they're 1/5th the price!!
> http://www.boostercell.com/two/
>
> This apparent discrepancy leads one to believe that they're not worth
> the powder to blow them up.
>
>
> --
> ----------------(from OED Mini-Dictionary)-----------------
> PUNCTUATION - Apostrophe
> Incorrect uses: (i) the apostrophe must not be used with a plural
> where there is no possessive sense, as in ~tea's are served here~;
> (ii) there is no such word as ~her's, our's, their's, your's~.
>
> Confusions: it's = it is or it has (not 'belonging to it'); correct
> uses are ~it's here~ (= it is here); ~it's gone~ (= it has gone);
> but ~the dog wagged its tail~ (no apostrophe).
> ----------------(For the Apostrophe challenged)----------------
> From a fully deputized officer of the Apostrophe Police!
>
> <<Spammers use Weapons of Mass Distraction!>>

5371. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 19:47:41 UTC
From: Glenn Ashmore <rutu@bellsouth.net>
Message-ID: <3EDCFB5D.9050000@bellsouth.net>
Source record: 116174
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

I gave up trying and got a couple of Linx Splatch SMD planar antennas.
So far they give excellent performance out to about 400'.

Nono wrote:
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

--
Glenn Ashmore

I'm building a 45' cutter in strip/composite. Watch my progress (or lack
there of) at: http://www.rutuonline.com
Shameless Commercial Division: http://www.spade-anchor-us.com

5372. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 20:01:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDCFE86.2989943E@uci.edu>
Source record: 116175

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> > Essentially, not literally.
>
> Your opinion, not theirs. Hecht is speaking literally when he says:
>
> "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."

Born and Wolf is much less parochial about it. Perhaps that is why it
is used as a reference, and Hecht was used as a text book.

> > ...where the constructive interference event is defined by
> > P1+P2+(2*sqrt(P1*P2)cos 0) in which P1 and P2 are forward traveling, and
> > which comprises all of the forward traveling energy. There are no other
> > forward traveling components, and as evidenced by the solution to the
> > equation, none are required. That's just the way interference works.

> You obviously don't understand how interference works.

I suggest that it is you who fails to understand interference, as is
evidenced by your inability to work interference problems.

> Assume P1 = 75
> joules/sec and P2 = 8.33 joules/sec. You are reduced to Dr. Best's
> argument that 75 joules/sec plus 8.33 joules/sec equals 133.33 joules/sec,
> a clear violation of the conservation of energy principle.

But if you understood interference, you would understand that summing P1
and P2 is meaningless. Interference produces a result which is greater
than the sum. That's right out of Chapter 7, Born and Wolf.

> The constructive interference energy does NOT come from P1 and P2.

Absolutely 100% way out in left field, Cecil. I have no idea where you
get this "comes from" notion. Interference is a superposition of waves
which are traveling in the same direction. It's not a simple sum of
powers, especially not when they're traveling in different directions.

> There
> is not enough energy in P1 and P2 to support constructive interference.

Are you math challenged or something? Do I need to show you how to punch the button on your calculator? 75 + 8.33 + 2*SQRT(75*8.33) = 133.33. It's NOT A COINCIDENCE! It's the correct way to work the problem.

> > If you want to show that P3 and P4 add in the forward direction, you'll
> > have to do it without utilizing irradiance equations and interference.
>
> What a ridiculous statement.

Ok, I might give you that one. But I have no hope of ever catching up with you in that regard.

73 jk

5373. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 20:16:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <5cecnV5KQ9VIn0CjXTWcqQ@comcast.com>
Source record: 116176
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

I think you are looking for what is called a patch antenna, but the
frequency seems kind of low for that.

Tam/WB2TT
"Nono" <nono240@altern.org> wrote in message
news:63cec822.0306030542.7f6b2284@posting.google.com...
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

5374. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 20:18:28 UTC
From: Al <ten.knilhtrae@yajfa.remove>
Message-ID: <ten.knilhtrae-489918.16182903062003@news.bellatlantic.net>
Source record: 116177
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

In article <63cec822.0306030542.7f6b2284@posting.google.com>,
nono240@altern.org (Nono) wrote:

> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

Try this for a start: www.ansoft.com/hfworkshop02/Hsueh_Yuan_Pao.pdf

as well as: www.atmel.com/dyn/resources/prod_documents/doc5030.pdf

I got many matches on Google with: "printed circuit board" antenna design
The quotes are necessary.

Al

--

Reverse address to reply.

5375. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 20:19:25 UTC
From: richardharrison@webtv.net
Message-ID: <27429-3EDD02CD-74@storefull-2313.public.lawson.webtv.net>
Source record: 116179

Richard Clark wrote:
"You are merely speaking of an illusion---."

EM radiation including light fills a volume. A single dimension may describe a length. Two dimensions may be used to describe an area. Three dimensions may describe a volume.

I saw hologram interference patterns at Disney Land. They probably still can be seen there every day. You can look them over from nearly all sides, so they define a volume. They are three dimensional and they are produced with light.

Best regards, Richard Harrison, KB5WZI

5376. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 20:26:41 UTC
From: Charles Schuler <charlesschuler@comcast.net>
Message-ID: <sfqcnfl0opzMmECjXTWcqg@comcast.com>
Source record: 116178
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

"Nono" <nono240@altern.org> wrote in message
news:63cec822.0306030542.7f6b2284@posting.google.com...
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

http://www.atmel.com/dyn/resources/prod_documents/doc5030.pdf
http://www.swtab.com/rfid/_doc/SWTAB_English_Antenna_125kHz.doc
http://www.telecontrolli.com/pdf/Antenna%20Design%20Considerations.pdf

5377. Re: guide for making loading coils?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:02:42 UTC
From: Stahr <w6nycthetrash@earthlink.net>
Message-ID: <S18Da.29413$rO.2712468@newsread1.prod.itd.earthlink.net>
Source record: 116181

Phil:

Check this site... Really helped me, and it sounds like just what you are looking for....

http://www.nerc.com/~jdegood/coaxtrap/

Best 73 de:
Dennis Stahr - W6NYC

http://www.qsl.net/w6nyc/
Take out "the trash" when return emailing

"PBB" <n4cod.spamless@bellnorth.net> wrote in message news:mh0jdvoe3iitsvu288lhndhql31t90rfjb@4ax.com...
> I would like to build a dipole for attic mounting for 40m, but don't
> have enough room for a full-size one. I have seen commercially
> available shortened dipoles, but think I could wind wire around pvc as
> well as any to build coils. Is there a formula or chart for such or
> just cut and try?
>
> Thanks,
> Phil
> N4COD
>

5378. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:03:24 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3edd0ce2.9722783@news1.eircom.net>
Source record: 116180
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Mon, 02 Jun 2003 18:02:28 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>The specified accuracy of a Bird model 43 wattmeter is 5% of full scale.
>That means the error can be up to 2.5 watts on a 50 watt scale. If it
>reads 10 watts on a 50 watt scale, an applied power of 10 watts can read
>anywhere between 7.5 and 12.5 watts (+/- 25% of the actual value) and
>the meter would still be in specification.

and as we all know.
the only time any meter is as accurate as its certificate claims it
is is when the certificate was ''signed''

5379. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:44:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <583qdv8tvpb2pnied7m6m1qs1cpvso4i74@4ax.com>
Source record: 116182

On Tue, 3 Jun 2003 15:19:25 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Richard Clark wrote:
>"You are merely speaking of an illusion---."
>
>EM radiation including light fills a volume. A single dimension may
>describe a length. Two dimensions may be used to describe an area. Three
>dimensions may describe a volume.
>
>I saw hologram interference patterns at Disney Land. They probably still
>can be seen there every day. You can look them over from nearly all
>sides, so they define a volume. They are three dimensional and they are
>produced with light.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

OK you cannot provide the dimensions you say exist and you are still
leaning against a perception created in the mind as physical evidence
of that supposed third dimension. Simply viewing a hologram (I was
making them 34 years ago) comes no where close.

What is the step height differential across the boundary of a common,
observable shadow cast by an illumination? In everyday experience
that allows for a penumbra due to indirect illumination, and as such a
step function would actually show a ramp or cosinal variation.
Describe the dimensional excursion limits (with actual numbers and
your choice of Meter or Inch) of such a common example. You guys
don't even offer a guess to within ten orders of magnitude of what you
claim is actual.

As you are both shy of any reference, even the insubstantial, such
claims are thus less than insubstantial. The bar has been pretty low
for references to this point, and from here on out the bar is raised
and I will allow nothing less than a reputable writer (not that this
will solve anything, but this is getting as tiresome as EH claims).

Light is not three dimensional - it is just that simple.

73's
Richard Clark, KB7QHC

5380. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:47:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD177A.8050306@ieee.org>
Source record: 116183

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "What causes the phase reversal?"
>
> Mismatch.
> For poor shorts and opens, the action is reduced in magnitude.

A Z0-match is usually a poor short or open being a change in
Z0 of 50 ohms to 300 ohms, for instance. How in the world can
a "poor short or open" cause 100% re-reflection of reflected
energy? This is the question I am attempting to answer.
--
73, Cecil http://www.qsl.net/w5dxp

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5381. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:50:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD1826.3090304@ieee.org>
Source record: 116184

William E. Sabin wrote:
>
>> Cecil, W5DXP wrote:
>> "What causes the phase reversal?"
>
> When the forward wave reaches the open-circuit ...

But it's not an open-circuit. It's an impedance discontinuity
from 300 ohms to 50 ohms, for instance. How does an impedance
discontinuity from 300 ohms to 50 ohms cause 100% re-reflection
of reflected energy?
--
73, Cecil http://www.qsl.net/w5dxp

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5382. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:56:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD1979.9070605@ieee.org>
Source record: 116186

Richard Clark wrote:
> You have the burden of proof to show this reference. You have failed
> for the simple reason that:

I didn't say light is three dimensional. What I meant by what I said is
that light can travel in any direction in three dimensional space. That's
what makes light different from RF in a one-dimensional transmission line.
I assume I don't need any proof for that statement. If you don't buy a
Poynting Vector for light in three dimensional space, you do not live in
this universe.

> Light is not three dimensional - it is just that simple.

You, OTOH, are asserting something without proof. Would an iota of
proof be too much to ask?
--
73, Cecil http://www.qsl.net/w5dxp

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5383. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:57:08 UTC
From: dplatt@radagast.org
Message-ID: <vdq6dkilak7nc1@corp.supernews.com>
Source record: 116185

>> Thierry, spend 20 Euros on "HF Antennas For All Locations," Les Moxon
>> where you will find this (or several suitably like it) and many other
>> designs described.
>
>Ha ? Excellent suggestion Rich. I though it was a website. I go immediately
>to Amazon to buy it and to take the opportunity to buy - at last - the ARRL
>antenna hdb too... (if this last is not available it is via my local buro,
>UBA)

FYI - I just got the latest ARRL publications flyer last night, and
the 19th edition of the Antenna Handbook is on a closeout sale. The
paperback edition is marked doen from $30 to $24.95, the leatherbound
"Special Edition" from $70 to $47.85.

One would assume that this indicates that the 20th edition is in the
works.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

5384. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 21:58:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD1A19.4090703@ieee.org>
Source record: 116187

Richard Clark wrote:
> Light is not three dimensional - it is just that simple.

What I meant by my statement is that light can travel in any
direction in three dimensions as opposed to RF in a transmission
line which is limited to one dimension. I made no assertion about
the dimensions of light. You, OTOH, are making an assertion. Would
one iota of proof be too much to ask?
--
73, Cecil http://www.qsl.net/w5dxp

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5385. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:09:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5m5qdvgpe6v3kp4jgh0kko7l9i3n62v1pd@4ax.com>
Source record: 116188
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Tue, 03 Jun 2003 21:03:24 GMT,
dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:

>On Mon, 02 Jun 2003 18:02:28 -0700, Roy Lewallen <w7el@eznec.com>
>wrote:
>
>>The specified accuracy of a Bird model 43 wattmeter is 5% of full scale.
>>That means the error can be up to 2.5 watts on a 50 watt scale. If it
>>reads 10 watts on a 50 watt scale, an applied power of 10 watts can read
>>anywhere between 7.5 and 12.5 watts (+/- 25% of the actual value) and
>>the meter would still be in specification.
>
>
>and as we all know.
>the only time any meter is as accurate as its certificate claims it
>is is when the certificate was ''signed''
>
That would be the amateur understanding. Metrologists maintain
sufficient records to respond to any issue of accuracy. EVERY Bird
wattmeter that came in for calibration in my shop was operating
outside of Bird specification when it returned 6 months later. Your
lack of faith would be justified in this regard - but only in the
sense of a continuum of accumulating error. The solution is to ask
the Metrologist what would constitute a calibration cycle wherein the
instrument was at the margins, not across them, when the cycle ended.
Anyone can play the fool.

When such instruments came across the bench for calibration, and they
contained handmade index marks that the user employed for repeated
measurements, I could state what the accuracy of that point was coming
in the door, and going out the door. If the user stumbles past the
threshold and jars the instrument, that was not my responsibility and
it would necessarily negate my sticker of qualification (if the user
is honest).

If following such an incident the user were to make a measure, and
mark it; then upon returning to me I could confirm the actual value it
represented and testify quantitatively to the amount of error
introduced by his stumble and the accumulation of further error
through time. This is not usual, nor trivial, and such a query as
described could render a higher accuracy than the common acceptance of
being within the manufacturer's specification (the standard level of
precision and accuracy offered without special orders).

The Bird being a common example would require a short 3 month interval between calibrations to hold it within the manufacturer's specification. Barring obvious mechanical errors, defect, or damage, a Bird would probably suit anyone's taste to within ï¿½20% error for the life of the user.

Accuracy basically devolves to "how much can you afford?" Worse, it implies "what can you afford to lose if it isn't calibrated?"

73's
Richard Clark, KB7QHC

5386. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:10:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD1CEE.9080904@ieee.org>
Source record: 116189

Jim Kelley wrote:
> To arrive at the forward power in our problem we can use V1 and V2. The
> mistake is in trying to simply take the square of the sum of V1 and V2
> and divide by Z0. Superposition and interference don't work that way.
> Vfwd2^2 = (V1 + V2)*(V1 + V2) = V1^2 + V2^2 + 2*(V1*V2).
> Vfwd2^2/Z0 = (V1^2 + V2^2 + 2*(V1*V2))/Z0 =
> Pfwd2 = Vfwd2^2/Z0 = (P1 + P2)*(P1 + P2) = P1 + P2 + 2*sqrt(P1*P2).
>
> You should be able to see where substituting P3 and P4 for P1 and P2 in
> the last equation is in error. The elements in the sqrt term are the
> same elements as in the sum which precedes that term.

Yes, but that is simply a mathematical curiosity. It has absolutely NO
physical meaning. There is simply not enough energy in the P1 and P2 waves
to account for Pfwd2. As Hecht says, the constructive interference energy
is supplied by the destructive interference event involving P3 and P4.

> And from that we do get Pfwd2 = P1 + P3 + P2 + P4.

Exactly, for a matched case.

> But when P3 = 0 as in the matched case, then P1 = Pfwd1,
> and Pfdw2 = P1 + P2 + P4.

Nope, If P1=Pfwd1, then P2=0 and P4=0. That's a flat-matched system devoid
of any reflections. Hint: If P1=Pfwd1 then the power transmission coefficient
is unity and the system is therefore flat, by definition. Please correct your
errors.
--
73, Cecil http://www.qsl.net/w5dxp

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5387. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:12:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDD1D45.8403743A@uci.edu>
Source record: 116190

W5DXP wrote:
> A Z0-match is usually a poor short or open being a change in
> Z0 of 50 ohms to 300 ohms, for instance. How in the world can
> a "poor short or open" cause 100% re-reflection of reflected
> energy? This is the question I am attempting to answer.
> --
> 73, Cecil http://www.qsl.net/w5dxp

Didn't you just tell me that Melles-Griot and/or Hecht answered that question?

Since I think we agree that a physical discontinuity is required for a reflection, and it remains to be seen how P3 and P4 can re-reflect off the match point, why don't we postpone our argument and agree to disagree until you can answer that question. It's sort of the crux of the issue.

73 de ac6xg

5388. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:21:00 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030603182100.08524.00000619@mb-m24.aol.com>
Source record: 116191

>Then definitely go for mounting the highest beast you can get on the top of
>the car. It will work very well.
>

Bit more,
screwdriver is good antenna for 1.8 to 30 MHz. You can have trailer hitch mount for mobiling in motion and also make a bracket which you can clamp to your roof rack and mount the screwdriver there for stationary "mobiling" with possible extension of the base mast and additional top loading. Nice thing about screwdriver is that you can "tune" the coil to anything that is needed to resonate the antenna where you want it.

Yuri

5389. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:23:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD1FEC.6030602@ieee.org>
Source record: 116192

Jim Kelley wrote:
> One needn't be omniscient to see what assumtions you have made in your
> mathematical arguments.

One needs to be omniscient to be 100% sure of what assumptions I have made. Since you haven't asked what assumptions I made, I have no other choice but to conclude that you consider yourself to be omniscient and incapable of mistakes.

> It simply means that when it waves cancel in one direction, energy is
> prevented from moving in that direction, and must be carried by waves
> moving in the other.

That's ***exactly*** what I have been trying to tell you. If energy is prevented from moving in one direction, it can only move in the only other direction available. That requires reversing direction. I'm glad you are starting to get it.

> I don't understand how you can take it so literally.

You don't understand how I can take Hecht's *words* so literally?
You don't understand how I can take Melles-Griot *words* so literally?
Maybe because words are literal??? Do you understand the definition of literal?

>>Quoting _Optics_, by Hecht: "The principle of conservation of energy
>>makes it clear that if there is constructive interference at one point,
>>the "extra" energy at that location must have *COME FROM* elsewhere. There
>>must therefore be destructive interference somewhere else."
>
> Hecht is NOT talking about energy reversing direction.

Of course not. That's just a general statement. But when the destructive interference happens between two waves flowing toward the source and constructive interference happens between two waves flowing toward the load, it doesn't take a rocket scientist to see that the energy has changed directions. Hint: From "toward the source" to "toward the load" is a change of direction.

> > Where does the constructive interference energy come from?
>
> The question doesn't even make sense.

And that, my friend, is your problem, not mine. Energy *always* comes from somewhere. Hecht says the constructive interference *COMES FROM* the destructive interference event. I've capitalized those two words in the Hecht quote above because you apparently chose to miss them.

The constructive interference "COMES FROM" the destructive interference.
Hecht could not have said it any more clear.
--
73, Cecil http://www.qsl.net/w5dxp

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5390. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:39:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD239D.10205@ieee.org>
Source record: 116193

Jim Kelley wrote:
> But if you understood interference, you would understand that summing P1
> and P2 is meaningless.

Summing P1 and P2 is exactly what you do to ascertain the power output of a 100% efficient transformer. Are you saying that a transmission line is more efficient than a 100% efficient transformer? If so, you had better patent that perpetual motion machine before anyone else does.

> Interference produces a result which is greater
> than the sum. That's right out of Chapter 7, Born and Wolf.

I seriously doubt that Born and Wolf advocate the violation of the conservation of energy principle. The sum of two energy components *CANNOT* be greater than the sum of the two energy components. One joule plus one joule equals two joules - no phase, no superposition. Your statement is ridiculous. The only way that the superposition of two waves can sum to a total energy greater than the sum of the energy components in the two waves is to have energy supplied from some other source. That other source is *from* destructive interference *to* constructive interference exactly as explained by Hecht.

Think about it. If what you say is true, you could have bright interference rings without any dark interference rings. I'm surprised that you don't consider that to be ridiculous.

>>The constructive interference energy does NOT come from P1 and P2.
>
> Absolutely 100% way out in left field, Cecil. I have no idea where you
> get this "comes from" notion.

Heh, heh, I knew you weren't reading the Hecht quote. You think you are so omniscient that you are all output and no input. Here are Hecht's words again with "comes from" capitalized for your benefit:

"The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have *COME FROM* elsewhere. There
must therefore be destructive interference somewhere else."

Now do you understand where my "COMES FROM" notion comes from?

>>There
>>is not enough energy in P1 and P2 to support constructive interference.
>
> Are you math challenged or something? Do I need to show you how to
> punch the button on your calculator? 75 + 8.33 + 2*SQRT(75*8.33) =

> 133.33. It's NOT A COINCIDENCE! It's the correct way to work the
> problem.

You are being seduced by the mathematics. 2*Sqrt(P1*P2) is *NOT* contained in P1 and P2. If it was, you could prove that 83.33 joules = 133.33 joules. Shirley, you don't believe that. 2*Sqrt(P1*P2)=P3+P4 P3+P4 is where the "extra" energy comes from exactly as explained by Hecht and the Melles-Griot web page.
--
73, Cecil http://www.qsl.net/w5dxp

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5391. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:42:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD2463.1080301@ieee.org>
Source record: 116195

Richard Clark wrote:
> The bar has been pretty low
> for references to this point, and from here on out the bar is raised
> and I will allow nothing less than a reputable writer (not that this
> will solve anything, but this is getting as tiresome as EH claims).
>
> Light is not three dimensional - it is just that simple.

We "will allow nothing less than a reputable writer" (which you ain't).
Where's your reference, Richard?
--
73, Cecil http://www.qsl.net/w5dxp

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5392. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:44:52 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbj8d4nem1@hercules.btinternet.com>
Source record: 116194

"Richard Clark" wrote
> It would read with more charm if it hadn't
> come in on the tail end of your troll.
============================

C'mon Rich, no need to feel offended because you were the last person to recognise an educational ploy when it was staring everybody in the face.

Relax and amuse yourself by downloading a program such as the popular DIPOLE3. Sorry, the source code is not available unless you pay extra.

======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
======================

5393. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:45:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDD24EE.8B08CBA@uci.edu>
Source record: 116196

W5DXP wrote:
>
> Jim Kelley wrote:
> > To arrive at the forward power in our problem we can use V1 and V2. The
> > mistake is in trying to simply take the square of the sum of V1 and V2
> > and divide by Z0. Superposition and interference don't work that way.
> > Vfwd2^2 = (V1 + V2)*(V1 + V2) = V1^2 + V2^2 + 2*(V1*V2).
> > Vfwd2^2/Z0 = (V1^2 + V2^2 + 2*(V1*V2))/Z0 =
> > Pfwd2 = Vfwd2^2/Z0 = (P1 + P2)*(P1 + P2) = P1 + P2 + 2*sqrt(P1*P2).
> >
> > You should be able to see where substituting P3 and P4 for P1 and P2 in
> > the last equation is in error. The elements in the sqrt term are the
> > same elements as in the sum which precedes that term.

> Yes, but that is simply a mathematical curiosity. It has absolutely NO
> physical meaning.

If you're referring to your substitution of P3 and P4 for P1 and P2, I
completely agree.

> There is simply not enough energy in the P1 and P2 waves
> to account for Pfwd2.

Again, you fail to understand interference between waves. V1 and V2 are
all that is required to make the correct calculation, likewise P1 and P2
- when you use the equation provided in the text books for this very
purpose.

> > And from that we do get Pfwd2 = P1 + P3 + P2 + P4.

> Exactly, for a matched case.

It's the only case for which Pfwd2 = Pfwd1 + Pref2.

> > But when P3 = 0 as in the matched case, then P1 = Pfwd1,
> > and Pfdw2 = P1 + P2 + P4.

> If P1=Pfwd1, then P2=0 and P4=0.

I would be interested to know how you arrive at that.

> That's a flat-matched system devoid
> of any reflections. Hint: If P1=Pfwd1 then the power transmission > coefficient
> is unity and the system is therefore flat, by definition.

It's quite clear that energy is not being reflected from the match
point. In fact I think that's the very purpose for providing an
impedance matching device in the first place. Why does our meter not

indicate this reflected "energy" that you say exists between the source and the match point?

73, ac6xg

5394. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:49:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD25F1.3000405@ieee.org>
Source record: 116197

Jim Kelley wrote:
> W5DXP wrote:
>
>>A Z0-match is usually a poor short or open being a change in
>>Z0 of 50 ohms to 300 ohms, for instance. How in the world can
>>a "poor short or open" cause 100% re-reflection of reflected
>>energy? This is the question I am attempting to answer.
>
> Didn't you just tell me that Melles-Griot and/or Hecht answered that
> question?

Yes, and now I am trying to get Richard to understand what they said.

> Since I think we agree that a physical discontinuity is required for a
> reflection, and it remains to be seen how P3 and P4 can re-reflect off
> the match point, why don't we postpone our argument and agree to
> disagree until you can answer that question. It's sort of the crux of
> the issue.

It was a rhetorical question which I have already answered.
--
73, Cecil http://www.qsl.net/w5dxp

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5395. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 22:54:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDD2733.45F58F30@uci.edu>
Source record: 116198

W5DXP wrote:
>
> Jim Kelley wrote:
> > One needn't be omniscient to see what assumtions you have made in your
> > mathematical arguments.
>
> One needs to be omniscient to be 100% sure of what assumptions I have
> made. Since you haven't asked what assumptions I made, I have no other
> choice but to conclude that you consider yourself to be omniscient and
> incapable of mistakes.
>
> > It simply means that when it waves cancel in one direction, energy is
> > prevented from moving in that direction, and must be carried by waves
> > moving in the other.
>
> That's ***exactly*** what I have been trying to tell you.

Actually, it's not.

> If energy is
> prevented from moving in one direction, it can only move in the only
> other direction available. That requires reversing direction. I'm glad
> you are starting to get it.

I have always gotten what you've been saying, Cecil. I just don't agree
with it.

> > Hecht is NOT talking about energy reversing direction.

> Of course not.

I'm glad that you're finally starting to see my point.

> That's just a general statement. But when the destructive
> interference happens between two waves flowing toward the source and
> constructive interference happens between two waves flowing toward the
> load, it doesn't take a rocket scientist to see that the energy has
> changed directions.

What it takes to believe that energy changed directions is a
misunderstanding of the phenomenon. Hecht doesn't say energy changes
directions because no energy is involved in the direction of destructive
interference.

> > > Where does the constructive interference energy come from?
> >
> > The question doesn't even make sense.

> And that, my friend, is your problem, not mine. Energy *always* comes
> from somewhere. Hecht says the constructive interference *COMES FROM*
> the destructive interference event. I've capitalized those two words
> in the Hecht quote above because you apparently chose to miss them.
> The constructive interference "COMES FROM" the destructive interference.
> Hecht could not have said it any more clear.

That fact that you misunderstand it tends to argue otherwise.

73, ac6xg

5396. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:02:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <i49qdvg4nqniohs8n55prcan53v2s82le0@4ax.com>
Source record: 116199

On Tue, 03 Jun 2003 16:58:49 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Light is not three dimensional - it is just that simple.
>
>You, OTOH, are making an assertion. Would
>one iota of proof be too much to ask?

Through the course of 8 rambling unresponsive posts with no reference
from you as I expected. Editors don't go beyond round 1.

Read Feynman's "Lectures on Physics."

73's
Richard Clark, KB7QHC

5397. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:04:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDD2961.6046A630@uci.edu>
Source record: 116200

W5DXP wrote:
>
> Jim Kelley wrote:
> > But if you understood interference, you would understand that summing P1
> > and P2 is meaningless.
>
> Summing P1 and P2 is exactly what you do to ascertain the power output of
> a 100% efficient transformer. Are you saying that a transmission line is
> more efficient than a 100% efficient transformer? If so, you had better
> patent that perpetual motion machine before anyone else does.
>
> > Interference produces a result which is greater
> > than the sum. That's right out of Chapter 7, Born and Wolf.
>
> I seriously doubt that Born and Wolf advocate the violation of the
> conservation of energy principle.

Good for you. They don't.

> The sum of two energy components
> *CANNOT* be greater than the sum of the two energy components. One joule
> plus one joule equals two joules - no phase, no superposition. Your
> statement is ridiculous.

Your understanding of this subject is apparently ridiculously limited.
I <> I1 + I2. When cos theta = 1, and I1 = I2, I <> 2*I1. I = 4*I1.
4*I1 > I1 + I2. Get it? 'I' happens to be greater than I1+I2 for any
values I1 and I2. jeez what a maroon.

ac6xg

5398. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:20:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDD2D4A.5702FBAE@uci.edu>
Source record: 116201

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >
> >>A Z0-match is usually a poor short or open being a change in
> >>Z0 of 50 ohms to 300 ohms, for instance. How in the world can
> >>a "poor short or open" cause 100% re-reflection of reflected
> >>energy? This is the question I am attempting to answer.
> >
> > Didn't you just tell me that Melles-Griot and/or Hecht answered that
> > question?
>
> Yes, and now I am trying to get Richard to understand what they said.

Perhaps you mean that you'd like Richard to understand it in the same
way that you do. My guess is he understands it the way everyone else
does.

> > Since I think we agree that a physical discontinuity is required for a
> > reflection, and it remains to be seen how P3 and P4 can re-reflect off
> > the match point, why don't we postpone our argument and agree to
> > disagree until you can answer that question. It's sort of the crux of
> > the issue.
>
> It was a rhetorical question which I have already answered.

You're being disingenuous. Melles-Griot says nothing about
re-reflection. Saying you've answered it does not make it so. Please
mathematically describe exactly how the impedance discontinuity
re-reflects P3 and P4. Hint: if it's a reflection, your mathematical
explanation will have to rely upon a reflection coefficient. Walt says
it's equal to one. I guess you'd have to agree.

73, ac6xg

5399. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:36:49 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <dobqdvkqpc2mgosrn40kce1vjnkc6f2ism@4ax.com>
Source record: 116202

On 2 Jun 2003 23:05:06 -0700, nm5k@wt.net (Mark Keith) wrote:

>"Dan, danl, danny boy, Redbeard, actually Greybeard now"
><danlx@execpc.com> I was under the impression some buildings use
>> the steel structure for the ground. Now that does not mean none are
>> ever damaged, it just means I never saw any damage.
>
>I think many do. Some of the most advanced lightning protection
>systems I've seen are on hospitals that are tall buildings. Check it
>out next time you go to a hospital that is multi-story. Lightning
>terminals a-plenty, and good paths to ground. With the sensitive gear
>they use in hospitals these days, lightning protection is critical.
>You can't have the gear fry when you are in the middle a triple bypass
>operation just because a T-storm decided to roll in...:(
>Needless to say they have backup power if the power goes off. MK

Check out the phone company's grounding standards. They don't
just shut down when there's a storm! There is a company called Erico
that does power and lightning protection, they have an engineer who is
one of the lightning protection gurus. Unfortunately, all my
reference is in storage while I'm sentenced to the Gulag for being in
the IT business and I can't remember his name. The whole thing is to
capture the stroke and control it into a low (very low!) impedence
path to ground.

All that being said, this is a HOBBY. When you're not
operating or when there is lightning about, disconnect your antennae
and ground them and disconnect the power to your rigs. We just don't
need to be on the air at the risk of life and limb. To those of you
who will cry "public service", remember that the first rule of rescue
is "don't become another victim".

Russ - kf4wxd

5400. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:38:28 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vdqcbopusqbs9d@corp.supernews.com>
Source record: 116203

Before everyone tires and gives up can we get a vote on where the radiation
of a dipole, V, inverted V, and flat,occurs? I want to tell my antennas and
see if they'll behave!
tnx
hank wd5jfr
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbf6hu$8ei$1@hercules.btinternet.com...
> The electric field of a dipole is strongest and most intense at its ends
and
> falls to zero in the middle. It is obvious, therefore, most of the
radiation
> from a dipole occurs near to and from its ends.
> ---
> Reg, G4FGQ
>
>

5401. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:44:29 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <btbqdvkkqp6b2rkn5srh1gf0d11meckaqv@4ax.com>
Source record: 116204
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Tue, 03 Jun 2003 11:54:35 +0100, Andy Cowley
<andy.cowley@uwe.ac.uk> wrote:

|Wes Stewart wrote:
|>
|> On Mon, 02 Jun 2003 15:12:57 +0100, Andy Cowley
|> <andy.cowley@uwe.ac.uk> wrote:
|>
|> [big snip]
|> |
|> |>
|> |> What is the frequency response of your transmission system?
|> |
|> |1.5 or 2.5 metres of RG213, 1 x PL259 pair, 1 x N pair. Within 1% at HF
|>
|> PL259? Can you say, "Mismatch uncertainty"?
|>
|> |>
|> |> What is the stability of your DC and RF power generators.
|> |
|> |What difference does that make? The DC has sensibly no ripple
|> |(lead acid batteries).
|>
|> Can you say, "Source Match"?
|>
|> If you can say them, but do not know what they mean in this context,
|> then you have no idea of the accuracy of your measurements.
|
|
|The context is measuring the power output of an amateur transmitter
|into a 50 ohm load.

Then a Bird is plenty good enough and your introduction of "improved
accuracy" isn't necessary. But since you lay claim to better
accuracy, you need to understand the ramifications.

|
|The power meter is a DC responding instrument. If I can measure the
|current, applied voltage and the DC resistance at the input to the
|meter, why would I want to know anything about the characteristics
|of the generator? All such considerations collapse into Ohm's law
|at DC.

What if your measurements determine that the resistance of the internal load is 49 ohm? At DC, your "perfect" voltage source (you do have one don't you?) doesn't care what the load is, but to an r-f source, it does matter.

|That is the calibration method. The manufacturers data
|indicates that the meter maintains a 50 ohm resistive impedance
|to 300 MHz. I can't measure that to the accuracy they claim, so
|I just take that on trust.

Then you might as well take it on trust that the Earth is flat. Even if the internal load is perfect, you're adding PL259s, etc. that make it other than 50 ohm resistive. How does your DC calibration account for that?

|My real point is that the measurement
|method is inherently more accurate than using a coupler to 'sniff'
|a fraction of the power, and is relatively simple to calibrate.

Inherently, maybe; in practice, not necessarily.

|The
|only calibration methods for a Bird 43 or whatever are calorimetric
|or involve using a meter of known accuracy.

And your "calibration" doesn't rely on substitution and other instruments of known accuracy?

In this country, our National Institute of Standards and Technology uses a microcalorimeter to calibrate the efficiency of even DC-substitution sensors. Only then are the DC sensors calibrated with DC. Thus, *every* traceable r-f power measuring device (in this country anyway) is ultimately referenced to an r-f microcalorimeter, albiet with uncertainties introduced at every step in the path.

|
|Bird claim 5% FSD accuracy for sinusoidal sources. A bolometric
|method is not affected by the waveform, provided that the highest
|frequency components of the waveform are within the allowed
|frequency range.
|
|Bird make a fine 30 dB attenuator (Tenuline) which can be used to
|extend the range of the meter to cover full legal power.
|
|The Bird is a fine instrument for measuring power in-line. The
|Dymar is a fine instrument for calibrating a Bird. They are
|designed for different purposes.

The Bird is a so-so instrument, that is good enough for almost any amateur application, if its limitations are understood. (They usually aren't, but that's not Bird's fault.)

5402. RE: Nature of Light

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:49:29 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EDD33C3.5080801@attbi.com>
Source record: 116205

Hey Rich, I've been reading your Mantra and have a question for you.

I'm a little 'uncertain' about the nature of light!!

Is it a wave, thereby having wavelength [1 dimension and time]; or, does it have mass and energy as in photons??

Now if it has mass why doesn't it have finite dimensions consistent with so many grams/cubic centimeter?? The energy in a photon = h*f, where h = Plank's constant and f is the frequency. Now Einstein has established that energy and mass are two different forms of the same 'stuff'.

So, since energy and mass are interchangeable why doesn't light, which has mass, have dimensions?

It's been 45 years since I taught University Physics and many models from the 1950s have been significantly improved.

But why do you claim that light is not 3 dimensional since it has mass????

I'm trolling, if you didn't catch it :-)

Deacon Dave, W1MCE

5403. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:51:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <frbqdv0u8ts6d0ju8ec7sjoetj63l4i4g4@4ax.com>
Source record: 116206

On Tue, 3 Jun 2003 22:44:52 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>"Richard Clark" wrote
>> It would read with more charm if it hadn't
>> come in on the tail end of your troll.
>============================
>
>C'mon Rich, no need to feel offended because you were the last person to
>recognise an educational ploy when it was staring everybody in the face.

As W.C. Fields use to put it: "I have the bull by the tail and facing
the problem."

Your method of instruction is as educational as Russian Roulette.
You've spun the cylinder several times to this point, want to try
again?

>Relax and amuse yourself
You make that an opportunity with every post.
It remains fun through the restraint of just the occasional jibe.

Do you need a dictionary? Jibe: US 1813, to chime in (with);
agreeing. Dutch gijbelen, German dialectic geifelen, to laugh
mockingly. A word (not "English") that covers as much meaning as your
posts. Would ;-) be redundant? ;-)

>by downloading a program such as the popular
>DIPOLE3.

Are you sure I wouldn't ruin your reputation if I did? Not to worry.

>Sorry, the source code is not available unless you pay extra.
>---
OK so you are not offended. Doesn't surprise me in spite of your
carefully modulated harrumphs and bluster. Free code is worth the
price paid, I expect more value in my acquisitions. Sorry but
recycled math wrapped in an old wife's veil is not very interesting.

Of course I will let you have the last word.....

73's
Richard Clark, KB7QHC

5404. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-03 23:54:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m5dqdv44tb622lq17n1djftv74fcdvnunt@4ax.com>
Source record: 116207

On Tue, 03 Jun 2003 17:42:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>We "will allow nothing less than a reputable writer" (which you ain't).
hasn't that mouse in your pocket gone deaf from all your palaver?

It would seem you chase the coy virgin too much. Is it more a problem
of what you would do if you were successful?

73's & 88's
Richard Clark, KB7QHC

5405. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:04:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD379D.9080004@ieee.org>
Source record: 116208

Jim Kelley wrote:
> W5DXP wrote:
>>Yes, but that is simply a mathematical curiosity. It has absolutely NO
>>physical meaning.
>
> If you're referring to your substitution of P3 and P4 for P1 and P2, I
> completely agree.

Nope, I'm referring to your assertion that P1+P2 > P1+P2.

> Again, you fail to understand interference between waves. V1 and V2 are
> all that is required to make the correct calculation, likewise P1 and P2
> - when you use the equation provided in the text books for this very
> purpose.

It's true that is all that is required to make the correct "calculation".
That is not all that is required to satisfy the conservation of energy
principle. The "calculation" is merely a mathematical curiosity. The
question is where does the constructive interference energy come from?
Hecht answers that question. It "comes from" the destructive interference
event.

>>If P1=Pfwd1, then P2=0 and P4=0.
>
> I would be interested to know how you arrive at that.

I explained it in the following which you apparently didn't read.
Please read it until you understand it.

>>Hint: If P1=Pfwd1 then the power transmission coefficient
>>is unity and the system is therefore flat, by definition.
>
> It's quite clear that energy is not being reflected from the match
> point.

If b1=0 and s11a1=0, then s12a2=0, i.e. there are NO reflections anywhere
in the system and the system is *flat*.
--
73, Cecil http://www.qsl.net/w5dxp

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5406. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:17:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD3A7F.1060700@ieee.org>
Source record: 116209

Jim Kelley wrote:
>>If energy is
>>prevented from moving in one direction, it can only move in the only
>>other direction available. That requires reversing direction. I'm glad
>>you are starting to get it.
>
> I have always gotten what you've been saying, Cecil. I just don't agree
> with it.

Energy is preventing from moving in one direction. There are only
two directions. How can you disagree that the energy goes the
only other direction available?

> What it takes to believe that energy changed directions is a
> misunderstanding of the phenomenon. Hecht doesn't say energy changes
> directions because no energy is involved in the direction of destructive
> interference.

What you don't understand is that energy doesn't change directions
when the destructive interference and constructive interference
occur in the same direction. But it does change directions when
the destructive interference and constructive interference occur
in opposite directions at a match point in a transmission line.

The Melles-Griot web page says the energy changes directions.
1. "reflected wavefronts interfere destructively"
2. "the principle of conservation of energy indicates all "lost"
reflected intensity will appear as enhanced intensity in the
transmitted beam."

Reflected wavefronts are traveling rearward, by definition.
The transmitted beam is traveling forward, by definition.
Ergo, the reflected energy involved in the destructive interference
changes directions and joins the transmitted beam.
--
73, Cecil http://www.qsl.net/w5dxp

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5407. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:28:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD3D1A.5060606@ieee.org>
Source record: 116210

Jim Kelley wrote:
> Your understanding of this subject is apparently ridiculously limited.
> I <> I1 + I2. When cos theta = 1, and I1 = I2, I <> 2*I1. I = 4*I1.
> 4*I1 > I1 + I2. Get it? 'I' happens to be greater than I1+I2 for any
> values I1 and I2. jeez what a maroon.

It is impossible for I to equal 4*I1 without help from destructive
interference. These two equations *MUST* both be obeyed. For I1=I2,

Imin = I1 + I2 - 2Sqrt(I1*I2) = zero

Imax = I1 + I2 + 2Sqrt(I1*I2) = 4*I1

In the Imax equation, 2*I1 comes from the destructive interference
in the Imin equation. What is it about Hecht's following assertion
that you do not understand?

"The principle of conservation of energy
makes it clear that if there is constructive interference at one point,
the "extra" energy at that location must have come from elsewhere. There
must therefore be destructive interference somewhere else."

Without an Imin, you simply cannot have an Imax. The destructive interference
energy from the Imin equation feeds constructive interference energy to the
Imax equation. No Imin = No Imax!
--
73, Cecil http://www.qsl.net/w5dxp

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5408. Re: Nature of Light

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:36:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2nfqdvgo2398hdfqdoql5vttudrcun68jg@4ax.com>
Source record: 116211

On Tue, 03 Jun 2003 23:49:29 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>
>But why do you claim that light is not 3 dimensional since it has mass????
Please respond to the posting that makes that assertion.

73's
Richard Clark, KB7QHC

5409. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:36:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDD3F28.4030302@ieee.org>
Source record: 116212

Jim Kelley wrote:
> You're being disingenuous. Melles-Griot says nothing about
> re-reflection.

Of course they do, Jim. You cannot seriously think that light physicists would use ham radio lingo. They say:

"... reflected wavefronts interfere destructively, and overall reflected intensity is ... zero."

"... the principle of conservation of energy indicates all "lost" reflected intensity will appear as enhanced intensity in the transmitted beam."

The reflected wavefronts are traveling rearward and cancel. The energy "lost" from the reflected wave cancellation changes direction and joins the (forward-traveling) transmitted beam. When reflected energy changes direction and heads back toward the load, ham lingo defines that as ***RE-REFLECTION***.
--
73, Cecil http://www.qsl.net/w5dxp

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5410. Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 00:40:24 UTC
From: t_ashland@yahoo.com
Message-ID: <6e6aeba9.0306031640.35e84c@posting.google.com>
Source record: 116213

Thierry,
Check out this url: http://www.qsl.net/df4sa/index_spider.htm It is
mentioned on the hexbeam group. It's not a hexbeam, but it's small
and lightweight. It is a little more local than the US (made in
DA-land).
73,
Terry, WK0F

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:<3edcf519$1_2@news.vo.lu>...
> "Eskay" <sieb_kNOS@PAMyahoo.ca> wrote in message
> news:3EDCC431.9050106@PAMyahoo.ca...
> > I believe that he does not have one or does not want the bother of
> > getting E-mail related to the Hexbeam..
>
> What I suspected. Strange for someone who want to sale products...
>
> > I saw him in Rochester NY this past week-end..Very nice looking antenna..
> > If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
> > There is info there on how to do it...
> > http://groups.yahoo.com/group/hex-beam
>
> I know, but I am not really an handyman and a friend of mine experienced bad
> experience trying to build a vertical. So I think that for such a beam that
> can be harder... Will however check this forum for ideas, who knows.
>
> > The price of a 5 band Hexbeam is $889.00 US.
> > 73 de VE3JUA..
>
> And even more including shipping and taxes... probably near $1k :-((
>
> Thanks
> Thierry
> >
> > Thierry wrote:
> > > Hi,
> > >
> > > Very interested in buying an Hex-beam multiband, could someone give me
> the
> > > email address of this manufacturer, his website lists only postal adr
> and
> > > fax (http://www.hexbeam.com/contact.shtml).
> > >
> > > Thanks in advance
> > >

> > > 73
> > > Thierry
> > > ON1SKY, LX3SKY
> > > http://www.astrosurf.com/lombry
> > >
> > >
> > >
> >

5411. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 01:05:49 UTC
From: richardharrison@webtv.net
Message-ID: <14271-3EDD45ED-76@storefull-2312.public.lawson.webtv.net>
Source record: 116214

Richard Clark wrote:
"Light is not three dimensional---."

Faced with examples of a volume filled with light, Richard Clark repeated the statement.

Dimension is derived from the Latin word for size, "dimensio".

There are other measures of light in addition to the volume it fills in 3D space. Light is bright or not so bright. Light has color from red to violet and in combinations. Light is in motion and has a direction of travel. It moves in straight lines, that is, in rays perpendicular to its wavefront, and it appears to issue from a luminous object. It can be polarized, etc. Light has yet other qualities, or "dimensions".

Three other "dimensions" among those noted above are, strength, frequency, and direction. Above they are listed as brightness, color, and direction.

Richard Clark has not elaborated on how "light is not three dimensional". Has he waited for someone to explain it for him?

Best regards, Richard Harrison, KB5WZI

5412. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 01:27:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bjiqdv4f83iebi159a0ercmqlfg49k8bpj@4ax.com>
Source record: 116215

On Tue, 3 Jun 2003 20:05:49 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>Richard Clark has not elaborated on how "light is not three
>dimensional". Has he waited for someone to explain it for him?
>

Hi Richard,

Waited? There have been at least a dozen responses, where's the
explanation except in terms of hallucination?

I offered an author, and his titled work that is well known to many
here. What equal effort has been exhibited by others? :-)

73's
Richard Clark, KB7QHC

5413. Re: Reproducing traps - Aluminium wire vs copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 03:07:45 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <5odDa.62429$M01.39599@sccrnsc02>
Source record: 116216

Yes, the preference would be to use all aluminum -- but copper can be used.

However - Aluminum and copper are dissimiliar metals that will react
to one another. T
he electrical industry uses an oxide inhibitor - such as NOALOX or Burndy's
Pentrox A
to insure good electrical connections.

w9gb
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
"Sander Wissing" <sander@icon.co.za> wrote in message
news:luopdvstgjsrfrg68gcsgamphn5cqle980@4ax.com...
> Hi all,
>
> Futher to my previous question. I am rebuilding some traps in an old
> beam antenna.
>
> 1. Can I replace the old aluminium wire with copper wire of the
> same size & windings?
>
> The aluminium is 1mm diam, 27 windings on the one and 41 windings on
> the other.
>
>
> 2. The capacitance is provided by two aluminium pipes, one
> withing the other. Due to the available alum. pipes, the inner area
> of the larger one will become 4.43% smaller and the distance between
> them will become 1.35mm smaller, a difference of 4.1%. Will this make
> a significant difference to the capacitance? To me it looks as if it
> would just about cancel out?
>
> Thanks
> Sander Wissing
> ZSL103
>
> PS. I am reproducing the traps, because I am missing 2 of the
> originals, so I am not doing this by choice!

5414. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 03:24:19 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <yDdDa.10671$HG5.426724@news20.bellglobal.com>
Source record: 116217

"Henry Kolesnik"
> ...can we get a vote on where the radiation
> of a dipole, V, inverted V, and flat,occurs?

Primarily at those parts with maximum current - usually near the feedpoint.

The contribution of the electric field - usually near the ends - is less
important (but obviously not zero) due to lack of surface area.

5415. Re: Reproducing traps - Aluminium wire vs copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 04:03:47 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <A3adnaCdPaY78kCjXTWcpA@comcast.com>
Source record: 116218

Can you make one of the tubes slightly long, and then chew it down until the capacitance comes out right? On the wire, and I am not sure this will help, it might be worth while to tin the end of the copper wire where it comes in contact with aluminum.

Tam/WB2TT
"Sander Wissing" <sander@icon.co.za> wrote in message
news:luopdvstgjsrfrg68gcsgamphn5cqle980@4ax.com...
> Hi all,
>
> Futher to my previous question. I am rebuilding some traps in an old
> beam antenna.
>
> 1. Can I replace the old aluminium wire with copper wire of the
> same size & windings?
>
> The aluminium is 1mm diam, 27 windings on the one and 41 windings on
> the other.
>
>
> 2. The capacitance is provided by two aluminium pipes, one
> withing the other. Due to the available alum. pipes, the inner area
> of the larger one will become 4.43% smaller and the distance between
> them will become 1.35mm smaller, a difference of 4.1%. Will this make
> a significant difference to the capacitance? To me it looks as if it
> would just about cancel out?
>
> Thanks
> Sander Wissing
> ZSL103
>
> PS. I am reproducing the traps, because I am missing 2 of the
> originals, so I am not doing this by choice!

5416. Re: Lightning Conductors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 05:26:01 UTC
From: w_tom <w_tom1@hotmail.com>
Message-ID: <3EDD82E9.5B827602@hotmail.com>
Source record: 116069

Would that be Dr Anthony J Surtee?

Russ wrote:
> Check out the phone company's grounding standards. They don't
> just shut down when there's a storm! There is a company called Erico
> that does power and lightning protection, they have an engineer who is
> one of the lightning protection gurus. Unfortunately, all my
> reference is in storage while I'm sentenced to the Gulag for being in
> the IT business and I can't remember his name. The whole thing is to
> capture the stroke and control it into a low (very low!) impedence
> path to ground.

5417. Re: Reproducing traps - Aluminium wire vs copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 05:48:00 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306032148.423868cd@posting.google.com>
Source record: 116070

Sander Wissing <sander@icon.co.za> wrote in message
news:<luopdvstgjsrfrg68gcsgamphn5cqle980@4ax.com>...
> Hi all,
>
> Futher to my previous question. I am rebuilding some traps in an old
> beam antenna.
>
> 1. Can I replace the old aluminium wire with copper wire of the
> same size & windings?

Yes.
>
> The aluminium is 1mm diam, 27 windings on the one and 41 windings on
> the other.
>
>
> 2. The capacitance is provided by two aluminium pipes, one
> withing the other. Due to the available alum. pipes, the inner area
> of the larger one will become 4.43% smaller and the distance between
> them will become 1.35mm smaller, a difference of 4.1%. Will this make
> a significant difference to the capacitance? To me it looks as if it
> would just about cancel out?

Not sure, but I don't think it should be too critical. MK

5418. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 06:01:22 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306032201.415ce0b4@posting.google.com>
Source record: 116071

Bill <n4wc@arrl.net> wrote in message news:<3EDC69E6.9050307@arrl.net>...
> I am not an antenna guru. But I believe if you shorten a dipole
> some parameter(other than length)is reduced, so to keep it at the
> original effciency you have to increase another parameter. I do
> believe Mike increased the current in the antenna. I have found that
> W8JI(web page www.w8ji.com) and Les Moxon(Ant for all locations)
> provide good explanations on the amature technical level.
>
> 73 Bill N4WC

If you shorten a dipole, you must add additional loading to tune out
reactance. Unless you can add big capacity hats on the ends, you will
usually have to add inductive loading. "coil". If you use inductive
loading , you will never have quite the efficiency of a full size
dipole due to the coil losses. If you use capacitive loading, you
could get real close, but thats almost to the point of running a full
length antenna when you count total lengths. MK

5419. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 06:02:41 UTC
From: onestone <onestone@bigpond.net.au>
Message-ID: <3EDD8A92.175544AA@bigpond.net.au>
Source record: 116072
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

www.rfm.com

Download their TR3000 design documents. There are also app notes on
antenna design. Also Nordic RF www.nvlsi.no have some excellent antenna
design notes.

Al

Nono wrote:
>
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

5420. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 06:28:13 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbk3ht$q0g$1@hercules.btinternet.com>
Source record: 116073
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Andy Cowley" <andy.cowley@uwe.ac.uk> wrote in message
news:3EDC7E6B.796BC95A@uwe.ac.uk...
> Wes Stewart wrote:
> >
> > On Mon, 02 Jun 2003 15:12:57 +0100, Andy Cowley
> > <andy.cowley@uwe.ac.uk> wrote:
> >
> > [big snip]
> > |
> > |>
> > |> What is the frequency response of your transmission system?
> > |
> > |1.5 or 2.5 metres of RG213, 1 x PL259 pair, 1 x N pair. Within 1% at HF
> >
> > PL259? Can you say, "Mismatch uncertainty"?
> >
> > |>
> > |> What is the stability of your DC and RF power generators.
> > |
> > |What difference does that make? The DC has sensibly no ripple
> > |(lead acid batteries).
> >
> > Can you say, "Source Match"?
> >
> > If you can say them, but do not know what they mean in this context,
> > then you have no idea of the accuracy of your measurements.
>
>
> The context is measuring the power output of an amateur transmitter
> into a 50 ohm load.
>
> The power meter is a DC responding instrument. If I can measure the
> current, applied voltage and the DC resistance at the input to the
> meter, why would I want to know anything about the characteristics
> of the generator? All such considerations collapse into Ohm's law
> at DC. That is the calibration method. The manufacturers data
> indicates that the meter maintains a 50 ohm resistive impedance
> to 300 MHz. I can't measure that to the accuracy they claim, so
> I just take that on trust. My real point is that the measurement
> method is inherently more accurate than using a coupler to 'sniff'
> a fraction of the power, and is relatively simple to calibrate. The
> only calibration methods for a Bird 43 or whatever are calorimetric
> or involve using a meter of known accuracy.

>
> Bird claim 5% FSD accuracy for sinusoidal sources. A bolometric
> method is not affected by the waveform, provided that the highest
> frequency components of the waveform are within the allowed
> frequency range.
>
> Bird make a fine 30 dB attenuator (Tenuline) which can be used to
> extend the range of the meter to cover full legal power.
>
> The Bird is a fine instrument for measuring power in-line. The
> Dymar is a fine instrument for calibrating a Bird. They are
> designed for different purposes.

OK may I ask this question as you consider that match does not matter.

Your Gas Bills are now calculated in Joules of energy supplied (kWh).
I wish to calibrate the power output of a gas ring to stretch my pension a bit by being efficient.
For this I fill a suitable receptacle with a known quantity of water and stick a thermometer into it. I let things settle for a bit and then I put it onto the gas ring to be calibrated and start my stop watch. When the water temperature has reached ten degrees more than I started with I stop the watch. From the knowledge of the volume of water and the change of temperature I know how many joules of energy the gas has supplied to the water and from the time I can now convert that into Watts of power.

OK now I want to see the effect of using different saucepans available to me in my kitchen so I put the same quantity of water into a different saucepan and repeat the procedure above with the same quantity of water.

1) Will the results from both experiments agree?

2) Why?

Gary7SLL

5421. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 07:59:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdr9o5rttsd48e@corp.supernews.com>
Source record: 116074
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
>
> OK may I ask this question as you consider that match does not matter.
>
> Your Gas Bills are now calculated in Joules of energy supplied (kWh).
> I wish to calibrate the power output of a gas ring to stretch my pension a
> bit by being efficient.
> For this I fill a suitable receptacle with a known quantity of water and
> stick a thermometer into it. I let things settle for a bit and then I put it
> onto the gas ring to be calibrated and start my stop watch. When the water
> temperature has reached ten degrees more than I started with I stop the
> watch. From the knowledge of the volume of water and the change of
> temperature I know how many joules of energy the gas has supplied to the
> water and from the time I can now convert that into Watts of power.
>
> OK now I want to see the effect of using different saucepans available to me
> in my kitchen so I put the same quantity of water into a different saucepan
> and repeat the procedure above with the same quantity of water.
>
> 1) Will the results from both experiments agree?
>
> 2) Why?
>
> Gary7SLL

Different saucepans will give different efficiencies -- among other factors, the "match" between saucepan and flame diameter will be involved.

But the context of the statement about match not mattering was that it wouldn't affect the accuracy of the measurement. Will your measurement of power being absorbed by the water be less accurate for one diameter of pan than another? No.

If, on the other hand, you want to know what the maximum available power is from your burner, you will have to "match" the "load". What you'd do then is to build a "tuner" -- a funnel device to concentrate or spread the flame to match the diameter of the pan. Just like amateurs do when they want to extract the maximum possible amount of power from the transmitter.

This provides an opportunity to mention a term that's widely misunderstood and misused -- mismatch loss. If you're stuck with a fixed impedance source, the mismatch loss represents the amount of power delivered to a given load compared to the power which would be delivered

by the same source to a perfectly matched load. It doesn't necessarily represent dissipative loss in any part of the circuit, just a reduction in power below the maximum possible. It's a useful measure in a laboratory environment, where impedances are typically fixed. However, a properly adjusted impedance matching device such as a tuner reduces the mismatch loss to zero. So in most amateur systems, it's not relevant. The funnel device would do the same thing for your gas burner experiment.

Roy Lewallen, W7EL

5422. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 09:07:08 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbkcrs$8s8$1@hercules.btinternet.com>
Source record: 116075
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vdr9o5rttsd48e@corp.supernews.com...
> Gary Peach wrote:
> >
> > OK may I ask this question as you consider that match does not matter.
> >
> > Your Gas Bills are now calculated in Joules of energy supplied (kWh).
> > I wish to calibrate the power output of a gas ring to stretch my pension
a
> > bit by being efficient.
> > For this I fill a suitable receptacle with a known quantity of water and
> > stick a thermometer into it. I let things settle for a bit and then I
put it
> > onto the gas ring to be calibrated and start my stop watch. When the
water
> > temperature has reached ten degrees more than I started with I stop the
> > watch. From the knowledge of the volume of water and the change of
> > temperature I know how many joules of energy the gas has supplied to the
> > water and from the time I can now convert that into Watts of power.
> >
> > OK now I want to see the effect of using different saucepans available
to me
> > in my kitchen so I put the same quantity of water into a different
saucepan
> > and repeat the procedure above with the same quantity of water.
> >
> > 1) Will the results from both experiments agree?
> >
> > 2) Why?
> >
> > Gary7SLL
>
> Different saucepans will give different efficiencies -- among other
> factors, the "match" between saucepan and flame diameter will be involved.
>
> But the context of the statement about match not mattering was that it
> wouldn't affect the accuracy of the measurement. Will your measurement
> of power being absorbed by the water be less accurate for one diameter
> of pan than another? No.

The thing that I am really interested in is my gas bill.
The conditioning of the experiment is going to affect that markedly.

> If, on the other hand, you want to know what the maximum available power
> is from your burner, you will have to "match" the "load".
> What you'd do then is to build a "tuner"
>-- a funnel device to concentrate or spread
> the flame to match the diameter of the pan. Just like amateurs do when
> they want to extract the maximum possible amount of power from the
> transmitter.

Let me get you right, you are saying here that match does matter?

> This provides an opportunity to mention a term that's widely
> misunderstood and misused -- mismatch loss. If you're stuck with a fixed
> impedance source, the mismatch loss represents the amount of power
> delivered to a given load compared to the power which would be delivered
> by the same source to a perfectly matched load. It doesn't necessarily
> represent dissipative loss in any part of the circuit, just a reduction
> in power below the maximum possible. It's a useful measure in a
> laboratory environment, where impedances are typically fixed.

Consider the batteries in your radio.
The transfer of less than maximum possible power due to missmatch is because
power is dissipated in the internal resistance of the battery (source).
At maximum power transfer the loss in each is half of the total available
power.

The pertinent thing is that by matching them to the radio will the batteries
last any longer?

You get the same problem with the mechanical transfer of energy.
Half mass velocity squared (m v^2)/2
Reducing the speed of a car from 30 mph to 20 mph reduces the energy
available to maim and kill by two and a quarter times
put another way to 44%

NOT to 66%

The old slogan, "SPEED KILLS", is just about right.

You must have seen that executive toy consisting of several ball bearings
suspended by threads.

It would be fun to have some balls of different diameter instead of all the
same.

> However, a
> properly adjusted impedance matching device such as a tuner reduces the
> mismatch loss to zero.

Really

> So in most amateur systems, it's not relevant.
> The funnel device would do the same thing for your gas burner experiment.

I see and how do I determine the heat lost to the funnel?

The whole point is that my post described a badly conditioned experiment, the result would be an indicator, but not sufficiently accurate to calculate how much gas it was going to cost me to boil my spuds every day for a quarter.

Gary7SLL

5423. Balun questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 10:37:21 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <BZjDa.356791$vU3.266029@news1.central.cox.net>
Source record: 116076

Folks:
Although I'm an Extra class ham, I'm not an electrical engineer or physicist like some of you guys seem to be, and haven't operated a great deal - career and poor antennas have kept me from it. OK, I've worked enough and can legally have a good antenna at this QTH, so I've been lurking at this news group, reading the ARRL Handbook and learning.

Bob Hawk (SK) who was published in the original Antenna Book suggested (back when I was KB0KFA) that I use a center fed Zepp antenna, as it can be tuned for any frequency, so I am doing so. I have a SpiRo 75" antenna with some loading coils near the end that SpiRo says works from 1.8 to 30 MHz, and it has decent reviews in the news groups. It is fed with 450 ohm twin lead. I anticipate any day now to have both the time and a day with no rain to put this up.

So. I'll first try it with my MFJ tuner, and I expect it to work, but am intrigued about using a 9:1 balun outside the house. Advantages seem to be: maybe easier to tune, maybe easier to do lightning protection, reduce the RF in the shack, and of course the satisfaction of learning something and building it.

Below are several web sites that show several ideas about baluns. The first is in Italian, shows the circuit for a Guanella balun (Looks like all the other diagrams, I just picked that one), then a 4:1 wound on ferrite rods for the mechanical drawing (could be easily duplicated as a 9:1) and finally what I think is called a voltage balun, wound like a regular transformer.

So, my questions to you folks are: 1) are the advantages of a balun outside the shack what I surmise they are, 2) is the Guanella balun clearly superior for transmitting over the voltage balun, 3) can a Guanella balun be wound of coils of cable WITHOUT ferrite rods, and 4) can the Guanella balun be wound of wire over a ferrite core.

9:1 Guanella balun:
http://www.qsl.net/iz7ath/web/02_brew/11_balun/english/pag11_eng.htm
4:1 balun wound on ferrite rods:
http://www.arising.com.au/people/Holland/Ralph/CM4Balun.htm
9:1 voltage(?) balun:
http://www.hard-core-dx.com/nordicdx/antenna/feed/9_1balun.html

Thank you in advance and anticipating a lively discussion,

Bob McCown, AB0OD

5424. Re: Balun questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 11:20:35 UTC
From: Joe O <jenjoeo@zianet.com>
Message-ID: <3eddd57f@news.zianet.com>
Source record: 116077

The impedance you will find on the 450 ohm cable is NOT 450 ohms. It will vary wildly with frequency. The 450 ohm line is used because it "tolerates" the high SWR that is will be present most of the time. By tolerate I mean the signal loss is considerably lower than 50 ohm cable with the same antenna connected.

I have found that a 1:1 current type balun located just outside the shack connected with a 6-10 ft of low loss coax will allow most bands to be easily matched. At one time I switch changed a 4:1 balun instead of the 1:1 for a easier to match impedance on a couple of bands. This provided slightly higher field strength but was not worth the trouble.

From what I read the current type is superior to the voltage type because there is no guarantee that the antenna/feedline is exactly balanced. Suggest you look at a Radio Works catalog.

73s Joe O, KI5FJ

"Robert McCown" <bmccown(nospam)@cox.net> wrote in message news:BZjDa.356791$vU3.266029@news1.central.cox.net...
> Folks:
> Although I'm an Extra class ham, I'm not an electrical engineer or physicist
> like some of you guys seem to be, and haven't operated a great deal - career
> and poor antennas have kept me from it. OK, I've worked enough and can
> legally have a good antenna at this QTH, so I've been lurking at this news
> group, reading the ARRL Handbook and learning.
>
> Bob Hawk (SK) who was published in the original Antenna Book suggested (back
> when I was KB0KFA) that I use a center fed Zepp antenna, as it can be tuned
> for any frequency, so I am doing so. I have a SpiRo 75" antenna with some
> loading coils near the end that SpiRo says works from 1.8 to 30 MHz, and it
> has decent reviews in the news groups. It is fed with 450 ohm twin lead. I
> anticipate any day now to have both the time and a day with no rain to put
> this up.
>
> So. I'll first try it with my MFJ tuner, and I expect it to work, but am
> intrigued about using a 9:1 balun outside the house. Advantages seem to be:
> maybe easier to tune, maybe easier to do lightning protection, reduce the

RF
> in the shack, and of course the satisfaction of learning something and
> building it.
>
> Below are several web sites that show several ideas about baluns. The
first
> is in Italian, shows the circuit for a Guanella balun (Looks like all the
> other diagrams, I just picked that one), then a 4:1 wound on ferrite rods
> for the mechanical drawing (could be easily duplicated as a 9:1) and
finally
> what I think is called a voltage balun, wound like a regular transformer.
>
> So, my questions to you folks are: 1) are the advantages of a balun
outside
> the shack what I surmise they are, 2) is the Guanella balun clearly
superior
> for transmitting over the voltage balun, 3) can a Guanella balun be wound
of
> coils of cable WITHOUT ferrite rods, and 4) can the Guanella balun be
wound
> of wire over a ferrite core.
>
> 9:1 Guanella balun:
> http://www.qsl.net/iz7ath/web/02_brew/11_balun/english/pag11_eng.htm
> 4:1 balun wound on ferrite rods:
> http://www.arising.com.au/people/Holland/Ralph/CM4Balun.htm
> 9:1 voltage(?) balun:
> http://www.hard-core-dx.com/nordicdx/antenna/feed/9_1balun.html
>
> Thank you in advance and anticipating a lively discussion,
>
> Bob McCown, AB0OD
>
>

5425. OWLs and fires IMBY

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 11:49:28 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3edddb29$1_1@newsfeed>
Source record: 116078

I've had several feeder-fires on my garden-variety "450-ohm" open wire line.

After reading some (of W7EL's ???) remarks about skin-depth and such, I theorize that it may be that, during my mishandling of this OWL stuff while splicing or otherwise installing it, that the steel core became exposed. The steel may have enough r-f resistance to heat up at its exposure point, igniting the OWL insulation.

Frequencies involved are on 40M c-w, 500W r-f, mismatch at antenna unknown but handled at shack with tuner.

Any one out there have other ideas or similar experiences?

73, Dave, N3HE

5426. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 11:57:31 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDDDEAB.8060904@mwci-news>
Source record: 116079

W5DXP wrote:
> William E. Sabin wrote:
>
>>
>>> Cecil, W5DXP wrote:
>>> "What causes the phase reversal?"
>>
>>
>> When the forward wave reaches the open-circuit ...
>
>
> But it's not an open-circuit. It's an impedance discontinuity
> from 300 ohms to 50 ohms, for instance. How does an impedance
> discontinuity from 300 ohms to 50 ohms cause 100% re-reflection
> of reflected energy?

I did not know about the 300 ohm load. This thread
has become so bewildering that it is impossible to
follow all of the twisting and turning.

Bill W0IYH

5427. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 12:21:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDDE432.1040408@ieee.org>
Source record: 116080

William E. Sabin wrote:
> W5DXP wrote:
>> But it's not an open-circuit. It's an impedance discontinuity
>> from 300 ohms to 50 ohms, for instance. How does an impedance
>> discontinuity from 300 ohms to 50 ohms cause 100% re-reflection
>> of reflected energy?
>
> I did not know about the 300 ohm load. This thread has become so
> bewildering that it is impossible to follow all of the twisting and
> turning.

We are apparently digging deeper than hams have ever dug. The optics physicists seem to have already figured it out. For coherent light and non-glare glass with a thin film coating, the rearward irradiance lost by wave cancellation is gained in the forward beam direction. It's a simple conservation of energy event. The destructive interference event furnishes irradiance (energy/time) to the constructive interference event. The irradiance "lost" in destructive interference is "gained" in constructive interference in the opposite direction just as described in the last four paragraphs on the Melles-Griot Web Page.

http://www.mellesgriot.com/products/optics/oc_2_1.htm

A matched transmission line system with reflections is similar to the coherent light, non-glare glass example. Reflections toward the source are canceled by destructive interference between two rearward-traveling reflected waves. Just as it does with the non-glare glass reflection, the energy associated with the wave cancellation event changes direction and joins the forward wave. Why there is so much resistance to RF waves behaving like light waves is hard for me to fathom.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5428. J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 12:47:05 UTC
From: Mogens <Fister@loegsovs.dk>
Message-ID: <3eddea48$0$76161$edfadb0f@dread11.news.tele.dk>
Source record: 116081

Hi

According to the lastest QST there will be an influence when mounting the
300Ohm ribbon cable in a PVC tube.
Do any have experience ? Will it be completly detuned ?

Best 73 de Mogens

5429. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 12:50:01 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <TVlDa.3810$IR1.398443@news20.bellglobal.com>
Source record: 116082

"W5DXP"
> Why there is so much resistance to RF waves
> behaving like light waves is hard for me to fathom.

Not from me... they're the same thing, just different size.

(Disclaimer: This doesn't mean that I necessarily agree with all of your arguments.)

5430. Re: Balun questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 13:48:02 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <tvtrdvgprmnpfi5a901aefsnj5b6gtkfev@4ax.com>
Source record: 116083

On Wed, 04 Jun 2003 10:37:21 GMT, "Robert McCown"
<bmccown(nospam)@cox.net> wrote:

>Folks:

>Thank you in advance and anticipating a lively discussion,
>
>Bob McCown, AB0OD
>

You might also consider a w2du-style balun to segue from your ladder
line to coax -- see "Some aspects of the balun problem" at
http://home.iag.net/~w2du/

Bob
k5qwg

5431. FM Broadcast System Papers

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 14:38:50 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bbl09s$anmjp$1@ID-175933.news.dfncis.de>
Source record: 116084

This NG is intended for antennas used by amateur radio operators, but some here might be interested in the antennas and RF systems used in FM broadcasting.

Here is a link to a web site with several papers on these topics:
http://rfry.org

5432. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 15:02:35 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bbl1me$acuhr$1@ID-134747.news.dfncis.de>
Source record: 116086

Can't say about 300 ohm, have mounted a 450 ohm
ladder line J pole in PVC, capped both ends, and
added a handgrip by "whipping" the pipe with some
light cord. My "Walking Stick" antenna was the
hit of the 1991 National Boy Scout Jamboree, and
made so VK -> ZL and VK -> PB QSO's.

73 es cul

wb3fup
a Salty Bear

"Mogens" <Fister@loegsovs.dk> wrote in message
news:3eddea48$0$76161$edfadb0f@dread11.news.tele.dk...
> Hi
>
> According to the lastest QST there will be an
influence when mounting the
> 300Ohm ribbon cable in a PVC tube.
> Do any have experience ? Will it be completly
detuned ?
>
> Best 73 de Mogens
>
>

5433. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 15:03:21 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <8n1sdvcauo2gqa2pdplfpl27ntprderoqa@4ax.com>
Source record: 116087
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 04 Jun 2003 00:59:59 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

[snip]
|
|This provides an opportunity to mention a term that's widely
|misunderstood and misused -- mismatch loss. If you're stuck with a fixed
|impedance source, the mismatch loss represents the amount of power
|delivered to a given load compared to the power which would be delivered
|by the same source to a perfectly matched load. It doesn't necessarily
|represent dissipative loss in any part of the circuit, just a reduction
|in power below the maximum possible. It's a useful measure in a
|laboratory environment, where impedances are typically fixed. However, a
|properly adjusted impedance matching device such as a tuner reduces the
|mismatch loss to zero. So in most amateur systems, it's not relevant.

I concur completely. Unfortunately, as in this thread, the difference
between amateur practice and laboratory practice sometimes becomes
blurred. (I'm guilty too)

As a retired lab rat, whenever someone starts talking about
"calibrating" something, I start thinking in laboratory terms. In
this event, "mismatch loss", "mismatch uncertainty", "source match",
and a number of other terms become relevent.

5434. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 15:04:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbl1br$i4b$1@news.service.uci.edu>
Source record: 116085

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDD3D1A.5060606@ieee.org...
> Jim Kelley wrote:
> > Your understanding of this subject is apparently ridiculously limited.
> > I <> I1 + I2. When cos theta = 1, and I1 = I2, I <> 2*I1. I = 4*I1.
> > 4*I1 > I1 + I2. Get it? 'I' happens to be greater than I1+I2 for any
> > values I1 and I2. jeez what a maroon.
>
> It is impossible for I to equal 4*I1 without help from destructive
> interference. These two equations *MUST* both be obeyed. For I1=I2,
>
> Imin = I1 + I2 - 2Sqrt(I1*I2) = zero
>
> Imax = I1 + I2 + 2Sqrt(I1*I2) = 4*I1

I guess you have forgotten that I was the first to post those equations
here, and I've posted them numerous times since. You typically argue with me
about them. You also seem to have forgotten the point - the reason I posted
it again. Do you still disagree with Born and Wolf? Do you still deny that
the intensity of the maxima exceeds the sum of the intensities?
(Hint: it's on page 256, of course it's also in Hecht and just about any
other physics book.)

> What is it about Hecht's following assertion
> that you do not understand?

> "The principle of conservation of energy
> makes it clear that if there is constructive interference at one point,
> the "extra" energy at that location must have come from elsewhere. There
> must therefore be destructive interference somewhere else."

There's nothing I don't understand about it. You're probably just trying to
assert that I don't understand it by inuendo. ;-) But in just about every
one of your posts you illustrate for everyone to see what you don't
understand about it.

> Without an Imin, you simply cannot have an Imax. The destructive
interference
> energy from the Imin equation feeds constructive interference energy to
the
> Imax equation. No Imin = No Imax!

In a manner of speaking, sort of. But certainly not in the manner you've
attempted to employ.

Interference nodes don't "feed", active verb, energy to anything just as antinodes don't "draw" energy from the nodes. If you have an Imin, you also have an Imax. Energy is redistributed by the interaction between waves, not by the nodes and antinodes. They are a result, not a cause.

73, Jim AC6XG

5435. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 15:17:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbl22giee1@news.service.uci.edu>
Source record: 116088

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDD1826.3090304@ieee.org...
> How does an impedance
> discontinuity from 300 ohms to 50 ohms cause 100% re-reflection
> of reflected energy?

Answer: The only energy that is 100% re-reflected is represented by P2.
The other energy you're worried about is 0% reflected. It's an open circuit
to the flow of energy. There's certainly no return path. But I guess you
could say that 0% is 100% re-reflected too if you wanted to. ;-)

73, ac6xg

5436. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 15:37:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbl383$j1u$1@news.service.uci.edu>
Source record: 116089

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDD3F28.4030302@ieee.org...
> Jim Kelley wrote:
> > You're being disingenuous. Melles-Griot says nothing about
> > re-reflection.
>
> Of course they do, Jim.

Please note that your arguments don't introduce new or persuasive logic.
They certainly don't prove your assertion. Melles-Griot does not even imply
that energy is re-reflected within their optical devices. You are inferring
it.

>You cannot seriously think that light physicists
> would use ham radio lingo. They say:

Ham radio operators now own wave reflection 'lingo'? You can't be serious.

> "... reflected wavefronts interfere destructively, and overall reflected
> intensity is ... zero."

> "... the principle of conservation of energy indicates all "lost"
reflected
> intensity will appear as enhanced intensity in the transmitted beam."

Neither of which necessitates re-reflection of energy. It is obvious that
if the energy is not reflected, that it will appear in the transmitted beam.

> The reflected wavefronts are traveling rearward and cancel. The energy
> "lost" from the reflected wave cancellation changes direction and joins
> the (forward-traveling) transmitted beam.

Note that the description in the previous paragraph is found only in the
pathological musings of one Cecil Moore. Energy involved in interference
does not change direction simply by virtue of the fact that it is involved
in interference. There is no physical or mathematical foundation for such a
notion. Of this we may all rest assured. Energy is not transferred in the
direction of wave cancellation, obviating any need for it to be
re-reflected. Instead, the energy which was not reflected and would
otherwise have been "lost" due to reflection, remains as part of the forward
moving energy thus "enhancing" the intensity of the transmitted beam.

No magical energy reversals required.

73, ac6xg

5437. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 16:29:42 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ede1e74$1_2@news.vo.lu>
Source record: 116090

Hi Paul,

Very interested this 3-bander spider beam. Indeed it is quite similar to the hex-beam, and of course probably much cheaper too. Rest to build a 6 bander model... hi

Thanks for comments

Thierry
ON1SKY

"Terry Ashland" <t_ashland@yahoo.com> wrote in message news:6e6aeba9.0306031640.35e84c@posting.google.com...
> Thierry,
> Check out this url: http://www.qsl.net/df4sa/index_spider.htm It is
> mentioned on the hexbeam group. It's not a hexbeam, but it's small
> and lightweight. It is a little more local than the US (made in
> DA-land).
> 73,
> Terry, WK0F
>
> "Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:<3edcf519$1_2@news.vo.lu>...
> > "Eskay" <sieb_kNOS@PAMyahoo.ca> wrote in message
> > news:3EDCC431.9050106@PAMyahoo.ca...
> > > I believe that he does not have one or does not want the bother of
> > > getting E-mail related to the Hexbeam..
> >
> > What I suspected. Strange for someone who want to sale products...
> >
> > > I saw him in Rochester NY this past week-end..Very nice looking antenna..
> > > If you want to Homebrew the antenna,go to the Hexbeam Yahoo group..
> > > There is info there on how to do it...
> > > http://groups.yahoo.com/group/hex-beam
> >
> > I know, but I am not really an handyman and a friend of mine experienced bad
> > experience trying to build a vertical. So I think that for such a beam that
> > can be harder... Will however check this forum for ideas, who knows.
> >
> > > The price of a 5 band Hexbeam is $889.00 US.
> > > 73 de VE3JUA..
> >

> > And even more including shipping and taxes... probably near $1k :-((
> >
> > Thanks
> > Thierry
> > >
> > > Thierry wrote:
> > > > Hi,
> > > >
> > > > Very interested in buying an Hex-beam multiband, could someone give
me
> > the
> > > > email address of this manufacturer, his website lists only postal
adr
> > and
> > > > fax (http://www.hexbeam.com/contact.shtml).
> > > >
> > > > Thanks in advance
> > > >
> > > > 73
> > > > Thierry
> > > > ON1SKY, LX3SKY
> > > > http://www.astrosurf.com/lombry
> > > >
> > > >
> > > >
> > >

5438. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 16:32:50 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ede1f2f$1_2@news.vo.lu>
Source record: 116091

"Mark Keith" <nm5k@wt.net> wrote in message
news:25eb70d7.0306032201.415ce0b4@posting.google.com...
> Bill <n4wc@arrl.net> wrote in message news:<3EDC69E6.9050307@arrl.net>...
> > I am not an antenna guru. But I believe if you shorten a dipole
>...
> If you shorten a dipole, you must add additional loading to tune out
> reactance. Unless you can add big capacity hats on the ends, you will
> usually have to add inductive loading. "coil". If you use inductive
> loading , you will never have quite the efficiency of a full size
> dipole due to the coil losses. If you use capacitive loading, you
> could get real close, but thats almost to the point of running a full
> length antenna when you count total lengths. MK

Hi,

Mike confirmed me the price by fax (no email confirmed): $1066 for sending
the HXB 6 bands-pac combination (+ tode and mast) by Express to europe.

Mike asked me if I wanted the "SSB element", an option i have not seen on
his website.
That could be coils you mentionned. I asked him more detail about this
option.

Thierry

5439. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:08:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vds9s4s133bkbd@corp.supernews.com>
Source record: 116092
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Gary Peach wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vdr9o5rttsd48e@corp.supernews.com...
>>
>>Different saucepans will give different efficiencies -- among other
>>factors, the "match" between saucepan and flame diameter will be involved.
>>
>>But the context of the statement about match not mattering was that it
>>wouldn't affect the accuracy of the measurement. Will your measurement
>>of power being absorbed by the water be less accurate for one diameter
>>of pan than another? No.
>
>
> The thing that I am really interested in is my gas bill.
> The conditioning of the experiment is going to affect that markedly.
>
>
>>If, on the other hand, you want to know what the maximum available power
>>is from your burner, you will have to "match" the "load".
>>What you'd do then is to build a "tuner"
>>-- a funnel device to concentrate or spread
>>the flame to match the diameter of the pan. Just like amateurs do when
>>they want to extract the maximum possible amount of power from the
>>transmitter.
>
>
> Let me get you right, you are saying here that match does matter?

In measurements of how much heat goes into the saucepan, match doesn't
affect the accuracy of the measurement. If the objective is to measure
the maximum possible amount of heat you can get into the best
("matched") saucepan (the maximum available power), match does matter.

>>This provides an opportunity to mention a term that's widely
>>misunderstood and misused -- mismatch loss. If you're stuck with a fixed
>>impedance source, the mismatch loss represents the amount of power
>>delivered to a given load compared to the power which would be delivered
>>by the same source to a perfectly matched load. It doesn't necessarily
>>represent dissipative loss in any part of the circuit, just a reduction
>>in power below the maximum possible. It's a useful measure in a
>>laboratory environment, where impedances are typically fixed.
>
>
> Consider the batteries in your radio.

> The transfer of less than maximum possible power due to missmatch is because
> power is dissipated in the internal resistance of the battery (source).
> At maximum power transfer the loss in each is half of the total available
> power.

A reasonable model for a battery is a voltage source and series
resistance, the latter representing the internal resistance of the
battery. The maximum output power will be obtained when the load is
equal to the internal resistance. If you apply a load that has a lower
resistance than the internal resistance, you'll have some "mismatch
loss", and the dissipation in the internal resistance will rise.
However, if the load resistance is greater than the internal resistance,
you'll also have "mismatch loss", but the dissipation in the battery
internal resistance will actually be *less* than the dissipation when
the load is matched. In the extreme case of a very high load resistance,
the "mismatch loss" will be nearly infinite in terms of dB, yet the
internal resistance loss will be nearly zero.

In a real battery there are other mechanisms that result in increased
life at lower current drains. The simple model I'm using doesn't take
those into account, so they have no bearing on what I'm talking about here.

> The pertinent thing is that by matching them to the radio will the batteries
> last any longer?

By "last longer", I'll assume you mean that you want to extract the
maximum possible amount of energy from the battery. Otherwise, it's a
trivial case of leaving the battery open circuited. Assuming my
assumption is right, the answer is abolutely not. For the maximum energy
extraction, you want the greatest efficiency -- the highest possible
fraction of the energy supplied by the source to be delivered to the
load, and the smallest possible fraction to be dissipated internally.
The efficiency of the simplified model is easily seen to be simply
RL/(RS + RL), where RS is the internal resistance and RL the load
resistance. You can see from this that the maximum total energy will be
delivered to the load when the load resistance is the greatest.

> You get the same problem with the mechanical transfer of energy.
> Half mass velocity squared (m v^2)/2
> Reducing the speed of a car from 30 mph to 20 mph reduces the energy
> available to maim and kill by two and a quarter times
> put another way to 44%
>
> NOT to 66%
>
> The old slogan, "SPEED KILLS", is just about right.
>
> You must have seen that executive toy consisting of several ball bearings
> suspended by threads.
>
> It would be fun to have some balls of different diameter instead of all the
> same.

The connection between this and the discussion isn't obvious to me. If
it would illustrate that what I've said is incorrect, please explain how.
>
>>However, a
>>properly adjusted impedance matching device such as a tuner reduces the
>>mismatch loss to zero.
>
>
> Really

Yes, really. If even one reader comes away from this with that
knowledge, it's been worthwhile.

>
>>So in most amateur systems, it's not relevant.
>>The funnel device would do the same thing for your gas burner experiment.
>
>
> I see and how do I determine the heat lost to the funnel?

For simplicity in illustration, I've assumed a lossless tuner and a
lossless funnel. But determining the funnel loss would be as difficult
as determining the loss of a tuner, if the only measurement you could
make is the power out of the tuner without knowing the power in. If you
know the source impedance, then you can calculate the tuner loss from
measurements of the output power with two or more different load
resistances; otherwise it's impossible. Likewise measuring the funnel loss.

> The whole point is that my post described a badly conditioned experiment,
> the result would be an indicator, but not sufficiently accurate to calculate
> how much gas it was going to cost me to boil my spuds every day for a
> quarter.

Yes, you'd certainly need more information than how much energy is going
into the water to determine how much gas you've used.

Roy Lewallen, W7EL

5440. Re: OWLs and fires IMBY

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:18:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdsaektchq7nb9@corp.supernews.com>
Source record: 116093

Although you can have some pretty high currents on an open wire line
feeding a mismatched antenna, I'd be really surprised if a spice would
get anywhere near hot enough to ignite insulation. If you're worried,
check the condition of the insulation near the splice. It'll melt at a
temperature well below the ignition point, so if it's not badly melted
you can relax.

As anyone who has soldered wire knows, heat is rapidly conducted away
from a hot spot by the wire. This, air circulation, and the inherently
high impedance of open wire line (which keeps the current more moderate)
all contribute toward keeping the temperature reasonable. And in the
grand scheme of things, 500 watts isn't really all that much.

Roy Lewallen, W7EL

David J. Windisch wrote:
> I've had several feeder-fires on my garden-variety "450-ohm" open wire line.
>
> After reading some (of W7EL's ???) remarks about skin-depth and such, I
> theorize that it may be that, during my mishandling of this OWL stuff while
> splicing or otherwise installing it, that the steel core became exposed.
> The steel may have enough r-f resistance to heat up at its exposure point,
> igniting the OWL insulation.
>
> Frequencies involved are on 40M c-w, 500W r-f, mismatch at antenna unknown
> but handled at shack with tuner.
>
> Any one out there have other ideas or similar experiences?
>
> 73, Dave, N3HE
>
>

5441. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:23:43 UTC
From: richardharrison@webtv.net
Message-ID: <22679-3EDE2B1F-79@storefull-2316.public.lawson.webtv.net>
Source record: 116095

Bill, W0IYYH wrote:
"I did not know about the 300 ohm load."

It is confusing because the topic shifts so often. Here is what I think happens in one case to produce reflections on a transmission line.

Take the case of an imbeded 1/2-wave of 300-ohm line in a matched 50-ohm system.

The transmitter is a 50-ohm source because we made it so. It is connected by 50-ohm line to the 300-ohm 1/2-wavelength of line which is connected by 50-ohm line to the 50-ohm load.

No reflections exist anywhere at 50 ohms. The 1/2-wavelength of 300-ohm line repeats the impedances at its ends.

There are reflections in the 300-ohm line because it "sees" 50 ohms at each end, a mismatch for the 300 ohms.

Why the reflections?

Only a volts to amps ratio of Zo is allowed to flow in either direction in the 300-ohm line.

There are too many volts and too few amps at 300 ohms to satisfy a 50-ohm load. The extra volts, sapped by a low-Z load, add to the H-field, which generates a reversed-phase voltage proportional to the mismatch. This reflected fraction of the incident voltage arrives back at the source end of the 300-ohm line, out-of-phase with the new volts there. The phase of the amps in the reflection was unfazed by it and they arrive at the source end of the 300-ohm line in-phase with the new amps.

Phase relationships are constant throughout all cycles (we can use phasors) at the junctions of the lines, as they are at all other points on the lines. That is what makes standing waves.

New voltage entering the 300-ohm line at its source end is always greater than the reflected fraction. Two voltage sine waves of the same frequency when combined always compose a new voltage sine wave of the same frequency.

The bigger source output volts and the smaller reflected volts at the source junction of 50-ohm and 300- ohm lines are exactly out-of-phase and combine as a simple difference in this case.

The source end of the 300-ohm line is 1/2-wave back from the reflection point at the load end of the line. One expects a voltage minimum

1/2-wave back from a load that`s too low in impedance.

The repeated (too-low) load impedance meets expectations, but the reflected wave has a 300-ohm volts to amps ratio. 50-ohms is a discontinuity for the reflected wave on a 300-ohm line. The reflected wave has too many volts and not enough amps to satisfy the source of 50 ohms.

There is a big difference between the source and load ends of the 300-ohm line. The mismatch may be the same but there`s no new power flowing from the load into the line. There is new power flowing from the source into the line. The new volts are always greater than the reflected volts at the source end of the line. Their combination there always forces flow from the source toward the load in the example described.

Best regards, Richard Harrison, KB5WZI

5442. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:44:11 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDE2FEB.DDF11F2C@cwis.net>
Source record: 116094

Mogens,
Yes, anything close to an antenna will tend to
detune it. Putting a 300 ohm 'J'-pole antenna in
a PVC pipe will tend to detune it slightly, -VERY-
slightly, and the difference will probably be un-
noticable. I 'hedge' that by saying 'probably',
because PVC can have a composition which contains
varrying amounts of metal which can/will affect
the antenna's performance. The average, 'run of
mill' PVC pipe shouldn't make much (if any)
difference...
'Doc

5443. Re: Balun questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:45:45 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <bblb89$e57$1@news1.tribune.com>
Source record: 116096

To learn about the losses and impedance matching problems at the junction,
go to Reg Edwards web site.

http://www.btinternet.com/~g4fgq.regp/

And get a copy of "dipole3.exe"

KA9CAR

"Robert McCown" <bmccown(nospam)@cox.net> wrote in message
news:BZjDa.356791$vU3.266029@news1.central.cox.net...
> Folks:
> Although I'm an Extra class ham, I'm not an electrical engineer or
physicist
> like some of you guys seem to be, and haven't operated a great deal -
career
> and poor antennas have kept me from it. OK, I've worked enough and can
> legally have a good antenna at this QTH, so I've been lurking at this news
> group, reading the ARRL Handbook and learning.
>
> Bob Hawk (SK) who was published in the original Antenna Book suggested
(back
> when I was KB0KFA) that I use a center fed Zepp antenna, as it can be
tuned
> for any frequency, so I am doing so. I have a SpiRo 75" antenna with some
> loading coils near the end that SpiRo says works from 1.8 to 30 MHz, and
it
> has decent reviews in the news groups. It is fed with 450 ohm twin lead.
I
> anticipate any day now to have both the time and a day with no rain to put
> this up.
>
> So. I'll first try it with my MFJ tuner, and I expect it to work, but am
> intrigued about using a 9:1 balun outside the house. Advantages seem to
be:
> maybe easier to tune, maybe easier to do lightning protection, reduce the
RF
> in the shack, and of course the satisfaction of learning something and
> building it.
>
> Below are several web sites that show several ideas about baluns. The
first
> is in Italian, shows the circuit for a Guanella balun (Looks like all the
> other diagrams, I just picked that one), then a 4:1 wound on ferrite rods
> for the mechanical drawing (could be easily duplicated as a 9:1) and

finally
> what I think is called a voltage balun, wound like a regular transformer.
>
> So, my questions to you folks are: 1) are the advantages of a balun
outside
> the shack what I surmise they are, 2) is the Guanella balun clearly
superior
> for transmitting over the voltage balun, 3) can a Guanella balun be wound
of
> coils of cable WITHOUT ferrite rods, and 4) can the Guanella balun be
wound
> of wire over a ferrite core.
>
> 9:1 Guanella balun:
> http://www.qsl.net/iz7ath/web/02_brew/11_balun/english/pag11_eng.htm
> 4:1 balun wound on ferrite rods:
> http://www.arising.com.au/people/Holland/Ralph/CM4Balun.htm
> 9:1 voltage(?) balun:
> http://www.hard-core-dx.com/nordicdx/antenna/feed/9_1balun.html
>
> Thank you in advance and anticipating a lively discussion,
>
> Bob McCown, AB0OD
>
>

5444. Re: OWLs and fires IMBY

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 17:50:15 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDE3157.B95CA68A@cwis.net>
Source record: 116097

Dave,
I think I'd keep looking for the cause of your
feed line fires. I seriously doubt if a mishandled
splice would cause a fire, at 500 watts, unless there
is another factor envolved.
'Doc

5445. Re: Balun questions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:02:59 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDE3453.EF77103D@cwis.net>
Source record: 116098

Bob,
I think the primary advantage to using a balun
mounted 'outside' would be the mechanical convenience
or using coax feed line to enter/exit the house.
Coax is easier to run through a window/wall/etc, than
ladder line is, for most people. As long as the coax
is kept fairly short, and a good quality coax is used,
there's no big problem with loss.
As far as what 'ratio' balun, a 1:1 will work as
well as any other (make sure it's rated for much more
power than you will be transmitting, though). The
actual impedance the tuner will 'see' is going to be
a very wide range, depending on frequency, so there
wouldn't be any particular advantage to using a 9:1 balun.
'Doc

5446. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:11:05 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ede362e$0$48915$edfadb0f@dtext02.news.tele.dk>
Source record: 116099

Hello

> noticable. I 'hedge' that by saying 'probably',
> because PVC can have a composition which contains
> varrying amounts of metal which can/will affect
> the antenna's performance. The average, 'run of

Notice that the gray color in PVC is based on graphite
and other colors does contains metal. In my part of
the world some white PVC tubing is used for house
hold wiring and it god for using as coilformers and
stuff like that. A good test is putting a piece of it
into the microwave oven with a cup of water, if it
get's hot, don't use it for HF.

Regards Max

5447. Re: Which 6m mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:31:00 UTC
From: WILSON <donna.wilson54@verizon.net>
Message-ID: <EVqDa.42627$da1.6959@nwrddc03.gnilink.net>
Source record: 116100

I have a FT-690 and took a 11 meter antenna whip the 102 inch version and cut it to length for 50.125 and worked great. When the band is open I would sometimes use just one watt to make contacts. Just a thought
N9RLR
Tampa, FL

VHFRadioBuff <vhfradiobuff@aol.comspamme> wrote in message news:20030530123539.15851.00000558@mb-m28.aol.com...
> I am considering buying an FT-8900 and if I do, I've been trying to decide if I
> should get a triband antenna or use a duplexer with my current dualband antenna
> and buy a 6m hamstick. The cost difference is less than $20 if I get the
> hamstick when you throw in the cost of the mount for either antenna and the
> duplexer. The triband antennas I am thinking of are either the Comet SB14 or
> the SB15. If I get one of those, I might go for the SB14 because of the
> shorter size. According to what I've read, the gain on 6m on both antennas is
> the same, with the SB15 showing more gain on 2m/70cm, but I'm not real
> concerned with gain on those bands. The mounts I'm considering are the Comet
> CP-5M or the Diamond K400C (or 3/8c for the hamstick). Any opinions?
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

5448. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:34:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ssesdvstr8tca9hrqk7ov8pqfaq23ohb4l@4ax.com>
Source record: 116101

On Wed, 4 Jun 2003 18:29:42 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

>Hi Paul,
>
>Very interested this 3-bander spider beam. Indeed it is quite similar to the
>hex-beam, and of course probably much cheaper too. Rest to build a 6 bander
>model... hi
>
>Thanks for comments
>
>Thierry
>ON1SKY

Hi Thierry,

You will find this design discussed in Moxon's book as well.

73's
Richard Clark, KB7QHC

5449. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:45:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDE3E39.648D59F2@uci.edu>
Source record: 116104

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Yes, but that is simply a mathematical curiosity. It has absolutely NO
> >>physical meaning.
> >
> > If you're referring to your substitution of P3 and P4 for P1 and P2, I
> > completely agree.
>
> Nope, I'm referring to your assertion that P1+P2 > P1+P2.

There was no such assertion. You seem to be struggling to stay lucid
and coherent.

> > Again, you fail to understand interference between waves. V1 and V2 are
> > all that is required to make the correct calculation, likewise P1 and P2
> > - when you use the equation provided in the text books for this very
> > purpose.

> It's true that is all that is required to make the correct "calculation".
> That is not all that is required to satisfy the conservation of energy
> principle.

Of course it is, Cecil. Your misunderstandings about the movement of
energy are what lead to your mistaken beliefs about this.

> The "calculation" is merely a mathematical curiosity.

It's certain Hecth would never have said that. ;-)

> The
> question is where does the constructive interference energy come from?
> Hecht answers that question. It "comes from" the destructive interference
> event.

Both events "come from" the interaction of waves. One event doesn't
cause the other. Both occur naturally together.

> >>If P1=Pfwd1, then P2=0 and P4=0.
> >
> > I would be interested to know how you arrive at that.

> I explained it in the following which you apparently didn't read.
> Please read it until you understand it.

You seem to ignore the fact that there are two boundaries. I have no
idea what assumptions you're making, and your argument is unconvincing.

Your claim seems untrue on its face, and you provide no substantiation
for it. A lack of reflection at one point does not mean a lack of
reflection at all other points. It is in fact necessary for reflections
to occur at the second boundary so that reflections will not occur at
the first.

> >>Hint: If P1=Pfwd1 then the power transmission coefficient
> >>is unity and the system is therefore flat, by definition.

Since all of the forward power is transferred across the impedance
discontinuity, I don't know any other way to look at it. But it
certainly doesn't support your assertion that P2 and P4 must equal zero.

> > It's quite clear that energy is not being reflected from the match
> > point.

> If b1=0 and s11a1=0, then s12a2=0, i.e. there are NO reflections anywhere
> in the system and the system is *flat*.

Is this your way of proving that energy is actually being reflected back
from the match point?

73, Jim AC6XG

5450. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:48:55 UTC
From: Precious Pup <barking@wrongtree.org>
Message-ID: <3EDE3F17.FBC69E7B@wrongtree.org>
Source record: 116103
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

Nono wrote:
>
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

People write books on this stuff.

http://www.artech-house.com/
http://www.amazon.com/exec/obidos/tg/detail/-/0780310780/qid=1054752824/sr=1-3/ref=sr_1_3/002-9012784-8467247?v=glance&s=books

5451. [FA] AOR 8200MkII hand held scanner + EXTRAS = COMPLETE KIT!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:55:24 UTC
From: Bartek Borek <bartek.borek@nononohackersden.fsnet.co.uk>
Message-ID: <bbiqv9$6t3$1@newsg4.svr.pol.co.uk>
Source record: 116168

My scanner, AOR8200MkII, together with:

- 25-1300Mhz mag mount antenna
- Desk stand for the scanner
- Couple of v.good freq. guides + CD-ROM (searchable!)

+ other bits and bobs that make a complete scanning kit

Bid for it on eBay!!! here's the link:

URL: http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3028523118

There is a reserve but a fair one

Bartek

5452. AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 18:58:34 UTC
From: "Pat St. Jean" <stjeanp@pat-st-jean.com>
Message-ID: <Y7qcnTXZlq7H3EOjXTWcpg@august.net>
Source record: 116102

Hi everyone,
I'd like to tap the collective wisdom on some interference I'm getting
from a local AM station. It's on 660kHz and I'm hearing it well enough
on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
tuner to make out the callsign, music, etc.
Is there anything I should do? I've left a voicemail for the
station's GM, asking him to call me, but I'm not sure if I wasn't
jumping the gun there.
And before anyone jumps on me, I'm going to be extending that wire
with another 100' so that I can actually tune up on 160. :)

Thanks for the help!
Pat, K0OOK

--
Pat in Lewisville K0OOK '97 XLH 883 (Rocinante)
BS#140 EKIII rides with me
http://www.pat-st-jean.com/~stjeanp All things Pat
http://www.pat-st-jean.com/products.html Software for paper money collectors

5453. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 19:07:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDE4372.35BAB0F7@uci.edu>
Source record: 116105

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDD3A7F.1060700@ieee.org...
> Jim Kelley wrote:
> >>If energy is
> >>prevented from moving in one direction, it can only move in the only
> >>other direction available. That requires reversing direction. I'm glad
> >>you are starting to get it.
> >
> > I have always gotten what you've been saying, Cecil. I just don't agree
> > with it.
>
> Energy is preventing from moving in one direction. There are only
> two directions. How can you disagree that the energy goes the
> only other direction available?

I don't. Is inuendo the only tool left available to you at this point?
Your assertion that energy has to inexplicably change directions twice
in order for it to end up at the load is faulty. Energy moves in the
direction of source to load. Not all waves in the system are
transferring energy.

> What you don't understand is that energy doesn't change directions
> when the destructive interference and constructive interference
> occur in the same direction. But it does change directions when
> the destructive interference and constructive interference occur
> in opposite directions at a match point in a transmission line.

I understand both sentenses, and note that the first one is correct, and
the second one is not. I am caused to wonder whether you will next
assert that time also reverses direction some similar circumstances.

> The Melles-Griot web page says the energy changes directions.
> 1. "reflected wavefronts interfere destructively"
> 2. "the principle of conservation of energy indicates all "lost"
> reflected intensity will appear as enhanced intensity in the
> transmitted beam."

Yep. I can affirm that it still says the same thing, Cecil. It
has continued to say that since I originally referred you to the web
site.

> Reflected wavefronts are traveling rearward, by definition.
> The transmitted beam is traveling forward, by definition.
> Ergo, the reflected energy involved in the destructive interference
> changes directions and joins the transmitted beam.

Correction, cancelled wavefronts do not reflect or otherwise transfer energy, ergo the energy which is not reflected remains as part of the transmitted beam. The transmitted beam is thus enhanced in comparison to a system not using Melles-Griot antireflective coatings.

73, AC6XG

5454. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 19:57:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nijsdvguvcf91bvb8vcm0j8pvjsh3kc9s7@4ax.com>
Source record: 116106

On Wed, 04 Jun 2003 13:58:34 -0500, "Pat St. Jean"
<stjeanp@pat-st-jean.com> wrote:

>Hi everyone,
> I'd like to tap the collective wisdom on some interference I'm getting
>from a local AM station. It's on 660kHz and I'm hearing it well enough
>on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
>tuner to make out the callsign, music, etc.
> Is there anything I should do? I've left a voicemail for the
>station's GM, asking him to call me, but I'm not sure if I wasn't
>jumping the gun there.
> And before anyone jumps on me, I'm going to be extending that wire
>with another 100' so that I can actually tune up on 160. :)
>
>Thanks for the help!
> Pat, K0OOK
>

Hi Pat,

If the station is punching through your tuner, you must be very close
to their site. If you are not, then the signal must be arriving by
Common Mode (or perhaps over the air - same thing basically) and
getting through the rig's shielding (which may also be a grounding
problem - back to Common Mode).

73's
Richard Clark, KB7QHC

5455. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:11:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE6093.3080504@ieee.org>
Source record: 116107

J. Harvey wrote:
> "W5DXP"
>>Why there is so much resistance to RF waves
>>behaving like light waves is hard for me to fathom.
>
> Not from me... they're the same thing, just different size.
>
> (Disclaimer: This doesn't mean that I necessarily agree with all of your
> arguments.)

I don't know of anyone who agrees with anyone else 100%. Is there
a particular technical point upon which you and I disagree?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5456. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:25:05 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ede6322.4410421@news1.eircom.net>
Source record: 116108
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Tue, 03 Jun 2003 22:09:59 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>>and as we all know.
>>the only time any meter is as accurate as its certificate claims it
>>is is when the certificate was ''signed''
>>
>That would be the amateur understanding. Metrologists maintain
>sufficient records to respond to any issue of accuracy. EVERY Bird
>wattmeter that came in for calibration in my shop was operating
>
>73's
>Richard Clark, KB7QHC

the only time any meter is as accurate as its certificate claims it
is is when the certificate was ''signed''

and i guarantee to that if something happened and you decided to
persue the calibration company, they would say....

the meter was in a calibrated state when we signed the certificate
otherwise we wouldnt have signed.

5457. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:29:54 UTC
From: dplatt@radagast.org
Message-ID: <vdsp6i17lc97e7@corp.supernews.com>
Source record: 116109

In article <nijsdvguvcf91bvb8vcm0j8pvjsh3kc9s7@4ax.com>,
Richard Clark <kb7qhc@attbi.com> wrote:

>> I'd like to tap the collective wisdom on some interference I'm getting
>>from a local AM station. It's on 660kHz and I'm hearing it well enough
>>on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
>>tuner to make out the callsign, music, etc.

>Hi Pat,
>
>If the station is punching through your tuner, you must be very close
>to their site. If you are not, then the signal must be arriving by
>Common Mode (or perhaps over the air - same thing basically) and
>getting through the rig's shielding (which may also be a grounding
>problem - back to Common Mode).

Seems to me that there's another possibility. The AM station's
fundamental might be being picked up by some large metal $WHATEVER
located nearby, rectified by a diode of some sort (corroded
metal-to-metal junction), and the resulting harmonics re-radiated by
the $WHATEVER. This process might create a strong enough third
harmonic to be detected by the AH-4, even if the AH-4 itself and
the AM transmitter are both perfectly clean.

I wonder whether it'd be practical to take a cheap AM transistor
radio, and retune the top end of its range up as far as 2 MHz. If the
signal Pat's hearing is actually a rectification harmonic, it might be
possible to chase it down with a portable receiver and then bond the
corroded junctions well enough to bypass whatever's causing the
rectification.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

5458. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:39:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE6720.40909@ieee.org>
Source record: 116110

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
>>It is impossible for I to equal 4*I1 without help from destructive
>>interference. These two equations *MUST* both be obeyed. For I1=I2,
>>
>>Imin = I1 + I2 - 2Sqrt(I1*I2) = zero
>>
>>Imax = I1 + I2 + 2Sqrt(I1*I2) = 4*I1
>
> I guess you have forgotten that I was the first to post those equations
> here, and I've posted them numerous times since. You typically argue with me
> about them. You also seem to have forgotten the point - the reason I posted
> it again.

Yes, and you said destructive interference equals zero while constructive interference equals 4*I1, a blatantly false assertion. The destructive interference magnitude must always equal the constructive interference magnitude. It is impossible for destructive interference to be zero while constructive interference is 4*I1. It is impossible for constructive interference to equal 4*I1. Constructive interference for Imax equals 2*I1, which is the maximum possible.

The average of Imin+Imax has to equal the average irradiance. You say we can have constructive interference without destructive interference. I say you are wrong. I say 2*Sqrt(I1*I2) is *NOT* contained in I1+I2. You say when you add I1+I2, you obtain more than I1+I2, a clear violation of the conservation of energy principle. Destructive interference differs from the average irradiance by exactly the same magnitude that constructive interference differs from the average irradiance.

(Imin+Imax)/2 = I1+I2, contrary to what you have asserted.

>Do you still disagree with Born and Wolf?

Have you stopped beating your new bride? Please post the quote from Born and Wolf with which you think I disagree.

> Do you still deny that
> the intensity of the maxima exceeds the sum of the intensities?

I never denied that fact. Thinking that I did is part of your confusion. The intensity of the maxima exceeds the sum of the intensities *because* of the constructive interference. The intensity of the minima is less that the sum of the intensities *because* of the destructive interference. You imply that constructive interference can exist without destructive interference. Have you ever seen an interference pattern of all bright rings and no dark rings?

Dr. Best thought he could produce an example of constructive interference
devoid of destructive interference but he failed.

>>"The principle of conservation of energy
>>makes it clear that if there is constructive interference at one point,
>>the "extra" energy at that location must have come from elsewhere. There
>>must therefore be destructive interference somewhere else."
>
> There's nothing I don't understand about it.

Of course there is. You keep asserting that constructive interference is
a stand-alone event unrelated to destructive interference. You say all
you need is I1 and I2 to obtain I1+I2+2*Sqrt(P1*P2). I say you also
need I1+I2-2*Sqrt(P1*P2) in order to satisfy the conservation of energy
principle. The constructive interference energy, 2*Sqrt(P1*P2) is impossible
without the destructive interference event, -2*Sqrt(P1*P2). That's what Hecht
says.

> Interference nodes don't "feed", active verb, energy to anything just as
> antinodes don't "draw" energy from the nodes.

That is true for waves that survive the interference. Not true for waves
that do not survive the interference such as the two rearward-traveling
reflected waves mentioned on the Melles-Griot web page that engage in
wave cancellation.

This is exactly what you are missing. Wave cancellation is a special case
of destructive interference and the results differ from your assertion
above. When wave cancellation occurs, the destructive interference event
does indeed feed energy into the constructive interference event. There
is simply no other energy source available. As Hecht says, the constructive
interference energy must come from somewhere. That statement implies that
the constructive interference energy does NOT exist locally in I1+I2.
--
73, Cecil http://www.qsl.net/w5dxp

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5459. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:53:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE6A3E.1000206@ieee.org>
Source record: 116111

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>How does an impedance
>>discontinuity from 300 ohms to 50 ohms cause 100% re-reflection
>>of reflected energy?
>
> Answer: The only energy that is 100% re-reflected is represented by P2.
> The other energy you're worried about is 0% reflected. It's an open circuit
> to the flow of energy. There's certainly no return path.

What is it about the energy "lost" in the wave cancellation event
joining the forward wave that you don't understand? When there is
an open circuit to the flow of reflected energy, that energy *IS*
re-reflected. There is simply no other place for it to go. It ain't
rocket science. If it's not allowed to flow in one direction, it
flows in the only other direction available. What is it about that
trivially simple concept that you don't get?

There was reflected energy flowing toward the source but it doesn't
reach the source. It instead reaches the load. Let's consult a rocket
scientist to find out where the reflected energy could possibly have gone.

The energy in all of the four following terms winds up flowing toward
the load. The only energy that is not 100% re-reflected is P1.

P1 = Pfwd1(1-rho^2), P2 = Pref2(rho^2)

P3 = Pfwd1(rho^2), P4 = Pref2(1-rho^2)

Pref2 has been reflected and Pfwd1(rho^2) has been reflected. Therefore,
P2, P3, and P4 have each been reflected at one time. The forward power
flowing toward the load equals P1+P2+P3+P4, so the only power that has
never been reflected is P1. Since P2+P3+P4 have each been reflected at
one time and now they are traveling toward the load, they have all been
re-reflected.
--
73, Cecil http://www.qsl.net/w5dxp

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5460. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 21:56:06 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ede6af2$1_1@news.vo.lu>
Source record: 116112

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:ssesdvstr8tca9hrqk7ov8pqfaq23ohb4l@4ax.com...
> On Wed, 4 Jun 2003 18:29:42 +0200, "Thierry"
> <lombrytNOSPAM@hotmail.com> wrote:
>
> >Hi Paul,
> >
> >Very interested this 3-bander spider beam. Indeed it is quite similar to
the
> >hex-beam, and of course probably much cheaper too. Rest to build a 6
bander
> >model... hi
> >
> >Thanks for comments
> >
> >Thierry
> >ON1SKY
>
> Hi Thierry,
>
> You will find this design discussed in Moxon's book as well.

Another good reason to buy it, Richard... The world is well made
(sometimes)...;-)

Thierry
ON1SKY very soon LX
>
> 73's
> Richard Clark, KB7QHC

5461. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:05:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE6D47.2030601@ieee.org>
Source record: 116113

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
> Melles-Griot does not even imply
> that energy is re-reflected within their optical devices.

If you are that blind, we are just going to have to agree
to disagree and our discussion ends.

> Ham radio operators now own wave reflection 'lingo'? You can't be serious.

As far as I know, ham radio operators are the only group that talks
about re-reflection. I could be wrong about that but I have never
heard the term used outside of ham radio. Even some of the posters to
this newsgroup have asked, "What does re-reflection mean?"

> Neither of which necessitates re-reflection of energy.

It's obvious that you and I do not share the same definition of
"re-reflection". So exactly what is your definition of "re-reflection"?

> Energy involved in interference
> does not change direction simply by virtue of the fact that it is involved
> in interference.

That is a true statement. But energy involved in *wave cancellation* does
indeed change direction simply by virtue of the fact that it is involved
in *wave cancellation*. There is simply no other place for the energy to
go. That's what the Melles-Griot web page says, that the rearward-traveling
reflected energy components "lost" in the wave cancellation event are not lost
at all and join the forward wave.

Your entire argument rests upon there being no energy in s11*a1 and s12*a2.
I'm sure most readers have recognized the absurdity of your statements.

b1 = a11*a1 + a12*a2

You say if b1=0, then there is no energy in a11*a1 or a12*a2. The only
way there can be no energy in those terms is for a1=a2=0 so your argument
is proven wrong for about the fifth time. Yet, you ignore the proof that
you are wrong and continue to utter ridiculous falsehoods.
--
73, Cecil http://www.qsl.net/w5dxp

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5462. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:08:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDE6DEC.6C9551C7@uci.edu>
Source record: 116114

You're off the deep end, OM. I'll discontinue inflaming your neurosis
until sometime after you've been properly treated.

W5DXP wrote:
>
> Jim Kelley wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> >>It is impossible for I to equal 4*I1 without help from destructive
> >>interference. These two equations *MUST* both be obeyed. For I1=I2,
> >>
> >>Imin = I1 + I2 - 2Sqrt(I1*I2) = zero
> >>
> >>Imax = I1 + I2 + 2Sqrt(I1*I2) = 4*I1
> >
> > I guess you have forgotten that I was the first to post those equations
> > here, and I've posted them numerous times since. You typically argue with me
> > about them. You also seem to have forgotten the point - the reason I posted
> > it again.
>
> Yes, and you said destructive interference equals zero while constructive
> interference equals 4*I1, a blatantly false assertion. The destructive interference
> magnitude must always equal the constructive interference magnitude. It is impossible
> for destructive interference to be zero while constructive interference is 4*I1.
> It is impossible for constructive interference to equal 4*I1. Constructive interference
> for Imax equals 2*I1, which is the maximum possible.
>
> The average of Imin+Imax has to equal the average irradiance. You say we
> can have constructive interference without destructive interference. I
> say you are wrong. I say 2*Sqrt(I1*I2) is *NOT* contained in I1+I2. You
> say when you add I1+I2, you obtain more than I1+I2, a clear violation of
> the conservation of energy principle. Destructive interference differs from
> the average irradiance by exactly the same magnitude that constructive
> interference differs from the average irradiance.
>
> (Imin+Imax)/2 = I1+I2, contrary to what you have asserted.
>
> >Do you still disagree with Born and Wolf?
>
> Have you stopped beating your new bride? Please post the quote from
> Born and Wolf with which you think I disagree.
>
> > Do you still deny that
> > the intensity of the maxima exceeds the sum of the intensities?
>

> I never denied that fact. Thinking that I did is part of your confusion.
> The intensity of the maxima exceeds the sum of the intensities *because*
> of the constructive interference. The intensity of the minima is less
> that the sum of the intensities *because* of the destructive interference.
> You imply that constructive interference can exist without destructive
> interference. Have you ever seen an interference pattern of all bright
> rings and no dark rings?
>
> Dr. Best thought he could produce an example of constructive interference
> devoid of destructive interference but he failed.
>
> >>"The principle of conservation of energy
> >>makes it clear that if there is constructive interference at one point,
> >>the "extra" energy at that location must have come from elsewhere. There
> >>must therefore be destructive interference somewhere else."
> >
> > There's nothing I don't understand about it.
>
> Of course there is. You keep asserting that constructive interference is
> a stand-alone event unrelated to destructive interference. You say all
> you need is I1 and I2 to obtain I1+I2+2*Sqrt(P1*P2). I say you also
> need I1+I2-2*Sqrt(P1*P2) in order to satisfy the conservation of energy
> principle. The constructive interference energy, 2*Sqrt(P1*P2) is impossible
> without the destructive interference event, -2*Sqrt(P1*P2). That's what Hecht
> says.
>
> > Interference nodes don't "feed", active verb, energy to anything just as
> > antinodes don't "draw" energy from the nodes.
>
> That is true for waves that survive the interference. Not true for waves
> that do not survive the interference such as the two rearward-traveling
> reflected waves mentioned on the Melles-Griot web page that engage in
> wave cancellation.
>
> This is exactly what you are missing. Wave cancellation is a special case
> of destructive interference and the results differ from your assertion
> above. When wave cancellation occurs, the destructive interference event
> does indeed feed energy into the constructive interference event. There
> is simply no other energy source available. As Hecht says, the constructive
> interference energy must come from somewhere. That statement implies that
> the constructive interference energy does NOT exist locally in I1+I2.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
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5463. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:15:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE6F84.50907@ieee.org>
Source record: 116117

Richard Harrison wrote:
> There are reflections in the 300-ohm line because it "sees" 50 ohms at
> each end, a mismatch for the 300 ohms.

Why is 100% of the reflected power re-reflected by a mere 300 ohm
to 50 ohm impedance discontinuity with a rho = 0.714? The wave
reflection model predicts that 51% of the reflected power will
be re-reflected, not 100%.
--
73, Cecil http://www.qsl.net/w5dxp

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5464. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:15:54 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <ucuDa.27069$_w.700689@twister.southeast.rr.com>
Source record: 116115

Hi Mike,

To get it to the RBAD (Radiates Better in All Directions) state, try getting the base of the vertical 10 feet off the ground and use four radials for each band you want to work (all also off the ground at 10 feet or so. TV rotor line works well, one strip for each band, 1/4 wavelength long as radials. With a little tuning of the vertical's internal lengths, you should have a good antenna.

Good luck,
Bill, W4WNT

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:bbgo5g$9476q$1@ID-134747.news.dfncis.de...
> Planning to put up the "RPAD" (Radiates Poorly in
> All Directions) over the weekend. While searching
> the basement for a bumper jack I know I saved for
> just an occurrence, the galvanized pipe is 3" to
> far into the ground, I found a roll of chicken
> wire. I briefly wondered what did I buy this for,
> remembered GROUND PLANE, and then remembered
> someone, sometime, discouraging me from using the
> wire, do to weathering. Is my old brain correct?
> Pros, and cons, from the group please.
>
> 73 es cul
>
> wb3fup
> a Salty Bear
>
>

5465. What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:16:08 UTC
From: joelong@tds.net
Message-ID: <4c96572e.0306041416.480f27a7@posting.google.com>
Source record: 116116

I plan to be using a long wire antenna with my QRP rig and antenna tuner, and I want to cut 1/4-wave counterpoise wires for each band I'll be operating on (I know the 40m counterpoise will work for 15m).

Which would be better with this setup: to cut each counterpoise for the lowest frequency in its band, our to cut each counterpoise for the midpoint frequency in the band? Or am I being too belt-and-suspenders?

Joe
N1BNM

5466. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:33:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE73B9.6040704@ieee.org>
Source record: 116118

Jim Kelley wrote:
>
> W5DXP wrote:
>>Nope, I'm referring to your assertion that P1+P2 > P1+P2.
>
> There was no such assertion. You seem to be struggling to stay lucid
> and coherent.

Correct me if I'm wrong. I said there is not enough power just in the energy of the two waves, P1 and P2, to cause an additional 2*Sqrt(P1*P2). You said there is. Another way of saying that there is enough energy contained only in P1+P2 to cause P1+P2+2*Sqrt(P1+P2) is P1+P2 > P1+P2.

> Of course it is, Cecil. Your misunderstandings about the movement of
> energy are what lead to your mistaken beliefs about this.

Everything I say is based on the conservation of energy principle. What are your assertions based on?

>>The "calculation" is merely a mathematical curiosity.
>
> It's certain Hecth would never have said that. ;-)

If anyone had asked him the question, he would have said exactly that. He has said exactly that in so many words.

> Both events "come from" the interaction of waves. One event doesn't
> cause the other. Both occur naturally together.

In the case of wave cancellation, destructive interference does indeed cause constructive interference. There is simply no other place for that energy to go.

> I have no idea what assumptions you're making, ...

Yet, in past postings, you told me exactly what my assumptions were. Which is it? Are you a mindreader or not?

> Since all of the forward power is transferred across the impedance
> discontinuity, I don't know any other way to look at it.

Pfwd1(1-rho^2) is transferred directionally across the impedance discontinuity. Pfwd1(rho^2) is wave canceled by Pref2(1-rho^2) and the sum of their energy components reverse direction and are transferred across the impedance discontinuity. We know that Pref2(1-rho^2) is headed toward the source. What turns that energy around?

>>If b1=0 and s11a1=0, then s12a2=0, i.e. there are NO reflections anywhere
>>in the system and the system is *flat*.
>
> Is this your way of proving that energy is actually being reflected back
> from the match point?

No, this is proof that your assertion is true only for flat systems with no reflections anywhere - none from the load or anywhere else.

You say there is no energy in s11*a1 and s12*a2. The only way for there to be no energy in those terms is for s11 or a1 to equal zero and for s12 or a2 to equal zero. That only happens in a flat system with zero reflections anywhere. My advice to you is to study this paragraph until you fully understand it.

In a nutshell: You assumption that there is no energy in s11*a1 and s12*a2 leads directly to a flat system as the only solution. But a flat system is NOT what we are discussing. Therefore, your assertion is false.
--
73, Cecil http://www.qsl.net/w5dxp

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5467. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:38:54 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bblsc5kik1@slb0.atl.mindspring.net>
Source record: 116019

"Dave Platt" <dplatt@radagast.org> wrote in message
news:vdsp6i17lc97e7@corp.supernews.com...
> In article <nijsdvguvcf91bvb8vcm0j8pvjsh3kc9s7@4ax.com>,
> Richard Clark <kb7qhc@attbi.com> wrote:
>
> >> I'd like to tap the collective wisdom on some interference I'm getting
> >>from a local AM station. It's on 660kHz and I'm hearing it well enough
> >>on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
> >>tuner to make out the callsign, music, etc.
>
> >Hi Pat,
> >
> >If the station is punching through your tuner, you must be very close
> >to their site. If you are not, then the signal must be arriving by
> >Common Mode (or perhaps over the air - same thing basically) and
> >getting through the rig's shielding (which may also be a grounding
> >problem - back to Common Mode).
>
> Seems to me that there's another possibility. The AM station's
> fundamental might be being picked up by some large metal $WHATEVER
> located nearby, rectified by a diode of some sort (corroded
> metal-to-metal junction), and the resulting harmonics re-radiated by
> the $WHATEVER. This process might create a strong enough third
> harmonic to be detected by the AH-4, even if the AH-4 itself and
> the AM transmitter are both perfectly clean.
>
> I wonder whether it'd be practical to take a cheap AM transistor
> radio, and retune the top end of its range up as far as 2 MHz. If the
> signal Pat's hearing is actually a rectification harmonic, it might be
> possible to chase it down with a portable receiver and then bond the
> corroded junctions well enough to bypass whatever's causing the
> rectification.
>
> --
> Dave Platt <dplatt@radagast.org> AE6EO
> Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
> I do _not_ wish to receive unsolicited commercial email, and I will
> boycott any company which has the gall to send me such ads!

All good suggestions. Consider getting another receiver in the shack and
see if the problem replicates. You may have a problem with that receiver
only.

A broadcast band trap may be needed. Most of the ARRL handbooks should be a
good source for that info.

Dan/W4NTI

5468. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:41:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE7586.6090501@ieee.org>
Source record: 116020

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:

> Your assertion that energy has to inexplicably change directions twice
> in order for it to end up at the load is faulty.

So you are indeed saying that for b1=s11*a1+s12*a2, if b1 equals zero,
then there is no energy associated with s11*a1 and s12*a2. Would you
be able to prove your assertion by any chance?

>>The Melles-Griot web page says the energy changes directions.
>>1. "reflected wavefronts interfere destructively"
>>2. "the principle of conservation of energy indicates all "lost"
>>reflected intensity will appear as enhanced intensity in the
>>transmitted beam."
>
> Yep. I can affirm that it still says the same thing, Cecil.

Reflected wavefronts are rearward-traveling, by definition.
The transmitted beam is forward-traveling, by definition.
The energy in the rearward-traveling wavefronts joins the
forward-traveling transmitted beam. Ergo, the energy in
the rearward-traveling wavefronts changes direction.

> Correction, cancelled wavefronts do not reflect or otherwise transfer
> energy, ...

Which is a clear violation of the conservation of energy principle
upon which we are going to have to agree to disagree.

The energy in the rearward-traveling reflected wavefronts must go
somewhere. Where does it go?

A. Toward the source

B. Toward the load

C. Stands Still

D. Down a black hole in Jim's wet dreams
--
73, Cecil http://www.qsl.net/w5dxp

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5469. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:46:06 UTC
From: Sylvan Butler <Znospam+noZs_0306@hpb13799Z.Zboi.hpZ.com.invalid>
Message-ID: <slrnbdstle.9am.Znospam+noZs_0306@hpb13799Z.Zboi.hpZ.com.invalid>
Source record: 116021

On 03 Jun 2003 16:40:39 GMT, Gary V. Deutschmann, Sr. <raiar@bbs.galilei.com.nospam>
wrote:
> We just moved last week and the new owner is out there with a LARGE
> wire cutter trying to make a hole for a new tree, hi hi..... So I
> assume he is into the wire mesh and it's still strong.

Did you tell him about the wire? Sounds like good gopher / mole
deterrent to me!

sdb
--
| Sylvan Butler | Not speaking for Hewlett-Packard | sbutler-boi.hp.com |
| Watch out for my e-mail address. Thank UCE. >>>> change ^ to @ <<<< |
It may be better to live under robber barons than under omnipotent moral
busybodies. The robber baron's cruelty may sometimes sleep, his
cupidity may at some point be satiated; but those who torment us for our
own good will torment us without end, for they do so with the approval
of their consciences. -- C. S. Lewis

5470. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:50:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDE77CE.8020608@ieee.org>
Source record: 116022

Jim Kelley wrote:
> You're off the deep end, OM. I'll discontinue inflaming your neurosis
> until sometime after you've been properly treated.

Your entire argument hinges upon your assertion that in the s-parameter
equation:

b1 = s11*a1 + s12*a2

If b1 = zero, then there is no energy associated with s11*a1 or s12*a2

Is proof of that assertion of yours too much to ask?
--
73, Cecil http://www.qsl.net/w5dxp

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5471. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:54:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <eutsdvcnnbipq17f2o1ei8soqr8u9enn2u@4ax.com>
Source record: 116023
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Wed, 04 Jun 2003 21:25:05 GMT,
dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:

>and i guarantee to that

Which wouldn't be guaranteed at all, would it? Truly amateur quality.

73's
Richard Clark, KB7QHC

5472. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:54:03 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <6OacndgxsMUS5UOjXTWcpw@crocker.com>
Source record: 116024

"Joe Long" <joelong@tds.net> wrote in message
news:4c96572e.0306041416.480f27a7@posting.google.com...
> I plan to be using a long wire antenna with my QRP rig and antenna
> tuner, and I want to cut 1/4-wave counterpoise wires for each band
> I'll be operating on (I know the 40m counterpoise will work for 15m).
>
> Which would be better with this setup: to cut each counterpoise for
> the lowest frequency in its band, our to cut each counterpoise for the
> midpoint frequency in the band? Or am I being too
> belt-and-suspenders?

if you were being real belt and suspenders you would tune them with a dip
meter since the measured length won't be right because they aren't going to
be in the clear where the formulas work properly.

5473. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 22:59:52 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <CRuDa.11639$HG5.519447@news20.bellglobal.com>
Source record: 116025

"W5DXP"
> Is there a particular technical point
> upon which you and I disagree?

I haven't been following the thread THAT closely (although it is 'somewhat' interesting) that I want to get involved in the debate. I did want to toss in my support for your 'Light is RF, RF is light' point - there are some that still don't get that point.

Now then, given that you've been involved in seven of the Top 10 World's Longest Threads, my suggestions would be more on debating style.

1) Watch closely for orthogonal arguments ('talking' past each other). There have been cases in the past where you and others have been violently agreeing (!) for dozens or hundreds of posts.

2) Try to efficiently find the crux of the disagreement. It shouldn't take more than three exchanges. Anymore than that, then there are obviously some communications issues in the way.

3) Once the crux of the disagreement is identified, bonus points are awarded for nuking the opposing argument with one word (*) - if possible.

Cheers.

* I thought Virtual Reality was a waste of time - why not just experience reality? My co-worker said "Pterodactyl". I said "What?" He said, "Last night I was riding on a Pterodactyl - on my PC." He won that argument and changed my mind.

5474. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 23:48:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <931tdvcvg8889fochtka1prvn0avj9792m@4ax.com>
Source record: 116026

On Wed, 4 Jun 2003 18:59:52 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:
>Now then, given that you've been involved in seven of the Top 10 World's
>Longest Threads, my suggestions would be more on debating style.
>
>1) Watch closely for orthogonal arguments ('talking' past each other).
>There have been cases in the past where you and others have been violently
>agreeing (!) for dozens or hundreds of posts.
>
>2) Try to efficiently find the crux of the disagreement. It shouldn't take
>more than three exchanges. Anymore than that, then there are obviously some
>communications issues in the way.
>
>3) Once the crux of the disagreement is identified, bonus points are awarded
>for nuking the opposing argument with one word (*) - if possible.

Hi Jeff,

Homer Simpson would add
4) "What good are Facts? You can use Facts to prove almost anything."

73's
Richard Clark, KB7QHC

5475. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-04 23:50:42 UTC
From: Floyd Davidson <floyd@ptialaska.net>
Message-ID: <874r35flm5.fld@barrow.com>
Source record: 116027

Jim Kelley <jwkelley@uci.edu> wrote:
>You're off the deep end, OM. I'll discontinue inflaming your neurosis
>until sometime after you've been properly treated.

Your continued need to use insults rather than logical debate
suggests that at best you can't possibly "know everything there
is" or whatever it was you claimed in one article.

I don't know if he is right, but guaranteed *you* are wrong.

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

5476. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 00:00:04 UTC
From: "Bob M." <xxxxx@yyyy.zzz>
Message-ID: <OsGdnXG7V_dmGkOjXTWcpA@comcast.com>
Source record: 116028

Harmonic signals from broadcast stations are supposed to be so many dB below the carrier power level, depending on how far away from the carrier frequency you go. Something like 43dB + so many per 100 kHz away. The FCC rules have the exact numbers.

Anyway, it's not uncommon for the signal to be, say, 60 dB down on the 3rd harmonic, which might meet the rules and the manufacturer's specs, but if it starts at 50,000 watts, there's still a lot of power coming out (50 milliwatts) that you will probably hear it a mile away. It won't sound very good, almost like double sideband, but you'll be able to hear it.

I hear the local 5kw station at just over a mile away on my Kenwood TS-450 and at times I get an S-9 signal using an all-band dipole. Your mileage may vary.

Just out of curiosity, what is the transmitter power level?

Bob M.
======
"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:bblsc5kik1@slb0.atl.mindspring.net...
>
> "Dave Platt" <dplatt@radagast.org> wrote in message
> news:vdsp6i17lc97e7@corp.supernews.com...
> > In article <nijsdvguvcf91bvb8vcm0j8pvjsh3kc9s7@4ax.com>,
> > Richard Clark <kb7qhc@attbi.com> wrote:
> >
> > >> I'd like to tap the collective wisdom on some interference I'm
getting
> > >>from a local AM station. It's on 660kHz and I'm hearing it well
enough
> > >>on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
> > >>tuner to make out the callsign, music, etc.
> >
> > >Hi Pat,
> > >
> > >If the station is punching through your tuner, you must be very close
> > >to their site. If you are not, then the signal must be arriving by
> > >Common Mode (or perhaps over the air - same thing basically) and
> > >getting through the rig's shielding (which may also be a grounding
> > >problem - back to Common Mode).
> >
> > Seems to me that there's another possibility. The AM station's
> > fundamental might be being picked up by some large metal $WHATEVER
> > located nearby, rectified by a diode of some sort (corroded

> > metal-to-metal junction), and the resulting harmonics re-radiated by
> > the $WHATEVER. This process might create a strong enough third
> > harmonic to be detected by the AH-4, even if the AH-4 itself and
> > the AM transmitter are both perfectly clean.
> >
> > I wonder whether it'd be practical to take a cheap AM transistor
> > radio, and retune the top end of its range up as far as 2 MHz. If the
> > signal Pat's hearing is actually a rectification harmonic, it might be
> > possible to chase it down with a portable receiver and then bond the
> > corroded junctions well enough to bypass whatever's causing the
> > rectification.
> >
> > --
> > Dave Platt <dplatt@radagast.org> AE6EO
> > Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
> > I do _not_ wish to receive unsolicited commercial email, and I will
> > boycott any company which has the gall to send me such ads!
>
> All good suggestions. Consider getting another receiver in the shack and
> see if the problem replicates. You may have a problem with that receiver
> only.
>
> A broadcast band trap may be needed. Most of the ARRL handbooks should be
a
> good source for that info.
>
> Dan/W4NTI
>
>

5477. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 00:07:03 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDE89A7.EE9E9FD3@cwis.net>
Source record: 116029

Max,
And while you are testing the PVC you can also
use the cup of hot water for coffee/tea!
'Doc

5478. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 00:33:17 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306041633.39defe7f@posting.google.com>
Source record: 116030

"Pat St. Jean" <stjeanp@pat-st-jean.com> wrote in message
news:<Y7qcnTXZlq7H3EOjXTWcpg@august.net>...
> Hi everyone,
> I'd like to tap the collective wisdom on some interference I'm getting
> from a local AM station. It's on 660kHz and I'm hearing it well enough
> on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
> tuner to make out the callsign, music, etc.
> Is there anything I should do? I've left a voicemail for the
> station's GM, asking him to call me, but I'm not sure if I wasn't
> jumping the gun there.
> And before anyone jumps on me, I'm going to be extending that wire
> with another 100' so that I can actually tune up on 160. :)
>
> Thanks for the help!
> Pat, K0OOK

So one of the first things to do is determine if the harmonic is being generated by the station or by your receiver. Assuming everything in the vicinity of your antenna is "tight" and not generating nonlinearities, try putting, say, a 10dB pad between the antenna and the receiver. If the harmonic drops 10dB, it's getting in before the pad, and may be transmitted by the station. If the harmonic drops 30dB, it's being generated by your receiver and you should add a tuner or notch to get rid of the fundamental, or just plan to not operate on that frequency. If the station is transmitting it, they may be within spec, and if so, you may wish to consider phasing it out by using an antenna with a null in that direction for receiving.

Cheers,
Tom

5479. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 00:59:26 UTC
From: richardharrison@webtv.net
Message-ID: <389-3EDE95EE-19@storefull-2314.public.lawson.webtv.net>
Source record: 116031

Cecil, W5DXP wrote:
"The wave reflection model predicts that 51% of the reflected power will be re-reflected, not 100%."

The reflection model is for reflection from a simple passive load. The source impedance is not a simple passive load. It has a high source voltage across it in comparison with the reflection. On an absolute basis, source voltage exceeds reflection voltage nearly 100% of the time. Power flows from the higher powered source to the lower powered load.

Take a simple case of two transformer secondary windings of differing terminal voltages. Parallel the windings through a resistor or resistors. Which winding supplies the power that heats the resistance? It`s the winding with more turns and thus the higher voltage. Flow is from more to less. The current is the same in the series-current circuit, though the two coils would be in parallel, were it not for the resistance connecting the coils. But, volts are higher in the coil with more turns.

Take an even simpler case, a charger charging a battery. The charger forces charge through the battery. The lower-voltage battery doesn`t force any charge through the charger while it is functioning. Old-time cars used to have ammeters which showed battery current direction and magnitude.

Best regards, Richard Harrison, KB5WZI

5480. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:15:41 UTC
From: Chuck / KE4ETH <chuck_hawks@hotmail.com>
Message-ID: <JMFDa.42313$hj5.24155@fe07.atl2.webusenet.com>
Source record: 116054

I've used my 300 ohm J-Pole in a piece of White PVC for 10 Years. I have had
no problems in detuned ot otherwise.
HTP

Chuck
"Mogens" <Fister@loegsovs.dk> wrote in message
news:3eddea48$0$76161$edfadb0f@dread11.news.tele.dk...
> Hi
>
> According to the lastest QST there will be an influence when mounting the
> 300Ohm ribbon cable in a PVC tube.
> Do any have experience ? Will it be completly detuned ?
>
> Best 73 de Mogens
>
>

5481. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:26:32 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ede9de1_1@news1.prserv.net>
Source record: 116032

Dave Platt suggests locally generated harmonics as a possibility and I can give you a specific case.

One end of my 160 dipole is supported by an old Alprodco aluminum tower 55 feet tall which I originally erected for the TV antenna. When I initially put it up with only the TV antenna, it was supported at 20 feet with a house bracket. When I later put the pull of the dipole on it, I added 3 galvanized guy wires. A few weeks later, I had BC harmonics all over the band. I went out and shook all 3 guy wires, and the harmonics went away. Hmmmm. So, I installed egg insulators at the top of the guys, and the problem has never come back.

Aluminum plus zinc plus steel = diodes. Lots of them. Look around and see how many you have.
--
Crazy George
Remove NO and SPAM from return address
"Pat St. Jean" <stjeanp@pat-st-jean.com> wrote in message
news:Y7qcnTXZlq7H3EOjXTWcpg@august.net...
> Hi everyone,
> I'd like to tap the collective wisdom on some interference I'm getting
> from a local AM station. It's on 660kHz and I'm hearing it well enough
> on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
> tuner to make out the callsign, music, etc.
> Is there anything I should do? I've left a voicemail for the
> station's GM, asking him to call me, but I'm not sure if I wasn't
> jumping the gun there.
> And before anyone jumps on me, I'm going to be extending that wire
> with another 100' so that I can actually tune up on 160. :)
>
> Thanks for the help!
> Pat, K0OOK
>
> --
> Pat in Lewisville K0OOK '97 XLH 883
(Rocinante)
> BS#140 EKIII rides
with me
> http://www.pat-st-jean.com/~stjeanp All things Pat
> http://www.pat-st-jean.com/products.html Software for paper money
collectors

5482. Re: OWLs and fires IMBY

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:45:54 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vdt86tif5tib64@corp.supernews.com>
Source record: 116033

Are you getting any arcing. An arc could ignite warm insulation.
hank wd5jfr
"David J. Windisch" <davidw@copper.net> wrote in message
news:3edddb29$1_1@newsfeed...
> I've had several feeder-fires on my garden-variety "450-ohm" open wire
line.
>
> After reading some (of W7EL's ???) remarks about skin-depth and such, I
> theorize that it may be that, during my mishandling of this OWL stuff
while
> splicing or otherwise installing it, that the steel core became exposed.
> The steel may have enough r-f resistance to heat up at its exposure point,
> igniting the OWL insulation.
>
> Frequencies involved are on 40M c-w, 500W r-f, mismatch at antenna unknown
> but handled at shack with tuner.
>
> Any one out there have other ideas or similar experiences?
>
> 73, Dave, N3HE
>
>

5483. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:49:30 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDEA1AA.2030406@mwci-news>
Source record: 116034

Richard Harrison wrote:
> Bill, W0IYYH wrote:
> "I did not know about the 300 ohm load."
>
> Take the case of an imbeded 1/2-wave of 300-ohm line in a matched 50-ohm
> system.
>
> The transmitter is a 50-ohm source because we made it so. It is
> connected by 50-ohm line to the 300-ohm 1/2-wavelength of line which is
> connected by 50-ohm line to the 50-ohm load.

The 50 ohm lines are irrelevant and do not affect
the answer. The 50 ohm generator is also irrelevant.

>
> No reflections exist anywhere at 50 ohms. The 1/2 wavelength of 300-ohm
> line repeats the impedances at its ends.
>
> There are reflections in the 300-ohm line because it "sees" 50 ohms at
> each end, a mismatch for the 300 ohms.
>
> Why the reflections?

The input impedance at the generator end is 50
ohms. But the 300 ohm line sees 50 ohms at the
load end, therefore there is a standing wave on
the 300 ohm line. At the center of the 300 ohm
line a voltage maximum and a current minimum
occur. The SWR on the 300 ohm line is
300/50 = 6.0.

>
> Only a volts to amps ratio of Zo is allowed to flow in either direction
> in the 300-ohm line.
>

The standing wave on the 300 ohm line is the
result of a forward voltage wave, a forward
current wave, a reflected voltage wave and a
reflected current wave. The reflections occur at
the 50 ohm load. This standing wave is created in
the same way that any standing wave is created by
a difference between the Z0 of the line and the Z
of the load.

At the sending end the generator sees a 50 ohm resistance because the line is 1/2 wave long.

All of this is visible on the Smith chart in which the center of the chart is normalized at 300 ohms. Draw an SWR circle or radius 6.0 and go all the way around the circle from the left end of the circle (50 ohms to 50 ohms). The impedance at the center of the line is 300 X 6 =1800 ohms (at the right end of the circle).

Bill W0IYH

5484. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:53:26 UTC
From: funkbastler <funkbastler@eudoramail.com>
Message-ID: <kq7tdvsm9knfd59ocn2vnkpn9le97l8j3u@4ax.com>
Source record: 116035

On Wed, 04 Jun 2003 13:58:34 -0500, "Pat St. Jean"
<stjeanp@pat-st-jean.com> wrote:

>Hi everyone,
> I'd like to tap the collective wisdom on some interference I'm getting
>from a local AM station. It's on 660kHz and I'm hearing it well enough
>on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
>tuner to make out the callsign, music, etc.
> Is there anything I should do? I've left a voicemail for the
>station's GM, asking him to call me, but I'm not sure if I wasn't
>jumping the gun there.
> And before anyone jumps on me, I'm going to be extending that wire
>with another 100' so that I can actually tune up on 160. :)
>
>Thanks for the help!
> Pat, K0OOK

Lots of interesting suggestions so far.... However....

Looks like you're only about five miles from KSKY's transmitter
site. With them running 20KW (daytime), I don't think that
reception of their third harmonic is unreasonable. If the
signal is indeed only strong enough to "make out" the callsign,
etc., I wouldn't worry about it. What do you hear on the third
harmonic frequencies for KRLD and WBAP? If you hear little
or nothing from either of them, then I don't thing your problem
is local, you're simply picking up a harmonic signal. (And there's
nothing wrong at the transmitter either.)

-fb-
(about 150 miles northeast of you)

5485. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 01:59:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDEA41D.4020306@ieee.org>
Source record: 116036

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "The wave reflection model predicts that 51% of the reflected power will
> be re-reflected, not 100%."
>
> The reflection model is for reflection from a simple passive load. The
> source impedance is not a simple passive load. It has a high source
> voltage across it in comparison with the reflection. On an absolute
> basis, source voltage exceeds reflection voltage nearly 100% of the
> time. Power flows from the higher powered source to the lower powered
> load.

Obviously, that is true of *net* power flow but we are talking about
forward power and reflected power.

As you know, a forward voltage wave is transparent to a reflected
voltage wave. A reflected voltage wave of 35 volts flows unaffected against
the grain of a forward voltage wave of 70 volts.

As a matter of fact, increasing the forward voltage *increases* the reflected
voltage.

Voltages flowing in the same direction in a transmission line
do not obey that rule either.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5486. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 02:03:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <819tdvcc9ckrdkeua2u03vjd6i2hdb9jbs@4ax.com>
Source record: 116037

On Wed, 04 Jun 2003 20:49:30 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:
>The 50 ohm generator is also irrelevant.
...
>Draw an SWR circle or radius 6.0 and go all the
>way around the circle from the left end of the
>circle (50 ohms to 50 ohms).

Hi Bill,

How do you reconcile your early statement with the later one? In
other words, which is the irrelevant 50 Ohms of
> (50 ohms to 50 ohms)
?

73's
Richard Clark, KB7QHC

5487. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 02:11:46 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns9390C347FFFE3pookster@129.250.170.84>
Source record: 116041
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

Go away.

--
Bill, W7TI

5488. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 02:15:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDEA7B1.5090803@ieee.org>
Source record: 116038

William E. Sabin wrote:
> At the sending end the generator sees a 50 ohm resistance because the
> line is 1/2 wave long.

Actually, the generator sees a ratio of total voltage to total current, (Vfor+Vref)/(Ifor/Iref) equal to 50 ohms. That ratio of voltage to current is an effect, not a cause. The question is: What causes the voltage to current ratio to be 50 ohms? Answer: The same thing that causes a lack of glare in thin-film coatings. Bill, if you haven't yet read the Melles-Griot web page, please feel free to do so. Here's what it says:

"Clearly, if the wavelength of the incident light and the thickness of the film are such that a phase difference exists between reflections of p, then reflected wavefronts interfere destructively, and overall reflected intensity is a minimum. If the two reflections are of equal amplitude, then this amplitude (and hence intensity) minimum will be zero."

In ham lingo for a matched system, the s11*a1 reflected wavefront undergoes complete wave cancellation with the s12*a2 reflection from the load to make b1=0. So what happens to the energy associated with s11*a1+s12*a2? Is it lost?

"In the absence of absorption or scatter, the principle of conservation of energy indicates all "lost" reflected intensity will appear as enhanced intensity in the transmitted beam."

Since the energy involved in the wave cancellation process cannot be destroyed, those rearward-traveling energy components reverse direction and join the forward wave.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5489. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 02:18:39 UTC
From: tdonaly@aol.com
Message-ID: <20030604221839.09979.00000028@mb-m26.aol.com>
Source record: 116039

Among other things, Cecil wrote,
>
>Obviously, that is true of *net* power flow but we are talking about
>forward power and reflected power.
>

This one sentence is the embodiment of your entire reflection fantasy,
Cecil. It's no wonder you can't get anyone to believe you.
73,
Tom Donaly, KA6RUH

5490. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 02:18:59 UTC
From: yang <private.m.j@sympatico.ca>
Message-ID: <kMxDa.11719$HG5.560010@news20.bellglobal.com>
Source record: 116040

it would still look as good as it did when you put it on the connection i
put some copper cream(like nolox)on my ground back in 1987 and in 92 it
still was in good shape after rain/snow/sun try to find the copper stuff its
like nolox but copper and its great....most electrical suppliers should have
it ,it also works well on battery connections the canadian forces uses it
and has for years.. ve3tya
"Tidris" <nospam@nospam.come> wrote in message
news:260520031255342159%nospam@nospam.come...
>
> Would using Noalox on a copper to copper grounding connection that will
> be exposed to the elements or burried underground be beneficial or
> harmful, particularly after the connection has aged? I would guess a
> fresh copper to copper connextion without Noalox will have lower
> resistance than one with Noalox, but I wonder what the situation would
> look like after a few months or years of exposure.

5491. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 03:08:09 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EDEB419.5040701@oda.com.au>
Source record: 116042

Dick Carroll; wrote:

> Me too! Just as along as the junction/connection doesn't depent on the
> solder for its viability.

Agreed, but be careful of subtle dependence on solder for its viability.

We electronics people love to tin the bundle of strands of a stranded conductor, so that it holds the bundle neatly and prevents spreading in screw terminals.

This is a really bad practice in many situations, as over time, the solder cold flows under pressure and can reduce the pressure applied to the conductor by the screw terminal. This can be sufficient to allow the screw to become loose, which, when re-thightened, will loosen again, although more slowly, until any solder that was 'trapped' under the pressure of the screw is forced out of the way.

Conductors prepared in this way compared to no tinning have a characteristic soft feel when tightening the screw.

Owen

5492. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 03:28:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDEB8CF.40009@ieee.org>
Source record: 116043

Tdonaly wrote:
> Among other things, Cecil wrote,
>>Obviously, that is true of *net* power flow but we are talking about
>>forward power and reflected power.
>>
> This one sentence is the embodiment of your entire reflection fantasy,
> Cecil. It's no wonder you can't get anyone to believe you.

Hey Tom, have you come up with a way to generate standing waves
without forward waves and reflected waves?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5493. Re: OWLs and fires IMBY

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 03:45:36 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EDEBCCD.E59FC030@shaw.ca>
Source record: 116044

"David J. Windisch" wrote:
>
> I've had several feeder-fires...
>
> Any one out there have other ideas or similar experiences?
>
> 73, Dave, N3HE

It wouldn't by chance be your neighbour with the fancy audio/video
system?
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

5494. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 03:51:22 UTC
From: tdonaly@aol.com
Message-ID: <20030604235122.07791.00000059@mb-m24.aol.com>
Source record: 116045

>
>William E. Sabin wrote:
>> At the sending end the generator sees a 50 ohm resistance because the
>> line is 1/2 wave long.
>
>Actually, the generator sees a ratio of total voltage to total current,
>(Vfor+Vref)/(Ifor/Iref) equal to 50 ohms. That ratio of voltage to current
>is an effect, not a cause. The question is: What causes the voltage to
>current
>ratio to be 50 ohms? Answer: The same thing that causes a lack of glare in
>thin-film coatings. Bill, if you haven't yet read the Melles-Griot web page,
>please feel free to do so. Here's what it says:
>
>"Clearly, if the wavelength of the incident light and the thickness of the
>film
>are such that a phase difference exists between reflections of p, then
>reflected
>wavefronts interfere destructively, and overall reflected intensity is a
Cecil wrote,
>minimum.
>If the two reflections are of equal amplitude, then this amplitude (and hence
>intensity) minimum will be zero."
>
>In ham lingo for a matched system, the s11*a1 reflected wavefront undergoes
>complete
>wave cancellation with the s12*a2 reflection from the load to make b1=0. So
>what
>happens to the energy associated with s11*a1+s12*a2? Is it lost?
>
>"In the absence of absorption or scatter, the principle of conservation of
>energy
>indicates all "lost" reflected intensity will appear as enhanced intensity in
>the
>transmitted beam."
>
>Since the energy involved in the wave cancellation process cannot be
>destroyed,
>those rearward-traveling energy components reverse direction and join the
>forward wave.
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>

You've been reciting this mantra over and over again for a long time, Cecil.
Reciting sentences over and over again doesn't make them true. Why do
you think so many people have such a difficult time believing the above?
73,
Tom Donaly, KA6RUH

5495. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 03:58:32 UTC
From: gmz79@aol.comnospam
Message-ID: <20030604235832.09031.00000515@mb-m18.aol.com>
Source record: 116046

Putting the twinlead in the pvc alters its Velocity-factor.
The twinlead will have to be shortened to bring the j-pole back into tune, no biggy.

_ _ ... ... _ _

KC8VIF
Greg Z
to thine own sound be true

5496. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 04:05:40 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbmfikdhs1@hercules.btinternet.com>
Source record: 116047

"greg z" wrote
> Putting the twinlead in the pvc alters its Velocity-factor.
> The twinlead will have to be shortened to bring the j-pole back into tune,
no
> biggy.
>
You forgot the important thing - by how much?

5497. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 04:23:15 UTC
From: tdonaly@aol.com
Message-ID: <20030605002315.07791.00000060@mb-m24.aol.com>
Source record: 116048

Cecil wrote,
>
>Hey Tom, have you come up with a way to generate standing waves
>without forward waves and reflected waves?
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Sure. It's easy. Pluck a string on Mark Keith's guitar and you'll see
a standing wave. Take two coherent light sources. Point them at each
other. No reflected waves. Take a piece of twin lead. Feed each end of
one wire leaving the other wire free. You can produce two fundamental
standing waves that way; one where the currents on the two wires are in
phase, and the other where they're 180 degrees out of phase. Take a
bar of ferrite. Wrap it with a coil of wire. Put a cap across the ends. Put
it in an electro-magnetic field which is vibrating at its resonant frequency.
Go sit on a working shaker and ask the technician to adjust the frequency until

you get sick. Hit a gong. Get a quartz crystal and ...
The trouble with you, Cecil, is that you're such a fanatic you refuse to
use the imagination God provided you with when you were born to look at
all the possibilities. I'm sure that if you try hard enough you can envision
all of the above examples as combinations of traveling waves opposing
one another. That's analysis, but you'll have to stretch to do it and
there's no guarantee of the reality of the constituent waves you'll have to
make
up in your head to do it.
73,
Tom Donaly, KA6RUH

5498. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 04:53:47 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDECCDB.2000202@mwci-news>
Source record: 116049

Richard Clark wrote:
> On Wed, 04 Jun 2003 20:49:30 -0500, "William E. Sabin"
> <sabinw@mwci-news> wrote:
>
>>The 50 ohm generator is also irrelevant.
>
> ...
>
>>Draw an SWR circle or radius 6.0 and go all the
>>way around the circle from the left end of the
>>circle (50 ohms to 50 ohms).
>
>
> Hi Bill,
>
> How do you reconcile your early statement with the later one? In
> other words, which is the irrelevant 50 Ohms of
>
>>(50 ohms to 50 ohms)
>
> ?
>
> 73's
> Richard Clark, KB7QHC

The generator resistance does not influence the
steady-state standing wave pattern. That is
controlled only by the impedances after the
generator output.

The SWR circle pertains to the 1/2 wavelength 300
ohm line. If the load is 50 ohms, then the input
end of the 300 ohm line is also 50 ohms. That is,
the line makes a full circle on the Smith chart
and reproduces the 50 ohm load resistance. The
generator resistance is not involved in this exercise.

Bill W0IYH

5499. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 05:24:46 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDED41E.5000209@mwci-news>
Source record: 116050

W5DXP wrote:
> William E. Sabin wrote:
>
>> At the sending end the generator sees a 50 ohm resistance because the
>> line is 1/2 wave long.
>
>
> "In the absence of absorption or scatter, the principle of conservation
> of energy
> indicates all "lost" reflected intensity will appear as enhanced
> intensity in the
> transmitted beam."
>
> Since the energy involved in the wave cancellation process cannot be
> destroyed,
> those rearward-traveling energy components reverse direction and join the
> forward wave.

When the reflected voltage wave and the reflected current wave reach the input end of the 300 ohm line they encounter the forward voltage wave and the forward current wave that are leaving the generator. The algebraic sum of these two voltage waves divided by the algebraic sum of these two current waves is 50 ohms.

Where do the reflected voltage and current waves go? They terminate at the input. That is, there is no reflection back to the generator from the input of the 300 ohm line. The generator sees 50 ohms resistance, therefore there is no reflection back to the generator (a 50 ohm directional coupler shows zero at the reflected port).

This is the "wave mechanics" perspective.

Bill W0IYH

5500. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 06:59:18 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bbmpo5kbq1@titan.btinternet.com>
Source record: 116051
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:eutsdvcnnbipq17f2o1ei8soqr8u9enn2u@4ax.com...
> On Wed, 04 Jun 2003 21:25:05 GMT,
> dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:
>
> >and i guarantee to that
>
> Which wouldn't be guaranteed at all, would it? Truly amateur quality.

If you ever fly, that is the way of the aerospace industry and has been for
years.
Still want to fly?

Dave

5501. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 07:14:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s6rtdv4mquv1cdckue1gjv4ofup1avobfh@4ax.com>
Source record: 116052
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Thu, 5 Jun 2003 06:59:18 +0000 (UTC), "Dave"
<davenpat@btopenworld.com> wrote:

>
>"Richard Clark" <kb7qhc@attbi.com> wrote in message
>news:eutsdvcnnbipq17f2o1ei8soqr8u9enn2u@4ax.com...
>> On Wed, 04 Jun 2003 21:25:05 GMT,
>> dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:
>>
>> >and i guarantee to that
>>
>> Which wouldn't be guaranteed at all, would it? Truly amateur quality.
>
>
>If you ever fly, that is the way of the aerospace industry and has been for
>years.
>Still want to fly?
>
>Dave
>
Another amateur opinion? Cheaper by the dozen. As the designer of
the black box, I have seen the data of crashes and I know full well
what risk is involved.

73's
Richard Clark, KB7QHC

5502. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 07:34:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <virtdv0v4mo7cccbu454n4hguhi2nlq8c2@4ax.com>
Source record: 116053

On Wed, 04 Jun 2003 23:53:47 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>Richard Clark wrote:
>> On Wed, 04 Jun 2003 20:49:30 -0500, "William E. Sabin"
>> <sabinw@mwci-news> wrote:
>>
>>>The 50 ohm generator is also irrelevant.
>>
>> ...
>>
>>>Draw an SWR circle or radius 6.0 and go all the
>>>way around the circle from the left end of the
>>>circle (50 ohms to 50 ohms).
>>
>>
>> Hi Bill,
>>
>> How do you reconcile your early statement with the later one? In
>> other words, which is the irrelevant 50 Ohms of
>>
>>>(50 ohms to 50 ohms)
>>
>> ?
>>
>> 73's
>> Richard Clark, KB7QHC
>
>The generator resistance does not influence the
>steady-state standing wave pattern. That is
>controlled only by the impedances after the
>generator output.
>
>The SWR circle pertains to the 1/2 wavelength 300
>ohm line. If the load is 50 ohms, then the input
>end of the 300 ohm line is also 50 ohms. That is,
>the line makes a full circle on the Smith chart
>and reproduces the 50 ohm load resistance. The
>generator resistance is not involved in this exercise.
>
>Bill W0IYH

Hi Bill,

The classic chicken and egg answer. The problem solves itself and goes away.

So why would we bother to worry about ANY load? Would it matter to the system if the antenna presented 1800 Ohms or 8?
>The 50 ohm lines are irrelevant and do not affect the answer. It satisfies the same logic above. Cecil reports being able to withstand much higher SWR than 6:1 for his matching so those two values are hardly oppressive....

Is matching to 50 Ohms for the convenience of the SWR meter alone?

73's
Richard Clark, KB7QHC

5503. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 12:00:17 UTC
From: Floyd Sense <sentek@sprintmail.com>
Message-ID: <lhGDa.35074$lo.3052671@newsread2.prod.itd.earthlink.net>
Source record: 116055

One of the problems in discussing the Hexbeam is that so many guys have built their own and so have had to "reinvent the wheel". That's probably where the "hard to tune" comments come from. On the Traffie Hexbeam, there is nothing to tune - all elements come pre-cut and terminated with appropriate connectors. It took Traffie a long time experimenting with element lengths and interactions to arrive at the current configuration. While I've not taken down my 5 band model nor used it for portable operation, it's quite simple to assemble/disassemble. If one were to mark the points where the element clamps fasten to the spreaders, there's no reason why it wouldn't be a very quick operation by one man. You don't even need a tape measure to assemble the commercial model.

As you may know, the Traffie beam is optimized for the BOTTOM of each band and that's where the F/B ratio is the highest. Some of the elements, the 20 meter ones in particular, are resonant quite a bit BELOW the bottom of the band. I believe the "SSB" 20 meter elements are resonant higher in the band, thus improving F/B and probably gain on the phone portion of the band. I recall that doing that will result in degraded SWR in the CW portion of the band.

K8AC

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
news:3edbc2c5$1_1@news.vo.lu...
> Hi,
>
> Before buying this "inversed umbrella", hi, I would like to know if some
of
> you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft
mast)
> have encountered problems : in building it, in using it, servicing, etc.
>
> I read eham.net but all comments are favorable. There is not much comments
> on the yahoo forum.
> I 'd like to have negative opinions, or from experienced users, if there
> are...
>
> PS. One OM in LX told me he encountered difficulties is building it (mesh
of
> wires, tubing, etc) and that it was not easy to tune (?). I would to
confirm
> or not confirm with others users.
>
> Thanks in advance
>

> 73
> Thierry
> ON1SKY, LX3SKY
> http://www.astrosurf.com/lombry
>
>
>
>
>
>
>
>

5504. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 12:13:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF33F5.3030805@ieee.org>
Source record: 116056

Tdonaly wrote:
> You've been reciting this mantra over and over again for a long time, Cecil.
> Reciting sentences over and over again doesn't make them true. Why do
> you think so many people have such a difficult time believing the above?

I don't think people have a difficult time believing the above. I think
most people haven't bothered to read it yet. Thus the repetition.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5505. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 12:23:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF362A.7080209@ieee.org>
Source record: 116057

Tdonaly wrote:
> Cecil wrote,
>>Hey Tom, have you come up with a way to generate standing waves
>>without forward waves and reflected waves?
>
> Sure. It's easy.

[Diversionary stuff irrelevant to ham radio snipped]

Uhhhhh Tom, the context of the question is an average ham radio
antenna system, single source, single transmission line, and
single load.

So re-phrasing the question so you can understand it:

Hey Tom, have you come up with a way to generate standing waves
in the average *single-source* ham radio antenna system without
forward waves and reflected waves on the transmission line?

Sacred Cows die hard, huh?
--
73, Cecil http://www.qsl.net/w5dxp

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5506. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 12:47:00 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <1ZGDa.12781$HG5.607821@news20.bellglobal.com>
Source record: 116058

"W5DXP"
> ...have you come up with a way to generate standing waves
> in the average *single-source* ham radio antenna system
> without forward waves and reflected waves on the
> transmission line?

May I use a power divider ?

> Sacred Cows die hard, huh?

moo...

5507. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 13:10:07 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3edf4124$0$48904$edfadb0f@dtext02.news.tele.dk>
Source record: 116059

Hello Reg
> > Putting the twinlead in the pvc alters its Velocity-factor.
> > The twinlead will have to be shortened to bring the j-pole back into
tune,
> no
> You forgot the important thing - by how much?

I think the answer is, try, to many things involved to give at specific
answer.

Regards Max

5508. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 13:10:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF414A.1060008@ieee.org>
Source record: 116060

William E. Sabin wrote:
> When the reflected voltage wave and the reflected current wave reach the
> input end of the 300 ohm line they encounter the forward voltage wave
> and the forward current wave that are leaving the generator. The
> algebraic sum of these two voltage waves divided by the algebraic sum of
> these two current waves is 50 ohms.

The reflected voltage wave and reflected current wave encounter the
forward voltage wave and forward current wave all up and down the
transmission line with virtually no effect on each other. Why does
the forward wave *suddenly* have a very large effect on the reflected
wave exactly at the impedance discontinuity? Why do the reflected waves
ignore the existence of the forward waves except at the impedance
discontinuity?

> Where do the reflected voltage and current waves go? They terminate at
> the input. That is, there is no reflection back to the generator from
> the input of the 300 ohm line. The generator sees 50 ohms resistance,
> therefore there is no reflection back to the generator (a 50 ohm
> directional coupler shows zero at the reflected port).

There is a subtle confusion of cause and effect built into the above
paragraph.

1. The source sees no reflections because it sees 50 ohms.
2. The source sees 50 ohms because it sees no reflections.

Do you recognize the circular logic in the above two statements?
Please consider that the 50 ohms cannot cause itself so what is
the actual *cause* of the 50 ohms?

As the *result* of there being no reflections, the source sees
50 ohms. (When there are no reflections, the source will always
see 50 ohms as a *result*.) Why are there no reflections?

The two reflected wavefronts have been canceled at the impedance
discontinuity because they are equal in magnitude and 180 degrees
out of phase. (This only happens at an impedance discontinuity and
not in the environment of a constant Z0.) The *result* of 100%
reflected wave cancellation is no reflections. The *result* of no
reflections is a 50 ohm impedance. The *cause* of the 50 ohms is
reflected wave cancellation.

b1 = s11*a1 + s12*a2 = zero (Note: no impedance mentioned)

Therefore, the 50 ohms seen by the source is the *result* of reflected
wave cancellation. Saying that the 50 ohms is the *cause* of no reflections

is a steady-state shortcut that works but from a physics standpoint, is not very accurate. The 50 ohms is a result, not a cause.
--
73, Cecil http://www.qsl.net/w5dxp

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5509. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 13:15:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF425A.2070702@ieee.org>
Source record: 116061

J. Harvey wrote:
> "W5DXP"
>>...have you come up with a way to generate standing waves
>>in the average *single-source* ham radio antenna system
>>without forward waves and reflected waves on the
>>transmission line?
>
> May I use a power divider ?

Heh, heh, a mismatched load *is* a power divider.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5510. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 13:35:02 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDF4706.9000906@mwci-news>
Source record: 116062

Richard Clark wrote:
> On Wed, 04 Jun 2003 23:53:47 -0500, "William E. Sabin"
> <sabinw@mwci-news> wrote:
>
>
>>Richard Clark wrote:
>>
>>>On Wed, 04 Jun 2003 20:49:30 -0500, "William E. Sabin"
>>><sabinw@mwci-news> wrote:
>>>
>>>
>>>>The 50 ohm generator is also irrelevant.
>>>
>>>...
>>>
>>>
>>>>Draw an SWR circle or radius 6.0 and go all the
>>>>way around the circle from the left end of the
>>>>circle (50 ohms to 50 ohms).
>>>
>>>
>>>Hi Bill,
>>>
>>>How do you reconcile your early statement with the later one? In
>>>other words, which is the irrelevant 50 Ohms of
>>>
>>>
>>>>(50 ohms to 50 ohms)
>>>
>>>?
>>>
>>>73's
>>>Richard Clark, KB7QHC
>>
>>The generator resistance does not influence the
>>steady-state standing wave pattern. That is
>>controlled only by the impedances after the
>>generator output.
>>
>>The SWR circle pertains to the 1/2 wavelength 300
>>ohm line. If the load is 50 ohms, then the input
>>end of the 300 ohm line is also 50 ohms. That is,
>>the line makes a full circle on the Smith chart
>>and reproduces the 50 ohm load resistance. The

>>generator resistance is not involved in this exercise.
>>
>>Bill W0IYH
>
>
> Hi Bill,
>
> The classic chicken and egg answer. The problem solves itself and
> goes away.
>
> So why would we bother to worry about ANY load? Would it matter to
> the system if the antenna presented 1800 Ohms or 8?
>
>>The 50 ohm lines are irrelevant and do not affect the answer.
>
> It satisfies the same logic above. Cecil reports being able to
> withstand much higher SWR than 6:1 for his matching so those two
> values are hardly oppressive....
>
> Is matching to 50 Ohms for the convenience of the SWR meter alone?
>
> 73's
> Richard Clark, KB7QHC

Yes to the last statement. The transmitter was
most probsably designed to operate into 50 ohms
resistive, especially if it is a broadband
solid-state amplifier. The low pass filters are
also usually designed for a 50 ohm output load.
The 50 ohm SWR meter assists the operator (the
tune-up guy) to get the 50 ohms.

For vacuum tube amps with PI network plate tanks,
a maximum load SWR of 3:1 or 4:1 is usually
recommended. The operator dips and loads to get
the correct values of his PA meters and output power.

If Cecil uses a 1/4 wave 300 ohm line he must then
try to transform the 1800 ohm input impedance
downward to something that the transmitter can
work into efficiently.

Bill W0IYH

5511. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 13:57:08 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDF4C34.1030809@mwci-news>
Source record: 116063

W5DXP wrote:
> William E. Sabin wrote:
>
>> When the reflected voltage wave and the reflected current wave reach
>> the input end of the 300 ohm line they encounter the forward voltage
>> wave and the forward current wave that are leaving the generator. The
>> algebraic sum of these two voltage waves divided by the algebraic sum
>> of these two current waves is 50 ohms.
>
>
> The reflected voltage wave and reflected current wave encounter the
> forward voltage wave and forward current wave all up and down the
> transmission line with virtually no effect on each other. Why does
> the forward wave *suddenly* have a very large effect on the reflected
> wave exactly at the impedance discontinuity? Why do the reflected waves
> ignore the existence of the forward waves except at the impedance
> discontinuity?
>

There is no input impedance discontinuity. At the
input end of the 300 ohm line the input impedance
becomes 50 ohms. The important thing is that at
the input end of the 300 ohm line the waves
(voltage and current) from the generator and the
waves (voltage and current) coming back on the 300
ohm line meet and combine "seamlessly". And it is
not necessary that the generator be 50 ohms.
Repeat: the generator does not influence the SWR
or the load impedance looking into the 300 ohm line.
>
>
> There is a subtle confusion of cause and effect built into the above
> paragraph.
>
> 1. The source sees no reflections because it sees 50 ohms.
> 2. The source sees 50 ohms because it sees no reflections.

These statements are both correct. They are
"equivalent" statements, not "circular"
statements. If a 50 ohm SWR meter is used, both
statements are perfectly OK. The meter reads zero
reflected power according to both statements.
Either statement says clearly that the load is 50
ohms.

Bill W0IYH

5512. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 14:05:00 UTC
From: tdonaly@aol.com
Message-ID: <20030605100500.17654.00000114@mb-m10.aol.com>
Source record: 116064

Cecil wrote,
>
>Tdonaly wrote:
>> Cecil wrote,
>>>Hey Tom, have you come up with a way to generate standing waves
>>>without forward waves and reflected waves?
>>
>> Sure. It's easy.
>
>[Diversionary stuff irrelevant to ham radio snipped]
>
>Uhhhhh Tom, the context of the question is an average ham radio
>antenna system, single source, single transmission line, and
>single load.
>
>So re-phrasing the question so you can understand it:
>
>Hey Tom, have you come up with a way to generate standing waves
>in the average *single-source* ham radio antenna system without
>forward waves and reflected waves on the transmission line?

>
>Sacred Cows die hard, huh?
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>
>

So that's why you keep talking about optics and reflective coatings.
It's o.k. for you to use examples extraneous to "an average
ham radio antenna system, single source, single transmission line, and
single load" because it fits your argument, but when anyone else does
it that person is automatically wrong because the argument doesn't
agree with your obsession. Nice try, Cecil. So, to answer your question,
have I come up with a way to do something that conforms to rules you
make up after the fact? No. I can't fly by flapping my arms, either.

Fanatical obsessions die even harder than sacred cows, don't they.

73,
Tom Donaly, KA6RUH

5513. Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 14:42:49 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306050642.50769ccd@posting.google.com>
Source record: 116065

I noticed that a particular antenna book was being
recommended in this group It would be wise not to swallow
everything that is in a book is "fact". Lawson had a book
printed based on computorisation of antenna arrays that
immediatly came under attack as being incorrect and we all
know that there are many antennas touted even today
that have been slaughtered by august antenna experts in this group.
Moxon's book "Antennas for all locations' I notice. has
been recommended on this newsgroup but like many books
reviewed by this group it has been pounded regarding it,s
section on arrays where 'antenna coupling 'is reviewed.
Tho this aproach has its underpinnings that go back to the
very beginnings of radio and its manufacturing principles
in books written by the likes of Terman, Morecraft,
Everitt and Anner e.t.c., the advent of antenna modeling
programs have shown that antennas of the like expoused in
some books now have 'no merit' and worse still have been found
to be regurgitated in more modern books.
So when reading a antenna book don.t just suck it up but
ask the many 'experts' on this group for a opinion,
You will be surprised how even long held principles can be
over thrown with the use of some much vaunted computor
programs on sale today when used by experts
Best regards
Art Unwin KB9MZ.....XG

5514. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 15:25:47 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <C1idnX-lVPFF_EKjXTWcqg@comcast.com>
Source record: 116066

Pat,

Why not build a 660 KHz trap. A 100 uH inductor and 581 PF cap (tunable) should do If the problem is overload, it will go away. If the third harmonic is generated before your receiver it will have no effect.

Also, as somebody mentioned, what happens when you use a different receiver? What if you bypass the tuner, does it get better or worse?
Tam/WB2TT
"Pat St. Jean" <stjeanp@pat-st-jean.com> wrote in message news:Y7qcnTXZlq7H3EOjXTWcpg@august.net...
> Hi everyone,
> I'd like to tap the collective wisdom on some interference I'm getting
> from a local AM station. It's on 660kHz and I'm hearing it well enough
> on 1.980MHz (3rd harmonic, IIRC) with 50' of 12 ga wire into an AH-4
> tuner to make out the callsign, music, etc.
> Is there anything I should do? I've left a voicemail for the
> station's GM, asking him to call me, but I'm not sure if I wasn't
> jumping the gun there.
> And before anyone jumps on me, I'm going to be extending that wire
> with another 100' so that I can actually tune up on 160. :)
>
> Thanks for the help!
> Pat, K0OOK
>
> --
> Pat in Lewisville K0OOK '97 XLH 883 (Rocinante)
> BS#140 EKIII rides with me
> http://www.pat-st-jean.com/~stjeanp All things Pat
> http://www.pat-st-jean.com/products.html Software for paper money collectors

5515. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 15:32:43 UTC
From: richardharrison@webtv.net
Message-ID: <28807-3EDF629B-193@storefull-2313.public.lawson.webtv.net>
Source record: 116067

Bill, W0IYH wrote:
"Where do the reflected voltage and current waves go? They terminate at the input."

I agree. In fact, I`ve agreed with nearly everything Bill has said on this subject, and also the way Bill has said it. My responses to his posts are not meant to be critical. Bill`s comments have interested me and that`s why I`ve quoted him.

In the example of the 1/2-wavelength of 300-ohm line imbeded in a 50-ohm system, the sender "sees" 50 ohms and should meet its specifications.

The nature of the reflected wave is interesting. When the resistive load is smaller than Zo, there are too many volts in the Zo for the number of amps that Zo can supply. Reflected volts undergo a phase reversal. Similarly, when the load has too many ohms, reflected amps undergo a phase reversal.

Terman tn his 1955 edition, on page 2 says:
"The wave always travels in a direction at right angles to the wavefront, but whether it goes forward or backward depends upon the relative directions of the lines of magnetic and electric flux. If the direction of either the magnetic or electric flux is reversed, the direction of travel is reversed; but reversal of both sets of flux has no effect."

I suppose both sets of flux are together constantly both reversing with alternations in the wave, but this does not affect the direction of travel. Flip the phase of one field, but don`t reverse the other field, and the wave turns around.

On a transmission line, the reflected wave is different from the incident wave in that the reflected volts and amps are 180-degrees out of phase. They are in-phase in the incident wave. That`s huw the Bird wattmeter separates the forward and reflected waves.

I`m not clear on how the source receives the peculiar reflected wave. I need to think about it. Perhaps it rejects the strange creature by reinverting the inverted phase in the reflected wave. That makes it compatible with the new source energy and again reverses the reflected wave`s direction to send it back toward the load.

Best regards, Richard Harrison, KB5WZI

5516. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 15:50:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF66AE.10108@ieee.org>
Source record: 116068

Tdonaly wrote:
> So that's why you keep talking about optics and reflective coatings.
> It's o.k. for you to use examples extraneous to "an average
> ham radio antenna system, single source, single transmission line, and
> single load" because it fits your argument, but when anyone else does
> it that person is automatically wrong because the argument doesn't
> agree with your obsession.

Light and RF are both EM waves. Therefore, we can learn a lot about
RF from the field of optics.

A 1/4 WL thickness of thin-film of the proper index of refraction can
virtually eliminate reflections of coherent light. Doesn't it stand to
reason that the same principles are at work in a 1/4WL of transmission
line used to eliminate reflections of coherent RF?

I know you don't like my style but exactly where do we disagree on
a single technical point?
--
73, Cecil http://www.qsl.net/w5dxp

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5517. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 16:00:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF6907.2020406@ieee.org>
Source record: 115969

William E. Sabin wrote:
> There is no input impedance discontinuity.

If there were no impedance discontinuity, there would be no match. Make the 300 ohm feedline 3/4WL instead of 1/4WL. There is no match at the 1/4WL point. There has to be an impedance discontinuity to cause the two reflected waves that cancel the reflections. No impedance discontinuity means that the forward waves and reflected waves do not affect each other. Yet, you say they do affect each other. Therefore, there is an impedance discontinuity.

>> 1. The source sees no reflections because it sees 50 ohms.
>> 2. The source sees 50 ohms because it sees no reflections.
>
> These statements are both correct.

They cannot logically both be true. Such is the seduction by the steady-state model. The word "because" indicates a *cause*. A result cannot be the cause the result. Either A causes B or B causes A.

The elimination of reflections through wave cancellation *causes* the source to see 50 ohms as a *result*.
--
73, Cecil http://www.qsl.net/w5dxp

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5518. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 16:31:30 UTC
From: richardharrison@webtv.net
Message-ID: <15378-3EDF7062-278@storefull-2312.public.lawson.webtv.net>
Source record: 115971

Cecil, W5DXP wrote:
"Please consider that the 50 ohms cannot cause itself so what is the actual cause of the 50 ohms?"

In a transmitter, internal resistance is caused by "looking" back into a a near short-circuit for a percentage of the time as controlled by a switch operated by the r-f cycle. This is true for Class-B and Class-C amplifiers which are switched off for parts of the r-f cycle.

Resistance is a function of resistivity of a material and how it is used. In a resistor, resistance is proportional to the length of the material times its resistivity divided by its crossectional area.

A transmitter load is different from a resistor unless the load is loser. An antenna should present a load which is derived from its radiation resistance. This is simply the value of a resistor which would take the same power as the antenna does for radiation, not for loss. The volts to amps ratio of the antenna`s radiatiation is the same as that of the radiation resistance. There are conventions about where radiation resistance is to be determined.

Resistance is caused by the nature of a load.

Best regards, Richard Harrison, KB5WZI

5519. Re: Chicken Wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 16:37:09 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3edf6fbd.562510968@news.galilei.com>
Source record: 115970

Hi Sylvan

>Did you tell him about the wire?
Yes I did, and it was also in the sale disclosure statement!

>Sounds like good gopher / mole
>deterrent to me!

I never thought about that, but now that you mention it, I've never had a gopher in my backyard, but a few over the years in the front yard.

Now that I think about it, my wifes pink hydrangea bushes all turned to blue blooms after a few years, which was a good indication that the first layer of chicken wire had turned fairly quickly to rust!

All in all, I feel that all of my antenna's worked better with the wire in place. At my previous residence, all I had was the copper radials from the ground mounted verticals and Inverted Ells, and was never happy with their performance. All the years I lived here I never had a complaint with my antenna farm.

TTUL
Gary

5520. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 16:52:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <19rudv400ac1ujr2nuo5trcanc84j1j4ki@4ax.com>
Source record: 115972

On Thu, 05 Jun 2003 08:35:02 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:
>>>The 50 ohm generator is also irrelevant.
>>...
>>>Draw an SWR circle or radius 6.0 and go all the
>>>way around the circle from the left end of the
>>>circle (50 ohms to 50 ohms).
>>
>>Hi Bill,
>>
>>How do you reconcile your early statement with the later one? In
>>other words, which is the irrelevant 50 Ohms of (50 ohms to 50 ohms)
>>?
>
>If Cecil uses a 1/4 wave 300 ohm line he must then
>try to transform the 1800 ohm input impedance
>downward to something that the transmitter can
>work into efficiently.
>

Hi Bill,

So far I see no answer to why? If, as you state:
>>The 50 ohm generator is also irrelevant.
Your last quote above about efficiency presumes a source Z that loses
power such that there is some value where it is relevant. What value?

If the transmitter has a Z (some value Z, not 50 Ohms) would it be
irrelevant such that:
>>The Z ohm generator is also irrelevant.
Would it be relevant at Z only if Z<>50?

At a minimum, what is the Z of your solid state transmitter?

73's
Richard Clark, KB7QHC

5521. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 17:08:07 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3edf78f2$1_2@news.vo.lu>
Source record: 115973

Hi OM,

You right. I get information about the Hex-beam 6 band-pac from Mike by fax quickly. The service is excellent.
But now I can compare the hex-beam multiband with the spider beam from DF4SA...

Choosing the hex-beam you can choose between standard or "ssb" elements without added cost. They are not loading or "traps". But they work on 20-15-10 only. What are they ? :
Standard elements have operating bandw of +- 3% on all bands with VSWR <2:1. SSB elements increase F/B ratio and slightly the gain on the upper frequency (30 Mhz) but VSWR climbs well above 2:1 at QRG below SSB portion of bands, so for CW traffic (but they do not give the value for CW).

In short his multiband antenna acts like so much monobanders. That means that I have to manually lower the mast, adjust wires, etc to work on another band, this is not "automatic". I do not like to go outside each time I want to work on another band... For fixed operation a monobander is excellent but for portable, switching all the time when working on another band is discouraging.

Is there another solution ?
Not exactly but the "spider beam" is an alternative. DF4SA solution (www.qsl.net/df4sa) looks better. His "spider beam" has 3, 4 and 5 elements (in place of 2 on the hex-beam) on 20-15-10m bands (not a 6 bands like the hex-beam) and it is also available in kit with a construction manuel in UK and F language.

This alternative is a greater performer vs hex-beam and better, it is much cheaper !! : 335 euros (without mast) vs $1066 + taxes for the hex-beam. the calculation is rapidely done... Let'make some publicity for him, hi !

I am very interested in this tribander. Only constraint, its size : boom is 10m long, element are 10m long too but they are tilted (see his website and pdf files) for explanations and drawings.
This is however a very accessible solution for portable or fixed operations. I will mention the DF4SA antenna on my website too, in the page devoted to portable antenna.

NB.
For accessories, UKWBerichte in germany (www.UKW-Berichte.de) sold also masts of various size up to 12.5m high at a relatively low price (74-156 euros for a ASM telescopic mast in alu from 5-12.5m, they sold +9 models).

Hope this helps some interested users.

Thierry
ON1SKY soon LX

"Floyd Sense" <sentek@sprintmail.com> wrote in message
news:lhGDa.35074$Io.3052671@newsread2.prod.itd.earthlink.net...
> One of the problems in discussing the Hexbeam is that so many guys have
> built their own and so have had to "reinvent the wheel". That's probably
> where the "hard to tune" comments come from. On the Traffie Hexbeam,
there
> is nothing to tune - all elements come pre-cut and terminated with
> appropriate connectors. It took Traffie a long time experimenting with
> element lengths and interactions to arrive at the current configuration.
> While I've not taken down my 5 band model nor used it for portable
> operation, it's quite simple to assemble/disassemble. If one were to mark
> the points where the element clamps fasten to the spreaders, there's no
> reason why it wouldn't be a very quick operation by one man. You don't
even
> need a tape measure to assemble the commercial model.
>
> As you may know, the Traffie beam is optimized for the BOTTOM of each band
> and that's where the F/B ratio is the highest. Some of the elements, the
20
> meter ones in particular, are resonant quite a bit BELOW the bottom of the
> band. I believe the "SSB" 20 meter elements are resonant higher in the
> band, thus improving F/B and probably gain on the phone portion of the
band.
> I recall that doing that will result in degraded SWR in the CW portion of
> the band.
>
> K8AC
>
> "Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
> news:3edbc2c5$1_1@news.vo.lu...
> > Hi,
> >
> > Before buying this "inversed umbrella", hi, I would like to know if some
> of
> > you, user of an hex-beam portable antenna (HBP 5 or 6 bands pac + 30ft
> mast)
> > have encountered problems : in building it, in using it, servicing, etc.
> >
> > I read eham.net but all comments are favorable. There is not much
comments
> > on the yahoo forum.
> > I 'd like to have negative opinions, or from experienced users, if there
> > are...
> >
> > PS. One OM in LX told me he encountered difficulties is building it
(mesh
> of
> > wires, tubing, etc) and that it was not easy to tune (?). I would to

> confirm
> > or not confirm with others users.
> >
> > Thanks in advance
> >
> > 73
> > Thierry
> > ON1SKY, LX3SKY
> > http://www.astrosurf.com/lombry
> >
> >
> >
> >
> >
> >
> >
> >
>
>

5522. Need your help and opinions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 17:12:11 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <LRKDa.3802$xM5.2437595@news2.news.adelphia.net>
Source record: 115974

I am putting up a vertical and would like your opinions on what I am doing. The vertical itself will be 26 feet tall, the base that it is to be mounted on is 14 feet from the ground.

The total antenna height will be 40 feet.

Of course the base will be part of the ground and isolated from the upper part. Coils will be mounted on the antenna for 80, 40, 30, & 10 meters.

I have a antenna tuning unit, and I also have a grid dip meter. I can run only 3 radials, only three.

Remember that I have 14 feet of vertical base tubing which is part of the ground.

Jim, kf4tun

5523. 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 17:21:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <S_ycnW5u4frY4UKjXTWcpg@comcast.com>
Source record: 115975

Folks,

Anybody have design info for a 2:1 impedance ratio wideband (3.5 -29 MHz)
balun? All I know is they exist, and are supposedly simple.
Thanks

Tam/WB2TT

5524. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 17:39:39 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <RDEO$2FbB43+EAqa@ifwtech.co.uk>
Source record: 115976

Art Unwin KB9MZ wrote:

>I noticed that a particular antenna book was being
>recommended in this group It would be wise not to swallow
>everything that is in a book is "fact". Lawson had a book
>printed based on computorisation of antenna arrays that
>immediatly came under attack as being incorrect

Can you quote any specific reference for such attacks?

Lawson's book was the first serious attempt at computer modeling in the amateur literature. It uses a simplified approach, so nobody expects the results to be quite as accurate as more modern programs.

I cloned his program from the information in the 1980 Ham Radio articles, and used it extensively until MININEC and NEC came along. Even with VHF/UHF yagis of 20 elements or more, it still gave surprisingly good results as compared with anechoic chamber measurements and the later programs.

Likewise his corrections for telescoping element diameters may not be quite as accurate as the later methods... but those developers had Lawson's work to build on.

Lawson (W2PV) built many of the antennas he designed and used them to great effect - you should have seen the yagis on his towers! Most important, all of his computer models were checked against a deep fundamental knowledge.

>Moxon's book "Antennas for all locations' I notice. has
>been recommended on this newsgroup but like many books
>reviewed by this group it has been pounded regarding it,s
> section on arrays where 'antenna coupling 'is reviewed.

Moxon had no access to computers, so his approach is based on fundamental ideas backed up by very simple math... and once again, a deep knowledge about the basic principles of antennas.

The main problem with the book is that it's not an easy read. To understand it, you probably need to know *almost* as much as he does! If you don't, then you have to keep coming back to it (via other books) until his ideas finally click.

I don't see much in either book that is fundamentally wrong, and nothing that deserves to be "attacked" or "pounded".

On the other hand, I've seen numbers of people taken to task for misinterpreting, misquoting or misusing both books... and serve 'em

right in some cases! But that's not the same as attacking either author,
or their books.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5525. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:03:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF85E5.2070800@ieee.org>
Source record: 115979

Richard Harrison wrote:
> In the example of the 1/2-wavelength of 300-ohm line imbeded in a 50-ohm
> system, the sender "sees" 50 ohms and should meet its specifications.

The question is: Why does the sender see 50 ohms. Why do the reflections stop at exactly that particular point after passing up other points along the line with the identical impedance? The 50 ohms repeats every 1/2WL. Why do the reflections stop at only one point? What makes that point unique?

> Terman tn his 1955 edition, on page 2 says:
> "The wave always travels in a direction at right angles to the
> wavefront, but whether it goes forward or backward depends upon the
> relative directions of the lines of magnetic and electric flux. If the
> direction of either the magnetic or electric flux is reversed, the
> direction of travel is reversed; but reversal of both sets of flux has
> no effect."

Strangely enough, this is not how it is explained in optics where they don't have Kirchhoff's conventions to worry about. :-)

> I`m not clear on how the source receives the peculiar reflected wave. I
> need to think about it.

That's exactly what I have been doing for a few years. If there is not an impedance discontinuity at the source, then there is nothing to turn the reflected wave around. Therefore, there has to be an impedance discontinuity at the source.
--
73, Cecil http://www.qsl.net/w5dxp

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5526. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:03:18 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdv1g8f44mce62@corp.supernews.com>
Source record: 115977

I once bought a water still for my lab.
It had a 220V plug like a clothes dryer.
Lots of current! We're distilling water here!
The geniuses at Corning had tinned the stranded copper wire in the plug.
Resistive heating eventually reflowed the solder.
The damned thing actually caught fire!
H.
NQ5H

"Owen Duffy" <owen@oda.com.au> wrote in message
news:3EDEB419.5040701@oda.com.au...
>
>
> Dick Carroll; wrote:
>
>
> > Me too! Just as along as the junction/connection doesn't depent on the
> > solder for its viability.
>
> Agreed, but be careful of subtle dependence on solder for its viability.
>
> We electronics people love to tin the bundle of strands of a stranded
> conductor, so that it holds the bundle neatly and prevents spreading in
> screw terminals.
>
> This is a really bad practice in many situations, as over time, the
> solder cold flows under pressure and can reduce the pressure applied to
> the conductor by the screw terminal. This can be sufficient to allow the
> screw to become loose, which, when re-thightened, will loosen again,
> although more slowly, until any solder that was 'trapped' under the
> pressure of the screw is forced out of the way.
>
> Conductors prepared in this way compared to no tinning have a
> characteristic soft feel when tightening the screw.
>
> Owen
>

5527. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:04:40 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbo0nn$lh4$1@hercules.btinternet.com>
Source record: 115978
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

<lucifer@eternal-flames.gov> wrote in message
news:5nkrdv4mc2bg2iuk93cf8cfl5js8ea6kij@4ax.com...
> On Wed, 4 Jun 2003 09:07:08 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> pausing to cast envious glances at those
> who had mastered the skill of reading without moving their lips,
> wrote:
>
> > put another way to 44%
> >
> > NOT to 66%
>
> I'm 110% behind you on this. ;-)

I had you figured for 666% Nick.

Gary7SLL

5528. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:08:55 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF8737.8070404@ieee.org>
Source record: 115980

Richard Harrison wrote:
> Resistance is caused by the nature of a load.

But the load is remote from the resistance seen by the source
so the resistance seen by the source is virtual, i.e. it is
the ratio of voltage to current, not an actual resistor. The
voltage to current ratio causes the resistance. What causes
the voltage to current ratio?

The virtual resistance cannot cause the virtual resistance.
--
73, Cecil http://www.qsl.net/w5dxp

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5529. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:16:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF890C.8010200@ieee.org>
Source record: 115981

Richard Clark wrote:
> At a minimum, what is the Z of your solid state transmitter?

If no reflected energy is allowed to reach the transmitter, the
Z(source) of the transmitter has absolutely no effect on system
conditions outside of the transmitter box if both are delivering
the same voltage and current. A 10 ohm transmitter can put out
70.7 volts at 1.414 amps. A 1000 ohm transmitter can put out 70.7
volts at 1.414 amps. System conditions outside the transmitter boxes
will be exactly the same as a 50 ohm transmitter outputting 70.7
volts at 1.414 amps.
--
73, Cecil http://www.qsl.net/w5dxp

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5530. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:21:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF8A2E.9030208@ieee.org>
Source record: 115982

Tarmo Tammaru wrote:
> Anybody have design info for a 2:1 impedance ratio wideband (3.5 -29 MHz)
> balun? All I know is they exist, and are supposedly simple.

Not so simple. Jerry Sevick describes such a device. If I remember
right, it takes a 2:1 UNUN plus a 1:1 BALUN (two toroids). What
is your application?
--
73, Cecil http://www.qsl.net/w5dxp

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5531. Re: Need your help and opinions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:31:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cn2vdvkaot5jq206599c2p82f92qe3j11m@4ax.com>
Source record: 115983

On Thu, 05 Jun 2003 17:12:11 GMT, "Jim Simmons" <jimsim@adelphia.net>
wrote:

>
>I am putting up a vertical and would like your opinions on what I am doing. The vertical itself will be 26 feet tall, the base that it is to be mounted on is 14 feet from the ground.
>
>The total antenna height will be 40 feet.
>
>Of course the base will be part of the ground and isolated from the upper part. Coils will be mounted on the antenna for 80, 40, 30, & 10 meters.
>
>I have a antenna tuning unit, and I also have a grid dip meter. I can run only 3 radials, only three.
>
>Remember that I have 14 feet of vertical base tubing which is part of the ground.
>
>Jim, kf4tun

Hi Jim,

Sounds like you have an Off Center Fed vertical dipole (except one end is at ground). You might want to pass the feedline up through the inside of the lower 14' section and break it out to drive the upper against it. I have used something like this (minus the traps, coils, whatever) and it worked as well as any ad-hoc design when a tuner was part of the mix (mostly 40M and up). The ground work is more extensive, but not to the point of compulsion (the neighbors might not agree, I explained I was planting wire in hope of growing copper trees).

73's
Richard Clark, KB7QHC

5532. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:33:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <e63vdv84rdp56tflhac7njhl9013s6lj88@4ax.com>
Source record: 115984

On Thu, 05 Jun 2003 13:08:55 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>The virtual resistance cannot cause the virtual resistance.
is it virtually non-dissipative?

5533. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:38:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <i93vdvcgfg995jpkm0gqg2de7di6lb3mlp@4ax.com>
Source record: 115985

On Thu, 05 Jun 2003 13:03:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>That's exactly what I have been doing for a few years. If there is not
>an impedance discontinuity at the source, then there is nothing to
>turn the reflected wave around. Therefore, there has to be an impedance
>discontinuity at the source.

Still thinking? (you have often used this lead-in to then do a 180)

If not (that is, you have a solution held close to the vest)
>If there is not
>an impedance discontinuity at the source, then there is nothing to
>turn the reflected wave around.
Does that work from behind the discontinuity too?

Again with the same presumption of a hidden solution:
>Therefore, there has to be an impedance
>discontinuity at the source.
Can you offer a measured value?

73's
Richard Clark, KB7QHC

5534. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:45:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qk3vdv4t17roe1mpskr9lai79il22ms13j@4ax.com>
Source record: 115986

On Thu, 5 Jun 2003 19:08:07 +0200, "Thierry"
<lombrytNOSPAM@hotmail.com> wrote:

>NB.
>For accessories, UKWBerichte in germany (www.UKW-Berichte.de) sold also
>masts of various size up to 12.5m high at a relatively low price (74-156
>euros for a ASM telescopic mast in alu from 5-12.5m, they sold +9 models).
>
>Hope this helps some interested users.
>
>Thierry

Hi Thierry,

As you are interested in portable solutions, consider US Army surplus.
For several years I have seen kits of sectioned, guyed 2 inch poles
for around $100 (price has fallen over the years). This is for 8 X 5
foot sections, with guy rope, stakes, 3 stage guy hardware, and 2.5
Pound Sledge Hammer in a canvas bag. Unfortunately such a source may
be remote for you but these are heavy duty and worth a little effort
to investigate.

73's
Richard Clark, KB7QHC

5535. Fractal antennas - again

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 18:46:52 UTC
From: "Alexander S. Wood" <alec_wood@dont.spam.me.ntlworld.com>
Message-ID: <xtPDa.1561$0d7.45986@newsfep4-glfd.server.ntli.net>
Source record: 116011

Hi All

The UK's national society comic RadCom had a long article on fractal antennas this month. All the text seemed to be considering them only as receiving antennas. Why? Surely the alleged benefits in increased radiation resistance over a small loop are equally valid for transmission.

Can you use the coupling loop and big capacitor approach - the so-called magnetic loop - with a fractal element like this.

The RadCom article seems to be lauding the fractal antenna as merely the most efficient way of getting more wire in an smaller space, nothing about special radiation or bandwidth properties.

--
Alec Wood M1BNK
Teesside UK

Interested in Ham Radio....have a look at www.ukradioamateur.org

5536. many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:06:36 UTC
From: carlos Mendoza <no@spam.com>
Message-ID: <3edf94bc$0$45373$1b62eedf@news.wanadoo.nl>
Source record: 115987
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hello Everyone,

Do you know how much you loose each time on
DX?

MANY ANTENNAS COMPARED!!!!!!

Look at my coax table, so you can compare many
coax cables (also at different frequencies!!!).
There is also calculation software to see the end
results.
Also we have links to many antenne factories.
Many new software for amateur radio (also
soundcard).
Satellite tracking software, and frequencie chart.
Kenwood information page for reset code's, and
microphone wiring information.
Power output problems?, we have many datasheets
for power modules.

Go to: http://www.qsl.net/pd0rkc

73's Cor

5537. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:11:32 UTC
From: carlos Mendoza <no@spam.com>
Message-ID: <3edf95e3$0$10836$1b62eedf@news.wanadoo.nl>
Source record: 115988
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hello All,

Does someone knows good hamradio site to
add http://www.qsl.net/pd0rkc.

Maybe you put a link on your website, please
let me know where your site is, please the URL
information to my e~mail adress!!!!
corholland at zonnet.nl

73's Carlos

"carlos Mendoza" <no@spam.com> schreef in bericht
news:3edf94bc$0$45373$1b62eedf@news.wanadoo.nl...
> Hello Everyone,
>
>
> Do you know how much you loose each time on
> DX?
>
> MANY ANTENNAS COMPARED!!!!!!
>
> Look at my coax table, so you can compare many
> coax cables (also at different frequencies!!!).
> There is also calculation software to see the end
> results.
> Also we have links to many antenne factories.
> Many new software for amateur radio (also
> soundcard).
> Satellite tracking software, and frequencie chart.
> Kenwood information page for reset code's, and
> microphone wiring information.
> Power output problems?, we have many datasheets
> for power modules.
>
>
> Go to: http://www.qsl.net/pd0rkc
>
> 73's Cor
>
>
>
>
>

>

5538. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:27:09 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDF998D.1000901@mwci-news>
Source record: 115989

Richard Clark wrote:
> On Thu, 05 Jun 2003 08:35:02 -0500, "William E. Sabin"
> <sabinw@mwci-news> wrote:
>
>>>>The 50 ohm generator is also irrelevant.
>>>
>>>...
>>>
>>>>Draw an SWR circle or radius 6.0 and go all the
>>>>way around the circle from the left end of the
>>>>circle (50 ohms to 50 ohms).
>>>
>>>Hi Bill,
>>>
>>>How do you reconcile your early statement with the later one? In
>>>other words, which is the irrelevant 50 Ohms of (50 ohms to 50 ohms)
>>>?
>>
>>If Cecil uses a 1/4 wave 300 ohm line he must then
>>try to transform the 1800 ohm input impedance
>>downward to something that the transmitter can
>>work into efficiently.
>>
>
>
> Hi Bill,
>
> So far I see no answer to why? If, as you state:
>
>>>The 50 ohm generator is also irrelevant.
>>
> Your last quote above about efficiency presumes a source Z that loses
> power such that there is some value where it is relevant. What value?
>
> If the transmitter has a Z (some value Z, not 50 Ohms) would it be
> irrelevant such that:
>
>>>The Z ohm generator is also irrelevant.
>>
> Would it be relevant at Z only if Z<>50?
>
> At a minimum, what is the Z of your solid state transmitter?
>
> 73's

> Richard Clark, KB7QHC

The output impedance of the amplifier does not matter. What matters is that the amplifier delivers it rated power output to a 50 ohm load. The PA can be a pure voltage source or a pure current source or anything in between. It matters not.

We are sneaking back into the often (too many times) repeated question "does the output impedance of the amplifer dissipate power or is it (at least partially) a lossless (dynamic) resistance". The idea of a lossless resistance is unacceptable to some folks, and that is OK. I have satisfied myself on this subject, and I do not want to get into that bottomless pit once again.

Sorry, but I am going to drop out at this point.

Bill W0IYH

5539. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:31:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF9AA0.6030208@ieee.org>
Source record: 115990

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>The virtual resistance cannot cause the virtual resistance.
>
> is it virtually non-dissipative?

As far as I know, all virtual resistances are non-dissipative.
I^2*R losses are not virtual.
--
73, Cecil http://www.qsl.net/w5dxp

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5540. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:40:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDF9C9B.1070708@ieee.org>
Source record: 115991

Richard Clark wrote:
> On Thu, 05 Jun 2003 13:03:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>
>>That's exactly what I have been doing for a few years. If there is not
>>an impedance discontinuity at the source, then there is nothing to
>>turn the reflected wave around. Therefore, there has to be an impedance
>>discontinuity at the source.
>
> Still thinking? (you have often used this lead-in to then do a 180)

Something is wrong with your perception of me doing a 180.
You accuse me of doing a 180 about subjects with which I
have never disagreed. Such is the nature of Big Lies. The
only thing I recall doing a 180 about is my use of the
word "null" about which I was mistaken. I predict that once
you allow yourself to understand what I am saying, that you
will agree with me. If you think we disagree on anything
technical, please present it.
--
73, Cecil http://www.qsl.net/w5dxp

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5541. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:49:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ok7vdvgbjsd2r2mi6sssipn81abfeonh08@4ax.com>
Source record: 115992

On Thu, 05 Jun 2003 14:40:11 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> On Thu, 05 Jun 2003 13:03:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>> wrote:
>>
>>
>>>That's exactly what I have been doing for a few years. If there is not
>>>an impedance discontinuity at the source, then there is nothing to
>>>turn the reflected wave around. Therefore, there has to be an impedance
>>>discontinuity at the source.
>>
>> Still thinking? (you have often used this lead-in to then do a 180)
>
>Something is wrong with your perception of me doing a 180.
>You accuse me of doing a 180 about subjects with which I
>have never disagreed. Such is the nature of Big Lies. The
>only thing I recall doing a 180 about is my use of the
>word "null" about which I was mistaken. I predict that once
>you allow yourself to understand what I am saying, that you
>will agree with me. If you think we disagree on anything
>technical, please present it.

Cecil,

You did everything but answer the question - what is there to agree
with?

73's
Richard Clark, KB7QHC

5542. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:51:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6n7vdv4nooqmpb6ajutko01ne98g6l1ur4@4ax.com>
Source record: 115993

On Thu, 05 Jun 2003 14:31:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>
>>>The virtual resistance cannot cause the virtual resistance.
>>
>> is it virtually non-dissipative?
>
>As far as I know, all virtual resistances are non-dissipative.
>I^2*R losses are not virtual.

but is it virtually non-dissipative? (How many times do I have to ask
to get that answer?)

73's
Richard Clark, KB7QHC

5543. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 19:53:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2q7vdv8gqingk9o081r34fte9e7fioc7bj@4ax.com>
Source record: 115994

On Thu, 05 Jun 2003 14:27:09 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>I have
>satisfied myself on this subject, and I do not
>want to get into that bottomless pit once again.
>
>Sorry, but I am going to drop out at this point.
>
>Bill W0IYH

Hi Bill,

Sorry for asking about a closely held belief. I can then discount
your genesis of this.

73's
Richard Clark, KB7QHC

5544. Any Comments on the claims of antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 20:01:54 UTC
From: Graabir Boubi <12@8mile.com>
Message-ID: <pBKdnWJwb909PEKjXTWcog@comcast.com>
Source record: 115995

Any comments on this thing .

"Dino" <no@email.com> wrote in message
news:bbnuno$art@dispatch.concentric.net...
> Good luck on the sale of this antenna. I'm sure someone will think it is
> worth $125.00. New in the box..maybe.
>
> For those who are not fortunate to win this bid, let me expound on some
> history for you...
>
> Jay in the Mojave has always been a BIG fan of the Super Penetrator 500.
Even
> though I have tried to convince him that the Avanti Sigma 5/8 is a better
> antenna, for MANY reasons, he still hung true to the SP500.
>
> Well, wanting to have a better antenna and knowing that one was not
available,
> I decided that I would dupicate the Sigma 5/8 and build them myself.
Little
> did I know, Jay was thinking the same thing about the SP500. The
difference
> is Jay actually worked on his and I only talked about it.
>
> Jay did some initial tests in order to improve on the SP500, most
importantly
> to the feedpoint. We sent e-mails back and forth where I informed him
that I
> didn't think the SP500 design was good because the "hairpin" (and later,
the
> "trombone") was in the VERTICAL plane and could affect the wave pattern of
the
> antenna. The ring on the sigma (which is NOTHING like the ring on the
Maco)
> is only there to take the 5/8 antenna to 6/8 which is required to properly
> "feed" this antenna. This "ring" is in the horizontal plane so as not to
> affect the vertical plane of the antenna! Bet you didn't know that!
>
> Well, the original "modified" SP500 became the Mastadon 5000. But, Jay
was
> still not happy. Armed with new information and a WHOLE LOTA trail and
air,
> the VERTCAL trombone became horizontal (way to go Jay) and a second one
was
> born. Further tests showed an increase in radiated field strength (due to

the
> elimination of the lossy feedpoint you get on the SP500 ;-) and it clearly
> outperformes the Sigma, SP500 and Maco (which were all used to test
against)!
> This antenna became the Interceptor 10K you hear so much about!
>
> The Super Penetrator 500 is a good antenna! The Interceptor 10K is by
far,
> superior. There is a hitch though (isn't there always?); quality is not
> cheap, but membership has it's privleges!
>
> IF...you want...the BEST 5/8 wave omni directional antenna built today,
there
> is only one choice...the Interceptor 10K. At $250.00, it can't be beat!
>
> http://www.a1antennas.com/
>
> Dino
> (who is in no way affiliated with Jay nor does he make ANY money off the
sales
> of this antenna. I paid for mine, just like you!)
>
> pbatestx@attbi.com says...
> >
> >
> >There is a Super penetrator 500 for sale on Ebay purchase price is $125
ends
> >at Jun-05-03 19:30:00 PDT
> >
> >http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3027980518&rd=1
> >
> >
>

5545. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 20:21:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFA657.5080002@ieee.org>
Source record: 115996

Richard Clark wrote:
> You did everything but answer the question - what is there to agree
> with?

To answer your question - I never stop thinking - do you?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5546. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 20:23:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFA6B0.6010700@ieee.org>
Source record: 115997

Richard Clark wrote:
> but is it virtually non-dissipative? (How many times do I have to ask
> to get that answer?)

You need to ask the question differently. I have no idea what it means
in its present unintelligible form.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5547. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 20:59:19 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EDFAF27.5020500@mwci-news>
Source record: 115998

Richard Clark wrote:
> On Thu, 05 Jun 2003 14:27:09 -0500, "William E. Sabin"
> <sabinw@mwci-news> wrote:
>
>
>>I have
>>satisfied myself on this subject, and I do not
>>want to get into that bottomless pit once again.
>>
>>Sorry, but I am going to drop out at this point.
>>
>>Bill W0IYH
>
>
> Hi Bill,
>
> Sorry for asking about a closely held belief. I can then discount
> your genesis of this.
>
> 73's
> Richard Clark, KB7QHC

OK.

Bill W0IYH

5548. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:10:07 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbobjf$2dk$1@slb4.atl.mindspring.net>
Source record: 115999

Yuri:

Thanks again for all the feedback, food for thought. Also Bart Rowlett shared some information
from a West Coast shootout with me off-line. Thanks Bart.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message news:20030603182100.08524.00000619@mb-m24.aol.com...
> >Then definitely go for mounting the highest beast you can get on the top of
> >the car. It will work very well.
> >
>
>
> Bit more,
> screwdriver is good antenna for 1.8 to 30 MHz. You can have trailer hitch mount
> for mobiling in motion and also make a bracket which you can clamp to your roof
> rack and mount the screwdriver there for stationary "mobiling" with possible
> extension of the base mast and additional top loading. Nice thing about
> screwdriver is that you can "tune" the coil to anything that is needed to
> resonate the antenna where you want it.
>
> Yuri

5549. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:10:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFB1C6.9746B6E5@uci.edu>
Source record: 116000

W5DXP wrote:
> Correct me if I'm wrong. I said there is not enough power just in the
> energy of the two waves, P1 and P2, to cause an additional 2*Sqrt(P1*P2).

No, you said:

"There is simply not enough energy in the P1 and P2 waves
to account for Pfwd2."

> You said there is.

That's because Pfwd2=P1+P2+(2*sqrt(P1*P2)).

> Another way of saying that there is enough energy
> contained only in P1+P2 to cause P1+P2+2*Sqrt(P1+P2) is P1+P2 > P1+P2.

Wow, you're really having to stretch to make it look like you were
right.

> > Of course it is, Cecil. Your misunderstandings about the movement of
> > energy are what lead to your mistaken beliefs about this.

> Everything I say is based on the conservation of energy principle.

I understand. But you don't understand which way energy is moving. As
long as it ended up at the load, you could make any claims you wanted
and say you were basing it on the conservation of energy principle.

> What are your assertions based on?

General physics and optics textbooks, with help from some physicists I
know.
It has become glaringly apparent where you pulled yours out of. ;-)

> > Both events "come from" the interaction of waves. One event doesn't
> > cause the other. Both occur naturally together.

> In the case of wave cancellation, destructive interference does indeed
> cause constructive interference. There is simply no other place for
> that energy to go.

Wave interaction causes interference. Out of phase waves cause
destructive interference, in-phase waves cause constructive
interference. In any wave interaction there will be locations where
waves are in-phase, and locations where waves will be out of phase. But
unless we're talking standing waves, any two waves traveling in the same
direction will either be in-phase, or they will be out of phase. Waves
comprising the algebraic compliment of those waves will be of the
opposite phase. When two of the waves cancel, the other two combine in

such a way as to make up the difference. This much is true.

But what is absolutely NOT true is your claim that the cancelled waves turn around and carry energy in the opposite direction. Or that they cause or do anything other than prevent an energy transfer in their direction of propagation.

> Pfwd1(1-rho^2) is transferred directionally across the impedance discontinuity.
> Pfwd1(rho^2) is wave canceled by Pref2(1-rho^2) and the sum of their
> energy components reverse direction and are transferred across the
> impedance discontinuity. We know that Pref2(1-rho^2) is headed toward
> the source. What turns that energy around?

It is a riddle, posed in just such a way as to produce an incorrect answer.
It is not a proper energy analysis, because not all the waves in the problem represent a transfer of energy. I've already told you which ones.

73 ac6xg

5550. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:21:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFB457.5179441E@uci.edu>
Source record: 116001

W5DXP wrote:

> If you are that blind, we are just going to have to agree
> to disagree and our discussion ends.

Our disagreement is only one half my fault. The other half is yours. As I have already suggested, an agreement to disagree would be welcomed. I have solved the problem to my own satisfaction, though I am disappointed it is not to yours. But you have convinced me that would never have been the case.

73, Jim AC6XG

5551. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:22:51 UTC
From: Owen Duffy <owen@oda.com.au>
Message-ID: <3EDFB4AB.10906@oda.com.au>
Source record: 116002

H. Adam Stevens wrote:
> I once bought a water still for my lab.
> It had a 220V plug like a clothes dryer.
> Lots of current! We're distilling water here!
> The geniuses at Corning had tinned the stranded copper wire in the plug.
> Resistive heating eventually reflowed the solder.
> The damned thing actually caught fire!

I have seen similar, and I suggest that the chain of events is that the solder cold flowed, reduding the pressure applied by the terminal screw, allowing poorer contact, increase resistance, heat, ... it is all downhill from there.

Owen

5552. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:25:01 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <wDKdnRmiscCvKEKjXTWcqw@comcast.com>
Source record: 116003

Cecil,

First, what got me on it was a StepIR ad, which says their antenna has a "simple 2:1: balun" . The application is a full size 75m vertical loop. I am presently matching it with a 1/4 wave section of RG11. It would work on other bands, but the 1/4 wave section is a noop there. I have used it on 18 and 24 MHz with the 756 internal tuner, but according to EZNEC the SWR would be half of of what it is now with a 112 ohm termination. After I posted it, it occured to me that a 2.25:1 balun might be easy, and even better.

Tam/WB2TT
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDF8A2E.9030208@ieee.org...
> Tarmo Tammaru wrote:
> > Anybody have design info for a 2:1 impedance ratio wideband (3.5 -29
MHz)
> > balun? All I know is they exist, and are supposedly simple.
>
> Not so simple. Jerry Sevick describes such a device. If I remember
> right, it takes a 2:1 UNUN plus a 1:1 BALUN (two toroids). What
> is your application?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5553. Re: Any Comments on the claims of antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:26:15 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EDFB577.323C4FD6@cwis.net>
Source record: 116004

Graabir Boubi,
It's a very lame troll.
'Doc

5554. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:29:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFB63E.6030609@ieee.org>
Source record: 116005

Jim Kelley wrote:
>
> W5DXP wrote:
>>Correct me if I'm wrong. I said there is not enough power just in the
>>energy of the two waves, P1 and P2, to cause an additional 2*Sqrt(P1*P2).
>
> No, you said:
>
> "There is simply not enough energy in the P1 and P2 waves
> to account for Pfwd2."

Yes, my two statements mean exactly the same thing.

>>You said there is.
>
> That's because Pfwd2=P1+P2+(2*sqrt(P1*P2)).

Yes, that's mathematically correct but 2*Sqrt(P1*P2) is NOT
contained in P1+P2. The conservation of energy principle does
not allow that.

>>Another way of saying that there is enough energy
>>contained only in P1+P2 to cause P1+P2+2*Sqrt(P1+P2) is P1+P2 > P1+P2.
>
> Wow, you're really having to stretch to make it look like you were
> right.

No, you just don't realize what you are saying.

>>In the case of wave cancellation, destructive interference does indeed
>>cause constructive interference. There is simply no other place for
>>that energy to go.

> But what is absolutely NOT true is your claim that the cancelled waves
> turn around and carry energy in the opposite direction.

Why don't you take my quiz about where the energy in the two rearward-
traveling wavefronts go? You seem to be avoiding it like the plague.

> It is not a proper energy analysis, because not all the waves in the
> problem represent a transfer of energy. I've already told you which
> ones.

How does a wave know whether it is supposed to transfer energy or not?
One wave has 50 volts at one amp in phase and transfers 50 watts. Another
wave has 50 volts at one amp in phase and transfers zero watts. Do you
realize how ridiculous that assertion is? Since when are waves smart

enough to decide whether to carry energy or not?
--
73, Cecil, W5DXP

5555. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:41:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFB8EE.8080504@ieee.org>
Source record: 116006

Jim Kelley wrote:
> W5DXP wrote:
>>If you are that blind, we are just going to have to agree
>>to disagree and our discussion ends.
>
> Our disagreement is only one half my fault. The other half is yours.

Sorry that I am incapable of tolerating your contradictions.
It's obviously a character flaw of mine.

> As I have already suggested, an agreement to disagree would be
> welcomed.

I offered you that option months ago in email.

> I have solved the problem to my own satisfaction, ...

Too bad you don't have any objections to contradictions and
violations of the conservation of energy principle.

I notice you haven't touched your contradiction concerning:

b1 = s11*a1 + s12*a2

You say: If b1 = 0, then there is no energy in s11*a1 or s12*a2
but you have offered absolutely no proof. I'm sure there are readers
who would appreciate your proof of that assertion because they
could stop worrying about a lot of pesky design parameters.
--
73, Cecil, W5DXP

5556. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:48:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFBAA9.7040400@ieee.org>
Source record: 116007

Tarmo Tammaru wrote:
> First, what got me on it was a StepIR ad, which says their antenna has a
> "simple 2:1: balun" . The application is a full size 75m vertical loop. I am
> presently matching it with a 1/4 wave section of RG11. It would work on
> other bands, but the 1/4 wave section is a noop there. I have used it on 18
> and 24 MHz with the 756 internal tuner, but according to EZNEC the SWR would
> be half of of what it is now with a 112 ohm termination. After I posted it,
> it occured to me that a 2.25:1 balun might be easy, and even better.

A 2:1 balun would probably work well on the fundamental frequency but
won't do you much good on a multi-band loop. You are probably better
off with a 1:1 choke, all things considered. But don't let my opinion
stop you from experimenting.
--
73, Cecil, W5DXP

5557. Re: Noalox on Copper to Copper

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 21:59:58 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vdvfbv37bpg53a@corp.supernews.com>
Source record: 116008

Didn't mean to imply cold flow wasn't first,
I did say "eventually".....just when it got a little hotter things flowed
faster.
Cold flow first, resulting in more heat, then, ...
Smoke, flames.....
It was dramatic.
;^)
"Owen Duffy" <owen@oda.com.au> wrote in message
news:3EDFB4AB.10906@oda.com.au...
>
>
> H. Adam Stevens wrote:
> > I once bought a water still for my lab.
> > It had a 220V plug like a clothes dryer.
> > Lots of current! We're distilling water here!
> > The geniuses at Corning had tinned the stranded copper wire in the plug.
> > Resistive heating eventually reflowed the solder.
> > The damned thing actually caught fire!
>
> I have seen similar, and I suggest that the chain of events is that the
> solder cold flowed, reduding the pressure applied by the terminal screw,
> allowing poorer contact, increase resistance, heat, ... it is all
> downhill from there.
>
> Owen
>

5558. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:12:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFC05F.36E84B1B@uci.edu>
Source record: 116009

W5DXP wrote:
> What is it about the energy "lost" in the wave cancellation event
> joining the forward wave that you don't understand?

The misunderstanding is on your end. Energy is not lost in wave cancellation. Lost energy is a misnomer. I've explained what happens to energy in wave cancellation several times already.

> When there is
> an open circuit to the flow of reflected energy, that energy *IS*
> re-reflected.

It's only an open circuit to energy in a DC sense - as in a non-existant circuit.

> The energy in all of the four following terms winds up flowing toward
> the load. The only energy that is not 100% re-reflected is P1.
>
> P1 = Pfwd1(1-rho^2), P2 = Pref2(rho^2)
>
> P3 = Pfwd1(rho^2), P4 = Pref2(1-rho^2)

I've read your paper. P3 and P4 cancel. That means no energy can be transferred by them. P1 and P2 carry the energy as evidenced by the contructive interference between the two terms. The result is Pfwd2. That's the wave analysis. The energy analysis is simply that the forward energy on the left side equals the forward energy on the right side.

73 ac6xg

5559. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:25:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFC365.9050301@ieee.org>
Source record: 116010

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>What is it about the energy "lost" in the wave cancellation event
>>joining the forward wave that you don't understand?
>
> The misunderstanding is on your end. Energy is not lost in wave
> cancellation.

That's why they put "lost" in quotes. It only appears to be lost
to uninitiated people like you who assert that some waves don't
carry any energy.

> Lost energy is a misnomer. I've explained what happens
> to energy in wave cancellation several times already.

You say there is no energy involved in wave cancellation but
you have not explained how the wave knows whether to carry
energy or not. Why does one 50 volt/one amp wave carry 50 watts
while another 50 volt/one amp wave carries zero watts? How does
the wave know how much energy to carry?

> I've read your paper. P3 and P4 cancel.

You didn't read it right. Wave(V3,I3) and Wave(V4,I4) cancel.
Where you ever got the idea that powers can interfere and cancel
is beyond my comprehension. Let me say it again. Fields cancel.
Energy cannot cancel. The energy in canceled fields pops up
elsewhere according to Hecht. In the case of canceled waves in
a transmission line, the energy must necessarily change direction
since there's only two directions.
--
73, Cecil, W5DXP

5560. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:35:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFC5A8.63002D42@uci.edu>
Source record: 116015

W5DXP wrote:
>
> Jim Kelley wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>
> > Your assertion that energy has to inexplicably change directions twice
> > in order for it to end up at the load is faulty.
>
> So you are indeed saying that for b1=s11*a1+s12*a2, if b1 equals zero,
> then there is no energy associated with s11*a1 and s12*a2. Would you
> be able to prove your assertion by any chance?

This is your assertion so it's probably misstated or wrong, in which
case I'm confident it's not provable.

> The energy in the rearward-traveling wavefronts joins the
> forward-traveling transmitted beam.

Think about that statement some more, Cecil. It contains a clue about
your error.

> > Correction, cancelled wavefronts do not reflect or otherwise transfer
> > energy, ...

> Which is a clear violation of the conservation of energy principle
> upon which we are going to have to agree to disagree.

Cancelled waves do not carry energy. Remember the laser example I
gave? Did you not understand it? Obviously, energy is not reflected in
the direction of wave cancellation and destructive interference. This
is confirmed on optics tables all over the world every day. Why don't
you go see for yourself?

> The energy in the rearward-traveling reflected wavefronts must go
> somewhere. Where does it go?

The energy doesn't travel rearward, so it continues to travel forward -
as I have explained to you dozens of times. Ya got a pretty thick head
on ya there, Cec - tough to penetrate sometimes.

73, Jim AC6XG

5561. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:35:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bchvdv40suvnot0h9barpaa68fnsgjgg2d@4ax.com>
Source record: 116012

```
On Thu, 05 Jun 2003 15:23:12 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>>>The virtual resistance cannot cause the virtual resistance.
>>
>> is it virtually non-dissipative?
```

5562. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:36:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2ehvdvsr584ppm6lvo0rvgqkjgo3vv7ubs@4ax.com>
Source record: 116013

On Thu, 05 Jun 2003 15:21:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> You did everything but answer the question - what is there to agree
>> with?
>
>To answer your question - I never stop thinking - do you?

Still thinking about my other two questions? Sure takes a lot of
prompting...

5563. Re: Fractal antennas - again

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:38:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rfhvdvgfkrvngkomh29eejoas6soj8qvkq@4ax.com>
Source record: 116014

On Thu, 5 Jun 2003 19:46:52 +0100, "Alexander S. Wood"
<alec_wood@dont.spam.me.ntlworld.com> wrote:

>Hi All
>
>The UK's national society comic RadCom had a long article on fractal
>antennas this month.

Such is the bane of vanity publishing.

>All the text seemed to be considering them only as
>receiving antennas. Why? Surely the alleged benefits in increased radiation
>resistance over a small loop are equally valid for transmission.

If it were only so....

>
>Can you use the coupling loop and big capacitor approach - the so-called
>magnetic loop - with a fractal element like this.

You can use a full size antenna too.
>
>The RadCom article seems to be lauding the fractal antenna as merely the
>most efficient way of getting more wire in an smaller space, nothing about
>special radiation or bandwidth properties.

Nothing special is right.

73's
Richard Clark, KB7QHC

5564. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:45:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFC7F9.E290727F@uci.edu>
Source record: 116016

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>What is it about the energy "lost" in the wave cancellation event
> >>joining the forward wave that you don't understand?
> >
> > The misunderstanding is on your end. Energy is not lost in wave
> > cancellation.
>
> That's why they put "lost" in quotes. It only appears to be lost
> to uninitiated people like you who assert that some waves don't
> carry any energy.

You're relying on the fact that they say "lost" as your argument. You claim that energy turns around. I'm explaining to you that cancelled waves don't transfer energy. It's non-existant, so "lost" energy is a misnomer. Nice try though.

> You say there is no energy involved in wave cancellation but
> you have not explained how the wave knows whether to carry
> energy or not.
> Why does one 50 volt/one amp wave carry 50 watts
> while another 50 volt/one amp wave carries zero watts? How does
> the wave know how much energy to carry?

Waves really don't "know" anything, Cecil. It's a stupid question. But apparently they can at least work a math problem correctly.

73, ac6xg

5565. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 22:47:44 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <cMPDa.5700$V77.653861@news20.bellglobal.com>
Source record: 116017

"W5DXP"
> Light and RF are both EM waves. Therefore, we can learn
> a lot about RF from the field of optics.

:-)

> A 1/4 WL thickness of thin-film of the proper index of refraction
> can virtually eliminate reflections of coherent light. Doesn't it stand
> to reason that the same principles are at work in a 1/4WL of
> transmission line used to eliminate reflections of coherent RF?

[Awarded one bonus point for extreme clarity.]

You need to find a free or cheap version of Spice and model that.

In fact, you should take this whole discussion into the Spice framework. It would save a lot of bandwidth...

5566. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:07:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFCD3F.90E08B3F@uci.edu>
Source record: 115919

W5DXP wrote:
> Why don't you take my quiz about where the energy in the two rearward-
> traveling wavefronts go? You seem to be avoiding it like the plague.

Your "quiz" has been the subject of this discussion for a long time.
You act as if you've come up with a new revelation. I sincerely wish
you would.

> How does a wave know whether it is supposed to transfer energy or not?

I guess in the same way it knows whether it's supposed to turn around or
not. It's a stupid question.

73, ac6xg

5567. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:09:13 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bboiio$5u3$1@sparta.btinternet.com>
Source record: 116018
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:s6rtdv4mquv1cdckue1gjv4ofup1avobfh@4ax.com...
> On Thu, 5 Jun 2003 06:59:18 +0000 (UTC), "Dave"
> <davenpat@btopenworld.com> wrote:
>
> >
> >"Richard Clark" <kb7qhc@attbi.com> wrote in message
> >news:eutsdvcnnbipq17f2o1ei8soqr8u9enn2u@4ax.com...
> >> On Wed, 04 Jun 2003 21:25:05 GMT,
> >> dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:
> >>
> >> >and i guarantee to that
> >>
> >> Which wouldn't be guaranteed at all, would it? Truly amateur quality.
> >
> >
> >If you ever fly, that is the way of the aerospace industry and has been
for
> >years.
> >Still want to fly?
> >
> >Dave
> >
> Another amateur opinion?

No. It is an observation of a company that usually out sells Boeing on
aircraft sales, usually with far better performing and more fuel efficient
aircraft. :-)

> Cheaper by the dozen. As the designer of
> the black box, I have seen the data of crashes and I know full well
> what risk is involved.

So why is the 'black box' described that way, when it is orange, tied to a
sonic beacon?

Dave

5568. Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:12:28 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <47QDa.16980$pK2.23471@news.indigo.ie>
Source record: 115920

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
I'm running a sim in multi s 2001 for a uhf pre amp.
I'm supplying 12v dc to the coax and running it up the coax to supply power
to the preamp.

I placed different values of inductors between the center-line of the coax
and the +line of the pre-amp but my voltage is down by 6 volts. Why?

The loss of the transmission line is set to 0.1Ohm/meter for a 15 meter run
of cable.

I want to get about 9~12volts into the preamp to power it. Where am I going
wrong??

Cheers,
Xanax.

-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPt/OWiGakPXr24F/EQIqpwCfU3djyGJSvJS6JYt1e51aw/HtVNwAoMgi
TFyrx4FXnHaiQYcmu17NzGzy
=dV4k
-----END PGP SIGNATURE-----
```

5569. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:14:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFCEDD.2050105@ieee.org>
Source record: 115921

Jim Kelley wrote:
> W5DXP wrote:
>>So you are indeed saying that for b1=s11*a1+s12*a2, if b1 equals zero,
>>then there is no energy associated with s11*a1 and s12*a2. Would you
>>be able to prove your assertion by any chance?
>
> This is your assertion so it's probably misstated or wrong, in which
> case I'm confident it's not provable.

No, b1 is the reflected voltage incident upon the source. If b1
equals zero, there is no reflected voltage incident upon the
source. s11*a1 and s12*a2 are the two reflected component
voltages. The square of either of these voltages is the power
involved. You say there is no energy in either one of those
terms. Please prove your assertion.

>>The energy in the rearward-traveling wavefronts joins the
>>forward-traveling transmitted beam.
>
> Think about that statement some more, Cecil. It contains a clue about
> your error.

I'm just quoting the Melles-Griot web page.

> Cancelled waves do not carry energy.

They do before they cancel. We are just going to have to disagree
on whether a 50 volt at one amp in phase wave carries energy or not.
I say it carries V*I=50 watts. You say it sometimes carries zero watts
depending upon your whim.

>>The energy in the rearward-traveling reflected wavefronts must go
>>somewhere. Where does it go?
>
> The energy doesn't travel rearward, ...

Of course the energy reflected from the load travels rearward. To
insist that there is no energy in the reflected waves from a
mismatched load is sheer insanity. Don't you remember burning your
fingers on the power reflected from the load dissipated in the
circulator load resistor? Exactly how does the reflected wave from
a mismatched load know whether to carry energy or not depending
upon your whim?
--
73, Cecil, W5DXP

5570. Re: Fractal antennas - again

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:19:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vdvjvgcpt26q9e@corp.supernews.com>
Source record: 115922

Fractal bending of wires is one way of loading a small loop to lower its resonant frequency, but it's not necessarily the most efficient way. Randomly bent small loops have been created that show better efficiency for a given size than is achieved by fractal bending. So, although mathematically interesting, the advantages of fractal bending over other forms hasn't to my knowledge been definitively shown. (It has, however, often been claimed, but without supporting evidence.) The bandwidth of a fractal antenna is consistent with the size and efficiency of the loop. Fractal and random bending do produce some interesting non-harmonically related resonances that might be useful in particular applications. The radiation pattern of a small fractal loop is essentially the same as any other small loop.

Fractals and other bent or loaded loops can be used for transmitting. But as for all small antennas, great attention has to be paid to losses if it's to be a very effective radiator.

Roy Lewallen, W7EL

Alexander S. Wood wrote:
> Hi All
>
> The UK's national society comic RadCom had a long article on fractal
> antennas this month. All the text seemed to be considering them only as
> receiving antennas. Why? Surely the alleged benefits in increased radiation
> resistance over a small loop are equally valid for transmission.
>
> Can you use the coupling loop and big capacitor approach - the so-called
> magnetic loop - with a fractal element like this.
>
> The RadCom article seems to be lauding the fractal antenna as merely the
> most efficient way of getting more wire in an smaller space, nothing about
> special radiation or bandwidth properties.
>

5571. Re: Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:21:01 UTC
From: dplatt@radagast.org
Message-ID: <vdvk2tmhpvjuf7@corp.supernews.com>
Source record: 115923

>Hi all,
>I'm running a sim in multi s 2001 for a uhf pre amp.
>I'm supplying 12v dc to the coax and running it up the coax to supply power
>to the preamp.
>
>I placed different values of inductors between the center-line of the coax
>and the +line of the pre-amp but my voltage is down by 6 volts. Why?
>
>The loss of the transmission line is set to 0.1Ohm/meter for a 15 meter run
>of cable.
>
>I want to get about 9~12volts into the preamp to power it. Where am I going
>wrong??

Insufficient data.

Two additional data are required:

- How much current is your preamp drawing?

- What's the equivalent series resistance of the inductors you are
trying to use?

With a .1 ohm/meter resistance in the coax, you'd have 1.5 ohms of
resistance. If your preamp draws 1 ampere (rather a lot I imagine)
you'd lose 1.5 volts in the transmission line.

If you're losing 6 volts, then I'd guess that either you're drawing
several amperes, or your inductors have a high series resistance (lots
of turns, of wire that's too small).

It shouldn't require the use of multisim to do an E=IR calculation...

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

5572. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:27:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFD1C4.7040605@ieee.org>
Source record: 115924

Jim Kelley wrote:
> I'm explaining to you that cancelled waves don't transfer energy.

Before it is canceled, exactly how does a wave know whether to
carry energy or not? Exactly how can you have in phase voltage
and current waves that don't carry any energy? Your assertions
violate many of the accepted laws of physics.

> Waves really don't "know" anything, Cecil.

Your waves have to be really smart, Jim. They have to read your
mind to know whether to carry energy or not. They have to know
ahead of time whether they are going to be canceled or not.

Wave 1: "I'm 50 volts at one amp in phase and I am carrying
50 watts of power because Jim gave me permission to. If I
ever get canceled, what will I do with all that energy? Jim
will be mad at me if I get canceled while transferring energy."

Wave 2: "I'm 50 volts at one amp in phase but Jim will not
allow me to carry any power because he thinks I am going to
be canceled. What will I do if he is ever wrong? Jim will be
mad at me if I don't get canceled."

See how ridiculous your assertions are?
--
73, Cecil, W5DXP

5573. Re: Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:29:06 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <HmQDa.16990$pK2.23611@news.indigo.ie>
Source record: 115925

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

OK I didnt think of the current.
I'll try an ampmeter.
I even tried putting a direct wire connection from the center conductor to
the + rail and I'm still dropping 6v at the pre amp. I'm using a single
transistor CB amp using the mps 5179.

Cheers,
Xanax.
"Dave Platt" <dplatt@radagast.org> wrote in message
news:vdvk2tmhpvjuf7@corp.supernews.com...
> >Hi all,
> >I'm running a sim in multi s 2001 for a uhf pre amp.
> >I'm supplying 12v dc to the coax and running it up the coax to supply
power
> >to the preamp.
> >
> >I placed different values of inductors between the center-line of the
coax
> >and the +line of the pre-amp but my voltage is down by 6 volts. Why?
> >
> >The loss of the transmission line is set to 0.1Ohm/meter for a 15 meter
run
> >of cable.
> >
> >I want to get about 9~12volts into the preamp to power it. Where am I
going
> >wrong??
>
> Insufficient data.
>
> Two additional data are required:
>
> - How much current is your preamp drawing?
>
> - What's the equivalent series resistance of the inductors you are
> trying to use?
>
> With a .1 ohm/meter resistance in the coax, you'd have 1.5 ohms of
> resistance. If your preamp draws 1 ampere (rather a lot I imagine)
> you'd lose 1.5 volts in the transmission line.
>
> If you're losing 6 volts, then I'd guess that either you're drawing
```

> several amperes, or your inductors have a high series resistance (lots
> of turns, of wire that's too small).
>
> It shouldn't require the use of multisim to do an E=IR calculation...
>
> --
> Dave Platt <dplatt@radagast.org> AE6EO
> Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
> I do _not_ wish to receive unsolicited commercial email, and I will
> boycott any company which has the gall to send me such ads!
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA+AwUBPt/SQCGakPXr24F/EQKJ3wCY7yZgUahbY8M16EijMBXkv0nzOACg5RZC
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=zZzW
-----END PGP SIGNATURE-----

5574. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:30:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFD296.4030704@ieee.org>
Source record: 115926

Xanax wrote:
> I want to get about 9~12volts into the preamp to power it. Where am I going
> wrong??

What is the impedance of your RF chokes at DC?
--
73, Cecil, W5DXP

5575. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:36:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFD400.60305@ieee.org>
Source record: 115927

Jim Kelley wrote:
> W5DXP wrote:
>>How does a wave know whether it is supposed to transfer energy or not?
>
> I guess in the same way it knows whether it's supposed to turn around or
> not. It's a stupid question.

The energy in canceled waves has no choice except to turn around.
There is simply nowhere else for it to go. There's only two directions.
We know it is not going in one of those directions. Dang, I wonder
where that energy goes? That's a really tough question, isn't it? :-)

Your waves, OTOH, have to know ahead of time whether they are going
to be canceled or not so they will know whether to carry energy or
not. Since they cannot know that ahead of time, you must be in
control of all the EM waves in the world, if not in the universe.

For instance, let's set up an experiment involving light waves from
Alpha Centauri. We cause wave cancellation between two waves. How
did Alpha Centauri know not to put any energy in those waves nine
years ago when the light was emitted?
--
73, Cecil, W5DXP

5576. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:43:12 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <VzQDa.16995$pK2.23353@news.indigo.ie>
Source record: 115928

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I tried using straing wire in the sim and it still drops 6v.
I must be doing something wrong.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EDFD296.4030704@ieee.org...
> Xanax wrote:
> > I want to get about 9~12volts into the preamp to power it. Where am I
going
> > wrong??
>
> What is the impedance of your RF chokes at DC?
> --
> 73, Cecil, W5DXP
>
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPt/VjiGakPXr24F/EQITqACghiJlaB4N9Q4z+1jHnQewgc4sPK0AmgJp
qPGpHdfDMUGi9gVFg8wnHnCn
=X+hb
-----END PGP SIGNATURE-----
```

5577. Are there Any Antenna Regulations in respect to Powerlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:49:38 UTC
From: DW <danw@siscom.net>
Message-ID: <3edfd7be$0$36714$9a6e19ea@news.newshosting.com>
Source record: 115931

Help!

Are there any regulations governing the placement of antennas near
powerlines?
NEC, FCC, NFPA, OSHA ? Other than local zoning laws...
NESC has about the closest thing I can find in respect to clearance but its
rather vague, in my opinion.
Can anyone point me to a specific Code, Article, etc.?
Some regulations govern towers, but what about an antenna on top of a
utility pole?
802.11b specifically.
I have looked and cant seem to find anything but vague guidelines and
recommendations.

Thank You Very Much In Advance,
Dan

5578. Re: Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:51:29 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <GHQDa.16999$pK2.23566@news.indigo.ie>
Source record: 115929

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

OK I changed the type of transmission line and I'm just loosing a
fraction of a volt now.

Thanks guys!!
Oh. What value inductor should I use to pick the dc off the coax to
power the preamp?
The frequency of operation will be between 240 and 270Mhz.

Cheers,
Xanax.
"Xanax" <keepItInTheNewsGroups@news.com> wrote in message
news:HmQDa.16990$pK2.23611@news.indigo.ie...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> OK I didnt think of the current.
> I'll try an ampmeter.
> I even tried putting a direct wire connection from the center conductor
to
> the + rail and I'm still dropping 6v at the pre amp. I'm using a single
> transistor CB amp using the mps 5179.
>
> Cheers,
> Xanax.
> "Dave Platt" <dplatt@radagast.org> wrote in message
> news:vdvk2tmhpvjuf7@corp.supernews.com...
> > >Hi all,
> > >I'm running a sim in multi s 2001 for a uhf pre amp.
> > >I'm supplying 12v dc to the coax and running it up the coax to supply
> power
> > >to the preamp.
> > >
> > >I placed different values of inductors between the center-line of the
> coax
> > >and the +line of the pre-amp but my voltage is down by 6 volts. Why?
> > >
> > >The loss of the transmission line is set to 0.1Ohm/meter for a 15 meter
> run
> > >of cable.
> > >
> > >I want to get about 9~12volts into the preamp to power it. Where am I
```

> going
> > >wrong??
> >
> > Insufficient data.
> >
> > Two additional data are required:
> >
> > - How much current is your preamp drawing?
> >
> > - What's the equivalent series resistance of the inductors you are
> > trying to use?
> >
> > With a .1 ohm/meter resistance in the coax, you'd have 1.5 ohms of
> > resistance. If your preamp draws 1 ampere (rather a lot I imagine)
> > you'd lose 1.5 volts in the transmission line.
> >
> > If you're losing 6 volts, then I'd guess that either you're drawing
> > several amperes, or your inductors have a high series resistance (lots
> > of turns, of wire that's too small).
> >
> > It shouldn't require the use of multisim to do an E=IR calculation...
> >
> > --
> > Dave Platt <dplatt@radagast.org> AE6EO
> > Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
> > I do _not_ wish to receive unsolicited commercial email, and I will
> > boycott any company which has the gall to send me such ads!
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA+AwUBPt/SQCGakPXr24F/EQKJ3wCY7yZgUahbY8M16EijMBXkv0nzOACg5RZC
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pPWP+FzAR2Vr4u3An+CSySPE
=Tb7Z
-----END PGP SIGNATURE-----

5579. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:53:28 UTC
From: oceanview2002@earthlink.net
Message-ID: <999cf256.0306051553.45c89859@posting.google.com>
Source record: 115930

.
>
> As ya'll know there are several manufacturers of screwdriver antennas, and
> all but Hi-Q are using bottom
> loading. VE7BOC uses center loading on his Hi-Q series which should, all
> other things being equal, yeild a higher efficiency than that of the bottom
> loaded screwdrivers.

That simply is not true. Although, I am not surprised that old
Charlie would tell you that. He is not known for his honesty. Just
ask some of his customers like me or W6PEA. As he says in the manual,
once you bought it, it is yours. By the way, he has been trying to
sell Hi-Q for months with no luck.
>
> From my visual inspections I saw that the Hi-Q screwdriver antennas on
> display at VE7BOC's table at Dayton had some very fine mechanical
> workmanship.

That too is not correct. There is a plastic, yes, plastic disk that
is inside the coil. There is a screw up through the center of the
disk. I found that I could strip the threads right out of the disk.
Also, the whip screws into an aluminum disk. Threading a stainless
whip into aluminum is asking for trouble. I spoke with KD7VIU and he
has replaced the top plate three times in six weeks. So much for old
Charlie's quality. It should be low Q.

My best advice is to stick with a name brand and an honest company.
Stay away from the VE7BOC stuff. It's shiny but not well made in his
garage.

73, Gus

5580. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-05 23:57:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFD906.E91A17CE@uci.edu>
Source record: 115932

W5DXP wrote:
>
> Jim Kelley wrote:
> > I'm explaining to you that cancelled waves don't transfer energy.
>
> Before it is canceled, exactly how does a wave know whether to
> carry energy or not? Exactly how can you have in phase voltage
> and current waves that don't carry any energy?

It's really good at solving math problems.

> Your assertions
> violate many of the accepted laws of physics.

As far as you know, apparently.

> > Waves really don't "know" anything, Cecil.

> Your waves have to be really smart, Jim. They have to read your
> mind to know whether to carry energy or not. They have to know
> ahead of time whether they are going to be canceled or not.

Since we're assigning personalities to them, yes. They know as soon as
soon as the boundary conditions are established.

> Wave 1: "I'm 50 volts at one amp in phase and I am carrying
> 50 watts of power because Jim gave me permission to. If I
> ever get canceled, what will I do with all that energy? Jim
> will be mad at me if I get canceled while transferring energy."

I am P3. Cecil said that I am carrying energy back to the source. But
I'm supposed to get back to the load. I guess I better turn around
before anybody notices I'm "lost".

> Wave 2: "I'm 50 volts at one amp in phase but Jim will not
> allow me to carry any power because he thinks I am going to
> be canceled. What will I do if he is ever wrong? Jim will be
> mad at me if I don't get canceled."
>
> See how ridiculous your assertions are?

Ridiculous, yes. Mine, no. The assertions are reflective of your level
of understanding of the subject however.

73, AC6XG

5581. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 00:13:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFDC94.E544C5B@uci.edu>
Source record: 115934

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>So you are indeed saying that for b1=s11*a1+s12*a2, if b1 equals zero,
> >>then there is no energy associated with s11*a1 and s12*a2. Would you
> >>be able to prove your assertion by any chance?
> >
> > This is your assertion so it's probably misstated or wrong, in which
> > case I'm confident it's not provable.
>
> No, b1 is the reflected voltage incident upon the source. If b1
> equals zero, there is no reflected voltage incident upon the
> source.

Ah. I didn't say b1 was equal to zero. Recall that not all waves
transfer energy. You do understand what transfer of energy means,
right?

> s11*a1 and s12*a2 are the two reflected component
> voltages.

Which two?

> The square of either of these voltages is the power
> involved.

But it's not necessarily the energy transferred.

> You say there is no energy in either one of those
> terms. Please prove your assertion.

V3 and V4 are out of phase. I3 and I4 are out of phase. V=V3+V4=0.
I=I3+I4=0. V*I=0.

> >>The energy in the rearward-traveling wavefronts joins the
> >>forward-traveling transmitted beam.
> >
> > Think about that statement some more, Cecil. It contains a clue about
> > your error.

> I'm just quoting the Melles-Griot web page.

You're paraphrasing it at best. You're certainly misconstruing it.

> > Cancelled waves do not carry energy.

> They do before they cancel.

There's no before or after in the steady state.

We are just going to have to disagree
> on whether a 50 volt at one amp in phase wave carries energy or not.

It does if the 50 volts wave doesn't cancel with negative 50 volt wave.

> I say it carries V*I=50 watts. You say it sometimes carries zero watts
> depending upon your whim.

It's really not up to me.

> >>The energy in the rearward-traveling reflected wavefronts must go
> >>somewhere. Where does it go?
> >
> > The energy doesn't travel rearward, ...
>
> Of course the energy reflected from the load travels rearward. To
> insist that there is no energy in the reflected waves from a
> mismatched load is sheer insanity.

P2 carries energy. You'll have to settle for that.

> Don't you remember burning your
> fingers on the power reflected from the load dissipated in the
> circulator load resistor?

I remember that problem differently than you do. You can't insert a
circulator with a 50 ohm load resistor between the discontinuity and the
load without changing the circuit conditions.

73, AC6XG

5582. Re: Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 00:13:54 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <n72cnSH4fLAUQEKjXTWcqQ@comcast.com>
Source record: 115933

Any chance you have the wrong polarity? What happens to the output voltage
of the supply whn you connect it to the coax?

Tam/WB2TT
"Xanax" <keepItInTheNewsGroups@news.com> wrote in message
news:47QDa.16980$pK2.23471@news.indigo.ie...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> I'm running a sim in multi s 2001 for a uhf pre amp.
> I'm supplying 12v dc to the coax and running it up the coax to supply
power
> to the preamp.
>
> I placed different values of inductors between the center-line of the coax
> and the +line of the pre-amp but my voltage is down by 6 volts. Why?
>
> The loss of the transmission line is set to 0.1Ohm/meter for a 15 meter
run
> of cable.
>
> I want to get about 9~12volts into the preamp to power it. Where am I
going
> wrong??
>
> Cheers,
> Xanax.
>
>
> -----BEGIN PGP SIGNATURE-----
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> TFyrx4FXnHaiQYcmu17NzGzy
> =dV4k
> -----END PGP SIGNATURE-----
>
>
>

5583. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 00:23:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EDFDF12.2CF4EEFD@uci.edu>
Source record: 115935

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>How does a wave know whether it is supposed to transfer energy or not?
> >
> > I guess in the same way it knows whether it's supposed to turn around or
> > not. It's a stupid question.
>
> The energy in canceled waves has no choice except to turn around.
> There is simply nowhere else for it to go.

The energy you're referring to is not reflected, so it doesn't have to turn around. I believe this has already been explained to you. Please consider that as the premis for any future comments you might have with regard to this aspect of the subject. I deleted the rest of the blithering in your paragraph.

> Your waves, OTOH, have to know ahead of time whether they are going
> to be canceled or not so they will know whether to carry energy or
> not. Since they cannot know that ahead of time, you must be in
> control of all the EM waves in the world, if not in the universe.

It's apparent you're not really trying to understand this.

> For instance, let's set up an experiment involving light waves from
> Alpha Centauri. We cause wave cancellation between two waves. How
> did Alpha Centauri know not to put any energy in those waves nine
> years ago when the light was emitted?

I'm game. How about vetting that out a little more. How do we cause the "wave cancellation between two waves"? Is it by hand waving? ;-)

73, AC6XG

5584. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 00:56:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFE6CD.5040603@ieee.org>
Source record: 115936

Jim Kelley wrote:
>
> W5DXP wrote:

> Ah. I didn't say b1 was equal to zero. Recall that not all waves
> transfer energy. You do understand what transfer of energy means,
> right?

b1 is the reflected voltage. It is zero by definition in a Z0-matched system. According to the wave reflection model, all waves have their voltage and current either in phase or 180 degrees out of phase. Therefore, all transmission line waves transfer energy to the tune of |V*I| joules/sec.

> V3 and V4 are out of phase. I3 and I4 are out of phase. V=V3+V4=0.
> I=I3+I4=0. V*I=0.

V3 and I3 are 180 degrees out of phase. Therefore P3=|V3*I3| joules/sec
V4 and I4 are 180 degrees out of phase. Therefore P4=|V4*I4| joules/sec

Rearward-traveling Wave(V3,I3) carries energy of V3*I3 joules/sec. Rearward-traveling Wave(V4,I4) carries energy of V4*I4 joules/sec. Those energy components CANNOT be destroyed and we know they wind up flowing toward the load. They were flowing rearward and now they are flowing forward. DUUUHHHHHH, I wonder what happened? Could it be that P1+P2+P3+P4=Pfwd2? Why, yes, it is.

> There's no before or after in the steady state.

Oh Boy! Now steady-state even makes time stand still? Your steady-state seduction is the worse case I have ever seen.

>>I say it carries V*I=50 watts. You say it sometimes carries zero watts
>>depending upon your whim.
>
> It's really not up to me.

Of course it is. Someone has to tell Alpha Centauri nine years ago whether its light is going to be used in wave cancellation on earth or not. How else would Alpha Centauri know whether to put energy in its light or not?

> P2 carries energy. You'll have to settle for that.

P1, P2, P3, and P4 all carry energy and it all winds up at the load.

> I remember that problem differently than you do. You can't insert a
> circulator with a 50 ohm load resistor between the discontinuity and the
> load without changing the circuit conditions.

If the wave thinks it is going to be canceled and therefore
carries no energy and I surprise it with a resistor, does it deliver
any energy to the resistor or not? Don't you see how ridiculous your
assertions are?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5585. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 01:03:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EDFE874.6070905@ieee.org>
Source record: 115937

Jim Kelley wrote:
> W5DXP wrote:
> The energy you're referring to is not reflected, ...

Please explain how Pref2, the reflected wave from a mismatched
load, is not reflected. If Pref2 is reflected, then Pref2(1-rho^2)
is also reflected. Pref2(1-rho^2) is P4.

> It's apparent you're not really trying to understand this.

It's apparent that you are pulling my leg. How you can assert that
Alpha Centauri is smart enough to know nine years ahead of time whether
its light is going to be used in a wave cancellation experiment on
earth (or not), is pretty funny.

>>For instance, let's set up an experiment involving light waves from
>>Alpha Centauri. We cause wave cancellation between two waves. How
>>did Alpha Centauri know not to put any energy in those waves nine
>>years ago when the light was emitted?
>
> I'm game. How about vetting that out a little more. How do we cause
> the "wave cancellation between two waves"? Is it by hand waving? ;-)

You can't conceive of an experiment splitting the light from Alpha
Centauri into two beams and using them in a wave cancellation experiment?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5586. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 01:18:48 UTC
From: n1pop <n1pop@hotmail.com>
Message-ID: <auqvdv00676t1dl8om61cvooq45ivqrra0@4ax.com>
Source record: 115938

On 05 Jun 2003 03:58:32 GMT, gmz79@aol.comnospam (greg z) wrote:

>Putting the twinlead in the pvc alters its Velocity-factor.
>The twinlead will have to be shortened to bring the j-pole back into tune, no
>biggy.
> _ _ ... ... _ _
>
> KC8VIF
> Greg Z
>to thine own sound be true

I found that using the white pipe was better than using gray because
of the gray's characteristics.

5587. Re: Are there Any Antenna Regulations in respect to Powerlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 02:19:19 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbotn7$d88$1@208.206.142.107>
Source record: 115939

DW wrote:

> Help!
>
> Are there any regulations governing the placement of antennas near
> powerlines?
> NEC, FCC, NFPA, OSHA ? Other than local zoning laws...
> NESC has about the closest thing I can find in respect to clearance but its
> rather vague, in my opinion.
> Can anyone point me to a specific Code, Article, etc.?
> Some regulations govern towers, but what about an antenna on top of a
> utility pole?
> 802.11b specifically.
> I have looked and cant seem to find anything but vague guidelines and
> recommendations.

I think you'll find that utilities everywhere universally forbid attaching *anything"*to their service poles. I'm quite sure that'd include your 802.11b device.

Dick

5588. Re: Hi-Q mobile antenna vs conventional Screwdrivers...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 02:47:16 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbovbpmsm1@slb2.atl.mindspring.net>
Source record: 115940

Gus: Thanks for saying what you mean. ;-) -- Peter K1PO

"Gus" <oceanview2002@earthlink.net> wrote in message
news:999cf256.0306051553.45c89859@posting.google.com...
> .
> >
> > As ya'll know there are several manufacturers of screwdriver antennas,
and
> > all but Hi-Q are using bottom
> > loading. VE7BOC uses center loading on his Hi-Q series which should,
all
> > other things being equal, yeild a higher efficiency than that of the
bottom
> > loaded screwdrivers.
>
> That simply is not true. Although, I am not surprised that old
> Charlie would tell you that. He is not known for his honesty. Just
> ask some of his customers like me or W6PEA. As he says in the manual,
> once you bought it, it is yours. By the way, he has been trying to
> sell Hi-Q for months with no luck.
> >
> > From my visual inspections I saw that the Hi-Q screwdriver antennas on
> > display at VE7BOC's table at Dayton had some very fine mechanical
> > workmanship.
>
> That too is not correct. There is a plastic, yes, plastic disk that
> is inside the coil. There is a screw up through the center of the
> disk. I found that I could strip the threads right out of the disk.
> Also, the whip screws into an aluminum disk. Threading a stainless
> whip into aluminum is asking for trouble. I spoke with KD7VIU and he
> has replaced the top plate three times in six weeks. So much for old
> Charlie's quality. It should be low Q.
>
> My best advice is to stick with a name brand and an honest company.
> Stay away from the VE7BOC stuff. It's shiny but not well made in his
> garage.
>
> 73, Gus

5589. Re: Why am I loosing 6Vdc sent via coax to preAmp?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 03:23:03 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <iOTDa.5900$V77.701673@news20.bellglobal.com>
Source record: 115941

"Xanax"
> Oh. What value inductor should I use to pick the
> dc off the coax to power the preamp?
> The frequency of operation will be between 240
> and 270Mhz.

Anything around a few uH, but not critical.
Pay attention to DC resistance.

Curiously yours,

5590. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 04:28:40 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <er50evg19uplc8frmgl3mu5kh3oh3fo7du@4ax.com>
Source record: 115942

If there was a thread titled "Wes' Math a Blunder", I'd go hide under a rock for a while and not post to it until it died.

I'd sneak back later and start a thread titled, "Wes is a genius."

5591. Re: Any Comments on the claims of antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 04:31:31 UTC
From: Graabir Boubi <12@8mile.com>
Message-ID: <oUCdnXR5Ge6_hH2jXTWcpA@comcast.com>
Source record: 115943

"'Doc" <w5lz@cwis.net> wrote in message news:3EDFB577.323C4FD6@cwis.net...
>
>
> Graabir Boubi,
> It's a very lame troll.
> 'Doc

It is not a troll Doc, I am looking for replys to what they think of the antenna, and Dino's claims Now go back to rec.radio.cb and help the illegals.

5592. Lightning bold 32MCQ/WB a master choice ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 05:47:12 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ee02adb$1_2@news.vo.lu>
Source record: 115944

Hi,

I always look for a performing HF portable directionnal antenna.

Did you test or compard the Lightning Bold Quad 32MCQ/WB vs its competitors ? :
http://www.lightningboltantennas.com/hfquad.html

The manufacturers displays a gain of 7 dBd (others manufacturers give Dbi !!) for its 5 bander quad and 26 dBd F/B.

So in my idea it is not better than the spiderbeam from DF4SA, but this quad is much shorter (0.7m /side vs a 10m boom) even if a bit heavier (13 vs 5.5 kg). But it stays portable.

Price are in favor of spiderbeam (quad is quoted $289 + shipping - say <$400+taxes incl.to LX - vs 330 euros for the spider all included to LX).

My problem is next :
- hex-beam works only 1 band at a time, $1000 for the portable pax 6 band, band changeing manual, too expensive
- spider beam has a 10m boom and wingspan of 10m too, too long but good price
- Lightning bold 32MCQ/WB could be the winner ..., good price, short, same performances not too heavy.

But worth the quad its potential ? Is this a good to excellent choice vs its competotors ?
I worked with a fritzel GP 404 (vertical) and a dipole, this last capturing the least QRM/QRN.
Now I need the same non-sensitivity to QRM but with much more directionnality (even if I will not turn the quad in all direction all the time).

I would like to know if this 5 bander quad mounted on top of a UKW-Berichte mast 10-12m high could be my master choice, capturing the less QRM, good for DX and reach pile-ups, etc, at this affordable price ?

All opinions are welcome, mainly from experienced users.

Thanks in advance

73
Thierry
ON1SKY soon LX
http://www.astrosurf.com/lombry/qsl-portable.htm

5593. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 05:55:46 UTC
From: Mogens <Fister@loegsovs.dk>
Message-ID: <3ee02ce2$0$76145$edfadb0f@dread11.news.tele.dk>
Source record: 115945

Hi

Seems like I can carry on using a white PVC tube.

Thank you all for your responce.

Best 73 de OZ1AKN, Mogens

5594. Waters & Stanton PBX-100 antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 06:43:43 UTC
From: "Wolfgang K. Meister" <no.mail@please.com>
Message-ID: <otd0ev0pqsh69ao6igso1ngrv8borv8kng@4ax.com>
Source record: 115946

Hello all,

does anyone have experiences with the PBX-100 ?
http://www.wsplc.com/pages/pdf/answers.pdf

What a compromise is this compared to other antennas?

Thanks for your responses

73's de Wolfgang OE1MWW

5595. Re: Any Comments on the claims of antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 06:56:46 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE03B2E.9B1F7983@cwis.net>
Source record: 115947

Graabir Boubi,
Yes, it is a troll. Yes, I do read the r.r.cb NG, and I
see that you do too. The biggest difference being that I use
a ligitimate identifier while you have several that I would
hate to think are ligitimate (primarily on the r.r.cb NG), I
wonder why? As for 'helping' the illegals, you should take
another look at any of my posts on 'r.r.cb'. You won't find
any that advocates doing anything illegal. I'm not ashamed
of anything I've posted on 'r.r.cb', can you say the same?
'Doc

5596. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 07:17:08 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbpf5k$5p$1@titan.btinternet.com>
Source record: 115948
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vds9s4s133bkbd@corp.supernews.com...
> Gary Peach wrote:
> > "Roy Lewallen" <w7el@eznec.com> wrote in message
> > news:vdr9o5rttsd48e@corp.supernews.com...
> >>
> >>Different saucepans will give different efficiencies -- among other
> >>factors, the "match" between saucepan and flame diameter will be
involved.
> >>
> >>But the context of the statement about match not mattering was that it
> >>wouldn't affect the accuracy of the measurement. Will your measurement
> >>of power being absorbed by the water be less accurate for one diameter
> >>of pan than another? No.
> >
> >
> > The thing that I am really interested in is my gas bill.
> > The conditioning of the experiment is going to affect that markedly.
> >
> >
> >>If, on the other hand, you want to know what the maximum available power
> >>is from your burner, you will have to "match" the "load".
> >>What you'd do then is to build a "tuner"
> >>-- a funnel device to concentrate or spread
> >>the flame to match the diameter of the pan. Just like amateurs do when
> >>they want to extract the maximum possible amount of power from the
> >>transmitter.
> >
> >
> > Let me get you right, you are saying here that match does matter?
>
> In measurements of how much heat goes into the saucepan, match doesn't
> affect the accuracy of the measurement. If the objective is to measure
> the maximum possible amount of heat you can get into the best
> ("matched") saucepan (the maximum available power), match does matter.

Ah! Progress

> >>This provides an opportunity to mention a term that's widely
> >>misunderstood and misused -- mismatch loss. If you're stuck with a fixed
> >>impedance source, the mismatch loss represents the amount of power
> >>delivered to a given load compared to the power which would be delivered
> >>by the same source to a perfectly matched load. It doesn't necessarily
> >>represent dissipative loss in any part of the circuit, just a reduction

> >>in power below the maximum possible. It's a useful measure in a
> >>laboratory environment, where impedances are typically fixed.
> >
> >
> > Consider the batteries in your radio.
> > The transfer of less than maximum possible power due to missmatch is
because
> > power is dissipated in the internal resistance of the battery (source).
> > At maximum power transfer the loss in each is half of the total
available
> > power.
>
> A reasonable model for a battery is a voltage source and series
> resistance, the latter representing the internal resistance of the
> battery. The maximum output power will be obtained when the load is
> equal to the internal resistance. If you apply a load that has a lower
> resistance than the internal resistance, you'll have some "mismatch
> loss", and the dissipation in the internal resistance will rise.

In the limit of RL = 0 you will have I max; V = 0; PL = 0.
PS = RS * I^2max OR (EMF^2)/RS is the dissipation in the battery.

Remember those old short circuit lead acid battery testers?

> However, if the load resistance is greater than the internal resistance,
> you'll also have "mismatch loss", but the dissipation in the battery
> internal resistance will actually be *less* than the dissipation when
> the load is matched.

In the limit that is called "shelf life"

> In the extreme case of a very high load resistance,
> the "mismatch loss" will be nearly infinite in terms of dB, yet the
> internal resistance loss will be nearly zero.

Yes our model of batteries is too naive, otherwise they would never go flat
in storage.

> In a real battery there are other mechanisms that result in increased
> life at lower current drains. The simple model I'm using doesn't take
> those into account, so they have no bearing on what I'm talking about
here.

Calculator batteries run under extremely light loads.
Quality batteries seem to go on for ever.

However that same life does not seeem to exhibit itself in mobile phones.
Whenever I have an urgent call to make the battery is flat.
Is ther some strange mechanism operating here wher the type of load that a
telephone presents is missmatched to commonly available batteries.
Should the phone designers be looking to running the phones at a different
voltage in order to obtain a better match?

> > The pertinent thing is that by matching them to the radio will the
batteries
> > last any longer?
>
> By "last longer", I'll assume you mean that you want to extract the
> maximum possible amount of energy from the battery. Otherwise, it's a
> trivial case of leaving the battery open circuited.

Normal use includes intermittent operation that gives the depolorising
qualities of the practical batteries to recover.
In continuous use some of the "possible" Joules remain locked up inside the
battery. You don't get your money's worth as you have still prepaid for
those Joules but can't get at them.

It will be a good thing when legislation forces battery manufacturers to
mark their product with the minimum expected Joules, Coulombs, or Amp
(milliAmp) hours as appropriate for the battery size involved. At teh moment
you are buying a pig in a poke, it is not possible to compare one vendor's
batteries with another's.

>Assuming my assumption is right, the answer is abolutely not.
> For the maximum energy extraction, you want the greatest efficiency
> -- the highest possible
> fraction of the energy supplied by the source to be delivered to the
> load, and the smallest possible fraction to be dissipated internally.

TRUE

> The efficiency of the simplified model is easily seen to be simply
> RL/(RS + RL), where RS is the internal resistance and RL the load
> resistance. You can see from this that the maximum total energy will be
> delivered to the load when the load resistance is the greatest.
>
> > You get the same problem with the mechanical transfer of energy.
> > Half mass velocity squared (m v^2)/2
> > Reducing the speed of a car from 30 mph to 20 mph reduces the energy
> > available to maim and kill by two and a quarter times
> > put another way to 44%
> >
> > NOT to 66%
> >
> > The old slogan, "SPEED KILLS", is just about right.
> >
> > You must have seen that executive toy consisting of several ball
bearings
> > suspended by threads.
> >
> > It would be fun to have some balls of different diameter instead of all
the
> > same.
>
> The connection between this and the discussion isn't obvious to me. If
> it would illustrate that what I've said is incorrect, please explain how.

Each ball passes on the energy, momentarily each ball contains most of teh energy.
the energy is (mv^2)/2 so teh small balls will move fast and the big one slowly. however the ball that actually moves the most is the one on the other end of the line.
Each ball in the train has momentarily held some intangible quailty that represents both potential and kinetic energy. you can't see it only the results of the energy application to some object.
Whe the man falls off the roof 30 metres high he starts off with potential energy equal the product of his mass and 30 meters of head. when he gets down to 15 meters he has lost half of his potential energy having exchanged it for kinetic energy on teh way down. He is not aware of it you are not aware of it. it is only when he reaches the bottom and gives up his kinetic energy that you realise that the fall doesn't hurt one bit, it is the sudden stop at the bottom that does the damage.
So are you aware of the kinetic energy that we all posses by our motion through space relative to Jupiter for instance. You can't see it, you can't feel it, but it is there.

> >>However, a
> >>properly adjusted impedance matching device such as a tuner reduces the
> >>mismatch loss to zero.
> >
> > Really
>
> Yes, really. If even one reader comes away from this with that
> knowledge, it's been worthwhile.

Unfortunately perfect tuners do not exist.
In fact do you ever stop to think about the inefficiency of the gear box in your car?

> >>So in most amateur systems, it's not relevant.
> >>The funnel device would do the same thing for your gas burner experiment.
> >
> > I see and how do I determine the heat lost to the funnel?
>
> For simplicity in illustration, I've assumed a lossless tuner and a
> lossless funnel.

Well I hope that the Gas Company will accept monopoly money in payment of the bill.

>But determining the funnel loss would be as difficult
> as determining the loss of a tuner, if the only measurement you could
> make is the power out of the tuner without knowing the power in.

Ah! zeroing in on the dilemma.

> If you know the source impedance,
> then you can calculate the tuner loss from
> measurements of the output power with two or more different load

> resistances; otherwise it's impossible. Likewise measuring the funnel
loss.

(Mechanical Advantage)/(Velocity Ratio)

> > The whole point is that my post described a badly conditioned
experiment,
> > the result would be an indicator, but not sufficiently accurate to
calculate
> > how much gas it was going to cost me to boil my spuds every day for a
> > quarter.
>
> Yes, you'd certainly need more information than how much energy is going
> into the water to determine how much gas you've used.

I hope that this discourse has been informative to any new comers to ura.

Gary7SLL

5597. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 09:58:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE065C3.9020703@ieee.org>
Source record: 115949

Wes Stewart wrote:
> If there was a thread titled "Wes' Math a Blunder", I'd go hide under
> a rock for a while and not post to it until it died.
>
> I'd sneak back later and start a thread titled, "Wes is a genius."

Well the title of the thread is "Cecil's Math a Blunder?"
It's a rhetorical question. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5598. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 10:18:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE06A8C.3030209@ieee.org>
Source record: 115950

Roy Lewallen wrote:
> Actually, power is the derivative of energy; energy is the integral of
> power.

Of course, that is true. But to avoid such non-useful concepts as
"instantaneous power", the field of optics (electromagnetics) has
defined irradiance (power) as "the *average* energy per unit area
per unit time." Averaging the energy over a period of time creates
a useful quantity "directly proportional to the square of the amplitude
of the electric field."

"The time rate of flow of radiant energy is the optical power P
... generally expressed in watts." Summing the joules/sec passing
a point is a good way to smoothly average the power for RF signals.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5599. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 11:03:20 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3EE074F8.9685834@bloomer.net>
Source record: 115951

Impedance at DC? Do you possibly mean RESISTANCE, as measured with an ohmmeter? Impedance is reserved for AC calculations...however, your point is essentially correct...if the choke has enough (DC) resistance, it will drop 4.5V and when added to the 1.5 dropped in the coax will total 6V dropped from the (I assume) original supply voltage of 12V, leaving just 6V at the positive power rail of the preamp.

Scott
N0EDV

W5DXP wrote:
>
> Xanax wrote:
> > I want to get about 9~12volts into the preamp to power it. Where am I going
> > wrong??
>
> What is the impedance of your RF chokes at DC?
> --
> 73, Cecil, W5DXP

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

5600. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 11:03:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve0t7to8t1enb8@corp.supernews.com>
Source record: 115952

Yes, instantaneous power isn't a useful concept if you're not interested in really understanding and dealing with energy flow in a system. By throwing away the time information, it makes it possible to "prove" any number of oversimplified hypotheses.

I'm reminded of the statistician who drowned while crossing a creek whose average depth was only three feet. Swim on!

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Actually, power is the derivative of energy; energy is the integral of
>> power.
>
>
> Of course, that is true. But to avoid such non-useful concepts as
> "instantaneous power", the field of optics (electromagnetics) has
> defined irradiance (power) as "the *average* energy per unit area
> per unit time." Averaging the energy over a period of time creates
> a useful quantity "directly proportional to the square of the amplitude
> of the electric field."
>
> "The time rate of flow of radiant energy is the optical power P
> ... generally expressed in watts." Summing the joules/sec passing
> a point is a good way to smoothly average the power for RF signals.

5601. Re: Are there Any Antenna Regulations in respect to Powerlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 11:08:32 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3EE07630.5E678282@bloomer.net>
Source record: 115953

Yes, most likely. And, if they were to let you do it, just imagine what would happen if the antenna ever fell over due to wind, etc. and contacted the line...your 802.11b device on the other end of the coax would fry and probably the equipment attached to it (computer) would fry and the thing attached to the computer (the computer user) would fry. Always think of what would happen if an antenna were to fall (or something fall onto IT), where it would end up...

Alright, let's all be safe out there...

Scott
N0EDV

"Dick Carroll;" wrote:
>
> DW wrote:
>
> > Help!
> >
> > Are there any regulations governing the placement of antennas near
> > powerlines?
> > NEC, FCC, NFPA, OSHA ? Other than local zoning laws...
> > NESC has about the closest thing I can find in respect to clearance but its
> > rather vague, in my opinion.
> > Can anyone point me to a specific Code, Article, etc.?
> > Some regulations govern towers, but what about an antenna on top of a
> > utility pole?
> > 802.11b specifically.
> > I have looked and cant seem to find anything but vague guidelines and
> > recommendations.
>
> I think you'll find that utilities everywhere universally forbid attaching
> *anything"*to their service poles. I'm quite sure that'd include your 802.11b
> device.
>
> Dick

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

5602. Re: J-Pole of 300Ohm wire

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 11:16:31 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ee07804$0$48909$edfadb0f@dtext02.news.tele.dk>
Source record: 115954

Hej Mogens

> Seems like I can carry on using a white PVC tube.

Ja, det kan du med sindsro bruge uden problemer, der er lavet
utallige spoleforme og traps med den r�rtype uden problemer.

73 de Max

5603. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 12:06:29 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <R-2dncNnM4eVGX2jRTvU3Q@ctc.net>
Source record: 115955

> Impedance at DC? Do you possibly mean RESISTANCE, as measured with an
> ohmmeter? Impedance is reserved for AC calculations...however, your
> point is essentially correct...if the choke has enough (DC) resistance,
> it will drop 4.5V and when added to the 1.5 dropped in the coax will
> total 6V dropped from the (I assume) original supply voltage of 12V,
> leaving just 6V at the positive power rail of the preamp.
>
> Scott
> N0EDV
>
> W5DXP wrote:
> >
> > Xanax wrote:
> > > I want to get about 9~12volts into the preamp to power it. Where am I
going
> > > wrong??
> >
> > What is the impedance of your RF chokes at DC?
> > --

When talking about the resistance of a choke there is nothing wrong with saying an impedance at DC. The reactive component will become zero and not have an effect. Ohm's law will still apply to either.

5604. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 12:14:06 UTC
From: "Pat St. Jean" <stjeanp@pat-st-jean.com>
Message-ID: <9i-dncLY85UTGH2jXTWcqQ@august.net>
Source record: 115956

Bob M. <xxxxx@yyyy.zzz> wrote:

> Just out of curiosity, what is the transmitter power level?

Well, the station's engineer and I had a chat yesterday about this.
They use two transmitters, one during the day at 20kW, and one at night
at 700W. I'm hearing the daytime one. I was listening at the time of
the cutover to the nighttime transmitter and couldn't hear a thing after
the switch. The antenna site is about 5 or so miles away from me.

I'm still looking for a small radio to do a check of the gutters, etc.
to rule out any of those type of problems.

Pat

--
Pat in Lewisville K0OOK '97 XLH 883 (Rocinante)
BS#140 EKIII rides with me
http://www.pat-st-jean.com/~stjeanp All things Pat
http://www.pat-st-jean.com/products.html Software for paper money collectors

5605. Re: Vertical? Which one?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 12:25:44 UTC
From: "Dr. William J. Schmidt, II" <bill@wjschmidt.com>
Message-ID: <ve12pvmrit36b3@corp.supernews.com>
Source record: 115957

Yeah I use a Shakespeare model 222 - 32' fiberglass military vert and the
601 Kw plus tuner at the base with 240 full sized radials in an antenna
challenged neighborhood disguised as a flagpole (flag on top). Works like
gang busters. Not as well as a beam on 40... but better than a dipole.

--

Sincerely,

Dr. William J. Schmidt, II K9HZ

"Collector of Edison Wind-up Phonographs... Do you have one for me?"
Email: bill@wjschmidt.com
Alternate Email: wmschmidt@charter.net
WebPage: www.wjschmidt.com

<Pappy@USA.net> wrote in message news:3DB6A0A8.4A770716@USA.net...
> Not receiving any responses to my query, I can only presume that "none" of
> you use a commercial made vertical.
>
> Which I find totally impossible.
>
> Pappy@USA.net wrote:
>
> > I am going to purchase a new vertical HF antenna, my problem is which
> > one:
> >
> > MFJ-1798 or GAP Titan DX
> >
> > Has any one here had any experience with either of these antennas?
> >
> > Or, what vertical have you had a pleasant or unpleasant experience with.
> >
> > I chose these two from a host of others brands and models.
> >
> > Your assistance would be appreciated.
> >
> > 73's
>

5606. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 13:27:58 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306060527.7017cf20@posting.google.com>
Source record: 115958

Ian,You are preaching to the converted
Infact the words you have used together with your sentiments
are just echoing what I have stated over the years on this newsgroup,
It is this newsgroup not that have knocked the principles that I refer
to as you well know but then I am pleased you have finally come out
of the closet.
What the Moxon book uses as its main constituent is what he calls the
Resonator which he first introduced as the disapearing inductance,this
is not accepted as a viable aproach to antennas in this group.
I prefer to call it a loop/dipole antenna because to me it represents
a two mesh circuit and using these same principles have manage to
expand
the aproach with a couple of patents.
Moxon also pointed to the gain attributes of this aproach and this is
also clearly rejected, and it would apear that when seeing the loop
portion
they add all the bad things stated about a loop can also be attributed
to the resonator.Your absence from these many postings I attributed to
your agreement with comments espoused on this subject and why I
apealed to english members of this group to contact the likes of Pat
Hawker to view what the
naysayers are saying this side of the pond'
If you oppose the general sentiment over here maybe you would have
some succes in explaining the attributes of his resonator so that his
book will be read rather than resting on book shelves. What about it
Ian, will you step forward and defend his use of the resonator as
stated in Radcom and his book?
Regards
Art Unwin KB9MZ.....XG

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<RDEO$2FbB43+EAqa@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
>
> >I noticed that a particular antenna book was being
> >recommended in this group It would be wise not to swallow
> >everything that is in a book is "fact". Lawson had a book
> >printed based on computorisation of antenna arrays that
> >immediatly came under attack as being incorrect
>
> Can you quote any specific reference for such attacks?
>
> Lawson's book was the first serious attempt at computer modeling in the
> amateur literature. It uses a simplified approach, so nobody expects the

> results to be quite as accurate as more modern programs.
>
> I cloned his program from the information in the 1980 Ham Radio
> articles, and used it extensively until MININEC and NEC came along. Even
> with VHF/UHF yagis of 20 elements or more, it still gave surprisingly
> good results as compared with anechoic chamber measurements and the
> later programs.
>
> Likewise his corrections for telescoping element diameters may not be
> quite as accurate as the later methods... but those developers had
> Lawson's work to build on.
>
> Lawson (W2PV) built many of the antennas he designed and used them to
> great effect - you should have seen the yagis on his towers! Most
> important, all of his computer models were checked against a deep
> fundamental knowledge.
>
>
> >Moxon's book "Antennas for all locations' I notice. has
> >been recommended on this newsgroup but like many books
> >reviewed by this group it has been pounded regarding it,s
> > section on arrays where 'antenna coupling 'is reviewed.
>
> Moxon had no access to computers, so his approach is based on
> fundamental ideas backed up by very simple math... and once again, a
> deep knowledge about the basic principles of antennas.
>
> The main problem with the book is that it's not an easy read. To
> understand it, you probably need to know *almost* as much as he does! If
> you don't, then you have to keep coming back to it (via other books)
> until his ideas finally click.
>
> I don't see much in either book that is fundamentally wrong, and nothing
> that deserves to be "attacked" or "pounded".
>
> On the other hand, I've seen numbers of people taken to task for
> misinterpreting, misquoting or misusing both books... and serve 'em
> right in some cases! But that's not the same as attacking either author,
> or their books.

5607. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 13:30:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE0975F.8030305@ieee.org>
Source record: 115959

Scott wrote:
> Impedance at DC? Do you possibly mean RESISTANCE, as measured with an
> ohmmeter? Impedance is reserved for AC calculations...

I didn't realize that. I thought the impedance at DC is R+j0. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5608. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 13:31:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE097A5.1010106@ieee.org>
Source record: 115960

Roy Lewallen wrote:
> Yes, instantaneous power isn't a useful concept if you're not interested
> in really understanding and dealing with energy flow in a system. By
> throwing away the time information, it makes it possible to "prove" any
> number of oversimplified hypotheses.

I guess that's why Hecht did it in _Optics_, huh?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5609. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 14:04:59 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <nl71evco6q1d2u0efg1km1o9i4bcog38e4@4ax.com>
Source record: 115961

On 6 Jun 2003 06:27:58 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
[snip]

|What about it
|Ian, will you step forward and defend his use of the resonator as
|stated in Radcom and his book?

Brer Fox be settin' up Tar-Baby.

5610. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 14:15:12 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <87d6hrmgwf.fld@barrow.com>
Source record: 115962

"Pat St. Jean" <stjeanp@pat-st-jean.com> wrote:
>Bob M. <xxxxx@yyyy.zzz> wrote:
>
>> Just out of curiosity, what is the transmitter power level?
>
>Well, the station's engineer and I had a chat yesterday about this.
>They use two transmitters, one during the day at 20kW, and one at night
>at 700W. I'm hearing the daytime one. I was listening at the time of
>the cutover to the nighttime transmitter and couldn't hear a thing after
>the switch. The antenna site is about 5 or so miles away from me.
>
>I'm still looking for a small radio to do a check of the gutters, etc.
>to rule out any of those type of problems.
>
>Pat

At five miles away it is unlikely that you need to check gutters
etc., unless you have some that are extremely long and might
provide a very good antenna (something close to a halfwave at
the stations fundamental frequency), which seems unlikely.

In addition to the power change, they might also use different
directional patterns for their antennas, hence you may be seeing
more than the 15 dB or so difference in signal level that the
power difference alone would account for.

What might be the most interesting would be to use a "standard"
antenna (that means the same one for all measurements) and do a
few checks from other locations. Particularly, try to find one
or more other locations that are also on the same radial line
from the transmitter that you are on, because the radiation
pattern for the fundamental and the harmonic might be very
different. Measure the signal strength of the fundamental and
of the harmonic. Using something like a loop antenna would work
well. The absolute values don't make any difference, just the
ratio of the fundamental to the harmonic. Hence using the same
measuring technic at each location is important.

If you find that at two or three other locations the exact same
relationship exists, then that is what they are transmitting.
If the harmonic is only found to be strong at your qth, then
you'll want to try finding a cause locally.

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

5611. Re: Vertical? Which one?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 14:54:47 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve1aqntbo4gsbc@corp.supernews.com>
Source record: 115963

"> > Not receiving any responses to my query, I can only presume that "none"
of
> > you use a commercial made vertical."

Missed the thread.
Check www.steppIR.com .
I have the BiggIR vertical.
40 - 2, self-adjustable; always resonant.
H.
NQ5H

"Dr. William J. Schmidt, II" <bill@wjschmidt.com> wrote in message
news:ve12pvmrit36b3@corp.supernews.com...
> Yeah I use a Shakespeare model 222 - 32' fiberglass military vert and the
> 601 Kw plus tuner at the base with 240 full sized radials in an antenna
> challenged neighborhood disguised as a flagpole (flag on top). Works like
> gang busters. Not as well as a beam on 40... but better than a dipole.
>
> --
>
> Sincerely,
>
> Dr. William J. Schmidt, II K9HZ
>
> "Collector of Edison Wind-up Phonographs... Do you have one for me?"
> Email: bill@wjschmidt.com
> Alternate Email: wmschmidt@charter.net
> WebPage: www.wjschmidt.com
>
>
>
> <Pappy@USA.net> wrote in message news:3DB6A0A8.4A770716@USA.net...
> > Not receiving any responses to my query, I can only presume that "none"
of
> > you use a commercial made vertical.
> >
> > Which I find totally impossible.
> >
> > Pappy@USA.net wrote:
> >
> > > I am going to purchase a new vertical HF antenna, my problem is which
> > > one:
> > >
> > > MFJ-1798 or GAP Titan DX
> > >

> > > Has any one here had any experience with either of these antennas?
> > >
> > > Or, what vertical have you had a pleasant or unpleasant experience
with.
> > >
> > > I chose these two from a host of others brands and models.
> > >
> > > Your assistance would be appreciated.
> > >
> > > 73's
> >
>
>

5612. spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 15:02:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE0AD02.2010103@ieee.org>
Source record: 115964
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

Here's a news story of interest to the ham community.

http://boston.com/dailynews/156/economy/Bush_orders_broad_review_of_ra%3A.shtml

5613. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 15:14:52 UTC
From: Alan <alannc44@{nospam}ix.netcom.com>
Message-ID: <Md2Ea.82345$jp.1450107@twister.southeast.rr.com>
Source record: 115965
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

When the Commerce Department is directed to do the study you know what perspective will come out.

That's like timber companies doing studies on how best to use our national forests.

Alan
WN4HOG

--
Windsurfing Club: http://www.ibscc.org

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EE0AD02.2010103@ieee.org...
> Here's a news story of interest to the ham community.
>
>
http://boston.com/dailynews/156/economy/Bush_orders_broad_review_of_ra%3A.shtml
>

5614. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 15:39:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <h8d1evop4eogk401t7b8hkos1dfggbro9g@4ax.com>
Source record: 115966
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Thu, 5 Jun 2003 23:09:13 +0000 (UTC), "Dave"
<davenpat@btopenworld.com> wrote:

>
>So why is the 'black box' described that way, when it is orange, tied to a
>sonic beacon?
>
>Dave

The reason is historically based on electronics designs that do not
have indicators, buttons, knobs, and so on.... just a black box (with
600 pin connectors).

It is painted orange for visibility, and the beacon is for locating.

73's
Richard Clark, KB7QHC

5615. Re: Fractal antennas - again

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 16:04:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pfe1evs6e3h7b2s4hrpstktpctojroqc80@4ax.com>
Source record: 115967

On Thu, 05 Jun 2003 16:19:12 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

> So, although
>mathematically interesting, the advantages of fractal bending over other
>forms hasn't to my knowledge been definitively shown.

Hi Fans of Fractals,

The mathematical interest is why I got into the game. I had asked
chip many, many, many years ago for the correlation of fractal math to
such items of interest as radiation pattern or feed point Z. The
silence was deafening.

The ability to describe the form in a tight formula and to observe
genuine differences that were in fact separable (no implication of
advantage) drew me to the conclusion that there were correlations.
However, the so-called scientists never produced any studies in that
regard and simply refined their one-of-several designs into inbred
commercial concerns. Simply put, they prostituted their credentials.

73's
Richard Clark, KB7QHC

5616. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 16:16:58 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE0BE7A.91325BC1@cwis.net>
Source record: 115968

... Mind boggling.
'Doc

5617. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 17:34:23 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Y1asSdJfCN4+EAgv@ifwtech.co.uk>
Source record: 115820

Art Unwin KB9MZ wrote:
>Ian,You are preaching to the converted
>Infact the words you have used together with your sentiments
>are just echoing what I have stated over the years on this newsgroup,

Are you sure about that?

>It is this newsgroup not that have knocked the principles that I refer
>to as you well know

Sorry, I don't know any such thing. I don't even understand what that last sentence means.

I have not been following the long history of your other correspondences here in any detail. Therefore I don't hold *any* views about your antenna ideas... and if you claim I endorse them, you will be flatly contradicted!

>What the Moxon book uses as its main constituent is what he calls the
>Resonator which he first introduced as the disapearing inductance,this
>is not accepted as a viable aproach to antennas in this group.
>I prefer to call it a loop/dipole antenna because to me it represents
>a two mesh circuit and using these same principles have manage to
>expand
>the aproach with a couple of patents.

The linear resonator is just one of the many interesting ideas in Moxon's book - but it certainly isn't the main constituent.

What you prefer to call it, Art, and what it represents to you, is entirely your own business. I think it's unfair to drag Moxon into this, when in fact you have put your own interpretation on what he actually says.

>Moxon also pointed to the gain attributes of this aproach and this is
>also clearly rejected, and it would apear that when seeing the loop
>portion
>they add all the bad things stated about a loop can also be attributed
>to the resonator.

Show me where Moxon says anything about the linear resonator having "gain attributes".

>Your absence from these many postings I attributed to
>your agreement with comments espoused on this subject and why I
>apealed to english members of this group to contact the likes of Pat
>Hawker to view what the

>naysayers are saying this side of the pond'

From what you just said, I can now state with complete confidence that you have no idea why I remained silent in your debates!

>If you oppose the general sentiment over here maybe you would have
>some succes in explaining the attributes of his resonator so that his
>book will be read rather than resting on book shelves. What about it
>Ian, will you step forward and defend his use of the resonator as
>stated in Radcom and his book?

I'm not prepared to "defend" Moxon because I don't think you should involve him in your own personal battles. I am prepared to say what a linear resonator is, briefly.

A "linear resonator" is a straight section of an antenna element that has been bridged by another parallel section of line, fairly close-spaced. Somewhere along the added line, it is cut and a capacitor is inserted in series. Depending on the dimensions and the capacitor value, this has many of the properties of a parallel L/C circuit, so it can be used in basically the same ways to create multi-band resonances on the same element.

The main advantage is that you don't have to cut a tubing element to insert a real lumped L. Moxon sometimes writes about "borrowing" the inductance from the section of the main element that has been bridged by the resonator.

Possibly a familiar example is its use to de-tune a tower by clamping the two ends of a linear resonator to one leg, and tuning the C to give minimum unwanted current in the whole tower... that's using the resonator in its parallel-resonant trap mode.

The main disadvantage of the linear resonator is that it's a pig to design!

Moxon presents an approximate analysis, modeling the linear resonator as two coupled inductors (the two parallel lines) with the capacitor in series with one of them. But of course these lines are not simple inductors; they have physical length so they are more like a section of parallel transmission line (in this they resemble a gamma or T match). So maybe you give up on circuit analysis and model the structure in segments using NEC - which has its own difficulties, and was not available to Moxon. Or maybe you get out the GDO and current probe, and do it by cut-and-try... which in practice is mostly what Moxon did.

The linear resonator certainly works, and has been used successfully by Moxon and many others. He credits the original idea to DL1FK, published in 1960, and it has cropped up in many different places since. Quite possibly it has been re-invented several times.

The only reasons why it hasn't been used more are that it's unfamiliar, and it's difficult to design.

How this is connected with Art's ideas, is for Art himself to say - but
preferably not in this thread about antenna books!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5618. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 17:37:22 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306060937.2a97b23c@posting.google.com>
Source record: 115819

Wes you still have time to jump on the band waggon, I am in the
minority of one on this side of the pond. Since you have noted
that the two band version has already been plagurised by William Orr
it may well be on its way for inclusion in other antenna handbooks
where the gurus will except it as fact stating that they knew the
principles all along or the computor program that they purchased
is not of a form to duplicate such theorems, tho probably some
better excuse.
Not to worry history shows that Ian will not defend Radcom or
Moxon other than as a tail ender.
Have a great week
Art Unwin KB9MZ,,,,XG

5619. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 18:12:54 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbqlje$ki3$1@slb4.atl.mindspring.net>
Source record: 115836

Joe and Dave:

[snip]
> if you were being real belt and suspenders you would tune them with a dip
> meter since the measured length won't be right because they aren't going
to
> be in the clear where the formulas work properly.
[snip]

Dave is correct, radial/counterpoises that are not "in the clear" should
always be
"tuned" in situ.

When on the ground or slightly buried the actual lengths will be
substantially shorter
than when "in the clear" usually they end up approximately 1/2 the length of
a free space
radial/counterpoise.

Ground based radials can be "tuned" in situ in various ways. Grid dippers
are one way
to do it, but generally are not as good as directly measuring counterpoise
current because
the "dips" are soo weak.

IMHO, the best way to tune ground mounted radials/counterpoises is to tune
them
for maximum RF current at the desired operating frequency.

I do this by "planting" wires longer than required [still less than 1/4
wave] in or on the ground
first and leave the last 1/2 of the far ends fairly accessible for cutting
and trimming. [I run them
my counterpoises radially as far as possible thereafter... wherever they
will fit, along the side of
the house along fences, etc, etc...]

Then hook up a homebrew RF ammeter [I use a homemade "clip on" torroid with
a few turns connected to a GE diode a capacitor and a small meter, there are
diagrams/construction
information for such RF ammeters in several of the popular antenna books.]
to the radial being tuned
near the antenna feedpoint and load up the transmitter at low power on the
desired frequency and
take a current reading.

Then go out in the lawn/garden with wire cutters and cut some of the end off the radial, then go back and look at the meter. Repeat the process until you find the maximum reading, if you cut too much off a radial just solder it back on. The "peak" of RF current versus length is usually very shallow [depending upon the ground character] and so finding the "exact" lenght is not a very sensitive measurement or indeed very important.

I have used this technique for tuning counterpoises in several locations with "stealthy" all-band inverted "L" antennas using at least one counterpoise laid out in the lawn/gardens and tuned "in situ" for the center of each band.

Works for me and saves wire since, due to ground effects, the final lengths of the trimmed radials are often about 1/2 what the free space formula would advise.

Signal reports from folks located a few miles away who read my signals before and after tuning of the countepoises often reported improvements of from 1/2 to 2 "S-Units" and so it's worth while.
--
Peter K1PO
Indialantic By-the-Sea, FL.

5620. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 18:14:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fam1ev8pu8245vhlslk3435lof39cigope@4ax.com>
Source record: 115821

On Thu, 05 Jun 2003 21:28:40 -0700, Wes Stewart <n7ws@!#!arrl.net>
wrote:

>
>If there was a thread titled "Wes' Math a Blunder", I'd go hide under
>a rock for a while and not post to it until it died.
>
>I'd sneak back later and start a thread titled, "Wes is a genius."

Wes,

You should no better, Cecil even renamed it by blunder (adding "a"
for reasons known, perhaps, only to him).

73's
Richard Clark, KB7QHC

5621. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 19:22:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE0E9F0.9030908@ieee.org>
Source record: 115822

Richard Clark wrote:
> You should no better, ...

If I had made such an English blunder, you would be
all over it like a tumblebug on a turd. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5622. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 19:31:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5vq1ev8h3f849hqq058nagq2n6ccagg9h2@4ax.com>
Source record: 115823

On Fri, 06 Jun 2003 14:22:24 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> You should no better, ...
>
>If I had made such an English blunder, you would be
>all over it like a tumblebug on a turd. :-)

You finally found something I can agree with!

73's
Tumblebug

5623. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 19:35:25 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ee0eca7.3937864@news1.eircom.net>
Source record: 115824
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 06 Jun 2003 15:39:47 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Thu, 5 Jun 2003 23:09:13 +0000 (UTC), "Dave"
><davenpat@btopenworld.com> wrote:
>
>>
>>So why is the 'black box' described that way, when it is orange, tied to a
>>sonic beacon?
>>
>>Dave
>
>The reason is historically based on electronics designs that do not
>have indicators, buttons, knobs, and so on.... just a black box (with
>600 pin connectors).
>
>It is painted orange for visibility, and the beacon is for locating.

given that both of you have displayed insider knowledge of aircraft...

perhaps you'd like to inform this newsgroup of the frequencies
involved for the the SELCAL unit on aircraft ?

i.e. are they RF or AF
if RF are they modulated, AM, SSB, FM ?

5624. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 19:48:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hor1ev0rc3qp8ij7ig256memdv7nkb4o4h@4ax.com>
Source record: 115825
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Fri, 06 Jun 2003 19:35:25 GMT,
dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net (zpk) wrote:

>On Fri, 06 Jun 2003 15:39:47 GMT, Richard Clark <kb7qhc@attbi.com>
>wrote:
>
>>On Thu, 5 Jun 2003 23:09:13 +0000 (UTC), "Dave"
>><davenpat@btopenworld.com> wrote:
>>
>>>
>>>>So why is the 'black box' described that way, when it is orange, tied to a
>>>sonic beacon?
>>>
>>>Dave
>>
>>The reason is historically based on electronics designs that do not
>>have indicators, buttons, knobs, and so on.... just a black box (with
>>600 pin connectors).
>>
>>It is painted orange for visibility, and the beacon is for locating.
>
>given that both of you have displayed insider knowledge of aircraft...
>
>perhaps you'd like to inform this newsgroup of the frequencies
>involved for the the SELCAL unit on aircraft ?
>
>i.e. are they RF or AF
> if RF are they modulated, AM, SSB, FM ?

My interest in avionics is with airframe sensors, not communications
(except for shortwave, transoceanic transmissions). An antenna
newsgroup is not the first source of such information, but this
material does get posted here. Try Google's search engine.

73's
Richard Clark, KB7QHC

5625. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:03:12 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <f6s1evg6ujkdt4st8lal10v7aecptbfavt@4ax.com>
Source record: 115826

On 6 Jun 2003 10:37:22 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

|Wes you still have time to jump on the band waggon (sic),

The last time I was in a band was in high school and we were marching
in the Tucson Rodeo Parade, which bills itself as the "Longest
Non-Mechanized Parade in the World." There were lots of horse-drawn
wagons, but none of them were "band wagons" and even if they were, I
would not have jumped aboard and risked getting my ass kicked.

That remains my policy.

|I am in the
| minority of one on this side of the pond. Since you have noted
|that the two band version has already been plagurised by William Orr

Not me. The only thing that I'm sure Orr plagiarized was a circuit of
mine that was previously published in Ham Radio Magazine. (Plagiarized
might be a stretch, he did mention my call, he just didn't get my
permission.)

5626. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:14:36 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <ve1tfb28pnolaa@corp.supernews.com>
Source record: 115827

Ian may not know the story that goes along with the Tar-Baby. That
story has deep NA roots. 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Wes Stewart" <n7ws@!#!arrl.net> wrote in message
news:nl71evco6q1d2u0efg1km1o9i4bcog38e4@4ax.com...
> On 6 Jun 2003 06:27:58 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
> [snip]
>
> |What about it
> |Ian, will you step forward and defend his use of the resonator as
> |stated in Radcom and his book?
>
> Brer Fox be settin' up Tar-Baby.

5627. Re: Any Comments on the claims of antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:22:48 UTC
From: Graabir Boubi <12@8mile.com>
Message-ID: <ncKdnR9AWvhqan2jXTWcpQ@comcast.com>
Source record: 115828

Doc, no matter what screen name Is used the question is a valid one, so since you can't lend any real discussion about the antenna, I have asked the antenna guys. Any commments on the claims of this antenna. The feed point imparticular.

"'Doc" <w5lz@cwis.net> wrote in message news:3EE03B2E.9B1F7983@cwis.net...
>
>
> Graabir Boubi,
> Yes, it is a troll. Yes, I do read the r.r.cb NG, and I
> see that you do too. The biggest difference being that I use
> a ligitimate identifier while you have several that I would
> hate to think are ligitimate (primarily on the r.r.cb NG), I
> wonder why? As for 'helping' the illegals, you should take
> another look at any of my posts on 'r.r.cb'. You won't find
> any that advocates doing anything illegal. I'm not ashamed
> of anything I've posted on 'r.r.cb', can you say the same?
> 'Doc

5628. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:38:17 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <6tu1evcr0optfjnktmfsek2k4d0uag3kdd@4ax.com>
Source record: 115829

On Fri, 6 Jun 2003 16:14:36 -0400, "J. McLaughlin" <JCM@Power-Net.Net>
wrote:

|Ian may not know the story that goes along with the Tar-Baby. That
|story has deep NA roots. 73 Mac N8TT

http://home.nycap.rr.com/cyclone/disney/sots/tarbaby.htm

5629. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:45:28 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3EE0FD68.37824065@rickfrazier.com>
Source record: 115830
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Carlos:

You might do better if the site supported "alternative" browsers. With Netscape 4.75, your navigation bar doesn't display at all, so the site is essentially dead for most purposes with users that happen to use Netscape. It probably is also a problem for any of the other "alternative" browsers as used by PC and Linux users....

The Javascript you have coded for the menu.html frame is disfunctional, and if you really want people to visit your site, you should consider dropping the "rightclickprotected.js" you are currently using.

By the way, anyone with a decent amount of expertise can save anything from your site anyway, even if you have a right-click-protector in place... They are really only effective for the novice user.

Thanks
--Rick

carlos Mendoza wrote:

> Hello Everyone,
>
> Do you know how much you loose each time on
> DX?
>
> MANY ANTENNAS COMPARED!!!!!!
>
> Look at my coax table, so you can compare many
> coax cables (also at different frequencies!!!).
> There is also calculation software to see the end
> results.
> Also we have links to many antenne factories.
> Many new software for amateur radio (also
> soundcard).
> Satellite tracking software, and frequencie chart.
> Kenwood information page for reset code's, and
> microphone wiring information.
> Power output problems?, we have many datasheets
> for power modules.
>
> Go to: http://www.qsl.net/pd0rkc
>
> 73's Cor

5630. Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 20:54:02 UTC
From: achilles03@hotmail.com
Message-ID: <fef44ceb.0306061254.39c29c6f@posting.google.com>
Source record: 115831

I've developed an interest in radio recently, however I'm still a novice and have been struggling with some of the technical aspects of antenna theory. I was wondering if someone with more experience would be kind enough to field some of the questions I've had in regards to antenna theory?

1. In my mind, I'm having trouble relating the capacitance of an antenna to the capacitance of a standard capacitor. I've always had trouble seeing an antenna as anything but an open circuit. Is it easier to think of an antenna as just half of a capacitor, capable of storing a certain charge per volt without a secondary "plate"?

2. Keeping the frequency and antenna constant, is the overall power output linearly proportional to the PEP feed voltage?

3. Where exactly does the resistance from the transmitter come from? I know the standard is 50 Ohms, but what induces this resistance?

Thanks in advance for fielding a newbie's questions!
Dave

5631. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 21:28:16 UTC
From: tdonaly@aol.com
Message-ID: <20030606172816.04360.00000277@mb-m06.aol.com>
Source record: 115832

Richard Clark wrote,
>
>On Fri, 06 Jun 2003 14:22:24 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>
>>Richard Clark wrote:
>>> You should no better, ...
>>
>>If I had made such an English blunder, you would be
>>all over it like a tumblebug on a turd. :-)
>
>You finally found something I can agree with!
>
>73's
>Tumblebug
>

At least you're not a three-headed chicken wearing cowboy boots
like I am.
73,
Tom Donaly, KA6RUH

5632. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 22:03:37 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <wYCcnYsGnY8hknyjXTWcoA@crocker.com>
Source record: 115833

"David Harper" <achilles03@hotmail.com> wrote in message
news:fef44ceb.0306061254.39c29c6f@posting.google.com...
> I've developed an interest in radio recently, however I'm still a
> novice and have been struggling with some of the technical aspects of
> antenna theory. I was wondering if someone with more experience would
> be kind enough to field some of the questions I've had in regards to
> antenna theory?
>
> 1. In my mind, I'm having trouble relating the capacitance of an
> antenna to the capacitance of a standard capacitor. I've always had
> trouble seeing an antenna as anything but an open circuit. Is it
> easier to think of an antenna as just half of a capacitor, capable of
> storing a certain charge per volt without a secondary "plate"?

all comments will refer to a simple balanced feed dipole antenna. like a 1/2 wave dipole with twin lead feeding it, although for these discussions the exact length isn't really important. all other antennas can basically be examined the same way, though in some it might be hard to identify the 'other half' of the dipole.

you can look at a dipole as a capacitor with each wire being one of the plates, just stretched out and spread apart. with a capacitance bridge you could actually measure the capacitance between the two wires if you wanted to. when fed properly (currents 180 degrees out of phase between the two wires) there is what is called a 'displacement' current that flows in the air between the two wires, this is one part of the field that starts the electromagnetic wave going off into space. The other part is the current in the wire, even though the ends of the dipole aren't connected to anything you can still force current into the feed point of the dipole. how much and how hard it is to do this depends on the frequency and length of the legs of the dipole. because antennas are fed with alternating current you can look at this current as charging up the plates of the capacitor on one half cycle and discharging it on the next half cycle. this current sets up a magnetic field around the wire that is the other half of the electromagnetic wave.

>
> 2. Keeping the frequency and antenna constant, is the overall power
> output linearly proportional to the PEP feed voltage?

no, the power is proportional to the voltage squared... just like any other power computation.

>
> 3. Where exactly does the resistance from the transmitter come from?
> I know the standard is 50 Ohms, but what induces this resistance?

remember the voltage and currents that are charging and discharging the two sides of the dipole above? well, if you basically use Ohm's law R=E/I, just divide the voltage at the feed point by the current and you get the 'resistance' of the antenna. (its a bit more complicated in most real life cases, when they start talking impedance instead of resistance and add in phase angles between the voltage and current you are in real life... but those are just details for now.) When an antenna is the right length and fed properly you can really imagine it is a big resistor, except that the power that would expect to generate heat in a resistor is what gets radiated into space.

as far as 50 ohms, that is just a convenient number that most amateur equipment manufacturers have settled on. they could just as easily used 75 or 300, or some other impedance. where that value becomes important is when you start designing the whole system from the output of the radio, through the feedline, and into the antenna. There are some special things that happen if all 3 impedances are the same that make the designs easier and can improve the efficiency of the system a bit.

73, dave. k1ttt

5633. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 22:07:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve2453qi0l5946@corp.supernews.com>
Source record: 115834

David Harper wrote:
> I've developed an interest in radio recently, however I'm still a
> novice and have been struggling with some of the technical aspects of
> antenna theory. I was wondering if someone with more experience would
> be kind enough to field some of the questions I've had in regards to
> antenna theory?
>
> 1. In my mind, I'm having trouble relating the capacitance of an
> antenna to the capacitance of a standard capacitor. I've always had
> trouble seeing an antenna as anything but an open circuit. Is it
> easier to think of an antenna as just half of a capacitor, capable of
> storing a certain charge per volt without a secondary "plate"?

A lot of people mistakenly think of an antenna as a single conductor. It isn't. An antenna has two terminals, and the current into one terminal has to equal the current out the other. If you connect your rig to a single wire, whatever current goes into that wire is matched by an equal current flowing from your rig to whatever is connected to it. So the capacitance of an antenna is the capacitance between the two halves (i.e., two terminals) of the antenna. Although it's a bit more complicated than a simple capacitor because of the spacing between the conductors (typically a sizeable fraction of a wavelength in the case of an antenna), the general principle is the same. Keep in mind that an antenna also has inductance, and at resonance the reactances from the inductance and capacitance cancel to make the antenna look like a pure resistor.

> 2. Keeping the frequency and antenna constant, is the overall power
> output linearly proportional to the PEP feed voltage?

The power output from an antenna is exactly equal to the power that goes into it, less power lost to heat. PEP stands for peak envelope power, so it's power, not voltage. Power is proportional to the square of the applied voltage.

> 3. Where exactly does the resistance from the transmitter come from?
> I know the standard is 50 Ohms, but what induces this resistance?

It comes from the voltage/current relationship of the output device, transformed by the output network. To understand what causes the voltage/current relationship of solid state devices requires a pretty deep knowledge of semiconductor physics, although someone might try a simplified explanation. But beware of simplified explanations, and especially be very careful in extending them too far. If the output device is switching (as in a class C amplifier), the output conductance, once smoothed by the output network, becomes the average conductance of

the switched device -- the impedance is the reciprocal of the conductance.

> Thanks in advance for fielding a newbie's questions!
> Dave

Roy Lewallen, W7EL

5634. Re: The ends of a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 22:09:10 UTC
From: richardharrison@webtv.net
Message-ID: <729-3EE11106-60@storefull-2311.public.lawson.webtv.net>
Source record: 115835

Gary, N4AST wrote:
"I thought displacement current was invented to explain the apparent electron (current) movement between the plates of a capacitor."

You likely have seen vacuum capacitors which have little if any matter between their plates. They don`t need any. An E-field requires no electrons to move through a dielectric. There is no conduction involved in displacement current.
In a capacitor, alternate attraction and repulsion of electrons on opposite sides of a void or insulator is sufficient to complete a circuit containing a capacitance.

J.C. Maxwell speculated that the displacement current in a void which is only "electrostatic" force exertion, is equally capable of production of magnetic lines of force as is current in a wire. Maxwell has been proved correct.

Best regards, Richard Harrison, KB5WZI

5635. Re: bad experience using Hex-beam portable ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 22:53:36 UTC
From: Floyd Sense <sentek@sprintmail.com>
Message-ID: <QX8Ea.34086$rO.3149494@newsread1.prod.itd.earthlink.net>
Source record: 115837

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message
news:3edf78f2$1_2@news.vo.lu...
> Hi OM,
>
> You right. I get information about the Hex-beam 6 band-pac from Mike by
fax
> quickly. The service is excellent.
> But now I can compare the hex-beam multiband with the spider beam from
> DF4SA...
>

You are comparing apples and oranges. The DF4SA covers only 3 bands and I
believe that the fiberglass spreaders are quite
a bit longer.

> Choosing the hex-beam you can choose between standard or "ssb" elements
> without added cost. They are not loading or "traps". But they work on
> 20-15-10 only. What are they ? :

They are simply wire elements cut for the SSB portion of the band instead of
the CW portion. I'm not sure why you're focusing on the
monoband portable Hexbeam. If you want multiband operation, buy the 5 band
Hexbeam. It breaks down into a small package that could be
easily transported. A bit more weight perhaps, but isn't it still less than
the DF4SA?

> Standard elements have operating bandw of +- 3% on all bands with VSWR
<2:1.
> SSB elements increase F/B ratio and slightly the gain on the upper
frequency
> (30 Mhz) but VSWR climbs well above 2:1 at QRG below SSB portion of bands,
> so for CW traffic (but they do not give the value for CW).
>
> In short his multiband antenna acts like so much monobanders. That means
> that I have to manually lower the mast, adjust wires, etc to work on
another
> band, this is not "automatic". I do not like to go outside each time I
want
> to work on another band... For fixed operation a monobander is excellent
but
> for portable, switching all the time when working on another band is
> discouraging.
>

Again, only true of the portable version. I maintain that the five band
antenna is also portable and it has a much smaller

turning radius than the DF4SA.

K8AC

5636. 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-06 23:30:40 UTC
From: Mike Elliott <j.michael.elliott@cox.net>
Message-ID: <Au9Ea.11090$1e.3474@fed1read04>
Source record: 115838

I'm looking for a FAQ or "how-to" guide for designing a cheap-o 5/8 wavelength vertical UHF antenna for use with a hand-held. I think a bit of wire with a coil or something at the feedpoint should do it?

MikeE

5637. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 00:15:54 UTC
From: Bill <n4wc@arrl.net>
Message-ID: <3EE12EBA.7070003@arrl.net>
Source record: 115839

Lightning Bolt Quad folks sell a 2:1 balun. Used one on my
40m loop. Good match.

Bill N4WC

W5DXP wrote:
> Tarmo Tammaru wrote:
>
>> First, what got me on it was a StepIR ad, which says their antenna has a
>> "simple 2:1: balun" . The application is a full size 75m vertical
>> loop. I am
>> presently matching it with a 1/4 wave section of RG11. It would work on
>> other bands, but the 1/4 wave section is a noop there. I have used it
>> on 18
>> and 24 MHz with the 756 internal tuner, but according to EZNEC the SWR
>> would
>> be half of of what it is now with a 112 ohm termination. After I
>> posted it,
>> it occured to me that a 2.25:1 balun might be easy, and even better.
>
>
> A 2:1 balun would probably work well on the fundamental frequency but
> won't do you much good on a multi-band loop. You are probably better
> off with a 1:1 choke, all things considered. But don't let my opinion
> stop you from experimenting.
> --
> 73, Cecil, W5DXP
>

5638. Re: AM Broadcast interference

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 00:28:25 UTC
From: ryeburn@sfu.caz
Message-ID: <ryeburn-0606031728260001@bni030qny8kc.bc.hsia.telus.net>
Source record: 115840

In article <87d6hrmgwf.fld@barrow.com>, Floyd Davidson <floyd@barrow.com> wrote:

> What might be the most interesting would be to use a "standard"
> antenna (that means the same one for all measurements) and do a
> few checks from other locations. Particularly, try to find one
> or more other locations that are also on the same radial line
> from the transmitter that you are on, because the radiation
> pattern for the fundamental and the harmonic might be very
> different. Measure the signal strength of the fundamental and
> of the harmonic. Using something like a loop antenna would work
> well. The absolute values don't make any difference, just the
> ratio of the fundamental to the harmonic. Hence using the same
> measuring technic at each location is important.
>
> If you find that at two or three other locations the exact same
> relationship exists, then that is what they are transmitting.
> If the harmonic is only found to be strong at your qth, then
> you'll want to try finding a cause locally.

I disagree. It is exceedingly unlikely that the ratio will be independent of distance. Ground wave propagation at 1980 kHz is going to be very much poorer than that at 660 kHz, even over distances of the order of only 5 miles. You're about 17.6 wavelengths away from the transmitter at 660 kHz, and three times as many wavelengths away at 1980 kHz. Assuming that the transmitter and antenna themselves really are radiating a signal on the third harmonic, the harmonic is going to drop off with distance much more rapidly than the fundamental.

Now if you move in from your location closer to the transmitter along the same radial line and the received third harmonic signal actually *decreases* in absolute strength while the fundamental of course increases, then you can be pretty sure that at least some of that third harmonic signal is being generated near you and not at the transmitter site.

David, ex-W8EZE

--
David or Jo Anne Ryeburn
ryeburn@sfu.caz
To send e-mail, remove the letter "z" from this address.

5639. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 00:33:48 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306061633.3a063c25@posting.google.com>
Source record: 115841

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<Y1asSdJfCN4+EAgv@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
> >Ian,You are preaching to the converted
> >Infact the words you have used together with your sentiments
> >are just echoing what I have stated over the years on this newsgroup,
>
> Are you sure about that?

Well this doesn,t bode well for an intelligent discusion but you only
have to read contributions on this very thread, if you need more I can
supply
>
> >It is this newsgroup not that have knocked the principles that I refer
> >to as you well know
>
> Sorry, I don't know any such thing. I don't even understand what that
> last sentence means.

Understood , I have harped on this subject for more than eight years
and you have been presentunately something told you to read this one,
>
> I have not been following the long history of your other correspondences
> here in any detail. Therefore I don't hold *any* views about your
> antenna ideas... and if you claim I endorse them, you will be flatly
> contradicted!

Common Ian don't make a straw man so that you can augue against it. If
you can show that I stated that you hold a view on my antennas then
show it, don't make inuendoes.
If your straw man says that I claimed that you endorse my antenna make
him prove it or burn him. Now I am not sure why you are writing all
this. When America states that you are with us or against us don't
take it too literally after all you will fall behind Syria, Iran,
France and Korea,
>
> >What the Moxon book uses as its main constituent is what he calls the
> >Resonator which he first introduced as the disapearing inductance,this
> >is not accepted as a viable aproach to antennas in this group.
> >I prefer to call it a loop/dipole antenna because to me it represents
> >a two mesh circuit and using these same principles have manage to
> >expand
> >the aproach with a couple of patents.

>
> The linear resonator is just one of the many interesting ideas in
> Moxon's book - but it certainly isn't the main constituent.

O.K. it was a footnote, no need to waste time on that one.
>
> What you prefer to call it, Art, and what it represents to you, is
> entirely your own business. I think it's unfair to drag Moxon into this,
> when in fact you have put your own interpretation on what he actually
> says.

I think you should read the thread again, I support Moxons theorems
the group as a whole rejects them. Since it is now being plagurised
now is the time to debate it. If it is an old wives tale then we don,t
want it in any more books
as it will give it an air of legitimacy. I certainly cannot ignore the
words of the majority on this side of the pond even tho I have faith
in Radcom and its contributors.
>
> >Moxon also pointed to the gain attributes of this aproach and this is
> >also clearly rejected, and it would apear that when seeing the loop
> >portion
> >they add all the bad things stated about a loop can also be attributed
> >to the resonator.
>

> Show me where Moxon says anything about the linear resonator having
> "gain attributes".

O my! Stand by a moment....

Page 311 Under improving the existing station.
Might as well look at page 313 where he talks of operating this type
of design on all bands from 14 to 28 Mhz which is certainly an
understatement since it takes advantage of all aperture provided which
the SteppIR antenna cannot do.

> >Your absence from these many postings I attributed to
> >your agreement with comments espoused on this subject and why I
> >apealed to english members of this group to contact the likes of Pat
> >Hawker to view what the
> >naysayers are saying this side of the pond'
>
> From what you just said, I can now state with complete confidence that
> you have no idea why I remained silent in your debates!

O.K. I'll give you that but we now can say that you do know now.
>
> >If you oppose the general sentiment over here maybe you would have
> >some succes in explaining the attributes of his resonator so that his
> >book will be read rather than resting on book shelves. What about it
> >Ian, will you step forward and defend his use of the resonator as
> >stated in Radcom and his book?

>
> I'm not prepared to "defend" Moxon because I don't think you should
> involve him in your own personal battles. I am prepared to say what a
> linear resonator is, briefly.

No one is asking for the defense of Moxon himself but a defense of
principles used since they are not accepted over here.I will certainly
defend him and Radcom for printing it but I am a minority of one !
>
> A "linear resonator" is a straight section of an antenna element that
> has been bridged by another parallel section of line, fairly
> close-spaced. Somewhere along the added line, it is cut and a capacitor
> is inserted in series. Depending on the dimensions and the capacitor
> value, this has many of the properties of a parallel L/C circuit, so it
> can be used in basically the same ways to create multi-band resonances
> on the same element.
It looks like a parallel circuit but it does not function like one but
it does provide a verbal picture.
>
> The main advantage is that you don't have to cut a tubing element to
> insert a real lumped L. Moxon sometimes writes about "borrowing" the
> inductance from the section of the main element that has been bridged by
> the resonator.

Now you have hit the crux of the principle with the word "borrowing"
which is a way of describing two complex circuits where the back EMF
resonates the primary element by coupling. You will note that he goes
to great lengths to describe coupling by calculation and by graphical
means so there can be no doubt that he is referring to a two mesh
circuit.., period. Certainly not a trap since it can supply two
nearby reasonant peaks or the ideal single high amplitude peak of high
'Q' Remember he has written the book to educate the majority and is
not a rewrite of what he presented to academia where one can expect
understanding by those knowelegable in the art.
> Possibly a familiar example is its use to de-tune a tower by clamping
> the two ends of a linear resonator to one leg, and tuning the C to give
> minimum unwanted current in the whole tower... that's using the
> resonator in its parallel-resonant trap mode.

24
> The main disadvantage of the linear resonator is that it's a pig to
> design!

>
> Moxon presents an approximate analysis, modeling the linear resonator as
> two coupled inductors (the two parallel lines) with the capacitor in
> series with one of them. But of course these lines are not simple
> inductors; they have physical length so they are more like a section of
> parallel transmission line (in this they resemble a gamma or T match).
> So maybe you give up on circuit analysis and model the structure in
> segments using NEC - which has its own difficulties, and was not

> available to Moxon. Or maybe you get out the GDO and current probe, and
> do it by cut-and-try... which in practice is mostly what Moxon did.
>
> The linear resonator certainly works, and has been used successfully by
> Moxon and many others. He credits the original idea to DL1FK, published
> in 1960, and it has cropped up in many different places since. Quite
> possibly it has been re-invented several times.
>

> The only reasons why it hasn't been used more are that it's unfamiliar,
> and it's difficult to design.
>
Sure it is unfamiliar since the basics are rejected over here.
If a element antenna was designed for all frequencies, with high Q
then it has been said that the providers door would be broken down by
buyers and in this case it is not happening because of the
predominance of so called Gurus who reject the new.
Difficult to design! Yes it was before the advent of computors since
in a two or more mesh circuit since the choice of just one component
has an effect on all others. Any mesh type circuitry analysis requires
ahat all capacitances,inductances and resistances must be presented in
"lumped " form
which means that Eznec cannot be used for analysis or solution
realisation
since not only must the element diameters be a variable { it compises
of all three components stated above) but must also provide for
constant impedance use to cover the various frequencies. The first
antenna program on the market provided these features and much more
was that of Beasly (AO). I believe that Wes stated that a more
powerful equivalent version in now available as shareware, perhaps he
will supply the details again,
As I stated earlier it is easier now and I use such a program to
increase to a three mesh circuit where it includes a "lossless feed
function" for all the frequencies used in the H.F. region.

> How this is connected with Art's ideas, is for Art himself to say - but
> preferably not in this thread about antenna books!

I have often stated that my patents are an extension of well known
principles
the same that Moxon expouses in his writings, these principles are not
accepted by those over here, We have a preponderance of experts that
"talk the talk"
an american expression, but none that can ".."walk the walk" and state
why the principles are not accepted. I think the differencies either
side of the pond should be faced upto, not just for me but for the
good of amateur radio. If it is all a load of bul****t this is exactly
the place to do it but it an intelligent and cohesive way and not a
test of debating skills to avoid meaningfull discussion.
If it was good enough to show up in Termans books I would hate that
his books also be trashed purely because of sentiments expoused by so

called Gurus who wish to wait until it has been printed or regurgitated in a few more Antenna books. Surely there is somebody who has an understanding of meshed circuitry analysis so that it can be proved one way or another regardless of nationalities involved or has 'new math' pushed mesh circuitry analysis away from engineering studies? Is it really true that all is known about antennas such that all "new" can be trashed without the need for evaluation. This group has trashed a lot of things regarded as new in the past so are the principles presently espoused going to join the rest or do we have to wait for Cecil put away before hand? I am a minority of one in this case thus I do not have the ability to stop the flow.
Regards
Art Unwin KB9MZ....XG..... like the battery I am still going!!!!

5640. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 00:48:47 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0306061648.11b67669@posting.google.com>
Source record: 115842

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<fam1ev8pu8245vhlslk3435lof39cigope@4ax.com>...
>
> You should no better, Cecil even renamed it by blunder (adding "a"
> for reasons known, perhaps, only to him).
>
> 73's
> Richard Clark, KB7QHC

Typical of Cecil's horrible command of the English language.

Slick

5641. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 01:14:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE13C6A.8050709@ieee.org>
Source record: 115843

Dr. Slick wrote:
> Typical of Cecil's horrible command of the English language.

Is that your only technical disagreement with me, Slick?
I apologize that my species is telepathic and our verbal
skills are therefore inadequate for this planet.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5642. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 01:19:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve2fcukl4o4i31@corp.supernews.com>
Source record: 115844

Before you get too carried away, Art, maybe you can direct us to some (or even just one) of the statements you imagine you've seen which are critical to Moxon, his book, or his ideas. A groups.google.com search for "Moxon" on this newsgroup brought about 200 hits. A quick scan through them showed quite a number of complimentary comments (including a number from the U.S., and ones by both Ian and me), and not a single negative one.

Who are these "gurus" on "this side of the pond" who reject and deride Moxon's ideas, what have they said, and when and where did they say it?

Roy Lewallen, W7EL

5643. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 01:36:12 UTC
From: achilles03@hotmail.com
Message-ID: <fef44ceb.0306061736.f3b00f3@posting.google.com>
Source record: 115845

"David Robbins" <k1ttt@arrl.net> wrote in message
news:<wYCcnYsGnY8hknyjXTWcoA@crocker.com>...
> "David Harper" <achilles03@hotmail.com> wrote in message
> news:fef44ceb.0306061254.39c29c6f@posting.google.com...
<snip>
> you can look at a dipole as a capacitor with each wire being one of the
> plates, just stretched out and spread apart. with a capacitance bridge you
> could actually measure the capacitance between the two wires if you wanted
> to.

What about a standard omnidirectional / vertical antenna? I can
understand the dipole's capacitance better, but for a 'single wire'
antenna, I'm having a little more trouble understanding how it gets a
capacitance other than forcing current into and out of something
similar to 'half a capacitor'.

> when fed properly (currents 180 degrees out of phase between the two
> wires) there is what is called a 'displacement' current that flows in the
> air between the two wires, this is one part of the field that starts the
> electromagnetic wave going off into space.

Ah, so there is a small current that actually oscillates
from/to/around the antenna? What about for a single 'mono-pole'
antenna?

I had assumed that the antenna's only current path was via the feed.
If I understand you correctly, that clears things up ALOT.

> 73, dave. k1ttt

Thanks for answering my questions! They helped alot, although I guess
your answers spurred a couple other questions...

Thanks again!
Dave

5644. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 01:42:35 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbrfub$nr9$0@208.207.71.138>
Source record: 115846
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

Alan wrote:

> When the Commerce Department is directed to do the study you know what
> perspective will come out.

The Commerce Department was the original administrator of radio in the USA. Only later was it handed off to the newly created FCC. Looks like we may be going full circle- you'll note that the FCC is mentioned as having a "consulting function" in the study. Hah! That's like they're a footnote to the whole deal.

Maybe the FCC antagonists will have their way. Can you say Billy Tauzin?

5645. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 02:14:51 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbrhqr$st9$0@208.207.71.138>
Source record: 115847

'Doc wrote:

> ... Mind boggling.
> 'Doc

Urs or his?

5646. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 02:15:21 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE14AB9.82341B7B@cwis.net>
Source record: 115848

Art,
Artificial distinctions, misconceptions, untruths, and a lot
of
'baffle-gap' mixed with probable misuse of medication as
evidenced
by comparing the content and 'style' of this post with one or
two
from a week ago.
'Doc

5647. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 02:19:25 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE14BAD.D543076C@cwis.net>
Source record: 115849

Dick,
Good question...
'Doc

5648. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 02:45:52 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <cuvyxnansvbet.hg3320j.pminews@netnews.attbi.com>
Source record: 115850
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

[No readable article body recovered]

5649. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 02:54:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <PtcEa.17266$HG5.822267@news20.bellglobal.com>
Source record: 115852
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"zpk"
> perhaps you'd like to inform this newsgroup of the
> frequencies involved for the the SELCAL unit on aircraft ?
> i.e. are they RF or AF
> if RF are they modulated, AM, SSB, FM ?

They are very similar to telephone DTMF (Touch Tones). The tones start out as audio, and are modulated onto SSB (USB specifically) on HF. They aren't used on VHF-AM (so far as I'm aware). They transmit one pair of tones, and then after a short pause they transmit another pair of tones (1s tones, 0.25s gap, 1s tones - if I recall correctly). Typically, the second pair of tones completes the process of unblocking the audio and the pilot hears the tail end of the second pair of tones and then someone calling him.

Here - fill yer boots with a pre-canned Google search:
www.google.com/search?q=SELCAL

5650. Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:00:28 UTC
From: Niittymaa Family <niittyma@sympatico.ca>
Message-ID: <mzcEa.5238$IR1.704568@news20.bellglobal.com>
Source record: 115851

I want to build a horizontal delta loop (~hex-shape) contained within my city lot and fed with 450~ ladder-line through a tuner. I have a couple of options:

1) Hang a maximum 40M loop in the clear - sloping but at least 2-3 feet from any branches or metal siding, etc. ranging from 35' at a TV tower feed point to 20' at the lowest point

or

2) Snake a much larger loop through a couple of maple trees and branches fed at the same 35' point and averaging about 20-25 feet up, perhaps close to a 80M loop size. Some articles I've read say that snaking across tree limbs can be used to max out the size without operational impacts.

I want to use the loop on 160M (hoping) but mainly 80M through 10M and would like to know if snaking through the trees will impact the loop operations on any of the bands. Will the impact be greater the higher the frequency and if so, at what band do the branches start having an appreciable impact?

Another option might be to build the 2 loops one inside of the other and fed with separate feeders but this might be stretching the optics with the XYL?

Any thoughts? ..... Al VA3KAI

5651. Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:09:24 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <uHcEa.17268$HG5.824280@news20.bellglobal.com>
Source record: 115853

Some of you might find this interesting. You'll need a Java-enabled
browser.

Link:
http://www.educatorscorner.com/index.cgi?CONTENT_ID=2483&SESSION_ID=1054902207-331

Sure beats ASCII art...

In case you want to browse further on various topics (a few levels up):
http://www.educatorscorner.com/index.cgi?CONTENT_ID=6&SESSION_ID=1054954499-2424

Thanks to Dave on Engtips for pointing this out.

5652. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:24:26 UTC
From: richardharrison@webtv.net
Message-ID: <389-3EE15AEA-60@storefull-2314.public.lawson.webtv.net>
Source record: 115859

David Harper wrote:
"Ah, so there is a small current that actually oscillates from / to /
around the antenna? What about a single "mono-pole" antenna?"

A dipole antenna in space is an RLC series circuit. The conductors end, but the circuit is completed by capacitance between the halves of the dipole. R in the RLC is made up of loss and radiation resistances in series with the L and C.

Since the dipole length is usually significant in terms of a wavelength, impedance varies with distance along the dipole. It is high at the open-circuit ends, but drops closer to the feedpoint.

A monopole replaces the missing half of the dipole with a balanced conducting surface or equivalent radials. These don`t radiate as current balance in the equivalent surface which is usually perpendicular to the monopole produces cancellation in radiation from this surface.

Instead, this surface produces a reflection from the monopole. For practical purposes, this reflection appears as the missing half of the dipole represented by the monopole.

In the case of an earth-mounted antenna, the fact that the earth hides half a sphere from radiation means a gain in the hemisphere that receives the radiation. This is more information than requested, so I`ll stop here.

Best regards, Richard Harrison, KB5WZI

5653. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:28:27 UTC
From: kh2d@my-deja.com
Message-ID: <3ee1581f.2068767760@newsgroups.bellsouth.net>
Source record: 115854
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Fri, 06 Jun 2003 10:45:28 -1000, "rick@rickfrazier.com"
<rick@rickfrazier.com> wrote:

>Carlos:
>
>You might do better if the site supported "alternative" browsers. With
>Netscape 4.75, your navigation bar doesn't display at all, so the site
>is essentially dead for most purposes with users that happen to use
>Netscape. It probably is also a problem for any of the other
>"alternative" browsers as used by PC and Linux users....

Rick,

Not to start WWIIII, and being slightly familiar with browser
compatability issues since I've done a few web sites, I have a
quick question.

Why, since Netscape 4.xx is vintage 1998, and since Netscape 7 is
a free download, would anybody want to even THINK about using
Netscape 4 for a browser ?

His stuff displays perfectly with the current version of Netscape.

How long do auto parts stores have to stock model T parts ?
Netscape is FREE. Internet Explorer is FREE. Seems to me that
if you chose to use BooBooBrowser Version 0.98 Beta and things
don't work, that's your problem.

But I agree. Anybody that's using BooBooBrowser Version 0.98
Beta DEFINITLY has a problem.

I know we're hams, and we hate to get too modern too quickly,
but let's get real for a change.......

He also would do better if he has his stuff hosted someplace where
it didn't take half an hour to download an HTML page and was up
more than 75% of the time, but that's another discussion.

73, Jim KH2D

5654. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:30:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE15C5E.5060905@ieee.org>
Source record: 115855

J. Harvey wrote:
> Some of you might find this interesting. You'll need a Java-enabled
> browser.

Pretty neat stuff. Just remember that, according to some people on this newsgroup, the reflected wave carries zero energy if a Z0-match exists at the source but carries lots of energy if a circulator load resistor exists at the source. My question is: What if a zero energy reflected wave is on its way toward the source and a circulator load resistor gets switched in?
--
73, Cecil http://www.qsl.net/w5dxp

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5655. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:34:02 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbrmfacbg0@208.206.142.73>
Source record: 115856

David Harper wrote:

>
> 1. In my mind, I'm having trouble relating the capacitance of an
> antenna to the capacitance of a standard capacitor. I've always had
> trouble seeing an antenna as anything but an open circuit. Is it
> easier to think of an antenna as just half of a capacitor, capable of
> storing a certain charge per volt without a secondary "plate"?

It's likely that you're conditioned to think of a capacitor as a device with two electrodes, or plates, since plates have more surface thus more capacitor than two wire conductors, and that's the way most common capacitors are built.
But a capacitor can consist of any two conductors in any proximity to each other. The common thing that makes them charge and discharge -the characteristics that provide them with the attributes of a capacitor-

is the application of a charging voltage via conductors that provide a conducting path for that charging and discharging current to flow through.

The car in your garage and that of your neighbor next door, or even the Earth and the Moon could be charged as capacitors if you ran a wire between then and connected a charging voltage in series. Once charged, remove the charging source and replace it with a load resistance, or just a wire conductor, and the capacitor would discharge.
The amount of charge and the resulting discharge current will always depend on the amount of capacitance between the two "plates". That will always depend on their area and the distance separating them, and the quality of the dielectric separating the two.
In these instances that capacitance value is small indeed but it is quantifiable.

As you can see, a dipole antenna exhibits capacitance since it has two terminals and a path by which it is charged and discharged. In the case of verticals antennas, the second element is the 'counterpoise' whether in the form of radials or just a simple stake driven into the ground (which incurrs quite high losses but still acts as the second antenna terminal).

Dick

5656. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:37:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE15E06.5040508@ieee.org>
Source record: 115857

Dick Carroll; wrote:
> ... or even the Earth and the Moon could be charged as capacitors ...

Hey Dick, do you think there was a spark as the lunar lander touched
down?
--
73, Cecil http://www.qsl.net/w5dxp

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5657. Re: Need your help and opinions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:46:43 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306061946.6a969277@posting.google.com>
Source record: 115858

"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:<LRKDa.3802$xM5.2437595@news2.news.adelphia.net>...
> I am putting up a vertical and would like your opinions on what I am
> doing. The vertical itself will be 26 feet tall, the base that it is to
> be mounted on is 14 feet from the ground.
>
> The total antenna height will be 40 feet.
>
> Of course the base will be part of the ground and isolated from the
> upper part. Coils will be mounted on the antenna for 80, 40, 30, & 10
> meters.
>
> I have a antenna tuning unit, and I also have a grid dip meter. I can
> run only 3 radials, only three.
>
> Remember that I have 14 feet of vertical base tubing which is part of
> the ground.
>
> Jim, kf4tun
> --

It would depend on which bands you want, how good per band, how much
trouble changing bands, etc...
If you can only have three radials at 14 ft, the optimum solution
would be to use insulators and jumpers on the radials to change bands,
or maybe even use traps. That way you have all three radials in use on
each band. But if you use insulators, it could be a pain having to go
outside and clip the jumpers on or off to change bands. You could also
use flat ribbon cable maybe as a multiband radial setup, but the
radials would look pretty fat and noticable. Could be picky to tune
also. Be aware that 3 radials on the lower bands on an antenna at 14
ft, are not near enough for optimum performance. This will show up on
80m the most. On 80m, it might actually work better close in if you
did run it as a dipole/vertical instead of a pure balanced vertical.
But a 80m radial is 60-65 ft long.
If at the end, performance is not too hot on the low bands, use the
vertical as a mast to support two wires which act as a dipole. :/ It
will work much better overall.
MK

5658. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:47:23 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <5fdEa.17276$HG5.831642@news20.bellglobal.com>
Source record: 115860

"W5DXP"
> My question is: What if a zero energy
> reflected wave is on its way toward the
> source and a circulator load resistor
> gets switched in?

It's all photons... not waves.

5659. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 03:52:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <ckdEa.17279$HG5.832714@news20.bellglobal.com>
Source record: 115861

"W5DXP"
> Hey Dick, do you think there was a spark as the
> lunar lander touched down?

Big ones, several thousand feet. These sparks caused the famous "1201" and "1202" alarms on their computer. Apollo 11 equalized the charges and later flights didn't have the same problem. NASA thought it was the Radar Altimeter - now the truth comes out... Big sparks.

;-)

5660. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 04:11:26 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <FBdEa.17287$HG5.836727@news20.bellglobal.com>
Source record: 115862

"Richard Harrison"
> A dipole antenna in space is an RLC series circuit.
> The conductors end, but the circuit is completed by
> capacitance between the halves of the dipole.

How does the simple capacitance computed between the two wires and their geometrical arrangement compare with the C value in the LC ?

In other words, is the C in an antenna's LC really the plain old computable (geometrical) capacitance of two plates (that happen to be two skinny wires, VERY badly arranged), or is it something different ?

Suspiciously yours,
Jeff

5661. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 05:31:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE178C0.5010502@ieee.org>
Source record: 115863

J. Harvey wrote:
> It's all photons... not waves.

Doesn't that depend upon what mode of detection
one is using? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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5662. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 05:35:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE179AF.40005@ieee.org>
Source record: 115864

J. Harvey wrote:
> In other words, is the C in an antenna's LC really the plain old computable
> (geometrical) capacitance of two plates (that happen to be two skinny wires,
> VERY badly arranged), or is it something different ?

The virtual impedance is a sum of voltages divided by a sum of currents.
--
73, Cecil http://www.qsl.net/w5dxp

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5663. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 05:45:03 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306062145.3549af22@posting.google.com>
Source record: 115865

Roy Lewallen <w7el@eznec.com> wrote in message news:<ve2fcukl4o4i31@corp.supernews.com>...
> Before you get too carried away, Art, maybe you can direct us to some
> (or even just one) of the statements you imagine you've seen which are
> critical to Moxon, his book, or his ideas. A groups.google.com search
> for "Moxon" on this newsgroup brought about 200 hits. A quick scan
> through them showed quite a number of complimentary comments (including
> a number from the U.S., and ones by both Ian and me), and not a single
> negative one.
>
> Who are these "gurus" on "this side of the pond" who reject and deride
> Moxon's ideas, what have they said, and when and where did they say it?
>
> Roy Lewallen, W7EL

You for one,Clark the renown veteran for another. You also
participated
when many tried to prove it using Esnec which was obviously doomed to
failure
since it is not advanced enough. I offered to pay for a AO program
that was capable of doing the job but it was refused. You said nothing
at that time
that Eznec was not capaple of providing proof of any sort since it
could not handle variables. You ask for proof well you have it in the
book but you still
reject it.
When you teamed up with the esteemed veteran Clark he went bananas
when I mentioned gain you ofcourse did not help what so ever. Now you
have everything that you asked for and still you mess around by asking
for more, I have provided pretty much the same drawing that Moxon
shows to illustrate what can be achieved and not one person could
handle it since it required a constant impedance for all bands,which
Eznec cannot do,still you said nothing. No one but no one has come up
with a technical reason
why the principles expoused are NOT legitamate. I do remember one time
when I explained and showed a diagram of a circuit that can be used as
a meshed circuit that could provide a resistive transformer where you
made a luke warm comment of niether disaproval or aproval. Just to
remind you again I also supplied a drawing of what I was writing up at
the time which included Moxons drawing.
Another reminder to you when somebody brought forward the number of a
patent
which clearly showed the particular element which Ian has described as
being
in the Moxon book, you brushed that aside saying the patent meant

nothing and it has not been proven. Now you recomend that same book that supplies the necesary proof which suggests you had the book all the time with the required proof that you say must be supplied to you.How many books have to be printed with it so that you feel safe in embracing it without using your own brain?
Roy instead of playing games of inuendo why don,t you just state that the
dipole with the so called parallel circuit which is EXACTLY the same as what I described as a combination loop/dipole antenna so many times over the years is capable of multi frequency use as Moxon has stated in his book. period,
You do not have to say anything about the loops function which includes phase change or that with all frequencies it maintaines a bi directional pattern ord even remark about its collinier pattern as well as the inability of Eznec to solve such problems that Ian describe as 'difficult.. Is it to much to ask that if you recommend a book to amateurs that you also state that subscribe to the same principles applied in that book which thru the years you have refused to do? This would put to an end that the particular loop/dipole combination is not an old wives tail so that amateurs can use it as a base for further study and not a bunch of malarky based on your hostilities to that particular design.
Be the first one to Walk the walk instead of further procrastination.
Regards
Art Unwin KB9MZ...XG

5664. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 07:57:46 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <TzjODXD6rZ4+EAAv@ifwtech.co.uk>
Source record: 115733

J. McLaughlin wrote:
>Ian may not know the story that goes along with the Tar-Baby. That
>story has deep NA roots. 73 Mac N8TT

Bo'n and raised wit' Brer Rabbit...

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5665. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 08:02:16 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030607040216.04605.00000784@mb-m21.aol.com>
Source record: 115866

Can somebody translate XG's Engrish to US English? (www.engrish.com)
Not that it will do any good.

Anyone who would like to patent Reflector as a director, you are too late.
F.Art got the patent and is reflecting all the directions, but not getting
recognition from the gurus.

Can all you gurus get along and admit that reflecting director or directing
reflector is a heluwa idea and rewrite all the antenna books?
And shame on all the useless antenna modeling software.

Back to South Side
Happy troleying!

Bada BYng
Bada BUm

5666. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 08:33:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve38qsis9hur75@corp.supernews.com>
Source record: 115867

Thanks for the response, Art. The lack of any verifiable citations answered my question. It's apparent from your response that the "rejection" and "derision" of Moxon's ideas you perceived was inferred from the lack of enthusiastic embracing of your antenna ideas. I kind of suspected that, but thought there might actually be some substance to what you had alleged. Carry on.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<ve2fcukl4o4i31@corp.supernews.com>...
>
>>Before you get too carried away, Art, maybe you can direct us to some
>>(or even just one) of the statements you imagine you've seen which are
>>critical to Moxon, his book, or his ideas. A groups.google.com search
>>for "Moxon" on this newsgroup brought about 200 hits. A quick scan
>>through them showed quite a number of complimentary comments (including
>>a number from the U.S., and ones by both Ian and me), and not a single
>>negative one.
>>
>>Who are these "gurus" on "this side of the pond" who reject and deride
>>Moxon's ideas, what have they said, and when and where did they say it?
>>
>>Roy Lewallen, W7EL
>
>
> You for one,Clark the renown veteran for another. You also
> participated
> when many tried to prove it using Esnec which was obviously doomed to
> failure
> since it is not advanced enough. I offered to pay for a AO program
> that was capable of doing the job but it was refused. You said nothing
> at that time
> that Eznec was not capaple of providing proof of any sort since it
> could not handle variables. You ask for proof well you have it in the
> book but you still
> reject it.
> When you teamed up with the esteemed veteran Clark he went bananas
> when I mentioned gain you ofcourse did not help what so ever. Now you
> have everything that you asked for and still you mess around by asking
> for more, I have provided pretty much the same drawing that Moxon
> shows to illustrate what can be achieved and not one person could
> handle it since it required a constant impedance for all bands,which
> Eznec cannot do,still you said nothing. No one but no one has come up

> with a technical reason
> why the principles expoused are NOT legitamate. I do remember one time
> when I explained and showed a diagram of a circuit that can be used as
> a meshed circuit that could provide a resistive transformer where you
> made a luke warm comment of niether disaproval or aproval. Just to
> remind you again I also supplied a drawing of what I was writing up at
> the time which included Moxons drawing.
> Another reminder to you when somebody brought forward the number of a
> patent
> which clearly showed the particular element which Ian has described as
> being
> in the Moxon book, you brushed that aside saying the patent meant
> nothing and it has not been proven. Now you recomend that same book
> that supplies the necesary proof which suggests you had the book all
> the time with the required proof that you say must be supplied to
> you.How many books have to be printed with it so that you feel safe in
> embracing it without using your own brain?
> Roy instead of playing games of inuendo why don,t you just state that
> the
> dipole with the so called parallel circuit which is EXACTLY the same
> as what I described as a combination loop/dipole antenna so many times
> over the years is capable of multi frequency use as Moxon has stated
> in his book. period,
> You do not have to say anything about the loops function which
> includes phase change or that with all frequencies it maintaines a bi
> directional pattern ord even remark about its collinier pattern as
> well as the inability of Eznec to solve such problems that Ian
> describe as 'difficult.. Is it to much to ask that if you recommend a
> book to amateurs that you also state that subscribe to the same
> principles applied in that book which thru the years you have refused
> to do? This would put to an end that the particular loop/dipole
> combination is not an old wives tail so that amateurs can use it as a
> base for further study and not a bunch of malarky based on your
> hostilities to that particular design.
> Be the first one to Walk the walk instead of further procrastination.
> Regards
> Art Unwin KB9MZ...XG

5667. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 09:07:03 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306070107.4eb09ccc@posting.google.com>
Source record: 115868

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
>
> The main disadvantage of the linear resonator is that it's a pig to
> design!

It was easy to model regardless of what Art seems to say. Any of the
programs commonly used will do it just fine. Modeling made finding the
appx cap value needed for a certain band a snap.

>
> Moxon presents an approximate analysis, modeling the linear resonator as
> two coupled inductors (the two parallel lines) with the capacitor in
> series with one of them. But of course these lines are not simple
> inductors; they have physical length so they are more like a section of
> parallel transmission line (in this they resemble a gamma or T match).

Yep. This was my take on it. It amounts to a glorified T match.
.
>
> The linear resonator certainly works, and has been used successfully by
> Moxon and many others.

It worked just fine when modeling it also. But none of the "magical"
properties that Art seems to claim or wish for such as "gain
attributes". Adding a simple impedance matching device to a dipole
element does not alter the pattern of the antenna.

He credits the original idea to DL1FK, published
> in 1960, and it has cropped up in many different places since. Quite
> possibly it has been re-invented several times.

I think quite a few antennas are re-invented every few years or
so...:/ MK

5668. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 09:35:49 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306070135.13cf5720@posting.google.com>
Source record: 115869

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
>
> > Show me where Moxon says anything about the linear resonator having
> > "gain attributes".
>
> O my! Stand by a moment....
>
> Page 311 Under improving the existing station.
> Might as well look at page 313 where he talks of operating this type
> of design on all bands from 14 to 28 Mhz which is certainly an
> understatement since it takes advantage of all aperture provided which
> the SteppIR antenna cannot do.

Ok, I stood by for one moment. After careful scrutiny and beady one
eyed observation, I've again come to the conclusion you have
re-invented a dipole with an impedance matching device mounted at the
feedpoint. "tuner"
As has been noted in past exchanges, the behavior of said antenna will
be the same as any other equal length dipole with an impedance
matching device "tuner" attached at the feedpoint. As one has even
pointed out, the same appx results will be obtained by feeding an
equal length dipole with low loss ladder line from a tuner. What will
your design do, that these others won't? What makes it worth spending
8 years in a state of worry? Surely, after 8 years, you should have at
least built and demonstrated live and in color at least one of these
marvels of transplanted UK technology. You should have proven us all
idiots years ago. It's not too late though. Time keeps a
ticking....tic-tok...tic-tok... MK

5669. Re: 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 09:44:52 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306070144.2a6c4157@posting.google.com>
Source record: 115870

Mike Elliott <j.michael.elliott@cox.net> wrote in message
news:<Au9Ea.11090$1e.3474@fed1read04>...
> I'm looking for a FAQ or "how-to" guide for designing a cheap-o 5/8
> wavelength vertical UHF antenna for use with a hand-held. I think a bit
> of wire with a coil or something at the feedpoint should do it?
>
> MikeE

You might be better off with a 1/2 wave. But a 5/8 is easily matched
with a coil at the base to tune to a 3/4 wave resonance. Normally,
this is not easy with a hand held. "mechanically". If you could find a
rubber duck to butcher up, maybe you could wind a 5/8 antenna on the
form. Use wire for the whip, and wind the coil at the base using the
same wire. You'd need to re-shrink wrap it. On UHF, it will likely
only be a turn or two. Depends on the coil dia, wire size. MK

5670. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 09:52:16 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306070152.14f577a0@posting.google.com>
Source record: 115871

"Niittymaa Family" <niittyma@sympatico.ca> wrote in message
>
> I want to use the loop on 160M (hoping) but mainly 80M through 10M and would
> like to know if snaking through the trees will impact the loop operations on
> any of the bands.

No. Many of my wire antennas are snaked through trees. Trees are very
handy for antenna supports. All hams should plant a tree on arbor day.
Preferably one that grows to be a tall one. :/ MK

5671. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:00:20 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbsd3k$10t$0@208.206.142.100>
Source record: 115872

"J. Harvey" wrote:

> "Richard Harrison"
> > A dipole antenna in space is an RLC series circuit.
> > The conductors end, but the circuit is completed by
> > capacitance between the halves of the dipole.
>
> How does the simple capacitance computed between the two wires and their
> geometrical arrangement compare with the C value in the LC ?
>
> In other words, is the C in an antenna's LC really the plain old computable
> (geometrical) capacitance of two plates (that happen to be two skinny wires,
> VERY badly arranged), or is it something different ?
>
> Suspiciously yours,
> Jeff

I'm suspicious too, Jeff. The proximity of the two concentric wires that constitute a dipole doesn't make for much capacity of themselves. So looks like the earth gets into the picture.Which means two series capacitors, doesn't it? The capacitance of each dipole element to ground is like two smaller plates in proximity to a larger common plate - two capacitances in series.

Dick

5672. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:13:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbsdrqffr1@titan.btinternet.com>
Source record: 115873

Jeff,

The whole lot of 'em appear to be doing their best just to increase your confusion.

It's really all very simple.

Let's begin again.

An antenna wire is just a transmission line.

It is a single-wire transmission line.

The return 'conductor', the return path, is the remainder of the universe.

The remainder of the universe begins on the surface of the wire.

It has distributed L,C,R & G as does any other sort of line.

L,C,R & G are calculable, as always, from the line's dimensions.

It follows the line has loss, phase-shift and propagation velocity.

Because the line is extended in space it has radiation resistance.

Radiation resistance is uniformly distributed along its length as is wire resistance.

Radiation resistance increases loss. Which is why we hang the thing well up in the air.

If near the ground, or another conductor, or anything else, then there are mutual impedances. The whole thing behaves exactly according to elementary, common-or-garden, electrical engineering principles. There's nothing mystical about it.

No references are offered. None needed. It's all so obvious once the mind has been cleansed of accumulated old-wives tales.

As evidence that the foregoing principles 'work', download in a few seconds a few of the small practical software programs available from the following website and run immediately.

Now wait for the cry "Troll".

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com

==========

5673. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:13:58 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939320E3141FFpookster@129.250.170.85>
Source record: 115875

"Niittymaa Family" <niittyma@sympatico.ca> wrote in news:mzcEa.5238
$IR1.704568@news20.bellglobal.com:

> Some articles I've read say that snaking across tree limbs
> can be used to max out the size without operational impacts.
>

Trees have been set on fire by arcing from antennas run through them. A
few watts would probably not be a problem, but be careful.

--
Bill, W7TI

5674. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:28:07 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbsenn$71r$0@208.206.142.69>
Source record: 115874

Niittymaa Family wrote:

> Some articles I've read say that snaking across tree limbs
> can be used to max out the size without operational impacts.

Maybe, maybe not. Depends on whether or not you wind up with a high impedance (thus high voltage) point of the loop touching a tree branch, leaf or twig. If so, expect some deletorious effect. And when it rains,
or if you live in a damp, foggy area or anywhere condensation is common, all bets are off. In short, some of the time, and on some bands, you probably won't notice effects from the tree. Other times, on other bands, you probably will.

If I planned to install an antenna that might touch any part of a tree I'd make sure that part of the antenna wire was insulated with tough insulation of such quality that the abrasive action of limbs or twigs wouldn't soon wear through the insulation.That should lessen the effects of the tree touching it but probably not eliminate them, at least all the time.
I've used screw-in insulators to a trunk or limb and ran the wire through the "eye" of the insulator and let it slide back and forth as the tree moves. Expect to do maintanence since the wire will wear as time passes. Use your ingenuity to minimize the wear on the wire.
There is capacitance involved, too. An antenna wire lying on a limb or leaf that contains moisture can not only change the tuning of the antenna but also induce some RF loss, even if there is no direct connection. If the leaf or limb is wet the ante goes up.

But the only way for you to know for sure how this is going to work is to try it.You can always work to imrove things if you don't like the way it works out.

Dick.

5675. Re: 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:44:12 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbsfls$mp4$1@hercules.btinternet.com>
Source record: 115876

"Mike Elliott" wrote
> I'm looking for a FAQ or "how-to" guide for designing a cheap-o 5/8
> wavelength vertical UHF antenna for use with a hand-held. I think a bit
> of wire with a coil or something at the feedpoint should do it?
==========

Download in a few seconds program BOTLOAD2 from website below and run immediately.

Design the bottom loading coil needed to resonate an antenna at any fraction of a wavelength to a given frequency.

But some trimming will be needed for a handheld where what is held in the hand also does some radiating.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

5676. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 10:50:25 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <PdqcnT3U3NfDWXyjXTWcqg@crocker.com>
Source record: 115877

"David Harper" <achilles03@hotmail.com> wrote in message
news:fef44ceb.0306061736.f3b00f3@posting.google.com...
> "David Robbins" <k1ttt@arrl.net> wrote in message
news:<wYCcnYsGnY8hknyjXTWcoA@crocker.com>...
> > "David Harper" <achilles03@hotmail.com> wrote in message
> > news:fef44ceb.0306061254.39c29c6f@posting.google.com...
> <snip>
> > you can look at a dipole as a capacitor with each wire being one of the
> > plates, just stretched out and spread apart. with a capacitance bridge
you
> > could actually measure the capacitance between the two wires if you
wanted
> > to.
>
> What about a standard omnidirectional / vertical antenna? I can
> understand the dipole's capacitance better, but for a 'single wire'
> antenna, I'm having a little more trouble understanding how it gets a
> capacitance other than forcing current into and out of something
> similar to 'half a capacitor'.

the 'other half' of a vertical antenna is the ground plane under it. as i
said sometimes it is hard to locate the 'other half' of the dipole, but it
is always there.

>
> > when fed properly (currents 180 degrees out of phase between the two
> > wires) there is what is called a 'displacement' current that flows in
the
> > air between the two wires, this is one part of the field that starts the
> > electromagnetic wave going off into space.
>
> Ah, so there is a small current that actually oscillates
> from/to/around the antenna? What about for a single 'mono-pole'
> antenna?

there are no 'mono-pole' antennas, there is always a second half. the
displacement current in a vertical is between the vertical and the ground
plane. the ground plane can be horizontal aluminum elements like the
classic cb vertical, it can be the cone of a discone, it can be the outer
conductor of the coax itself if there is nothing else connected to it, or it
can be the ground if you just connect the second wire of the feedline to a
ground rod.

>
> I had assumed that the antenna's only current path was via the feed.

> If I understand you correctly, that clears things up ALOT.
>
> > 73, dave. k1ttt
>
> Thanks for answering my questions! They helped alot, although I guess
> your answers spurred a couple other questions...
>
> Thanks again!
> Dave

5677. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 11:31:00 UTC
From: richardharrison@webtv.net
Message-ID: <1334-3EE1CCF4-13@storefull-2313.public.lawson.webtv.net>
Source record: 115879

Jeff Harvey wrote:
"How does the simple capacitance computed between the two wires and
their geometrical arrangement compare with the C value in the LC?"

Out in space there may be no intervention from surrounding objects,
including a transmission line. The dipole may be a solid rod.

A resonant solid 1/2-wave rod can become strongly excited when swept by
its resonant frequency. In this case, it must re-radiate all the energy
it receives.

The opposite halves of the rod have a mutual capacitance and connecting
electrostatic lines of force, just as opposite halves of a bar-magnet
have magnetic lines of force between them.

Best regards, Richard Harrison, KB5WZI

5678. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 11:36:25 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ee1cda8.1115489@news1.eircom.net>
Source record: 115878
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sat, 07 Jun 2003 03:28:27 GMT, kh2d@my-deja.com wrote:

>Why, since Netscape 4.xx is vintage 1998, and since Netscape 7 is
>a free download, would anybody want to even THINK about using
>Netscape 4 for a browser ?

i found netscape 4.7x to be the best of the 4.xx and netscape 6
(really 5) to be a crock of __________ in comparison.

netscape 7 may well be out but because of netscape 6, some poeple
might like to stay with what they know works.

can someone tell me what the relationship/links are between
mozilla and netscape ?

5679. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:30:23 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <zVkEa.9847$VS5.975495@news20.bellglobal.com>
Source record: 115882

"Dick Carroll;"
> So looks like the earth gets into the picture.

My conceptual antennas are always floating in space. The Earth is a
practical distraction once the concepts are bullet-proof.

5680. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:36:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE1DC60.1060203@ieee.org>
Source record: 115880
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

zpk wrote:
> netscape 7 may well be out but because of netscape 6, some poeple
> might like to stay with what they know works.

Netscape 7.0 had some pretty nasty problems but most of them seem
to have been fixed in 7.02.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5681. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:42:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE1DD9D.5080805@ieee.org>
Source record: 115881

Roy Lewallen wrote:
> Yes, instantaneous power isn't a useful concept if you're not interested
> in really understanding and dealing with energy flow in a system.

Roy, does talking about light instead of RF make your peta hertz?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5682. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:49:17 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee1e055_4@news1.prserv.net>
Source record: 115883
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

After the FCC was formed, Federal radio spectrum management was performed by JTAC, the Joint Technical Advisory Committee. More recently, and I forget under which president, this was formalized as the NTIA, National Telecommunications Advisory Committee. Under the Commerce Department. Reports directly to the office of President. They are responsible for Military frequency allocation, as well as all the 3 letter agencies headquartered in DC. In short, all federal government radios. The FCC continues to be the administering agency for non-federal radio. Except, they are slowly abdicating their responsibility by letting more and more 'unlicensed services grow.

--
Crazy George
Remove NO and SPAM from return address
"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bbrfub$nr9$0@208.207.71.138...
>
>
> Alan wrote:
>
> > When the Commerce Department is directed to do the study you know what
> > perspective will come out.
>
> The Commerce Department was the original administrator of radio in the
USA.
> Only later was it handed off to the newly created FCC. Looks like we may
be
> going full circle- you'll note that the FCC is mentioned as having a
> "consulting function" in the study. Hah! That's like they're a footnote to
the
> whole deal.
>
> Maybe the FCC antagonists will have their way. Can you say Billy Tauzin?
>

5683. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:55:07 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <KglEa.9858$VS5.982100@news20.bellglobal.com>
Source record: 115884

> Jeff Harvey wrote:
> "How does the simple capacitance computed between
> the two wires and their geometrical arrangement compare
> with the C value in the LC?"

"Richard Harrison"
> ...
> The opposite halves of the rod have a mutual capacitance
> and connecting electrostatic lines of force, just as opposite
> halves of a bar-magnet have magnetic lines of force between
> them.

Does a dipole change its characteristics if the two halves are separated by an infinite and perfect shield ?

I still don't quite believe that the C in the LC of an antenna is caused by the simple, geometrical, calculable capacitance between the two halves of the dipole antenna. The basis of my suspicion is that the calculable C would be highly dependant upon the exact geometry between the two halves of the antenna (the two facing plates - the ends of the wires). The properties of dipole antennas in general (as summarized by the LC values) are fairly consistent without regard to the exact details of the geometry in this feedpoint area. If never seen a dipole antenna construction article that worried about the feedpoint details.

In other words, a dipole antenna made with skinny wires kept apart at the feedpoint isn't THAT different from a dipole made with thick rods placed infinisitimally close together. The calculable C would be radically different in these two examples, but the antenna's C (from LC) wouldn't be much different.

Therefore, I have always assumed that the C in the LC of a dipole antenna was more a function of the transmission line features than the simple "capacitive" description provided by RH above. I'm not sure if Richard intended to imply what I think that he is proposing. Maybe I'm reading too much into his description.

Another way to ask the same question - if one were to measure the C of a dipole antenna (in isolated space) using a bench instrument without regard to the antenna's resonant frequency, would the instrument give capacitance values (at various lower frequencies) that matched the C in the LC at resonance ? If the C value drifted with frequency (towards insignificance at lower frequencies), then that would provide evidence that the LC values were a product of the transmission line features of the antenna, not the simple capacitive model described above.

5684. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 12:59:34 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <WklEa.9863$VS5.983494@news20.bellglobal.com>
Source record: 115886

J. Harvey wrote:
> > It's all photons... not waves.

"W5DXP"
> Doesn't that depend upon what mode of detection
> one is using? :-)

I changed my mind - it's all 'rays' today.

It's amazing how many 'theories of light' there has been over the years. 'Rays" are still alive and well and used on a daily basis in optics and, yes, even RF. GTD/UTD (rays) is used to make predictions of antenna patterns at higher frequencies where NEC models become intractable.

5685. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:03:14 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <molEa.9866$VS5.984515@news20.bellglobal.com>
Source record: 115887

J. Harvey wrote:
> In other words, is the C in an antenna's LC really the plain
> old computable (geometrical) capacitance of two plates
> (that happen to be two skinny wires, VERY badly arranged),
> or is it something different ?

"W5DXP"
> The virtual impedance is a sum of voltages divided by a sum
> of currents.

Yes, but how does the C (dare I call it a "Virtual C" ? Noooooooo..)...

<sorry>

...how does the C in the dipole antenna's LC relate to the calculable C
caused by the geometrical arrangement of the two wires (in isolated space) ?
Is the C the same value at DC as it is near resonance ?

5686. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:05:28 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <sqlEa.9868$VS5.984939@news20.bellglobal.com>
Source record: 115888

"Reg Edwards"
> It has distributed L,C,R & G as does any other sort of line.
> L,C,R & G are calculable, as always, from the line's dimensions.

Does the C (in LC) near resonance match the value of C calculable
(measurable) at DC ?

5687. Re: 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:12:48 UTC
From: Mike Elliott <kg6rcr@cox.net>
Message-ID: <jxlEa.11143$1e.2845@fed1read04>
Source record: 115885

Mark Keith wrote:

> Mike Elliott <j.michael.elliott@cox.net> wrote in message
news:<Au9Ea.11090$1e.3474@fed1read04>...
>
>>I'm looking for a FAQ or "how-to" guide for designing a cheap-o 5/8
>>wavelength vertical UHF antenna for use with a hand-held. I think a bit
>>of wire with a coil or something at the feedpoint should do it?
>>
>>MikeE
>
>
> You might be better off with a 1/2 wave. But a 5/8 is easily matched
> with a coil at the base to tune to a 3/4 wave resonance. Normally,
> this is not easy with a hand held. "mechanically". If you could find a
> rubber duck to butcher up, maybe you could wind a 5/8 antenna on the
> form. Use wire for the whip, and wind the coil at the base using the
> same wire. You'd need to re-shrink wrap it. On UHF, it will likely
> only be a turn or two. Depends on the coil dia, wire size. MK

Mark,

What you say about using a 1/2 wave makes sense.

Handhelds don't provide much in the way of a ground plane. How can I
find information on antenna gain in the horizontal plane of 1/4, 5/8 and
1/2 wave verticals w/ poor or no ground plane?

73, MikeE, KG6RCR

5688. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:34:50 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <_RIEa.9885$VS5.991624@news20.bellglobal.com>
Source record: 115890
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

O/T... (but possibly helpful advice)

"MattD.."
> Windows XP, IMHO, was a big step backwards in
> terms of driver availability, application compatibility
> and stability, especially when you consider that SP1
> breaks more than it fixes ;o)

"Walt Davidson"
> Agreed!!! I have stuck with Windows 98 ... and
> very glad that I have, having seen some people's
> experiences with trying to get things to run on XP.

Hmmm... strange...

Win XP Home (fully updated) works just fine here with ~all sorts~ of older, pre-XP software (suitably patched and updated as required). I mean dozens and dozens and dozens and dozens of old, pre-XP programs. Only a very small handful of really old (typically Win95) junk won't work at all. Hardware is the same - the only hardware that I can't make work is the JamStudio Tablet. Everything else (90%) is fine.

The key thing is to find the required SW patches and generally stay up to date (some MS updates contain 'compatibility updates' that help). For example, it only took one free download Disney XP-patch to make a whole slew of Disney software to spring to life - that patch also opened the floodgates for bargain $10 SW for my little boy. Many companies provide updates by either free downloads or free CD mailings.

Excuse the O/T, but I hate to see people having troubles with XP... Managed appropriately, it works great even with most older software (suitably patched). But do your own research before you plunge into it because there are, of course, some older programs that just won't work.

5689. Re: Need your help and opinions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:49:09 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <p3mEa.36046$_w.1174280@twister.southeast.rr.com>
Source record: 115889

Hi Jim,

I'd use TV rotor cable for the radials. 3 or 5 wire line, then cut one wire of the 5 at a quarter wave for each band you want to operate. At 14 feet off the ground, you'll have a great radial system.

Good luck,

Bill, W4WNT

"Jim Simmons" <jimsim@adelphia.net> wrote in message
news:LRKDa.3802$xM5.2437595@news2.news.adelphia.net...

I am putting up a vertical and would like your opinions on what I am doing. The vertical itself will be 26 feet tall, the base that it is to be mounted on is 14 feet from the ground.

The total antenna height will be 40 feet.

Of course the base will be part of the ground and isolated from the upper part. Coils will be mounted on the antenna for 80, 40, 30, & 10 meters.

I have a antenna tuning unit, and I also have a grid dip meter. I can run only 3 radials, only three.

Remember that I have 14 feet of vertical base tubing which is part of the ground.

Jim, kf4tun

5690. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:55:05 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <_8mEa.9944$VS5.996232@news20.bellglobal.com>
Source record: 115894

"Mark Keith"
> I think quite a few antennas are re-invented
> every few years or so...:/ MK

I agree.

I'm still on the look-out to see who might have invented (before me) "my" (?) idea for the Phased Array of Turnstiles for Circular Polarization (CP) - we call it the "Whirligig" and it would look like a flying X, but with length. It is a trivial combination of two CP turnstiles, quarter lambda spacing, to shoot CP either forward or backward (by fiddling with the relative phase - relays).

The purpose of the Whirligig antenna is to fill-in the forward and backward areas that are missed in UHF SatCom when using an array of Batwings. The problem with Batwings (CP turnstiles) is that you can't face them foreword nor backwards into the airstream (on airplanes). They can be aimed upwards and port and starboard, but not easily forward nor backward.

By now I assume that this Whirligig concept is firmly in the public domain unless someone else has previous rights to it. I found one thesis in the UK that was pretty close, but not quite.

I'm still looking for 'prior art' (and no, I'm not interested in any patent nonsense for "my" (?) Whirligig concept).

5691. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 13:56:54 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <1KednRPMl_nJcnyjXTWcpg@crocker.com>
Source record: 115891

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:KglEa.9858$VS5.982100@news20.bellglobal.com...
> > Jeff Harvey wrote:
> > "How does the simple capacitance computed between
> > the two wires and their geometrical arrangement compare
> > with the C value in the LC?"
>
> "Richard Harrison"
> > ...
> > The opposite halves of the rod have a mutual capacitance
> > and connecting electrostatic lines of force, just as opposite
> > halves of a bar-magnet have magnetic lines of force between
> > them.
>
> Does a dipole change its characteristics if the two halves are separated
by
> an infinite and perfect shield ?
>
> I still don't quite believe that the C in the LC of an antenna is caused
by
> the simple, geometrical, calculable capacitance between the two halves of
> the dipole antenna. The basis of my suspicion is that the calculable C
> would be highly dependant upon the exact geometry between the two halves
of
> the antenna (the two facing plates - the ends of the wires). The
properties
> of dipole antennas in general (as summarized by the LC values) are fairly
> consistent without regard to the exact details of the geometry in this
> feedpoint area. If never seen a dipole antenna construction article that
> worried about the feedpoint details.
>
> In other words, a dipole antenna made with skinny wires kept apart at the
> feedpoint isn't THAT different from a dipole made with thick rods placed
> infinisitimally close together. The calculable C would be radically
> different in these two examples, but the antenna's C (from LC) wouldn't be
> much different.
>
> Therefore, I have always assumed that the C in the LC of a dipole antenna
> was more a function of the transmission line features than the simple
> "capacitive" description provided by RH above. I'm not sure if Richard
> intended to imply what I think that he is proposing. Maybe I'm reading
too
> much into his description.
>

> Another way to ask the same question - if one were to measure the C of a
> dipole antenna (in isolated space) using a bench instrument without regard
> to the antenna's resonant frequency, would the instrument give capacitance
> values (at various lower frequencies) that matched the C in the LC at
> resonance ? If the C value drifted with frequency (towards insignificance
> at lower frequencies), then that would provide evidence that the LC values
> were a product of the transmission line features of the antenna, not the
> simple capacitive model described above.
>
>

the simple capacitive model is what the transmission line 'features' are based on. there is no difference in the techniques used to calculate capacitance when the wires are parallel, coaxial, or collinear... the geometry gets harder and the integrations may get uglier but the formulas are the same... and they do not contain frequency dependencies unless you get into real details where skin depth starts to have an effect or to extremely high voltages where corona increases the capacitance. when comparing fat to thin you also have to take into account the inductance, that changes as well as the capacitance between the wires resulting in the different properties of fat vs. thin wire dipoles.

as far as the feed point arrangement, I don't see what your concern is with that. there are only a few common methods of connecting the antenna to the feedline and their geometries aren't that much different to cause any large effects, at least at hf. at hf the size of any deviations from a straight wire at the feed point are relatively small compared to the overall size of the antenna so their effects are also small... at vhf and higher it becomes more critical as the sizes of the connections and transitions becomes larger with respect to a wavelength, the extreme examples are the design of striplines and etched antennas (like fractals) where the shape of the etches and the material of the substrate must be considered when calculating feed point designs.

let me think a bit, an infinite and perfect shield (assuming this means a perfect conductor) between the sides of a dipole would not cause any difference in the electric fields at DC. this results from simple symmetry considerations and is used in electric field modeling software to reduce complex models. at DC the electric field would be perpendicular to an infinite plane that is perpendicular to the dipole wires at all points so all the field results would be the same. you would of course have to double the energies calculated to account for the other half of the wire to get proper results. however, once you start changing the field I am not so sure that this would hold up as the shape of the field changes with time which would cause currents in the shield, the field would not always be perpendicular, so I think that falls apart. there may be a similar simplifying assumption you can make if you assume sinusoidal steady state and apply some specific boundary conditions and properties to the shield but I am not sure off hand what the limitations would be.

5692. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 14:00:18 UTC
From: Bart Rowlett <bart@gate.wb6hqk.ampr.org>
Message-ID: <pan.2003.06.07.14.00.17.592143@gate.wb6hqk.ampr.org>
Source record: 115892

On Sat, 07 Jun 2003 01:31:44 -0500, W5DXP wrote:

> J. Harvey wrote:
>> It's all photons... not waves.
>
> Doesn't that depend upon what mode of detection
> one is using? :-)

Nope.

bart
wb6hqk

5693. Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 14:08:21 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bbsrg2$d3052$1@ID-150848.news.dfncis.de>
Source record: 115893

Hi. Just wondering if anyone ever used a yagi for the marine band (around 157 Mhz). I suppose one could resize a cheaper model of 2m yagi. Or I could build myself a marine band yagi, I suppose. Any web sites with instructions on how to make say a 5 element VHF yagi.

I need a yagi or something with gain, because I'm quite some ways from the marine station.

Maybe even a 6dB co-linear would do. Perhaps a secondhand Ringo Ranger resized.

Rich.

5694. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 14:13:33 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bbsru6$csn4s$1@ID-185765.news.dfncis.de>
Source record: 115895
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:_RlEa.9885$VS5.991624@news20.bellglobal.com...
> Hmmm... strange...
>
> Win XP Home (fully updated) works just fine here with ~all sorts~ of
older,
> pre-XP software (suitably patched and updated as required). I mean dozens
> and dozens and dozens and dozens of old, pre-XP programs. Only a very
small
> handful of really old (typically Win95) junk won't work at all. Hardware
is
> the same - the only hardware that I can't make work is the JamStudio
Tablet.
> Everything else (90%) is fine.
>
> The key thing is to find the required SW patches and generally stay up to
> date (some MS updates contain 'compatibility updates' that help). For
> example, it only took one free download Disney XP-patch to make a whole
slew
> of Disney software to spring to life - that patch also opened the
floodgates
> for bargain $10 SW for my little boy. Many companies provide updates by
> either free downloads or free CD mailings.
>
> Excuse the O/T, but I hate to see people having troubles with XP...
Managed
> appropriately, it works great even with most older software (suitably
> patched). But do your own research before you plunge into it because
there
> are, of course, some older programs that just won't work.
>
>
Bring back MSDOS 3.0, that's wot I say.

--
;>)
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

5695. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 14:22:34 UTC
From: wa0goz@arrl.net
Message-ID: <3EE1F52A.2069@arrl.net>
Source record: 115896
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

I just went to his site with Netscape 3.01 and it works just fine. I
navigated around with no problems.

Henry WA0GOZ

kh2d@my-deja.com wrote:
>
> On Fri, 06 Jun 2003 10:45:28 -1000, "rick@rickfrazier.com"
> <rick@rickfrazier.com> wrote:
>
> >Carlos:
> >
> >You might do better if the site supported "alternative" browsers. With
> >Netscape 4.75, your navigation bar doesn't display at all, so the site
> >is essentially dead for most purposes with users that happen to use
> >Netscape. It probably is also a problem for any of the other
> >"alternative" browsers as used by PC and Linux users....
>
> Rick,
>
> Not to start WWIIII, and being slightly familiar with browser
> compatability issues since I've done a few web sites, I have a
> quick question.
>
> Why, since Netscape 4.xx is vintage 1998, and since Netscape 7 is
> a free download, would anybody want to even THINK about using
> Netscape 4 for a browser ?
>
> His stuff displays perfectly with the current version of Netscape.
>
> How long do auto parts stores have to stock model T parts ?
> Netscape is FREE. Internet Explorer is FREE. Seems to me that
> if you chose to use BooBooBrowser Version 0.98 Beta and things
> don't work, that's your problem.
>
> But I agree. Anybody that's using BooBooBrowser Version 0.98
> Beta DEFINITLY has a problem.
>
> I know we're hams, and we hate to get too modern too quickly,
> but let's get real for a change.......
>
> He also would do better if he has his stuff hosted someplace where
> it didn't take half an hour to download an HTML page and was up
> more than 75% of the time, but that's another discussion.

>
> 73, Jim KH2D

5696. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 14:49:54 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306070649.1b4f0953@posting.google.com>
Source record: 115897

"Niittymaa Family" <niittyma@sympatico.ca> wrote in message
news:<mzcEa.5238$IR1.704568@news20.bellglobal.com>...
> I want to build a horizontal delta loop (~hex-shape) contained within my
> city lot and fed with 450~ ladder-line through a tuner. I have a couple of
> options:
>
> 1) Hang a maximum 40M loop in the clear - sloping but at least 2-3 feet from
> any branches or metal siding, etc. ranging from 35' at a TV tower feed point
> to 20' at the lowest point
>
> or
>
> 2) Snake a much larger loop through a couple of maple trees and branches fed
> at the same 35' point and averaging about 20-25 feet up, perhaps close to a
> 80M loop size. Some articles I've read say that snaking across tree limbs
> can be used to max out the size without operational impacts.
>
> I want to use the loop on 160M (hoping) but mainly 80M through 10M and would
> like to know if snaking through the trees will impact the loop operations on
> any of the bands. Will the impact be greater the higher the frequency and
> if so, at what band do the branches start having an appreciable impact?

The U.S, Army conducted some investigations into this subject a number
of years ago which were discussed in this NG earlier. The answer is
that trees do not absorb RF, leak RF or otherwise affect antenna
performance at frequencies below 30 mHz. There are absorbtion effects
which increase as the freqs go above 30 mHz.

The much bigger problems are mechanical in nature and come in two
flavors. The bigger is the wind-induced relative motions between the
trees. Say you have a 100 foot run of wire between trees A and B. A
blow comes along and tree A deflects your support point five feet West
and tree B only deflects two feet at it's wire support. Not all trees
were created equal. Now the wire has to suddenly be two feet longer
than it was before the wind came along or 'bye-bye loop. The effect
can be much worse in the typical swirling winds found at ground
levels, e.g., tree A bends five feet west and tree B bends two feet
East. Times maybe four trees in some number of permutations. Been
there, done it, ugly. The cure for this problem is to support two
opposing corners of the loop via the pulleys and long-stroke weights
method.

The other mechanical problem is abrasion between the wire and the
branches, etc. This one can be minimized by using wire which has some
particularly abrasion-resistant insulation or another. I've had good

luck with using common hardware store Type THHN stranded "house wire"
run thru trees. The Wireman offers some virtually bulletproof coated
antenna wires in his "Toughcoat" line.

>
> Another option might be to build the 2 loops one inside of the other and fed
> with separate feeders but this might be stretching the optics with the XYL?

There are no (legal) cures for XYL/antenna "interactions".

>
> Any thoughts? ..... Al VA3KAI

w3rv

5697. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:05:21 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ee1ff23$0$48896$edfadb0f@dtext02.news.tele.dk>
Source record: 115898

Hello Richard

> yagi. Or I could build myself a marine band yagi, I suppose. Any web
> sites with instructions on how to make say a 5 element VHF yagi.

http://radio.meteor.free.fr/us/antenna.html

http://www.nemr.net/~aschmitz/antennas/calcantenna.html

http://www.csgnetwork.com/antennae3ycalc.html

> I need a yagi or something with gain, because I'm quite some ways from
> the marine station.

Remember to put the Yagi up vertical on a non-metalic pole.

> Maybe even a 6dB co-linear would do. Perhaps a secondhand Ringo Ranger
> resized.

A simple and cheap one is described here

http://www.sadona.com/news/ant_coaxcol.html

Regards Max

5698. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:09:47 UTC
From: richardharrison@webtv.net
Message-ID: <383-3EE2003B-42@storefull-2314.public.lawson.webtv.net>
Source record: 115900

Crazy George wrote:
"The FCC continues to be the administrative agency for non-federal radio."

FCC was created by congress and reports to congress. About 30 years ago, not to be left out of the action, the White House created an Office of Telecommunications Policy (OTP). The president wasn`t satisfied just to appoint all the members of the FCC.

FCC has coincidentally been exiting from the regulatory scene ever since the OTP appeared. This may have no connection with OTP or the struggle between the president and congress for power.

I agree that the least necessary regulation is the best regulation. Some rules are musts. Left to their own devices, perpetrators of outrages always go to excess when left alone.

A larger issue has emerged from relaxation of FCC rules on broadcasters. Hopefully congress is going to reverse the most recent outrage perpetrated by the FCC.

FCC relaxation of media controls is serious because it is crippling assurance of distribution of the true information a democratic public must have to properly control its goveernment. Earlier relaxations of control on the media have already overloaded broadcasts with commercial content. What`s good for Time-Warner is not necessairly good for America. Time-warner can thrive quite nicely under the old restrictive rules. Powell`s claim that internet and other distractions force a new deal are just baloney.

Radio spectrum is a limited resource. It belongs to all the people and like the air we breathe deserves protection.

Anyone can print a newspaper. Not everyone can put a broadcast station on the air. There isn`t room for all who would like to do so. The government, representing the people, has a duty to limit commercial content on broadcasts so that they don`t foul the air-waves too much. Without strict controls, broadcast bands would become a conglomeration of home shopping networks in a sewer of such dross.

Andy Rooney pointed out recently that his program, "60 Minutes", really isn`t anymore, and in fact is only 48 minutes. It was much closer to 60 minutes before an earlier relaxation of FCC on maximum commercial time content.

Broadcasting is already restricted by consolidation to a very few outlet owners in most areas. Reduction of the number of picture and sound

sources by consolidations is anti-democratic and would certainly follow further relaxation of FCC rules. When radio broadcasters were permitted to own multiple outlets in a single market, consolidation immediately followed. Further relaxation guarantees further consolidation. Bad for democracy.

Best regards, Richard Harrison, KB5WZI

5699. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:11:48 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <tUqdnd-QLfMlnX-jXTWcrg@crocker.com>
Source record: 115899

> > J. Harvey wrote:
> >> It's all photons... not waves.

no, its all waves not photons!

5700. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:13:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbsvhfcfq1@slb5.atl.mindspring.net>
Source record: 115721

Jeff:

[snip]
"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:uHcEa.17268$HG5.824280@news20.bellglobal.com...
> Some of you might find this interesting. You'll need a Java-enabled
> browser.
>
> Link:
>
http://www.educatorscorner.com/index.cgi?CONTENT_ID=2483&SESSION_ID=1054902207-331
>
> Sure beats ASCII art...
[snip]

Neat applet! Thanks for the reference.

Too bad it only operates over the first reflection transient and does not
continue on to "evenutally" display the "steady state".

Especially since most of the discussions here on the NG about VSWR and
"Refelections" seems to always be about the steady state...

;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

--
Peter

5701. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:30:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE20507.9040006@ieee.org>
Source record: 115901

J. Harvey wrote:
> I still don't quite believe that the C in the LC of an antenna is caused by
> the simple, geometrical, calculable capacitance between the two halves of
> the dipole antenna.

The impedance at any point on a standing wave antenna is simply the
ratio of (Vfor+Vref)/(Ifor+Iref) similar to a transmission line.
The capacitance at the feedpoint of a non-resonant dipole simply
depends upon (Ifor+Iref) leading (Vfor+Vref).
--
73, Cecil http://www.qsl.net/w5dxp

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5702. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:38:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE206E6.7030103@ieee.org>
Source record: 115902

J. Harvey wrote:
> J. Harvey wrote:
>>>It's all photons... not waves.
>>
> "W5DXP"
>>Doesn't that depend upon what mode of detection
>>one is using? :-)
>
> I changed my mind - it's all 'rays' today.
>
> It's amazing how many 'theories of light' there has been over the years.
> 'Rays" are still alive and well and used on a daily basis in optics and,
> yes, even RF. GTD/UTD (rays) is used to make predictions of antenna
> patterns at higher frequencies where NEC models become intractable.

If one is looking for wave interference in an experiment, one will detect waves. If one is looking for particles in an experiment, one will detect particles. Personally, I don't think the wave/particle duality questions have been answered. Why virtual photons are an improvement over fields escapes me.

However, it makes me feel a little like God to know that my mere observation of an occurrence dictates the outcome. :-) (I should have observed the Spurs/Nets basketball game a little closer last night.)
--
73, Cecil http://www.qsl.net/w5dxp

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5703. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:46:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE208E7.7090601@ieee.org>
Source record: 115903

J. Harvey wrote:
> ...how does the C in the dipole antenna's LC relate to the calculable C
> caused by the geometrical arrangement of the two wires (in isolated space) ?
> Is the C the same value at DC as it is near resonance ?

In free space, the end-to-end capacitance of a straight standing-
wave dipole has a relatively small effect. Most of the capacitance
in the feedpoint impedance is indeed virtual and the result of the
ratio of (Vfor+Vref)/(Ifor/Iref) when, for instance, the antenna
is too short. It is mostly the effect of the total standing-wave
current leading the total standing-wave voltage at the feedpoint.

Back on earth, the capacitance to earth/ground can have an
appreciable effect.
--
73, Cecil http://www.qsl.net/w5dxp

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5704. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:49:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE2096D.8030406@ieee.org>
Source record: 115904

J. Harvey wrote:
> "Reg Edwards"
>
>>It has distributed L,C,R & G as does any other sort of line.
>>L,C,R & G are calculable, as always, from the line's dimensions.
>
> Does the C (in LC) near resonance match the value of C calculable
> (measurable) at DC ?

Isn't that why a half-wave dipole length is 468/F instead of 492/F?
--
73, Cecil http://www.qsl.net/w5dxp

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5705. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:52:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE20A53.3080106@ieee.org>
Source record: 115905

Bart Rowlett wrote:
> W5DXP wrote:
>
>>J. Harvey wrote:
>>>It's all photons... not waves.
>>
>>Doesn't that depend upon what mode of detection
>>one is using? :-)
>
> Nope.

Last I heard, if one is looking for wave interference, one will
detect waves and if one is looking for particles, one will detect
particles. Whatever happened to the uncertainty principle?
--
73, Cecil http://www.qsl.net/w5dxp

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5706. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:56:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE20B37.1070103@ieee.org>
Source record: 115906

David Robbins wrote:
>>>J. Harvey wrote:
>>>>It's all photons... not waves.
>
> no, its all waves not photons!

There seems to be a conspiracy to kill off the wave reflection
model. I'm wondering what kinds of transmission line problems
the wave reflection model won't solve?
--
73, Cecil http://www.qsl.net/w5dxp

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5707. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 15:59:55 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns93935B8A96B6Apookster@129.250.170.96>
Source record: 115909

richardharrison@webtv.net (Richard Harrison) wrote in news:383-3EE2003B-42
@storefull-2314.public.lawson.webtv.net:

> Radio spectrum is a limited resource. It belongs to all the people and
> like the air we breathe deserves protection.
>

True, but increasingly irrelevant. A decade or so from now all our TV's,
radios, etc, will be connected to the internet or it's functional
equivalent. Wireless, unlicensed, in-home networks will prevail.
Receiving signals broadcast over the air will be limited mostly to cars and
portable radios. My prediction.

--
Bill, W7TI

5708. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:12:23 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbt2t7inf1@titan.btinternet.com>
Source record: 115907

> Does the C (in LC) near resonance match the value of C calculable
> (measurable) at DC ?
>
==========

Let's say they are in the same ball park.

There's one formula to calculate the resonant frequency of a lumped L and C tuned circuit from the values of L and C.

There's another formula to calculate the line's resonant frequency from the values of L and C of the line. And you first have to calculate the values of L and C.

But why bother with L and C when the first resonant frequency can be calculated from length alone. F = 75/Length

It's sometimes useful to know that near resonance a transmission line behaves similarly to a lumped tune circuit as regards its measured impedances. It even has a value of Q. Damping is due to radiation resistance as you've probably already guessed. But don't push the idea of lumped tuned circuits too far - stop here!

Away from resonance, say outside the range +/- 20%, a line behaves very differently because there are an infinite number of resonances.

Reg, G4FGQ

5709. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:14:47 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306070814.3f70072d@posting.google.com>
Source record: 115908

program such as EZNEC which can only react to dimensions that you put
into it.
Since we are dealing with two coupled circuits where ALL lumped
constants inter react some have to be viewed as variables which is
what Ian is pointing to as difficult. EZNEC cannot do this. It can
give expected results from a pre determined design where as programs
that allow the use of variables can use various iterations to find
the COMBINATION of data that meets your requirements.
So restated, when using mathematical methods or modeling with the use
of such a program as AO you will find that the current curve on the
radiator will distinguish itself from that of a normal dipole with
tuner because the loop (tuner in your case) actualy radiates in
resonant form PLUS it also provides
a phase change such that you can have two collinear form radiation
systems.\I realise that this can be difficult to understand since
basics has always concentrated on dipoles relative to wave length,
Those who are familiar with meshed circuits can probably do a better
job than either Moxon and I did but it appears that users of such are
limited such that discusion is not possible.
However, if you decide to follow up on this aproach to determine for
your self
whether that described in Moxons book is a an old wives tale then you
MUST
use a computor program version that allows use of variables and not
rely on those whose success is based on superior advertising.
By the way the principles refered to above is shown in all radio
communication books under different headings but in all cases of
discussion can always be found where you see the current
shape(amplitude) of bandpass filters (IF and RF trains)with respect
to coupling in actual radio design where it has been
embraced since the beginnings of radio . Keywords to use for review is
"coupling" "resonance" " "impedance matching" " complex circuits"
and if you are really adventure some look at some of Fosters work
with
respect to filters.
If you have any further questions I will be happy to oblige since the
experts are possibly correctly in poo hooing the whole principle
espoused such that it continues to lie buried for decades,
Best regards
Art Unwin KB9MZ..... XG

Regarding the past Eight years of posting on this in the face of the
naysayers,
I always try to keep the length of the threads to double digits and am

unconcerned as to who gets the last word. As always I will come back with the same subject in an attempt to determine what technical reasons they are with holding as to why the above is so rediculous or unreasonable.
Take a rest Cecil while they turn around and place me in the barrel of assault.

5710. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:20:25 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbt3c9fsh1@sparta.btinternet.com>
Source record: 115910

> Isn't that why a half-wave dipole length is 468/F instead of 492/F?

No.

5711. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:34:06 UTC
From: tdonaly@aol.com
Message-ID: <20030607123406.04558.00000192@mb-m23.aol.com>
Source record: 115911

Cecil wrote,
>
>J. Harvey wrote:
>> I still don't quite believe that the C in the LC of an antenna is caused by
>> the simple, geometrical, calculable capacitance between the two halves of
>> the dipole antenna.
>
>The impedance at any point on a standing wave antenna is simply the
>ratio of (Vfor+Vref)/(Ifor+Iref) similar to a transmission line.
>The capacitance at the feedpoint of a non-resonant dipole simply
>depends upon (Ifor+Iref) leading (Vfor+Vref).
>--
>73, Cecil http://www.qsl.net/w5dxp
>

So you think capacitance is frequency dependant?
73,
Tom Donaly, KA6RUH

5712. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:36:37 UTC
From: tdonaly@aol.com
Message-ID: <20030607123637.04558.00000193@mb-m23.aol.com>
Source record: 115912

Cecil wrote,
>
>J. Harvey wrote:
>> ...how does the C in the dipole antenna's LC relate to the calculable C
>> caused by the geometrical arrangement of the two wires (in isolated space)
>?
>> Is the C the same value at DC as it is near resonance ?
>
>In free space, the end-to-end capacitance of a straight standing-
>wave dipole has a relatively small effect. Most of the capacitance
>in the feedpoint impedance is indeed virtual and the result of the
>ratio of (Vfor+Vref)/(Ifor/Iref) when, for instance, the antenna
>is too short. It is mostly the effect of the total standing-wave
>current leading the total standing-wave voltage at the feedpoint.
>
>Back on earth, the capacitance to earth/ground can have an
>appreciable effect.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Now you've gone from "virtual impedance" to "virtual capacitance."
What will you think up next?
73,
Tom Donaly, KA6RUH

5713. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:48:34 UTC
From: richardharrison@webtv.net
Message-ID: <383-3EE21762-57@storefull-2314.public.lawson.webtv.net>
Source record: 115914

J. Harvey wrote:
"Does a dipole change its characteristics if the two halves are separated by an infinite and perfect shield?"

Some characteristics may be altered, but I can`t think of any.

King, Mimno, and Wing warn in "Transmission Lines, Antennas, and Wave Guides" on page 86:
"It is fundamentally incorrect to treat a center-driven antenna as though it were the bent-open ends of a two-wire transmission line." So, there`s something I`m not considering.

However, a conducting plane through a perfect balance point between the sides of the system seems to me to have little effect except for impedances. If the same power is radiated equally divided between the two sides of the system, the image of the radiator on either side will appear exactly as the actual missing half of the dipole does, and the coposite halves of the radiation from both sides should be the same with or without the shield.

The radiation resistance of the rod on either side is 1/2 the dipole impedance. The infinite plane also bisects the transmission line and its impedance is related to L / C. The shield would affect C more than it affects L. So, when you take the square root, I`m not sure the transmission line impedance is halved also. I`m too lazy to noodle it out at the moment.

Best regards, Richard Harrison, KB5WZI

5714. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 16:57:46 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbt5if$n5s$1@slb9.atl.mindspring.net>
Source record: 115722

Reg:

[snip]
> The return 'conductor', the return path, is the remainder of the universe.
>
> The remainder of the universe begins on the surface of the wire.
[snip]

Excellent summary, but I'm sure Jeff already knew all that.

What most don't know is that the Main Intergalactic Ground Terminal through
which all return
currents must flow is located just behind The Restaurant at the End of the
Universe.

Doug Adams told me *exactly* where it was located. The next time I'm out
there
in my new Ford Expedition, I'm gonna clip my screwdriver antenna ground
connection
to *that* terminal to see how much improved the antenna efficiency becomes.

;-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

5715. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 17:00:02 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bbt5i6$cqi9p$1@ID-150848.news.dfncis.de>
Source record: 115913

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3ee1ff23$0$48896$edfadb0f@dtext02.news.tele.dk...
> Hello Richard
>
> > yagi. Or I could build myself a marine band yagi, I suppose. Any
web
> > sites with instructions on how to make say a 5 element VHF yagi.
>
> http://radio.meteor.free.fr/us/antenna.html
>
> http://www.nemr.net/~aschmitz/antennas/calcantenna.html
>
> http://www.csgnetwork.com/antennae3ycalc.html
>
>
> > I need a yagi or something with gain, because I'm quite some ways
from
> > the marine station.
>
> Remember to put the Yagi up vertical on a non-metalic pole.
>
> > Maybe even a 6dB co-linear would do. Perhaps a secondhand Ringo
Ranger
> > resized.
>
> A simple and cheap one is described here
>
> http://www.sadona.com/news/ant_coaxcol.html
>
> Regards Max

Big thanks.

That last URL you gave, on quick perusal, looks to be a really usefull
resource for an omnidirectional VHF/UHF antenna.

Haven't looked at the others, but will.

Yep, I thought I'd need vertical polarization.

Rich.

5716. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 17:21:25 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <EemdnXqLBt10gn-jXTWcqQ@crocker.com>
Source record: 115915

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns93935B8A96B6Apookster@129.250.170.96...
> richardharrison@webtv.net (Richard Harrison) wrote in news:383-3EE2003B-42
> @storefull-2314.public.lawson.webtv.net:
>
> > Radio spectrum is a limited resource. It belongs to all the people and
> > like the air we breathe deserves protection.
> >
> ----------
>
> True, but increasingly irrelevant. A decade or so from now all our TV's,
> radios, etc, will be connected to the internet or it's functional
> equivalent. Wireless, unlicensed, in-home networks will prevail.
> Receiving signals broadcast over the air will be limited mostly to cars
and
> portable radios. My prediction.
>
> --
> Bill, W7TI

your car will be connected to the internet also either via satellite or
terestrial wireless network. just wait till your dealer sends your car a
canned voice mail message and tells you its time for an oilchange! or
worse yet, as you drive by jiffy lube they check your last oil change date
and send you spam on the go-go!!

5717. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 17:25:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE21FED.1080902@ieee.org>
Source record: 115916

Tdonaly wrote:
> Cecil wrote,
>>The impedance at any point on a standing wave antenna is simply the
>>ratio of (Vfor+Vref)/(Ifor+Iref) similar to a transmission line.
>>The capacitance at the feedpoint of a non-resonant dipole simply
>>depends upon (Ifor+Iref) leading (Vfor+Vref).
>
> So you think capacitance is frequency dependant?

The virtual capacitance of a standing wave antenna is frequency
dependent just as the virtual capacitance of a stub is frequency
dependent.
--
73, Cecil http://www.qsl.net/w5dxp

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5718. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 17:27:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE22089.4000202@ieee.org>
Source record: 115917

Tdonaly wrote:
> Now you've gone from "virtual impedance" to "virtual capacitance."
> What will you think up next?

A virtual capacitance has to be a possible part of a virtual impedance.
--
73, Cecil http://www.qsl.net/w5dxp

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5719. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 17:48:26 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <bp84evs116evt6j3sni1camqpvam308j7c@4ax.com>
Source record: 115918

On 7 Jun 2003 09:14:47 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote another wandering dissertation, beginning in mid-sentence:

|program such as EZNEC which can only react to dimensions that you put
|into it.

[gobbledygook snipped]

Art,

May I make a small suggestion:

Compose your posts in MSWord or something similar. Do a spell and
grammar check, and then save it as a file.

Come back no sooner than 8 hours hence and read it slowly (move your
lips if necessary).

If it makes absolutely no sense to you then spare us. If you think
that it is understandable, then by all means post it.

Thanks,

Wes

ps. I sometimes do this myself. I am often glad that I did. You
should be too.

5720. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 18:20:18 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE22CE2.368B8866@cwis.net>
Source record: 115719

Al,
As has been already stated, there will be 'problems'
with running the wire through trees. I don't have the
slightest idea how much inductance, capacitance, and/or
resistance a tree represents, and I doubt if anyone else
does either. That makes guessing what will happen when
you run the antenna through a tree impossible, with any
accuracy.
There have been a bunch of loop antennas erected that
way, though, and in most cases they work just fine. I've
had two loop antennas run through trees that worked on
multiple bands. Sometimes not very well, but certainly
better than not having an antenna for that particular
band, and suprizingly well on other bands!
The 'short and sweet' of it is that you just won't know
until you try it, and I certainly would try it. I'd also
'aim' for the largest loop I could get. (Higher is better
than lower, too.) I'd let the 'straight' sections sort of
sag a bit so that there's some slack for when the trees
move. 'THHN' insulated wire seems to last a reasonable
length of time, but I'm sure there are 'better' types of
insulation that can be had.
Because of all the variables involved, you won't know
how well it will work until you try it. So, try it...
'Doc

5721. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 18:31:32 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nmb4evokhivta5jqn68s9qi8gnqa068l5o@4ax.com>
Source record: 115720

On Sat, 7 Jun 2003 11:48:34 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>King, Mimno, and Wing warn in "Transmission Lines, Antennas, and Wave
>Guides" on page 86:
>"It is fundamentally incorrect to treat a center-driven antenna as
>though it were the bent-open ends of a two-wire transmission line." So,
>there`s something I`m not considering.
>

Hi Richard,

This is one of the most missed points in this thread. The analogy is
properly the bent-open ends of a two-wire NONLINEAR transmission line.
The divergence of the lines impacts the distributed C, but does
nothing to the distributed L in a first pass analysis.

73's
Richard Clark, KB7QHC

5722. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:01:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <osb4ev03o1us4ap7hr63de8s478u7vgtkv@4ax.com>
Source record: 115723

On 6 Jun 2003 13:54:02 -0700, achilles03@hotmail.com (David Harper)
wrote:
>1. In my mind, I'm having trouble relating the capacitance of an
>antenna to the capacitance of a standard capacitor. I've always had
>trouble seeing an antenna as anything but an open circuit.

Hi Dave,

Your question opened the floodgates with few responses actually
answering your problem with the capacitance (avoid discussion that is
a reflected question with "virtual" slipped in as an explanation).

There are always two parts involved, the other half is earth
(monopole), a literal second conductor (dipole), or the transmission
line itself (JPole, Zepp, and others). And as nature forces reality
into these perusals of form, reality intrudes in the form a
combination of all these sources of the second plate you perceive to
be missing.

Now, as to its computation. The simple way is to perform an
integration of areas by part (consult Newton's method). That is, take
a 1mm length of that conductor, compute its surface area. You have
one plate of many stacked out to the end of the radiator. What is the
nearest thing to that first 1mm? Probably the connector of the
antenna itself (makes sense, wouldn't it?) and that connection has
some reference to ground or is itself connected to an obvious second
structure that mirrors the first (aka dipole). Thus for the dipole
you have two 1mm plate sections separated by what? A couple of mm's?
The proximity of earth for monopoles offers a vast plate stretching
into the RF infinite; your rig is connected to this second plate
somewhere (or the rig is the second plate). I won't describe the
common formula for the computation of C.

This first 1mm solution does not offer much in the way of capacitance,
but you are far from finished with possibly 10,000 more plates to add.
They (each successive 1mm section) don't contribute as much as the
first fish in the pond, but they do accumulate. The reason for their
smaller contribution is simply they are further apart (2mm now, 3mm
for the next, and so on). An even simpler first approximation is to
consider the same 1mm section halfway down the pike, and multiply by
10,000 (presuming a 10M length of course).

This is a primitive first pass approximation, but it does give you the
basis for computation and establishing a near value that gives you a
sense of scale. It does show HOW and HOW MUCH which is largely
lacking in the remainder of responses. It also responds with the

obvious in that thicker wire has more surface area, thin wire less.

The primitive aspect of this is that component values of a nominal value (what you would achieve by this method of computation) do not exhibit this value due to geometry. Capacitors that have a dimension greater than 1/20th wavelength or so, become more than capacitors and this corrupts the analogy. The same thing is observed in the computation of simple plate capacitors where the "edge effect" can upset the accuracy of a simple computation. For an antenna, this is called "end effect." Same thing, different verse.

Programs that perform analysis by parts (EZNEC the most notable example common here for purposes of discussion) attend to these matters behind the scenes. In the parlance of that tool, these 1mm sections I offer are described as segments (for their own reason they approximate my metaphor, and take many other characteristics into consideration).

73's
Richard Clark, KB7QHC

5723. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:03:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6md4ev4n1it6p7b6583obifloahrv8lu6p@4ax.com>
Source record: 115724

On 7 Jun 2003 03:34:02 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:

>
> As you can see, a dipole antenna exhibits capacitance since it has two
>terminals and a path by which it is charged and discharged. In the case of
>verticals antennas, the second element is the 'counterpoise' whether in
>the form of radials or just a simple stake driven into the ground (which
>incurrs quite high losses but still acts as the second antenna terminal).
>
>Dick

Hi Dick,

Sorry to have not read this before my response. Yours is one of the
few (if not only one) that offers the obvious.

73's
Richard Clark, KB7QHC

5724. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:12:17 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <o2e4evs9jlho9k1qgmr18b784fpjf62ikr@4ax.com>
Source record: 115725

On Fri, 6 Jun 2003 23:09:24 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>Some of you might find this interesting. You'll need a Java-enabled
>browser.
>
>Link:
>http://www.educatorscorner.com/index.cgi?CONTENT_ID=2483&SESSION_ID=1054902207-331
>
>Sure beats ASCII art...
>
>In case you want to browse further on various topics (a few levels up):
>http://www.educatorscorner.com/index.cgi?CONTENT_ID=6&SESSION_ID=1054954499-2424
>
>Thanks to Dave on Engtips for pointing this out.
>

Hi Jeff,

I noticed the ubiquitous 50Ohm source Z. Immaterial by some
accounts....

73's
Richard Clark, KB7QHC

5725. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:16:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2de4ev8gmu00hbnafc8srapch54q2cvfre@4ax.com>
Source record: 115726
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sat, 7 Jun 2003 09:34:50 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

> I hate to see people having troubles with XP... Managed
>appropriately, it works great even with most older software

There's the problem. Not everyone wants to be their own SysAdmin.

5726. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:18:15 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bbtdpm$589$1@titan.btinternet.com>
Source record: 115727
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"zpk" <dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net> wrote in message
news:3ee0eca7.3937864@news1.eircom.net...
> On Fri, 06 Jun 2003 15:39:47 GMT, Richard Clark <kb7qhc@attbi.com>
> wrote:
>
> >On Thu, 5 Jun 2003 23:09:13 +0000 (UTC), "Dave"
> ><davenpat@btopenworld.com> wrote:
> >
> >>
> >>So why is the 'black box' described that way, when it is orange, tied to
a
> >>sonic beacon?
> >>
> >>Dave
> >
> >The reason is historically based on electronics designs that do not
> >have indicators, buttons, knobs, and so on.... just a black box (with
> >600 pin connectors).
> >
> >It is painted orange for visibility, and the beacon is for locating.

I knew that of course :-)

> given that both of you have displayed insider knowledge of aircraft...
>
> perhaps you'd like to inform this newsgroup of the frequencies
> involved for the the SELCAL unit on aircraft ?
>
> i.e. are they RF or AF
> if RF are they modulated, AM, SSB, FM ?

Like Richard, I didn't specialise on that. My subjects were
airframe, hydraulics, equipment cooling and air conditioning system, fuel
systems, flying controls and flight test instrumentation installations and
showing some of the electricians how diagnose faults ;-)

Along with certifying them for flight, less the flying controls. They had to
have a second and third certification.

Try asking Brian re your question.

Dave

5727. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:35:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <j7f4evomg1cjmq0h9lv27pn24ggnkt4mim@4ax.com>
Source record: 115728

On Sat, 7 Jun 2003 10:09:47 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>Andy Rooney pointed out recently that his program, "60 Minutes", really
>isn`t anymore, and in fact is only 48 minutes. It was much closer to 60
>minutes before an earlier relaxation of FCC on maximum commercial time
>content.
>
Canada has a comedy show called "This Hour has 22 minutes." (It is
actually scheduled for half an hour - must be a rate of exchange
thing.)

73's
Richard Clark, KB7QHC

5728. Re: Why am I loosing 6volts DC on my Coax Feed to PreAmp

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:39:53 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <g3rEa.3721$ym3.3622@fe01.atl2.webusenet.com>
Source record: 115729

Couple possibilities come to mind: 1- the dc resistance of the choke (s) can produce a voltage drop. 2) You need to ALSO BYPASS to ground, the supply, and the voltage output feed with caps, about 1000 pf. , to prevent ANY RF from being around voltage regulators/ preamp power connection , and causing voltage changes. some regulators will surge in high rf fields, others can collapse in strong rf fields. Ran a rig on 20 meters 100 watts, and the rf shut down regulators, supplying full volts - damn luckey didn't smoke the rig- .001 cap across the 12 volt output cured the problem. might check to see if it could have smoked regulator on either end of supply path for preamp-- jim

"Scott" <acepilot@bloomer.net> wrote in message
news:3EE074F8.9685834@bloomer.net...
> Impedance at DC? Do you possibly mean RESISTANCE, as measured with an
> ohmmeter? Impedance is reserved for AC calculations...however, your
> point is essentially correct...if the choke has enough (DC) resistance,
> it will drop 4.5V and when added to the 1.5 dropped in the coax will
> total 6V dropped from the (I assume) original supply voltage of 12V,
> leaving just 6V at the positive power rail of the preamp.
>
> Scott
> N0EDV
>
> W5DXP wrote:
> >
> > Xanax wrote:
> > > I want to get about 9~12volts into the preamp to power it. Where am I
going
> > > wrong??
> >
> > What is the impedance of your RF chokes at DC?
> > --
> > 73, Cecil, W5DXP
>
> --
>
> Scott
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

5729. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:42:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tlf4ev042qjvvu9qnr7cog1cvv7jm2u40e@4ax.com>
Source record: 115730

On 7 Jun 2003 15:59:55 GMT, Bill Turner <noway@nohow.com> wrote:

>richardharrison@webtv.net (Richard Harrison) wrote in news:383-3EE2003B-42
>@storefull-2314.public.lawson.webtv.net:
>
>> Radio spectrum is a limited resource. It belongs to all the people and
>> like the air we breathe deserves protection.
>>
>____
>
>True, but increasingly irrelevant. A decade or so from now all our TV's,
>radios, etc, will be connected to the internet or it's functional
>equivalent. Wireless, unlicensed, in-home networks will prevail.
>Receiving signals broadcast over the air will be limited mostly to cars and
>portable radios. My prediction.

Hi Bill,

This falls short of satisfaction. Hi Speed Internet connectivity has
leveled off and current accommodation through Cable TV paths will
burst if new success (the mythic "killer app") drives demand.

The cost of fiber optic connectivity to the house will not occur in
the near future, but the "last mile" will find servers linking into
communities through RF 801.b.

There are vastly more antennas in our near future, not less.

This, of course, says nothing of the traditional frequencies, but it
does speak to the traditional data streams.

73's
Richard Clark, KB7QHC

5730. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 19:43:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve4g3rt7s14adb@corp.supernews.com>
Source record: 115731

J. Harvey wrote:
>
> Does a dipole change its characteristics if the two halves are separated by
> an infinite and perfect shield ?
> . . .

If the antenna is symmetrical and perfectly differentially excited, the shield won't make any difference. By the symmetry of the system, you can see that the fields along the center line must be zero, since they're exactly equal and opposite an any two equally spaced points on each side of the shield.

A manifestation of this is that a monopole over an infinite flat ground plane has exactly the same pattern (except truncated by the ground plane) as a comparable dipole, and exactly half the input impedance.

Roy Lewallen, W7EL

5731. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:03:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve4h84p6ahubc5@corp.supernews.com>
Source record: 115732

I can hardly wait. I'll turn on my TV and find 107 spam commercials. Then there'll be a few feel-good touchy-feely inspirational messages sent from well-meaning relatives, and from a few well-intentioned people who fell for the latest spam hoax. Hopefully my firewall will block most of the viruses intended to destroy my system. Half the TV programs don't have audio or are missing some of the scenes because I didn't keep my software up to date, or because it's not Microsoft. Ads will pop up every few seconds during each program. And every time I change a channel, the TV's operating system will send a message to M$ telling them what I'm watching. Spyware surreptuously planted on my system will send this information, and more, to half a dozen other data collectors for various marketing purposes.

And our government by, for, and of the baksheesh-slathering special interests will tell me it's all "free speech" and that if I don't love it I'm not patriotic and should held without bail in the Ministry of Love until my reeducation is complete.

Yes, I can hardly wait. You'll find my TV in the trash bin, and I'll be at Powell's book store if you want me. Buying books with cash. If that's still possible.

Roy Lewallen, W7EL

Bill Turner wrote:
> richardharrison@webtv.net (Richard Harrison) wrote in news:383-3EE2003B-42
> @storefull-2314.public.lawson.webtv.net:
>
>
>>Radio spectrum is a limited resource. It belongs to all the people and
>>like the air we breathe deserves protection.
>>
>
> ----------
>
> True, but increasingly irrelevant. A decade or so from now all our TV's,
> radios, etc, will be connected to the internet or it's functional
> equivalent. Wireless, unlicensed, in-home networks will prevail.
> Receiving signals broadcast over the air will be limited mostly to cars and
> portable radios. My prediction.
>

5732. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:20:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve4i8epdqdus99@corp.supernews.com>
Source record: 115734

W5DXP wrote:
>. . .
> Why virtual photons are an improvement over fields
> escapes me.
>. . .

Virtual photons?

Roy Lewallen, W7EL

5733. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:21:43 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <pPrEa.5791$IR1.836748@news20.bellglobal.com>
Source record: 115736

"W5DXP"
> The impedance at any point on a standing wave antenna is simply the
> ratio of (Vfor+Vref)/(Ifor+Iref) similar to a transmission line.
> The capacitance at the feedpoint of a non-resonant dipole simply
> depends upon (Ifor+Iref) leading (Vfor+Vref).

No - you're missing my point (I think).

At resonance there is an L and a C and their reactances happen to cancel out leaving only the radiation resistance and any losses. So what is the value of C **in farads** near resonance ?

My suspicion is that this C is not simply related to the calculable geometry of the capacitance (think of the DC capacitance) between the two bits of metal.

You've answer a question - just not my question.

5734. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:23:01 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <EQrEa.5792$IR1.836847@news20.bellglobal.com>
Source record: 115737

"W5DXP"
> Isn't that why a half-wave dipole length is 468/F instead of 492/F?

No. That is simple 'End Effect'.

5735. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:33:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve4j0jm84iuuf6@corp.supernews.com>
Source record: 115735

Brian Kelly wrote:
>
> The U.S, Army conducted some investigations into this subject a number
> of years ago which were discussed in this NG earlier. The answer is
> that trees do not absorb RF, leak RF or otherwise affect antenna
> performance at frequencies below 30 mHz. There are absorbtion effects
> which increase as the freqs go above 30 mHz.
>. . .

I'd like very much to see any published work which shows this. On one occasion some years ago, a friend living one mile away measured 10 dB difference between two identical 40 meter verticals spaced a half wavelength apart (with the inactive one open circuited at the base, of course), in my back yard. The only apparent difference was that the path from one vertical included a stand of a half dozen or so Douglas fir trees which were roughly a quarter wavelength high. The same magnitude difference was observed in listening to other signals from that same direction -- and only from that direction. Moving the "dead" vertical so that the path shot through the edge of the trees dropped the difference to 4 dB. I was and remain convinced that the attenuation was due to the trees. However, I don't have any more information -- the importance of tree type, height, time of year, etc. If studies showed no absorption, I'd like to see how the setups used in the study differed from my experience.

Roy Lewallen, W7EL

5736. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:37:40 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <m2sEa.5799$IR1.838347@news20.bellglobal.com>
Source record: 115739

> > Does the C (in LC) near resonance match the
> > value of C calculable (measurable) at DC ?

"Reg Edwards"
> Let's say they are in the same ball park.

Hmmm...

If one were to calculate the "DC" (excuse the expression) capacitance, using geometry, of a dipole antenna and calculate the inherent inductance of the elements, could one calculate the resonant frequency which matches (within reasonable error bounds) the resonance frequency calculated by length alone ?

I know that the "DC" capacitance between the elements is critically dependant on the geometry of the two elements near the feedpoint (simply because they are so close together at the point). Is this detail swamped because the voltages are higher at the ends making the ends more important than the middle ?

Does the standing wave that is the voltage distribution on a dipole mean that the effective capacitance varies with frequency ?

I believe that the opinion that the C value at resonance is the simple C value at DC is probably wrong. Just a gut reaction...

5737. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:40:36 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve4jfcfn6t1t68@corp.supernews.com>
Source record: 115738

Cecil's invoked virtual everything else, why not?
H.

I once attended a physics colloquium at UT where
a-prof-who-shall-remain-nameless was invoking "virtual photons" to explain
his talk. Manfred Fink jumps up and announces to the assembled physicists,
as he's walking out, that he's going to "run down to my lab and measure some
virtual photons right now!"
At HF the energy of a photon is about ten orders of magnitude less than an
eV;
No quantum transitions for them little fellas. Just good old E&M.

Now back to virtual reality.....=]8^0
NQ5H

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:ve4i8epdqdus99@corp.supernews.com...
> W5DXP wrote:
> >. . .
> > Why virtual photons are an improvement over fields
> > escapes me.
> >. . .
>
> Virtual photons?
>
> Roy Lewallen, W7EL
>

5738. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:49:34 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <wdsEa.5802$IR1.839849@news20.bellglobal.com>
Source record: 115740
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Walt Davidson"
> The DOS emulation in XP (such as it is) is problematic,
> to say the least.

DOS programs ?!? Definitely stay away from Win XP.

5739. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:54:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE25119.3070807@ieee.org>
Source record: 115741

Roy Lewallen wrote:
> W5DXP wrote:
>> Why virtual photons are an improvement over fields
>> escapes me.
>
> Virtual photons?

From _Optics_, by Hecht. "In the particle-centered view, particles are the fundamental entities, fields are just the macroscopic coherent states of particles."

"The mediating particle of the electric field is the virtual photon."

"The messenger particles of the electromagnetic force are called virtual photons because they are bound to the interaction. Virtual photons can never escape to be detected directly by some instrument."

"They (virtual photons) are creatures of theory whose metaphysical status is yet to be determined."

"Today, the magic of action-at-a-distance is understood via the no less mysterious exchange of virtual particles."

Most of the disagreement between Jim and me appears to be caused by his attempt to switch from the field&wave reflection model to a particle-centered model.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5740. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:57:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE251AC.7040403@ieee.org>
Source record: 115742

Peter Brackett wrote:
> Too bad it only operates over the first reflection transient and does not
> continue on to "evenutally" display the "steady state".

It does display the steady-state for a signal generator equipped with
a perfect circulator+load resistor. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5741. Cushcraft XM 510 10 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 20:59:59 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <igk4evgm45u8as1hbd4j6li1gdt2rtdeh9@4ax.com>
Source record: 115743

anyone know what it cost new and any comments on performance...

5742. Re: Hex-beam email ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:00:53 UTC
From: JCM <menardjc@wanadoo.fr>
Message-ID: <bbtjq8$9u1$1@news-reader13.wanadoo.fr>
Source record: 115744

Hi Terry, look at the G4ZU "Jungle job" wire beam in ARRL Antenna Compendium nb2, it seems to be the "father" of these V shaped beams.

73 de F8ND

"Terry Ashland" <t_ashland@yahoo.com> a crit dans le message de news: 6e6aeba9.0306031640.35e84c@posting.google.com...
> Thierry,
> Check out this url: http://www.qsl.net/df4sa/index_spider.htm It is
> mentioned on the hexbeam group. It's not a hexbeam, but it's small
> and lightweight. It is a little more local than the US (made in
> DA-land).
> 73,
> Terry, WK0F
>

5743. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:02:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE252F5.4080509@ieee.org>
Source record: 115745

J. Harvey wrote:
> You've answer a question - just not my question.

Sorry I misunderstood. I thought you were talking about off-
resonance feedpoint impedances.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5744. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:04:56 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <WrsEa.5805$IR1.841093@news20.bellglobal.com>
Source record: 115750
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Richard Clark"
> Not everyone wants to be their own SysAdmin.

Since doing a clean install of a new OS is the recommended process (as opposed to trying to do an 'upgrade'), you need to reinstall all of your old SW anyway. The whole process is huge if you have a large number of programs. Finding, downloading and installing patches is just part of the overall effort. If you can handle installing a new OS (like XP), then you can handle finding and installing the requisite patches for your existing SW. If you can't - don't.

My main point is that such patches do, in many cases, exist. Being "XP Patches", they obviously help... If people are complaining about the compatibility of XP, then they might not be aware of these patches (or maybe they're trying to run DOS programs...).

One company even couriered (overnight) me a new version of the SW on a CD simply by completing an on-line form. This for a $25 bit of pre-XP hardware.

Excuse the O/T...

5745. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:04:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE25379.6070709@ieee.org>
Source record: 115746

J. Harvey wrote:
> "W5DXP"
>>Isn't that why a half-wave dipole length is 468/F instead of 492/F?
>
> No. That is simple 'End Effect'.

Capacitive end effect? Like poorly designed end (top) hats? That's
what I was getting at because I misunderstood your question.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5746. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:09:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE25494.30101@ieee.org>
Source record: 115747

H. Adam Stevens wrote:
> Cecil's invoked virtual everything else, why not?

Hey H, don't blame me. Read the QFT section 3.7 of _Optics_,
by Hecht. "Einstein proposed that electric and magnetic fields
were quantized, that they are particulate rather than continuous."
This probably happened before you and I were born.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5747. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:15:46 UTC
From: Paul <rhubarb1@btinternet.com>
Message-ID: <VA.00000153.011c0eb4@btinternet.com>
Source record: 115748
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

In article <3ee0eca7.3937864@news1.eircom.net>, Zpk wrote:
> given that both of you have displayed insider knowledge of aircraft...
>
> perhaps you'd like to inform this newsgroup of the frequencies
> involved for the the SELCAL unit on aircraft ?
>
> i.e. are they RF or AF
> if RF are they modulated, AM, SSB, FM ?
>
They are AF tones. If you listen in to Stockholm Radio (aeronautical service) on 11.345 Mhz USB you will probably hear them, as they are often asked to send them for test purposes. (Note that all Aeronautical HF is USB).

Paul
Licensed Aircraft Engineer (Avionic)
British Airways, Terminal 4 Heathrow.

5748. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:18:22 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306071318.52f58dbe@posting.google.com>
Source record: 115749

nd then slyly disassociates himself from the principles used. If only an old timer would come along such as Pat Hawker of Radcom or Bruin of Collins
who could explain the theorems used in micro fashion as used for radio design
and then show how these same principles can be used in a macro fashion in the design of antennas which opens the way to rotatable antennas for 160M with efficiencies higher than 80 % that can also be turned 90 degrees ala collinear dipoles for low angle radiation. Anyway I note your remarks which I view as sincere and will make a real effort to do better tho your actual method will take some time to place..
Best regards
Art Unwin KB9MZ....XG.

5749. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:27:20 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <ve4m3m8t8haued@corp.supernews.com>
Source record: 115751

Dear Ian: (My Father's name and the middle name of one of my sons)

Outstanding. The cultural links of the English speaking people are
strong.
So very much of communication in English at a high level relies on
shared stories. On the other hand, as we have all seen, even one who
has a tenuous command of English is likely to be able to communicate at
a fundamental level. Few other languages have that property.
Warm regards, Mac N8TT (and ex G5, though my people found it
healthy to leave after 1746)

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:TzjODXD6rZ4+EAAv@ifwtech.co.uk...
> J. McLaughlin wrote:
> >Ian may not know the story that goes along with the Tar-Baby. That
> >story has deep NA roots. 73 Mac N8TT
>
> Bo'n and raised wit' Brer Rabbit...
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

5750. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:32:45 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve4mh46rf7va10@corp.supernews.com>
Source record: 115752

Cecil I know that. ;^)
Einstein got the Nobel for the photoelectric effect in 1905.
My point: The photon energies at HF are so low it's irrelevant.
Classical E&M works just fine here.
73
NQ5H
H.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE25494.30101@ieee.org...
> H. Adam Stevens wrote:
> > Cecil's invoked virtual everything else, why not?
>
> Hey H, don't blame me. Read the QFT section 3.7 of _Optics_,
> by Hecht. "Einstein proposed that electric and magnetic fields
> were quantized, that they are particulate rather than continuous."
> This probably happened before you and I were born.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5751. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:45:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE25D11.30003@ieee.org>
Source record: 115754

H. Adam Stevens wrote:
> My point: The photon energies at HF are so low it's irrelevant.
> Classical E&M works just fine here.

We certainly agree on that one.

--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5752. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:46:15 UTC
From: tdonaly@aol.com
Message-ID: <20030607174615.09335.00000874@mb-m11.aol.com>
Source record: 115753

Cecil wrote,
>
>Peter Brackett wrote:
>> Too bad it only operates over the first reflection transient and does not
>> continue on to "evenutally" display the "steady state".
>
>It does display the steady-state for a signal generator equipped with
>a perfect circulator+load resistor. :-)
>--
>73, Cecil http://www.qsl.net/w5dxp
>

You're violating the boundary conditions with that
perfect circulator.
73,
Tom Donaly

5753. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:50:42 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve4niph1o8on8c@corp.supernews.com>
Source record: 115756

damn
finally
;^)
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE25D11.30003@ieee.org...
> H. Adam Stevens wrote:
> > My point: The photon energies at HF are so low it's irrelevant.
> > Classical E&M works just fine here.
>
> We certainly agree on that one.
>
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5754. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:55:51 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <xeEW4GEn9l4+EAHE@ifwtech.co.uk>
Source record: 115757

Art Unwin KB9MZ wrote:

>>
>> The linear resonator is just one of the many interesting ideas in
>> Moxon's book - but it certainly isn't the main constituent.
>
>O.K. it was a footnote, no need to waste time on that one.
>>
>> What you prefer to call it, Art, and what it represents to you, is
>> entirely your own business. I think it's unfair to drag Moxon into this,
>> when in fact you have put your own interpretation on what he actually
>> says.
>
>I think you should read the thread again, I support Moxons theorems
>the group as a whole rejects them.

You are mistaken. What "the group as a whole" finds hard to accept is
your highly individual re-interpretation of Moxon's ideas.

I doubt if many people here know what Moxon's ideas actually are.

>> Show me where Moxon says anything about the linear resonator having
>> "gain attributes".
>
>O my! Stand by a moment....
>
>Page 311 Under improving the existing station.
>Might as well look at page 313 where he talks of operating this type
>of design on all bands from 14 to 28 Mhz which is certainly an
>understatement since it takes advantage of all aperture provided which
>the SteppIR antenna cannot do.
>
>
You must have the 2nd edition; mine is the first so I can't cross-check
those page references. If anyone can provide scans of pages 311 and 313,
2nd edition, I'd be happy to resume on this point.

>> The main advantage is that you don't have to cut a tubing element to
>> insert a real lumped L. Moxon sometimes writes about "borrowing" the
>> inductance from the section of the main element that has been bridged by
>> the resonator.
>
>Now you have hit the crux of the principle with the word "borrowing"
>which is a way of describing two complex circuits where the back EMF
>resonates the primary element by coupling. You will note that he goes
>to great lengths to describe coupling by calculation and by graphical

>means so there can be no doubt that he is referring to a two mesh
>circuit.., period.

Moxon used the inductively-coupled lumped circuit for analysis, to gain some insight into the way the real-life linear resonator would behave. This network has a series resonance and a higher-frequency parallel resonance, that can be moved together or apart. Off-resonance, it looks either inductive or capacitive.

But the real-life linear resonator is a transmission-line device and is even more complex to analyse. It shares some of the resonance properties of the lumped circuit, but there are also essential differences... including spurious resonant modes that the lumped circuit doesn't have.

>Certainly not a trap since it can supply two
>nearby reasonant peaks or the ideal single high amplitude peak of high
>'Q'

It can be used as a conventional trap by placing the parallel resonance at the frequency where you wish to "open-circuit" the element - Moxon gives many examples of that application.

His other major application is to place a linear resonator in the middle of a half-wave dipole element, and use it to "short-circuit" that middle part at some higher frequency. This gives the element a dual resonance.

>Remember he has written the book to educate the majority and is
>not a rewrite of what he presented to academia where one can expect
>understanding by those knowelegable in the art.

Do you have a reference for an academic paper by Moxon on liner resonators?

>Difficult to design! Yes it was before the advent of computors since
>in a two or more mesh circuit since the choice of just one component
>has an effect on all others. Any mesh type circuitry analysis requires
>ahat all capacitances,inductances and resistances must be presented in
>"lumped " form

Yes, but a linear resonator is not in fact a lumped circuit, so you cannot fully design one using the lumped mesh model.

>which means that Eznec cannot be used for analysis or solution
>realisation
>since not only must the element diameters be a variable { it compises
>of all three components stated above) but must also provide for
>constant impedance use to cover the various frequencies. The first
>antenna program on the market provided these features and much more
>was that of Beasly (AO).
>I believe that Wes stated that a more
>powerful equivalent version in now available as shareware, perhaps he
>will supply the details again,
>As I stated earlier it is easier now and I use such a program to

>increase to a three mesh circuit where it includes a "lossless feed
>function" for all the frequencies used in the H.F. region.
>

Neither EZNEC nor AO will allow Moxon's transformer-coupled mesh as a
load, so how *are* you modeling the linear resonator?

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5755. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 21:57:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bbtmlhmkp1@news.service.uci.edu>
Source record: 115755

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vdlbt5tdjj0a0d@corp.supernews.com...
> W5DXP wrote:
> > Roy Lewallen wrote:
> >
> >> Without knowing anything about the equations being discussed, this
> >> caught my eye. I don't recall ever having to choose what plus and
> >> minus signs mean in an equation.
> >
> >
> > For light, the energy flow can be in one of an infinite number of
> > directions. Plus and minus alone simply won't hack it.
>
> I see you missed my point. Last I heard, light is an EM wave, and
> equations describing propagation of EM waves can be found in many texts.
> In all the texts, I've never seen a case where the reader or author has
> to choose between two possible meanings of + and -.
>
> Oh, well, it was just meant as a helpful suggestion. Carry on.
>
> Roy Lewallen, W7EL

Hi Roy,

You're right, of course. The math here involves the superposition of waves. Sign is indicative of the sum or the difference rather than direction of propagation. We can't change horses like that. It's one of the math blunders.

73, Jim AC6XG

5756. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:04:59 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <dktEa.5899$IR1.846626@news20.bellglobal.com>
Source record: 115759
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"MattD.." <troubles snip>

Sorry that you're eXPeriencing so many problems. I can only relate my eXPerience which is obviously vastly less troublesome than yours. It certainly isn't lack of trying different programs - we are regular 'dumpster divers' for bargain pre-XP SW - we don't have 100 old titles yet, but we're getting close. We certainly spare no expense to procure unusual and interesting PC hardware - we've got dozens (USB microscope, USB music mixer, USB video editing control, unusual joystick and controllers, etc. etc. - all pre-XP).

Perhaps there's something about my approach that is different than yours? Which approach recommends itself ?

Good luck.

5757. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:16:30 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <ANSqc3F+Qm4+EAQt@ifwtech.co.uk>
Source record: 115758

Mark Keith wrote:
>"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
>>
>> The main disadvantage of the linear resonator is that it's a pig to
>> design!
>
>It was easy to model regardless of what Art seems to say. Any of the
>programs commonly used will do it just fine. Modeling made finding the
>appx cap value needed for a certain band a snap.
>
Well, maybe not quite. There are acknowledged problems with using NEC-2
or MININEC to model close-spaced parallel lines (see Roy's site and L B
Cebik's), especially if you want to make the diameters unequal.

>>
>> Moxon presents an approximate analysis, modeling the linear resonator as
>> two coupled inductors (the two parallel lines) with the capacitor in
>> series with one of them. But of course these lines are not simple
>> inductors; they have physical length so they are more like a section of
>> parallel transmission line (in this they resemble a gamma or T match).
>
>Yep. This was my take on it. It amounts to a glorified T match.

Unlike a gamma or T match, the linear resonator doesn't involve a
feedline at all. It's not a way of feeding an antenna - it's a way of
inserting a frequency-dependent resonant/reactive load into it.

>>
>> The linear resonator certainly works, and has been used successfully by
>> Moxon and many others.
>
>It worked just fine when modeling it also. But none of the "magical"
>properties that Art seems to claim or wish for such as "gain
>attributes". Adding a simple impedance matching device to a dipole
>element does not alter the pattern of the antenna.
>
Once again, it's not a matching device but a loading device. By changing
the current distribution, it will in principle have some effect on the
gain and pattern... but only to about the same extent as normal loading
with low-loss L or C.

>He credits the original idea to DL1FK, published
>> in 1960, and it has cropped up in many different places since. Quite
>> possibly it has been re-invented several times.
>

>I think quite a few antennas are re-invented every few years or
>so...:/ MK

Oh yes, for sure...

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5758. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:24:26 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <ZML8MxAaYm4+EATf@ifwtech.co.uk>
Source record: 115763

Roy Lewallen wrote:
>Brian Kelly wrote:
>> The U.S, Army conducted some investigations into this subject a
>>number
>> of years ago which were discussed in this NG earlier. The answer is
>> that trees do not absorb RF, leak RF or otherwise affect antenna
>> performance at frequencies below 30 mHz. There are absorbtion effects
>> which increase as the freqs go above 30 mHz.
>>. . .
>
>I'd like very much to see any published work which shows this. On one
>occasion some years ago, a friend living one mile away measured 10 dB
>difference between two identical 40 meter verticals spaced a half
>wavelength apart (with the inactive one open circuited at the base, of
>course), in my back yard. The only apparent difference was that the
>path from one vertical included a stand of a half dozen or so Douglas
>fir trees which were roughly a quarter wavelength high. The same
>magnitude difference was observed in listening to other signals from
>that same direction -- and only from that direction. Moving the "dead"
>vertical so that the path shot through the edge of the trees dropped
>the difference to 4 dB. I was and remain convinced that the attenuation
>was due to the trees. However, I don't have any more information -- the
>importance of tree type, height, time of year, etc. If studies showed
>no absorption, I'd like to see how the setups used in the study
>differed from my experience.

So what effect do the trees have on the four-square's performance as a
beam?

(Roy pointed to the trees from his deck, and said there was a
four-square in there somewhere...)

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5759. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:28:48 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bbtoqo$dkgol$1@ID-150848.news.dfncis.de>
Source record: 115760

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3ee1ff23$0$48896$edfadb0f@dtext02.news.tele.dk...
> Hello Richard
>
> > yagi. Or I could build myself a marine band yagi, I suppose. Any
web
> > sites with instructions on how to make say a 5 element VHF yagi.
>
> http://radio.meteor.free.fr/us/antenna.html
>
> http://www.nemr.net/~aschmitz/antennas/calcantenna.html
>
> http://www.csgnetwork.com/antennae3ycalc.html
>
>
> > I need a yagi or something with gain, because I'm quite some ways
from
> > the marine station.
>
> Remember to put the Yagi up vertical on a non-metalic pole.
>
> > Maybe even a 6dB co-linear would do. Perhaps a secondhand Ringo
Ranger
> > resized.
>
> A simple and cheap one is described here
>
> http://www.sadona.com/news/ant_coaxcol.html
>
> Regards Max
>

Also I started browsing for free yagi design programs and found YagiCad:

http://www.ipass.net/teara/kq3.html

Also other programs:

http://www.qrz.com/download/antennas/index.html

No doubt there are others, but I think YagiCad could be interesting.

5760. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:37:44 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <cuvyxnansvbet.hg4jkk3.pminews@netnews.attbi.com>
Source record: 115761
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 7 Jun 2003 07:49:17 -0500, Crazy George wrote:

>After the FCC was formed, Federal radio spectrum management was performed by
>JTAC, the Joint Technical Advisory Committee.

I believe that you were thinking of IRAC (Interagency Radio Advisory Committee) which was made up of representatives from each Federal department and agency. The paperwork and "heavy lifting" for same was done by FCC employees assigned to that function, and its offices were in the FCC building.

It was replaced by NTIA, which started as the White House Office of Telecommunications Management before being renamed and moved into the Department of Commerce with its own staff.

My former bureau chief at the FCC was named as the head of the OTM (with the title of White House Deputy Chief of Staff) under Pres. Reagan (1985 ??), and was unceremoniously and undeservedly replaced when John Sununu became the Chief of Staff after George Bush I was sworn in (1989).

---
73 de K2ASP - Phil Kane

5761. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 22:48:54 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <7pq4evoqpmc6up0hedakfec87uf9um6hro@4ax.com>
Source record: 115762
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sat, 07 Jun 2003 07:47:09 +0100, Walt Davidson
<walt99@tiscali.co.uk> wrote:

>On Sat, 07 Jun 2003 03:28:27 GMT, kh2d@my-deja.com wrote:
>
>>Why, since Netscape 4.xx is vintage 1998, and since Netscape 7 is
>>a free download, would anybody want to even THINK about using
>>Netscape 4 for a browser ?
>
>Because they are using a crippled operating system called Linux!
>:-)
>
>73 de G3NYY
>[Now that WILL start WW-III :-)]

Soon, Netscape-like browsers such as Mozilla will only run under
Linux, now that MS is distributing IE with AOHell (AOL owns Netscape,
for those not in the know).

Russ

5762. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:00:54 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <XMk$8CCm6m4+EATq@ifwtech.co.uk>
Source record: 115764

J. McLaughlin wrote:
>Dear Ian: (My Father's name and the middle name of one of my sons)
>
>Outstanding. The cultural links of the English speaking people are
>strong.
> So very much of communication in English at a high level relies on
>shared stories.

There's a fascinating book by Bill Bryson on the development of the English language in the USA. He retells the history of the USA through the history of its language.

To be even-handed, he also shows how much American English has come back into British English. Contrary to what many British people believe, it has been happening for well over two hundred years.

This topic is meat and drink in our household. Technical language is my living, so I routinely have to pick my way between American and British English. My wife is American, and has taught English on both sides of the Atlantic!

>On the other hand, as we have all seen, even one who
>has a tenuous command of English is likely to be able to communicate at
>a fundamental level. Few other languages have that property.

But once again you need that shared understanding of what words mean.

> Warm regards, Mac N8TT (and ex G5, though my people found it
>healthy to leave after 1746)

Some of mine hung on another 150 years in Scotland before coming south. One day, I may redress that balance a little...

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5763. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:02:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbtqv2lre1@sparta.btinternet.com>
Source record: 115765

> "Reg Edwards"
> > Let's say they are in the same ball park.
>
> Hmmm...
>
> If one were to calculate the "DC" (excuse the expression) capacitance,
using
> geometry, of a dipole antenna and calculate the inherent inductance of the
> elements, could one calculate the resonant frequency which matches (within
> reasonable error bounds) the resonance frequency calculated by length
alone
> ?
==========
Yes, but it would be a formula different from the usual 1/2/Pi/Root(LC).
==========
>
> I know that the "DC" capacitance between the elements is critically
> dependant on the geometry of the two elements near the feedpoint (simply
> because they are so close together at the point).
==========
Forget your pre-conceived ideas. It is not critically dependent on anything.
For practical engineering purposes at HF it almost directly proportional to
length. The ratio length/wire diameter has a smaller effect.
==========

> Is this detail swamped
> because the voltages are higher at the ends making the ends more important
> than the middle ?
==========
Nothing to do with it. The difference in voltages at different places are
due to standing waves on an open-circuit transmission line.
==========

> Does the standing wave that is the voltage distribution on a dipole mean
> that the effective capacitance varies with frequency ?
==========
> It is impossible for the capacitance of any transmission line to change
with frequency.
==========

> I believe that the opinion that the C value at resonance is the simple C
> value at DC is probably wrong. Just a gut reaction...
==========
Whatever you mean by the C-value at resonance just forget you ever invented
it. It's leading you up a blind alley.

==========

At the risk of taking you too far ahead too fast -

There is ony one value of C for a transmission line. It is stated in terms of either picofarads per unit of length, or as picofarads overall. C is what you have refered to as the the DC or extremely low frequency value.

However, if the HF input impedance of an open circuit line is MEASURED then for short lengths the impedance will have a capacitative reactance. ie., it will have an equivalent input capacitance which is GREATER than C.

As frequency is increased the input capacitance rapidly increases further. AT THE FREQUENCY AT WHICH THE LINE IS 1/4-WAVE RESONANT THE INPUT CAPACITANCE, Cin, RISES NEAR TO INFINITY PICOFARADS. To attempt to use these rapidly-increasing high capacitance values to calculate resonant frequencies is clearly nonsense.

If you are familiar with trigonometry, but it doesn't matter very much if you are not, the input reactance, Xin, of an open-circuit, low-loss transmission line is given by -

Xin = Zo / Tangent(Theta) ohms, where -

Zo is the characteristic impedance of the line and -

Theta is the phase shift along the line to the open-circuit line in degrees which increases with frequency.

From Xin the input capacitance Cin can be calculated.

For a 1/4-wavelength of line, when Theta = 90 degrees, then Tangent(Theta) = infinity, Xin = Zero, and input capacitance, Cin, is infinity (or very large) as I have stated earlier.

All you need to know now is the value of Zo. That's quite complicated to calculate. But if my memory has not been unduly affected by this Argentinian red wine, for a 1/4-wavelength of 14-gauge wire at 7 MHz it is of the order of 550 to 600 ohms.

Now tune-out the interfering waffle from the other gurus and commit the foregoing stuff to your notebook. ;o)

Reg, G4FGQ

5764. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:18:06 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bbtrrekn5@hercules.btinternet.com>
Source record: 115766
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Walt Davidson" <walt99@tiscali.co.uk> wrote in message
news:cuc4evg0j9viajs8ekcucjg9ucs7crimot@4ax.com...
> On Sat, 7 Jun 2003 09:34:50 -0400, "J. Harvey"
> <JM002.HarveyNOSPAM@Sympatico.ca> wrote:
>
> >Win XP Home (fully updated) works just fine here with ~all sorts~ of
older,
> >pre-XP software (suitably patched and updated as required). I mean
dozens
> >and dozens and dozens and dozens of old, pre-XP programs.
>
> But why should we have to patch our software? A platform upgrade
> should be backward compatible ... without the need for software
> patching.
>
> The biggest problem with XP is that it no longer supports direct
> memory addressing, which a lot of older programs (especially DOS-based
> ones) used. The DOS emulation in XP (such as it is) is problematic,
> to say the least.
>
> There is also a lot of peripheral hardware that works perfectly well
> on Windows 95/98, but you can't get drivers for XP. :-(

Sounds like I am in for some fun when I get my crack'd version of XP Pro
next week. I'll let you know how I get on, but don't hold your breath. It
takes me the best part of a week to re-install win 98 se from scratch

Dave

5765. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:26:32 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <JwuEa.10508$VS5.1095615@news20.bellglobal.com>
Source record: 115769

"Reg Edwards" <big snip for brevity>

I think that you're referring to transmission lines.

I was contemplating an isolated dipole antenna.

It started when "Richard Harrison" wrote:
> A dipole antenna in space is an RLC series circuit.
> The conductors end, but the circuit is completed by
> capacitance between the halves of the dipole.

The phrase "capacitance between the halves of the dipole" got me to asking
if this was the same thing as the C in the LC at resonance.

I'm thinking that the 'capacitance between the halves of the dipole'
measured at DC (or computable from the geometry) isn't the same thing as the
C in the LC at resonance (in other words, it's a different number of farads
and/or even a whole different thing).

5766. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:28:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE2753A.8030803@ieee.org>
Source record: 115767

Tdonaly wrote:
> Cecil wrote,
>
>>Peter Brackett wrote:
>>>Too bad it only operates over the first reflection transient and does not
>>>continue on to "evenutally" display the "steady state".
>>
>>It does display the steady-state for a signal generator equipped with
>>a perfect circulator+load resistor. :-)
>
> You're violating the boundary conditions with that
> perfect circulator.

A signal generator equipped with a perfect circulator+load resistor
is a reasonable replacement for the 50 ohm Thevenin equivalent source
shown in the example since there are no re-reflections from the
Thevenin equivalent source.
--
73, Cecil http://www.qsl.net/w5dxp

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5767. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:33:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE27649.5060103@ieee.org>
Source record: 115768

Jim Kelley wrote:
> You're right, of course. The math here involves the superposition of waves.
> Sign is indicative of the sum or the difference rather than direction of
> propagation. We can't change horses like that. It's one of the math
> blunders.

Roy triggered a solution to the sign problem - use two signs, one for direction and one for type of interference and that seems to work just fine.

Instead of all your smoke and mirrors, why don't we concentrate only on the one point where we disagree? Is there any energy in the reflected wave from a mismatched load? You say no and I say yes.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5768. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:48:55 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve4uga47c0hba1@corp.supernews.com>
Source record: 115770

Any EM wave in a transmission line carries energy.
H.
NQ5H
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE27649.5060103@ieee.org...
> Jim Kelley wrote:
> > You're right, of course. The math here involves the superposition of
waves.
> > Sign is indicative of the sum or the difference rather than direction of
> > propagation. We can't change horses like that. It's one of the math
> > blunders.
>
> Roy triggered a solution to the sign problem - use two signs, one for
> direction and one for type of interference and that seems to work just
> fine.
>
> Instead of all your smoke and mirrors, why don't we concentrate only on
> the one point where we disagree? Is there any energy in the reflected
> wave from a mismatched load? You say no and I say yes.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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5769. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-07 23:49:53 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <CSuEa.18592$HG5.1012463@news20.bellglobal.com>
Source record: 115771

"W5DXP"
> Is there any energy in the reflected
> wave from a mismatched load?
> You say no and I say yes.

One bonus point for clarity.

Now, are you sure he says 'no' ? I would have thought the answer is an obvious yes.

5770. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:12:05 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve4vrok0jsr00@corp.supernews.com>
Source record: 115772

If I place a charge Q on a surface with potential V relative to some
reference, it has a capacitance C=Q/V.
A doublet looks like a series-resonant circuit at 1/4 wavelength and a
parallel-resonant circuit at 1/2 wavelength;
And so on starting with the lowest 1/4 wave as "fundamental".
Check out the trigonometric tangent function.
And BTW Reg.......
The capacitance of a spherical conductor is equal to it's radius.
H.
NQ5H

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:JwuEa.10508$VS5.1095615@news20.bellglobal.com...
> "Reg Edwards" <big snip for brevity>
>
> I think that you're referring to transmission lines.
>
> I was contemplating an isolated dipole antenna.
>
> It started when "Richard Harrison" wrote:
> > A dipole antenna in space is an RLC series circuit.
> > The conductors end, but the circuit is completed by
> > capacitance between the halves of the dipole.
>
> The phrase "capacitance between the halves of the dipole" got me to asking
> if this was the same thing as the C in the LC at resonance.
>
> I'm thinking that the 'capacitance between the halves of the dipole'
> measured at DC (or computable from the geometry) isn't the same thing as
the
> C in the LC at resonance (in other words, it's a different number of
farads
> and/or even a whole different thing).
>
>
>

5771. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:20:50 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns9393B0767B7ABpookster@129.250.170.96>
Source record: 115778

Roy Lewallen <w7el@eznec.com> wrote in news:ve4h84p6ahubc5
@corp.supernews.com:

> And our government by, for, and of the baksheesh-slathering special
> interests will tell me it's all "free speech" and that if I don't love
> it I'm not patriotic and should held without bail in the Ministry of
> Love until my reeducation is complete.
>

Makes you want to fire up 160 meters, doesn't it? :-)

--
Bill, W7TI

5772. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:21:05 UTC
From: radio913@aol.com
Message-ID: <1d15af91.0306071621.16e08b71@posting.google.com>
Source record: 115773

tdonaly@aol.com (Tdonaly) wrote in message
news:<20030606172816.04360.00000277@mb-m06.aol.com>...
>
> At least you're not a three-headed chicken wearing cowboy boots
> like I am.
> 73,
> Tom Donaly, KA6RUH

Interesting picture there....

Do i have your permission to use this for a song title?

Slick

5773. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:23:19 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee282fd_1@news1.prserv.net>
Source record: 115774
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

You're right of course. I gotta quit writing these things late at night.
IRAC: Not found in any phone book in the world. I always found that
interesting.

--
Crazy George
Remove NO and SPAM from return address

"Phil Kane" <Phil.Kane@nov.shmovz.ka.pop> wrote in message
news:cuvyxnansvbet.hg4jkk3.pminews@netnews.attbi.com...
> On Sat, 7 Jun 2003 07:49:17 -0500, Crazy George wrote:
>
> >After the FCC was formed, Federal radio spectrum management was performed
by
> >JTAC, the Joint Technical Advisory Committee.
>
> I believe that you were thinking of IRAC (Interagency Radio Advisory
> Committee) which was made up of representatives from each Federal
> department and agency. The paperwork and "heavy lifting" for same
> was done by FCC employees assigned to that function, and its offices
> were in the FCC building.
>
> It was replaced by NTIA, which started as the White House Office of
> Telecommunications Management before being renamed and moved into
> the Department of Commerce with its own staff.
>
> My former bureau chief at the FCC was named as the head of the OTM
> (with the title of White House Deputy Chief of Staff) under Pres.
> Reagan (1985 ??), and was unceremoniously and undeservedly replaced
> when John Sununu became the Chief of Staff after George Bush I was
> sworn in (1989).
>
> ---
> 73 de K2ASP - Phil Kane
>
>

5774. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:32:35 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve5125lp7bd445@corp.supernews.com>
Source record: 115775
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

Hey folks.
Armstrong gave up and jumped; Look it up.
Live Free or Die.
I like that.
H.

"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:3ee282fd_1@news1.prserv.net...
> You're right of course. I gotta quit writing these things late at night.
> IRAC: Not found in any phone book in the world. I always found that
> interesting.
>
> --
> Crazy George
> Remove NO and SPAM from return address
>
> "Phil Kane" <Phil.Kane@nov.shmovz.ka.pop> wrote in message
> news:cuvyxnansvbet.hg4jkk3.pminews@netnews.attbi.com...
> > On Sat, 7 Jun 2003 07:49:17 -0500, Crazy George wrote:
> >
> > >After the FCC was formed, Federal radio spectrum management was
performed
> by
> > >JTAC, the Joint Technical Advisory Committee.
> >
> > I believe that you were thinking of IRAC (Interagency Radio Advisory
> > Committee) which was made up of representatives from each Federal
> > department and agency. The paperwork and "heavy lifting" for same
> > was done by FCC employees assigned to that function, and its offices
> > were in the FCC building.
> >
> > It was replaced by NTIA, which started as the White House Office of
> > Telecommunications Management before being renamed and moved into
> > the Department of Commerce with its own staff.
> >
> > My former bureau chief at the FCC was named as the head of the OTM
> > (with the title of White House Deputy Chief of Staff) under Pres.
> > Reagan (1985 ??), and was unceremoniously and undeservedly replaced
> > when John Sununu became the Chief of Staff after George Bush I was
> > sworn in (1989).
> >
> > ---
> > 73 de K2ASP - Phil Kane

> >
> >
>
>

5775. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:40:32 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <R76cnV0yhvljGH-jXTWcoQ@comcast.com>
Source record: 115776

Bill,

Thanks for the info. I will check then out. I hope it is 50:100, and not
50:25, which is what you would want for a Yagi.

Tam/WB2TT
"Bill" <n4wc@arrl.net> wrote in message news:3EE12EBA.7070003@arrl.net...
> Lightning Bolt Quad folks sell a 2:1 balun. Used one on my
> 40m loop. Good match.
>
> Bill N4WC

5776. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 00:46:46 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve51sojae6tha6@corp.supernews.com>
Source record: 115777

Have you asked the folks building the SteppIR for data?
They're good guys and hams, too.
H.
NQ5H

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:R76cnV0yhvljGH-jXTWcoQ@comcast.com...
> Bill,
>
> Thanks for the info. I will check then out. I hope it is 50:100, and not
> 50:25, which is what you would want for a Yagi.
>
> Tam/WB2TT
> "Bill" <n4wc@arrl.net> wrote in message news:3EE12EBA.7070003@arrl.net...
> > Lightning Bolt Quad folks sell a 2:1 balun. Used one on my
> > 40m loop. Good match.
> >
> > Bill N4WC
>
>
>

5777. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:09:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbu2d5$8ko$1@hercules.btinternet.com>
Source record: 115779

> I'm thinking that the 'capacitance between the halves of the dipole'
> measured at DC (or computable from the geometry) isn't the same thing as
the
> C in the LC at resonance (in other words, it's a different number of
farads
> and/or even a whole different thing).
>
==========
It is essential first of all to understand ordinary LC&R tuned circuits, Q etc, in quantitative yet very elementary terms.

When anyone tries to explain the connection between LC&R and resonance in simple antennas and the imagination is unable to cope, ask the explainer to supply some numbers. Numbers are great clarifiers. If numbers are not forthcoming then enquire elsewhere with a different question. For practical purposes it's not a vital subject. But you can't get away from the behaviour of transmission lines on which topic the values of L and C are rarely mentioned.

You've still got L and R and Q to wade through. Q is a measure of antenna bandwidth B the importance of which is too often exaggerated on this newsgroup. It does however provide an interesting topic of conversation.
==========

A QUOTATION

"When you can measure what you are speaking about and express it in numbers you know something about it. But when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind. It may be the beginning of knowledge but you have scarcely in your thoughts advanced to the state of science."

: William Thomson, Lord Kelvin, 1824-1907.

5778. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:19:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE28F18.4040100@ieee.org>
Source record: 115780

H. Adam Stevens wrote:
> Any EM wave in a transmission line carries energy.

Yes, that's what I think. But some on this newsgroup think
the energy in the component waves doesn't really exist.
That's basically what the argument is all about.
--
73, Cecil http://www.qsl.net/w5dxp

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5779. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:26:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE290AA.8000908@ieee.org>
Source record: 115781

J. Harvey wrote:
> "W5DXP"
>
>>Is there any energy in the reflected
>>wave from a mismatched load?
>>You say no and I say yes.
>
> One bonus point for clarity.
>
> Now, are you sure he says 'no' ? I would have thought the answer is an
> obvious yes.

Assume that the wave reflected from the mismatched load is associated with Pref2. Pref2 encounters the impedance discontinuity and Pref2*rho^2 is re-reflected back toward the load. Jim and I agree up to that point. But if Pref2*rho^2 is re-reflected, then Pref2(1-rho^2) is not re-reflected, and in a matched system, engages in wave cancellation with a complimentary wave. Jim says there is not any energy in Pref2(1-rho^2). I say there is.
--
73, Cecil http://www.qsl.net/w5dxp

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5780. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:42:22 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbu49tapu1@hercules.btinternet.com>
Source record: 115782

> And BTW Reg.......
> The capacitance of a spherical conductor is equal to it's radius.
> H.
> NQ5H
==========

You've made a mistake. The capacitance of a sphere is NOT equal to its radius. It is in fact PROPORTIONAL to its radius.

Actually I prefer to work in diameters. They are easier to measure and visualise than radii.

The capacitance of an isolated sphere is 55.5*Diameter picofarads where the Diameter is in metres. The capacitance of the Earth is surprisingly small - its only 707 microfarads.

But you may have meant the capacitance of an ordinary circular antenna conductor is proportional to its radius.

In which case you've made another mistake.

The capacitance of a circular antenna conductor is proportional to the logarithm of its radius, a much more slowly changing relationship.

Reg, G4FGQ

5781. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:51:09 UTC
From: k9sqg@aol.com
Message-ID: <20030607215109.18833.00000930@mb-m20.aol.com>
Source record: 115783

This observation has been confirmed and documented elsewhere (e.g. ARRL antenna book, forget which one but I have the info). The attenuation is primarily limited to vertical antennas, in the HF range, mounted "close" to the trees. The same is NOT true for horizontal antennas with nearby trees.

73s,

Evan

5782. Thin Film Interference - another web animation

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 01:51:54 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <_EwEa.6074$IR1.877033@news20.bellglobal.com>
Source record: 115784

Geesh, another one. This time on thin films...

http://webphysics.davidson.edu/physlet_resources/bu_semester2/c26_thinfilm.html

Up a level (even more topics):
http://webphysics.davidson.edu/physlet_resources/bu_semester2/menu_semester2.html

Browse around - there's lots more...

I think I'll set my five-year old kid loose on this website; he seemed to
enjoy putting quarks together last year.

5783. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:01:25 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <VNwEa.6079$IR1.877929@news20.bellglobal.com>
Source record: 115787

"Reg Edwards"
> It is essential first of all to understand ordinary
> LC&R tuned circuits, Q etc, in quantitative
> yet very elementary terms.

I understand all that.

My question is slightly different.

How does the C inhernet in an isolated dipole near resonance compare to the
C across the elements of that same dipole measured at DC (or computed)?

I'm questioning the statement that the C in the tuned circuit model of a
dipole arises strictly from the simple capacitance between the two elements
(measured at DC or computed).

> <quote>
> : William Thomson, Lord Kelvin, 1824-1907.

Sure, but some of the very best physics is done without numbers.

5784. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:05:56 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <8SwEa.6082$IR1.878355@news20.bellglobal.com>
Source record: 115788

"W5DXP"
>> Is there any energy in the reflected
>> wave from a mismatched load?
>> You say no and I say yes.

J. Harvey wrote:
> One bonus point for clarity.

"W5DXP"
> Assume that the wave reflected from the mismatched load
> is associated with Pref2. Pref2 encounters the impedance
> discontinuity and Pref2*rho^2 is re-reflected back toward
> the load. Jim and I agree up to that point. But if Pref2*rho^2
> is re-reflected, then Pref2(1-rho^2) is not re-reflected, and
> in a matched system, engages in wave cancellation with a
> complimentary wave. Jim says there is not any energy in
> Pref2(1-rho^2). I say there is.

Deduct one bonus point. :-)

5785. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:07:07 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EE29A7B.8010903@adelphia.net>
Source record: 115785
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

W5DXP wrote:

> That logic was good before they discovered the blue shift at the edge
> of our universe possibly caused by colliding universes.

Hey Cecil,

Any links on that one? The reason I ask is that there is a fellow by name of John Dobson (not well known in cosmology for sure) who has a theory about the universe as a huge torus, and a blue shift at the edge would be interesting evidence for that.

- Mike KB3EIA

5786. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:13:17 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbu63t$3cn$1@208.206.142.91>
Source record: 115786

"J. Harvey" wrote:

> "Dick Carroll;"
> > So looks like the earth gets into the picture.
>
> My conceptual antennas are always floating in space. The Earth is a
> practical distraction once the concepts are bullet-proof.

But unless you're building up up up, earth will have some effect in
ral world HF antennas, I do believe.

5787. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:22:02 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bbu6kg$4hi$1@slb0.atl.mindspring.net>
Source record: 115789

Reg et al:

Circuit theory [Ohm/Kirchoff] predates the complete field theory formulation of Maxwell/Heaviside. We all now know that circuit theory and its' circuit variables V and I, is a somewhat limited approximate model of electro-reality, and that it must be used with care to avoid mistakes and errors. e.g. circuit theory does not predict any of: the skin effect, the proximity effect, radiation, etc... While the Maxwell/Heaviside equations which are formulated in terms of the field variables of E and H do predict all of these phenomena.

Given that Maxwell/Heaviside's celebrated equations have been ultimately acknowledged to govern all of electrodynamics, it is indeed amazing, to say the least, that incremental lumped circuit theoretic models of antennas and transmission lines utilizing V and I map predictions so closely to field theoretic predictions!

Maxwell/Heaviside's formulation of the field equations were used for conceptual understanding even in the nineteenth century, but found completely useless for practical engineering work up until the invention of the modern digital computer and the development of the method of moments and finite element methods of integrating/solving their celebrated differential equations.

This is why, back in the nineteenth century, Heaviside and Kelvin, subsequent to Maxwell's celebrated field formulations, were the first to construct the primary parameter [RLCG] incremental lumped circuit theoretic model of transmission lines and then use them to accurately engineer/predict telegraph and telephone transmission line operation and ultimately that of antennas as well.

Since we have *known* lo these many years that the field equations in terms of E and H fields are the governing laws and that most all electrical energy travels in the fields outside of conductors, and that V and I are somewhat "artificial" it is somewhat surprising that incremental lumped circuit theoretic models work so well.

OK, so sometimes we "correct" the approximate circuit-theoretic models by making "ad hoc adjustments" for skin effect resistance and radiation resistance, but that's all it seems to take...

Any thoughts on what good reason we should have for the accuracy of the incremental lumped circuit-theoretic models cast in terms of V and I, considering that they completely ignore the fields E and H?

--
Peter K1PO

Indialantic By-the-Sea, FL

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbsdrqffr1@titan.btinternet.com...
> Jeff,
>
> The whole lot of 'em appear to be doing their best just to increase your
> confusion.
>
> It's really all very simple.
>
> Let's begin again.
>
> An antenna wire is just a transmission line.
>
> It is a single-wire transmission line.
>
> The return 'conductor', the return path, is the remainder of the universe.
>
> The remainder of the universe begins on the surface of the wire.
>
> It has distributed L,C,R & G as does any other sort of line.
>
> L,C,R & G are calculable, as always, from the line's dimensions.
>
> It follows the line has loss, phase-shift and propagation velocity.
>
> Because the line is extended in space it has radiation resistance.
>
> Radiation resistance is uniformly distributed along its length as is wire
> resistance.
>
> Radiation resistance increases loss. Which is why we hang the thing well
up
> in the air.
>
> If near the ground, or another conductor, or anything else, then there are
> mutual impedances. The whole thing behaves exactly according to
elementary,
> common-or-garden, electrical engineering principles. There's nothing
> mystical about it.
>
> No references are offered. None needed. It's all so obvious once the
mind
> has been cleansed of accumulated old-wives tales.
>
> As evidence that the foregoing principles 'work', download in a few
seconds
> a few of the small practical software programs available from the
following

> website and run immediately.
>
> Now wait for the cry "Troll".
> ----
> ========================
> Regards from Reg, G4FGQ
> For Free Radio Design Software
> go to http://www.g4fgq.com
> ========================
>
>

5788. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:41:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve58i8kt98j663@corp.supernews.com>
Source record: 115790

Ian White, G3SEK wrote:
>
> So what effect do the trees have on the four-square's performance as a
> beam?
>
> (Roy pointed to the trees from his deck, and said there was a
> four-square in there somewhere...)

The answer is that I don't know -- I don't have another array to compare it with, or any way to get quantitative data on the directional pattern.

The two verticals involved in the attenuation measurement were constructed when I first began experimenting with phased arrays many years ago. I wanted to get a feel for the directionality of the array, so asked my friend to make some field strength measurements. (He's capable of making these with reasonable accuracy.) As a baseline, I excited each antenna in turn with a QRP transmitter. Imagine my surprise when the field strengths were different by 10 dB! Incidentally, the feedpoint impedances of the two verticals were very nearly the same, and I monitored the transmitter's output power to insure that the same power was delivered to each vertical. The measurements were repeatable, and I could easily hear and measure a comparable difference between the antennas on signals coming from the direction of my friend's house (in the general direction of California).

Anyway, the 4 square (for 40 meters) was put in some time later. One reason you couldn't see the array very well is that there's a sequoia tree in the middle of it. I was obviously concerned about that when I built the array, but couldn't find any obvious effect on the mutual impedances between elements which had the tree between. The array directionality was quite good, and I made a lot of QSOs with it, including quite a few VK and other south Pacific stations while running 1.5 watts. I also worked and confirmed all 50 states and 33 other countries running 1.5 watts with either that array, a single vertical, or dipole. So although the sequoia might have had an effect, I'm pretty sure it wasn't on the order of 10 dB.

As for the stand of firs which produced the attenuation in the two-vertical experiment, they're just about SW of the 4 square. About all that's down that way from here is ZL, and I don't frankly recall whether I did work ZL with that array and my QRP rig. The trees had grown substantially between the time I made the attenuation measurements and when I built the 4 square.

Although the 4 square is still standing, the phasing box fell apart, and I haven't replaced it or used the array for quite a few years now. The

small sequoia is now about 60 feet high, and the firs, which were about 30 feet high during the vertical experiments, are now 70 - 80 feet.

There are a lot of potential variables involved in this absorption issue, and I have only one data point. It has convinced me that trees *can* produce a very substantial attenuation at HF. But only under certain circumstances, and I just don't know what those circumstances are.

Roy Lewallen, W7EL

5789. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:52:03 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306071852.72881087@posting.google.com>
Source record: 115791

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<xeEW4GEn9l4+EAHE@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
>
> >>
snip>
> You are mistaken. What "the group as a whole" finds hard to accept is
> your highly individual re-interpretation of Moxon's ideas.

Well you may well be correct,if the same drawing is used for
descriptive purposes but comes from me and not him it is rejected. If
the same drawing and claims appear in Moxons book then that in essence
is also rejected.
I might add that not one person has come up with any technical reasons
for such a stand thus the followers are accepting their
interpretations and pile on. Nobody has come up with any technical
reason why my interpretation should not to be accepted, and you will
note that Roy has done his normal runaway when challenged. He as yet
to stand still and embrace Moxons theorems or use there- of together
with his claims, his normal actions are to deflect direct questions or
run away
>
> I doubt if many people here know what Moxon's ideas actually are.
>
> Well I spoke to him a few times on the phone and also visited him together with a sample
antenna, it is my belief he was saying the same thing. Anyway if his work is shunted aside
by Gurus before hand it will then die especially
since it is difficult to read.
> >> Show me where Moxon says anything about the linear resonator having
> >> "gain attributes".
snip
> >Page 311 Under improving the existing station.
> >snip >
> >
> You must have the 2nd edition; mine is the first so I can't cross-check
> those page references. If anyone can provide scans of pages 311 and 313,
> 2nd edition, I'd be happy to resume on this point.
>
Jiminny cricket have you stopped presenting articles to RADCOM? There
are lots of copies at the entrance office the last time I was there.

> >> The main advantage is that you don't have to cut a tubing element to
snip.
>
> Moxon used the inductively-coupled lumped circuit for analysis, to gain

> some insight into the way the real-life linear resonator would behave.
> This network has a series resonance and a higher-frequency parallel
> resonance, that can be moved together or apart. Off-resonance, it looks
> either inductive or capacitive.
>
> But the real-life linear resonator is a transmission-line device and is
> even more complex to analyse.

Wrong ! If you replaced the special lengths of transmission line in a
double Zepp antenna with a " loop" you remove all the effects of the
transmission line
in the resultant radiation pattern plus the sibling loops that you see
at right angles. At the same time the "loop" provides additive
radiation to the main lobes. Changing the capacitive value of the
"loop" removes the necessity of changing transmission line length
while still maintaining a bi-directional pattern instead of breaking
out into multiple lobes, That is certainly a long way from a
transmission line contribution other than it also provides for
a phase change.

It shares some of the resonance properties
> of the lumped circuit, but there are also essential differences...
> including spurious resonant modes that the lumped circuit doesn't have.

Well when circuits are coupled certain benefits can be obtained
possibly nullifying the spurious signals.
>
snip
>
> It can be used as a conventional trap by placing the parallel resonance
> at the frequency where you wish to "open-circuit" the element - Moxon
> gives many examples of that application.

Possibly so but I have no particular memory or reason to look at that
but now I will.
>
> His other major application is to place a linear resonator in the middle
> of a half-wave dipole element, and use it to "short-circuit" that middle
> part at some higher frequency. This gives the element a dual resonance.
Well that is certainly correct as it reflects what the ARRL states.
As far as "short circuit" goes one side of the loop (center) has zero
current and the other has max current so I am not comfortable with
your terminology.

SNIP>
> Do you have a reference for an academic paper by Moxon on liner
> resonators?

No but RADCOM does. They financed all his expenses to I believe
Australia
in the hope it would supply some hoopla for the magazine.....it didn't
>

> >Difficult to design! Yes it was before the advent of computors since
snip be presented in
> >"lumped " form
>
> Yes, but a linear resonator is not in fact a lumped circuit, so you
> cannot fully design one using the lumped mesh model.

Don't understand your point there. Communication books are full of
them showing
how they can be formed into one circuit for analysis together with
calculations required for operating from first principles and to which
"pairs" can be changed for the required use. (There is more than one
"pair" that can be changed plus the capacitance can be placed in
parallel in say a three mesh form
when adding a lossless feed and requiring a corrective large impedance
ratio transform.)
snip
> Neither EZNEC nor AO will allow Moxon's transformer-coupled mesh as a
> load, so how *are* you modeling the linear resonator?

Well I use AO since EZNEC has no provision for constant impedance
instead of using capacitance or variables to apply to all radiator
diameters. It is not enough to have a radiator system that just
functions in resonant form, you need to have best gain with constant
radiation formation for all frequencies. There are a myriad of
combinations that can be used but only one satisfies max gain!
I suspect that filter design which is of similar form is also dealt
with the same way. Sure beats the laborious methods used in Les's
front garden.

Best regards
Art

5790. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:53:54 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbu8g2$85s$0@208.206.142.91>
Source record: 115792

Brian Kelly wrote:

>
> The U.S, Army conducted some investigations into this subject a number
> of years ago which were discussed in this NG earlier. The answer is
> that trees do not absorb RF, leak RF or otherwise affect antenna
> performance at frequencies below 30 mHz.

I gotta wonder what time of year they did the tests, and it seems like it must have been in the dead of winter when
the tree was dormant and essentially sap-less. I know that you can sure cause sparks and spitzen if you happen to
transmit with amplifier power into an antenna -at least some portions thereof-
touching a well-sapped twig or leaf. And when it rains, or if you live in a
drippy climate, there's no way I'd believe there wouldn't be adverse effects
on the radiated signal when in contact with any part of a tree.
I took down my 160 meter dipole because the XYL's mimosa tree grew so tall it overtook the dipole. And here you are
trying to tell me I did that unnecessarily! :-)

Dick

5791. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 02:56:35 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbu8l3$85s$1@208.206.142.91>
Source record: 115793

Roy Lewallen wrote:

> Brian Kelly wrote:
> >
> > The U.S, Army conducted some investigations into this subject a number
> > of years ago which were discussed in this NG earlier. The answer is
> > that trees do not absorb RF, leak RF or otherwise affect antenna
> > performance at frequencies below 30 mHz. There are absorbtion effects
> > which increase as the freqs go above 30 mHz.
> >. . .
>
> I'd like very much to see any published work which shows this. On one
> occasion some years ago, a friend living one mile away measured 10 dB
> difference between two identical 40 meter verticals spaced a half
> wavelength apart (with the inactive one open circuited at the base, of
> course), in my back yard. The only apparent difference was that the path
> from one vertical included a stand of a half dozen or so Douglas fir
> trees which were roughly a quarter wavelength high. The same magnitude
> difference was observed in listening to other signals from that same
> direction -- and only from that direction. Moving the "dead" vertical so
> that the path shot through the edge of the trees dropped the difference
> to 4 dB. I was and remain convinced that the attenuation was due to the
> trees. However, I don't have any more information -- the importance of
> tree type, height, time of year, etc. If studies showed no absorption,
> I'd like to see how the setups used in the study differed from my
> experience.
>

Seems I recall something about the Army trying to use trees for antenna transmitting elements. IIRC that didn't work out too well, but it must have been thought to have been a possibility or they wouldn't have tested it.

Dick

5792. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:00:44 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbu8ss$97n$0@208.206.142.91>
Source record: 115794

'Doc wrote:

> Al,
> As has been already stated, there will be 'problems'
> with running the wire through trees.

Just to clarify, running a dipole through trees *without the elements touching* any part of the tree is an entirely different matter than running it through leaves, branches, twigs where the antenna element *does* touch.

I almost always wind up running my dipoles through trees, but am careful to trim the tree so that it can't touch the antenna.

Dick

5793. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:06:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbu97j$ad7$1@sparta.btinternet.com>
Source record: 115795

> How does the C inhernet in an isolated dipole near resonance compare to
the
> C across the elements of that same dipole measured at DC (or computed)?
>
> I'm questioning the statement that the C in the tuned circuit model of a
> dipole arises strictly from the simple capacitance between the two
elements
> (measured at DC or computed).
>
Sorry, I don't know. Perhaps somebody else can help.

Reg, G4FGQ

5794. Re: 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:08:45 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <ss95evo3seb6hiv4ofrqvmupodm87movjk@4ax.com>
Source record: 115796

On Sat, 07 Jun 2003 06:12:48 -0700, Mike Elliott <kg6rcr@cox.net>
wrote:

>
>Handhelds don't provide much in the way of a ground plane. How can I
>find information on antenna gain in the horizontal plane of 1/4, 5/8 and
>1/2 wave verticals w/ poor or no ground plane?
>
>73, MikeE, KG6RCR

FWIW, you can attach a radial or two to your handheld vertical. Just
get a small hose clamp from the hardware store, and clamp the
radial(s) to the base of your bnc plug. Ugly, but what the hey.

Bob
k5qwg

5795. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:09:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE2A8E1.7020408@ieee.org>
Source record: 115797
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Mike Coslo wrote:
> W5DXP wrote:
>> That logic was good before they discovered the blue shift at the edge
>> of our universe possibly caused by colliding universes.
>
> Any links on that one? The reason I ask is that there is a fellow by
> name of John Dobson (not well known in cosmology for sure) who has a
> theory about the universe as a huge torus, and a blue shift at the edge
> would be interesting evidence for that.

I read that in "Science News" a number of years ago.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5796. Re: 5/8 UHF vertical how-to needed

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:38:10 UTC
From: Mike Elliott <kg6rcr@cox.net>
Message-ID: <AcyEa.11242$1e.4799@fed1read04>
Source record: 115798

Bob Miller wrote:
> On Sat, 07 Jun 2003 06:12:48 -0700, Mike Elliott <kg6rcr@cox.net>
> wrote:
>
>
>>Handhelds don't provide much in the way of a ground plane. How can I
>>find information on antenna gain in the horizontal plane of 1/4, 5/8 and
>>1/2 wave verticals w/ poor or no ground plane?
>>
>>73, MikeE, KG6RCR
>
>
> FWIW, you can attach a radial or two to your handheld vertical. Just
> get a small hose clamp from the hardware store, and clamp the
> radial(s) to the base of your bnc plug. Ugly, but what the hey.
>
> Bob
> k5qwg

Somehow I picture myself poking myself with the radials . . .

MikeE KG6RCR

5797. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:55:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve5cu4fvurda5e@corp.supernews.com>
Source record: 115800

Art Unwin KB9MZ wrote:
>. . .
> I might add that not one person has come up with any technical reasons
> for such a stand thus the followers are accepting their
> interpretations and pile on. Nobody has come up with any technical
> reason why my interpretation should not to be accepted, and you will
> note that Roy has done his normal runaway when challenged. He as yet
> to stand still and embrace Moxons theorems or use there- of together
> with his claims, his normal actions are to deflect direct questions or
> run away
>. . .

Rather than "running away", I will directly address your accusation. Please pay attention.

To engage in a "debate" with someone making claims about an antenna who isn't willing or able to provide any evidence, either measured or modeled, that the claims he is making are valid, is a total waste of time, energy, and bandwidth. You are in that category.

Such an exchange bears no resemblance to a rational or technical discussion. I might equally well spend my time debating one of the disheveled folks yelling from a San Francisco soapbox, or one of the yahoos on AM talk radio.

That's why I won't join your party.

Your claims that anyone who rejects your baseless claims is rejecting Moxon's ideas is an insult to Moxon and the readers of this group. You owe us an apology, but based on past experience I seriously doubt that one is forthcoming.

Roy Lewallen, W7EL

5798. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 03:55:42 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306071955.780690dc@posting.google.com>
Source record: 115799

Roy Lewallen <w7el@eznec.com> wrote in message news:<ve4j0jm84iuuf6@corp.supernews.com>...
> Brian Kelly wrote:
> >
> > The U.S, Army conducted some investigations into this subject a number
> > of years ago which were discussed in this NG earlier. The answer is
> > that trees do not absorb RF, leak RF or otherwise affect antenna
> > performance at frequencies below 30 mHz. There are absorbtion effects
> > which increase as the freqs go above 30 mHz.
> >. . .
>
> I'd like very much to see any published work which shows this. On one
> occasion some years ago, a friend living one mile away measured 10 dB
> difference between two identical 40 meter verticals spaced a half
> wavelength apart (with the inactive one open circuited at the base, of
> course), in my back yard. The only apparent difference was that the path
> from one vertical included a stand of a half dozen or so Douglas fir
> trees which were roughly a quarter wavelength high. The same magnitude
> difference was observed in listening to other signals from that same
> direction -- and only from that direction. Moving the "dead" vertical so
> that the path shot through the edge of the trees dropped the difference
> to 4 dB. I was and remain convinced that the attenuation was due to the
> trees. However, I don't have any more information -- the importance of
> tree type, height, time of year, etc. If studies showed no absorption,
> I'd like to see how the setups used in the study differed from my
> experience.

We've been here before Roy. As you might recall there was an thread in
this NG in late Oct '00 "Do Trees Absorb RF?". There were a bunch of
opinions tossed out but the bottom line as far as actual studies on
the topic are concerned it got down to some work done by the Army in
the WW2 era. To wit:

==========

"I recall seeing a study done by the US military on HF. As I recall,
when I made
some assumptions about the spacing between trees and their figures for
the
attenuation in dB/mile of deducious forest, I estimated about 0.01
dB/tree.

73,
Ed Hare, W1RFI"

==========

>Has anybody done any actual studies or published any articles
>or papers on the matter?

Yes, for the U.S. Army in WW-2.

"Recent measurements using antennas somewhat below treetop level in densely wooded areas indicate that with both the transmitting and receiving antennas so situated, the loss is about 3 or 4 db for frequencies in the 20- to 40-mc band, and 10 db in the 70- to 100-mc band. With horizontal polarization, the losses are negligible at 20 to 40 mc and quite small at 70 to 100 mc."

There is more about dense rain forests and scattered trees, but the trends are clear from the above.

Best regards, Richard Harrison, KB5WZI (2000-10-22 07:45:47 PST)"

=========

From these I've concluded that it's safe to assume and state that the performance of a *horizontal* loop will not be measurably degraded by trees used as supports. I stand spanked for being too general and not including a caveat about the problem of verticals being affected by trees.

Somewhere in the dusty U.S. Army R&D archives lies The Documentation .
.

>
> Roy Lewallen, W7EL

w3rv

5799. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:18:53 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <cuvyxnansvbet.hg513z3.pminews@netnews.attbi.com>
Source record: 115801
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 7 Jun 2003 19:23:19 -0500, Crazy George wrote:

>You're right of course. I gotta quit writing these things late at night.
>IRAC: Not found in any phone book in the world. I always found that
>interesting.

It was in the FCC Phone Book, and it was a sought-after assignment
because one got a window on how the other folks lived, so to speak.

---
73 de K2ASP - Phil Kane

5800. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:18:53 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <cuvyxnansvbet.hg51b44.pminews@netnews.attbi.com>
Source record: 115802
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 7 Jun 2003 19:32:35 -0500, H. Adam Stevens wrote:

>Hey folks.
>Armstrong gave up and jumped; Look it up.

The main reason leading to Armstrong's depression and suicide was
his pal, David Sarnoff, stealing his patents.

Had he waited, he would have been vindicated when Sarnoff/RCA was
found liable for same shortly after and was ordered to pay
Armstrong's estate a sizeable sum.

---
73 de K2ASP - Phil Kane

5801. please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:34:34 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194c8765d7d1481a989680@news.earthlink.net>
Source record: 115803

hi:

yeah, why can't they test it. a statement, not a question.

since i'll need to post here, i need to figure out why my ISP's news server drops replies to my posts after i've retrieved the article headers and yet it doesn't drop my posts. the support techs can't help because, well, they'd be english teachers if they could understand english and so far, with this ISP they are incapable of rational integrated though. end of rant.

we'll need a short thread for this test, so i can try out a possible fix that i thought of.

any one word or more reply to my posts will do.

tnx,
mike

5802. now my OP (the test) has disappeared

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:47:09 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194c8a5dcba33c81989681@news.earthlink.net>
Source record: 115804

and the ISP may have to go. won't retrieve my email either. can't even
ask you guys to email me if the first test shows up on your end. i think
i'm talking to myself :-)

73s to me, eh?
mike

5803. one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:51:16 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194c8b52837187e989682@news.earthlink.net>
Source record: 115805

test. hey earthlink. you stink! i rhyme.

5804. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:53:38 UTC
From: tdonaly@aol.com
Message-ID: <20030608005338.13692.00000257@mb-m25.aol.com>
Source record: 115806

Cecil wrote,
>
>Tdonaly wrote:
>> Cecil wrote,
>>
>>>Peter Brackett wrote:
>>>>Too bad it only operates over the first reflection transient and does not
>>>>continue on to "evenutally" display the "steady state".
>>>
>>>It does display the steady-state for a signal generator equipped with
>>>a perfect circulator+load resistor. :-)
>>
>> You're violating the boundary conditions with that
>> perfect circulator.
>
>A signal generator equipped with a perfect circulator+load resistor
>is a reasonable replacement for the 50 ohm Thevenin equivalent source
>shown in the example since there are no re-reflections from the
>Thevenin equivalent source.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Would you like to give a detailed description of a perfect circulator, how it
works, and why it should even be included in a linear circuit analysis?
73,
Tom Donaly, KA6RUH

5805. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 04:57:30 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <87vfvhjhdx.fld@barrow.com>
Source record: 115807

Mike <m_remove_colasono@earthlink.net> wrote:
>test. hey earthlink. you stink! i rhyme.

Earthlink works fine. The problem is that you don't understand
how Usenet works. Read up on it...

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

5806. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 05:12:47 UTC
From: tdonaly@aol.com
Message-ID: <20030608011247.13692.00000263@mb-m25.aol.com>
Source record: 115808

Slick wrote,
>
>tdonaly@aol.com (Tdonaly) wrote in message
>news:<20030606172816.04360.00000277@mb-m06.aol.com>...
>>
>> At least you're not a three-headed chicken wearing cowboy boots
>> like I am.
>> 73,
>> Tom Donaly, KA6RUH
>
>
> Interesting picture there....
>
> Do i have your permission to use this for a song title?
>
>
>Slick
>

Sure, but I don't think it'll sell as well as "All My Ex's Are In Texas."
73,
Tom Donaly, KA6RUH

5807. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 05:28:41 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE2C989.78911D56@cwis.net>
Source record: 115809

Dick,
I don't worry about it a whole lot. I figure sooner
or later the antenna will either wear the leaf/twig/etc.
off, or catch it on fire. Either way, it won't be a
problem any more. Until that happens it's a simple matter
to tweek the tuner to take care of it.
'Doc

PS - Never saw an antenna catch a tree on fire yet. I'm
still hoping though...

5808. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 05:53:29 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194c99e6e91d42a7989683@news.earthlink.net>
Source record: 115810

In article <87vfvhjhdx.fld@barrow.com>, floyd@barrow.com says...
> Mike <m_remove_colasono@earthlink.net> wrote:
> >test. hey earthlink. you stink! i rhyme.
>
> Earthlink works fine. The problem is that you don't understand
> how Usenet works. Read up on it...
>
>
and what part of usenet don't i understand? i did say "please ignore"

i understand that my posts should not dissapear.

i also understand that the last time i installed my newsreader, it
didn't set that pesky filter i just found the way it is now.

see, i've had posts dissapear in the past when the filter was set
properly, so i erroneously assumed that there was another problem.

but yer right. earthlink is ok. the tech i live chatted with didn't
grasp the situation, though. and it's too bad earthlink doesn't utilize
compression like prolog did. the prolog connection reported 144kbps and
everyone since then has been 52 - 56 kbps.

mike

5809. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:02:34 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <usj5evcumlq61l9jhv9m3aj7jjlanu21id@4ax.com>
Source record: 115811

On 08 Jun 2003 04:53:38 GMT, tdonaly@aol.com (Tdonaly) wrote:

|Cecil wrote,
|>
|>Tdonaly wrote:
|>> Cecil wrote,
|>>
|>>>Peter Brackett wrote:
|>>>>Too bad it only operates over the first reflection transient and does not
|>>>>continue on to "evenutally" display the "steady state".
|>>>
|>>>It does display the steady-state for a signal generator equipped with
|>>>a perfect circulator+load resistor. :-)
|>>
|>> You're violating the boundary conditions with that
|>> perfect circulator.
|>
|>A signal generator equipped with a perfect circulator+load resistor
|>is a reasonable replacement for the 50 ohm Thevenin equivalent source
|>shown in the example since there are no re-reflections from the
|>Thevenin equivalent source.
|>--
|>73, Cecil http://www.qsl.net/w5dxp
|>
|
|Would you like to give a detailed description of a perfect circulator, how it
|works, and why it should even be included in a linear circuit analysis?

This one looks linear to me.

http://www.wenzel.com/pdffiles/RFDesign3.pdf

Another option to approximate a "perfect" 50 ohm generator is a 1 kW
or so generator with a 50 dB pad on the output. That will give no
less than 50 dB return loss. Of course there aren't many 50 dB RL
connectors around, but that's another issue :)

5810. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:16:20 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bbukbkmkm1@sparta.btinternet.com>
Source record: 115812
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Paul" <rhubarb1@btinternet.com> wrote in message
news:VA.00000153.011c0eb4@btinternet.com...
> In article <3ee0eca7.3937864@news1.eircom.net>, Zpk wrote:
> > given that both of you have displayed insider knowledge of aircraft...
> >
> > perhaps you'd like to inform this newsgroup of the frequencies
> > involved for the the SELCAL unit on aircraft ?
> >
> > i.e. are they RF or AF
> > if RF are they modulated, AM, SSB, FM ?
> >
> They are AF tones. If you listen in to Stockholm Radio (aeronautical
service)
> on 11.345 Mhz USB you will probably hear them, as they are often asked to
send
> them for test purposes. (Note that all Aeronautical HF is USB).

Track yourself down a copy of HF Oceanic Airband Communications
by Bill Laver, Spa Publishing Ltd, 22, Main Road, Hockley, Essex

Ther is a frequency list starting at 2.8380 MHz to 23.4190 MHz
Ther are lists of special services, and a translation of the Position
Reports
Such as PRAWN 57°12.2'N 59°10.8'W
The Control Frequencies such as GANDER with all of its spot frequencies in 4
bands and others in up to 6 Bands
There is a frequency list and explanation of VOLMET, some military
frequencies
and of course British Airways.
It is only 31 A4 pages long,
If you are into that sort of stuff then it is a very good starter.
The Volmet is probably useful to Hams

I know that I have a better write up on SELCAL somewher but can't lay my
hands on it just at the moment.

Have fun plotting the aircraft in the Atlantic on a map.

Gary7SLL

> Paul
> Licensed Aircraft Engineer (Avionic)
> British Airways, Terminal 4 Heathrow.

:) Charles Drake, Casual Labour, Weighbridge

Sorry Paul.
That just sprang into my evil little mind.

Gary7SLL, Electronic Engineer, retired, Newbury

5811. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:21:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7cl5evsbc1g901mpdlnv9m14qmc77rdb9j@4ax.com>
Source record: 115813

On Sat, 07 Jun 2003 13:03:05 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>
>Yes, I can hardly wait. You'll find my TV in the trash bin, and I'll be
>at Powell's book store if you want me. Buying books with cash. If that's
>still possible.
>
>Roy Lewallen, W7EL

Hi Roy,

Keep up your code skills. Come Independence day we can all defeat the
aliens from Washington A. C.

73's
Richard Clark, KB7QHC

5812. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:27:39 UTC
From: Airy R Bean <SPAM@trap>
Message-ID: <3ee2d938_1@mk-nntp-1.news.uk.worldonline.com>
Source record: 115815
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

The Computer Operator is the lowest-of-the-low in the world
of computing, much lower than the M3 in the CB hierarchy.

Nowadays, they call themselves, "sysadmin", but they're still
computer operators, the turnip-brained of the computing world.

MattD.. <me@privacy.net> wrote in message
news:Xns93937D31C4F9F8008135@130.133.1.4...
> Actually, most of the Linux zealots use Mozilla/5.0 (which is actually
> 1.something in true Mozilla version numbering - I use 1.3) which is a
later
> compatible rendering core than IE6 (which identifies as Mozilla/4.0
> (compatible; MSIE6.0; Windows NT 5.1) on Win XP). They also use Konquerer.

5813. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:34:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <o8m5ev03qp744dp9531r5aov6usr4ptiv9@4ax.com>
Source record: 115814

On Sat, 07 Jun 2003 23:02:34 -0700, Wes Stewart <n7ws@!#!arrl.net>
wrote:

>Of course there aren't many 50 dB RL
>connectors around, but that's another issue :)

You simply don't have a stock of Cecil's "virtual connectors."

73's
Richard Clark, KB7QHC

5814. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:41:53 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <f2m5evoset97a9t0mt1dqq8mpmlk203q71@4ax.com>
Source record: 115816

On Fri, 6 Jun 2003 23:09:24 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>Some of you might find this interesting. You'll need a Java-enabled
>browser.
>
>Link:
>http://www.educatorscorner.com/index.cgi?CONTENT_ID=2483&SESSION_ID=1054902207-331
>
>Sure beats ASCII art...
>
>In case you want to browse further on various topics (a few levels up):
>http://www.educatorscorner.com/index.cgi?CONTENT_ID=6&SESSION_ID=1054954499-2424
>
>Thanks to Dave on Engtips for pointing this out.
>

You obviously missed:
>
>Learn how to build a *real* FTL radio even Einstein would approve of...
>
www.ultra-faster-than-light.com
www.radio-faster-than-light.com

Orman claims to have faster-than-light signal transmission cables,
he further claims to have the faster-than-light radio,
now he secretly works on a faster-than-light laser.

Read that carefully: faster-than-light antennas!!!

http://www.ultra-faster-than-light.com/Walker%20FTR.pdf

While you are reading above stuff,
I am secretly working on my faster-than-light Morse Key,
patent bending :-)

w.
--
On the Internet nobody knows that I am a dog.

5815. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:43:45 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <mnm5evc6l5blm3vqhhtib9n2b0obmal1bn@4ax.com>
Source record: 115817

On Sun, 08 Jun 2003 05:53:29 GMT, Mike
<m_remove_colasono@earthlink.net> wrote:

>In article <87vfvhjhdx.fld@barrow.com>, floyd@barrow.com says...
>> Mike <m_remove_colasono@earthlink.net> wrote:
>> >test. hey earthlink. you stink! i rhyme.
>>
>> Earthlink works fine. The problem is that you don't understand
>> how Usenet works. Read up on it...
>>
>>
>and what part of usenet don't i understand? i did say "please ignore"

Usenet group "alt.test" is for .... you guess...testing.

Stupid guy.

w.
--
On the Internet nobody knows that I am a dog.

5816. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:48:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve5n345hn950b4@corp.supernews.com>
Source record: 115818

Thanks for the clarification.

I also would be very surprised to find any significant attenuation caused at HF by trees to horizontally polarized signals. And I suspect that even vertically polarized signals are attenuated only under specific and probably unusual conditions. But I am convinced that trees can cause very substantial attenuation of vertically polarized signals under some conditions. I just wish I had a better idea of just what those conditions are.

Roy Lewallen, W7EL

Brian Kelly wrote:
> . . .
> =========
>
> From these I've concluded that it's safe to assume and state that the
> performance of a *horizontal* loop will not be measurably degraded by
> trees used as supports. I stand spanked for being too general and not
> including a caveat about the problem of verticals being affected by
> trees.
>
> Somewhere in the dusty U.S. Army R&D archives lies The Documentation .

5817. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 06:50:53 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306072250.6b05f787@posting.google.com>
Source record: 115669

"Dick Carroll;" <dixie@townsqr.com> wrote in message news:<bbu8ss$97n$0@208.206.142.91>...
> 'Doc wrote:
>
> > Al,
> > As has been already stated, there will be 'problems'
> > with running the wire through trees.
>
> Just to clarify, running a dipole through trees *without the elements
> touching* any part of the tree is an entirely different matter than
> running it through leaves, branches, twigs where the antenna element
> *does* touch.
>
> I almost always wind up running my dipoles through trees, but am
> careful to trim the tree so that it can't touch the antenna.
>
> Dick

I do the same. But I have had many that actually touched branches,
etc. I've never had a problem with this as long as the tree wasn't
wet. And if you use insulated wire, it's usually not a problem. After
time, the insulation will be worn off by tree movement in places, so
it's good to take a look at the antenna every once in a while. I've
never noticed any kind of problems running 100w over many years. Only
when I cranked the power up, did I ever see arcing , and it was always
at the ends of the dipoles. I can't even count the number of times
I've simply chunked wire over tree branches for a portable dipole.
Myself, I never worry about tree effects. Even soaking wet is rarely a
problem being I use insulated house wire. But I'm only talking about
obvious "operating" issues as far as wires through trees. I've never
dealt much with any attenuation issues. I had always assumed this was
more a problem at higher freq's, "VHF/UHF" and the more leaves and
foliage, the worse the problem. I've never really worried about it on
HF. Not much I could do about it anyway...:/ MK

5818. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 07:09:10 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194caba1a5783042989684@news.earthlink.net>
Source record: 115670
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

In article <63cec822.0306030542.7f6b2284@posting.google.com>, nono240
@altern.org says...
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.
>

hi:

if you really want this for a phone, i can talk you out of it below. if you just want to learn about the stuff, read on. i've got some more research to do myself, but i'll share what i've got.

i'm not sure those cell boosters are made for that freq. i can get em at the tobacco store for $2. (the same one at the first link selling for 19.95!!) you'd have to adjust for dielectric constant. just scale your dimensions by 1/sqrt(E), where E in this case would be the ratio of the Er of the PCB substrate to the Eeff of the phone taken as it's own substrate or vice versa. good luck figuring that out.

now i gotta try one.

you can search for

"Making a Dual Band 435 MHz and 2401 MHz Patch Feed"

i can't remember where i found it and the author didn't sign the page. but it worked for the author, so when Tarmo says, "the frequency seems kind of low for that," i might disagree, depending on exactly what he means and his reasons for that. he probably means it's impractical for a cell phone because of the size - 16.5" for 435 MHz!. i agree. might as well mount a DSS dish on your head, with a probe feed. it would be lighter than the sheet metal used for the above setup, i think.

i better tell you, there's another good article:

"AMSAT Phase 3D Antenna Design Review" by WA4NFY

where you'll read,

"Use only air dielectric. Air (or space vacuum) has the lowest loss and a dielectric value of unity. A dielectric constant, E=1.0, makes the patch element full size which gives maximum gain. Teflon with a E=2.45 reduces the size to 64 percent and with no loss reduces the maximum gain by 3 dB. This is caused by the wider beam width of the smaller patch. "

and the above are circularly polarized. you want a vertically polarised rectangular patch (no PCB) which could be as small as 6.8" high by less than a wavelength wide (to supress radiation/reception of higher order modes.) it's a 1/4 wave deal. that's as much dimesional info as is avaailable in the Antenna Engineer's Handbook, which only touches on microstrip antennas. but that's stupid when a wire would do the same thing.

but you want a passive re-radiator, i don't think a simple patch / uStrip would work. you'd do best to model the thing with an EM solver like HFSS or Ensemble using plane wave excitation which may not work since the thing is in the near-field region and at a goofy elevation angle in relation to the phone's antenna. i think the reduction in size of these re-radiators is realized by using a meander line / hairpin kind of layout to achieve the desired element length.

for non-plane wave driven patches, if reduced gain is acceptable, a slab of 98% (i think) Alumina will bring the size of the 6.8" high patch down to around 2.15" high, but it's still a 1/4 wave vertical, so you get no gain to start with and the size reduction would reduce that. you will get wider E plane beam width out of it than other simple uStrip designs but the little verticle on your phone is already a nicely designed (i hope) diversity antenna with a omnidirectional azimuth pattern. at least the ISA-95 (CDMA) antennas were proposed to be that way, IIRC.

a patch (no substrate or ground plane and vertically polarized) would act like a dipole pattern (not good) and a microstrip's ground plane cuts that pattern in half., which tells me the cell booster is blocked by the battery and the shielding inside the phone. to use those as part of the radiator, you'd need to model those structures as well. i bet those boosters aren't worth diddly.

if all this leads you to believe yer in too deep, don't worry. i just reinforced what i've learnt and given others a chance to correct me or add to my knowlege.

thanks to everyone for the links. i'm pretty good at searching with the free Web Ferret (www.ferretsoft.com) but it didn't return those. wrong search phrases, maybe.

mike

5819. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 07:22:02 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306072322.121de1e2@posting.google.com>
Source record: 115671

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<ANSqc3F+Qm4+EAQt@ifwtech.co.uk>...

>
> Unlike a gamma or T match, the linear resonator doesn't involve a
> feedline at all.

The way I modeled it didn't either. But I haven't seen his description
of a "linear resonator" so I'm not even sure exactly what it looks
like. I had just assumed it was about the same as the dipole/loop
thing Art was trying to model a few months ago, being he is comparing
the two. The one I modeled looked like this:
http://web.wt.net/~nm5k/loopole.jpg
The wires parallel to the dipole are a bit close, but I didn't seem to
have any trouble making it work. I modeled it for each band 20-10m
with different cap values for each band. I didn't try to model a
feedline to go with it. All diameters were equal.
>
> >>It's not a way of feeding an antenna - it's a way of
> inserting a frequency-dependent resonant/reactive load into it.

I think this must be different than what Art described for his antenna
and what I was modeling.
The link above with the picture is the exact picture from the modeling
program and in scale. "20m dipole length" Does it bear any
resemblance to a linear resonator as Moxon describes it? Dunno, I
haven't thought about it much. But offhand, my first gut instinct
would be to think using a linear resonator would be more lossy than
the usual low loss loading devices. I've seen many that claim that
linear loading as a whole is less efficient than say hi Q loading
coils.

MK

5820. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 07:38:10 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194cb2705b007ad9989685@news.earthlink.net>
Source record: 115672

In article <mnm5evc6l5blm3vqhhtib9n2b0obmal1bn@4ax.com>,
hXwabnig@aXon.at says...
> On Sun, 08 Jun 2003 05:53:29 GMT, Mike
> <m_remove_colasono@earthlink.net> wrote:
>
> >In article <87vfvhjhdx.fld@barrow.com>, floyd@barrow.com says...
> >> Mike <m_remove_colasono@earthlink.net> wrote:
> >> >test. hey earthlink. you stink! i rhyme.
> >>
> >> Earthlink works fine. The problem is that you don't understand
> >> how Usenet works. Read up on it...
> >>
> >>
> >and what part of usenet don't i understand? i did say "please ignore"
>
>
> Usenet group "alt.test" is for .... you guess...testing.
>
>
> Stupid guy.
>
>
> w.
>
if you were "not stupid", you'd know that typing "test" in the subscribe
search box returns lots of groups with "test" in them. you want to call
me stupid? "stupid" would be wasting time checking them all when more
than one person i've seen has test posted to different groups, but
thanks for saving me time, asshole :-) you like name calling, now?

"stupid" is the person who can't comprende "please ignore" in the
subject line. no offense to Floyd, who was at least polite.

5821. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 07:43:31 UTC
From: kh2d@my-deja.com
Message-ID: <3ee2e8ee.2171374831@newsgroups.bellsouth.net>
Source record: 115673
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sat, 07 Jun 2003 09:22:34 -0500, wa0goz@arrl.net wrote:

>I just went to his site with Netscape 3.01 and it works just fine. I
>navigated around with no problems.
>
>Henry WA0GOZ

Henry, the Cuban Missle Crisis is over now. You can come out
of the basement.

73, Jim KH2D

5822. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 08:01:48 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <87r865j8ur.fld@barrow.com>
Source record: 115674

Mike <m_remove_colasono@earthlink.net> wrote:
>
>"stupid" is the person who can't comprende "please ignore" in the
>subject line. no offense to Floyd, who was at least polite.

No offense taken, but please follow the advice and learn more
about it instead of mouthing off when people are trying to
direct you towards the right way to do it.

Do put "ignore" in the subject line, but post your test articles
to a test group. It might be difficult for you to understand,
but this is *not* the appropriate place.

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

5823. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 08:43:16 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bbusum$c5c2d$1@ID-185765.news.dfncis.de>
Source record: 115675
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Airy R Bean" <SPAM@trap> wrote in message
news:3ee2d938_1@mk-nntp-1.news.uk.worldonline.com...
> The Computer Operator is the lowest-of-the-low in the world
> of computing, much lower than the M3 in the CB hierarchy.
>
> Nowadays, they call themselves, "sysadmin", but they're still
> computer operators, the turnip-brained of the computing world.
>
I see you're also a self appointed expert in the computer industry.
(_!_)

5824. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 09:18:57 UTC
From: KC1DI <elbc2@gwi.net>
Message-ID: <ijv5evcloforncih9ihj084aon23ga83fo@4ax.com>
Source record: 115676

On Fri, 6 Jun 2003 23:00:28 -0400, "Niittymaa Family"
<niittyma@sympatico.ca> wrote:

>I want to build a horizontal delta loop (~hex-shape) contained within my
>city lot and fed with 450~ ladder-line through a tuner. I have a couple of
>options:
>
>1) Hang a maximum 40M loop in the clear - sloping but at least 2-3 feet from
>any branches or metal siding, etc. ranging from 35' at a TV tower feed point
>to 20' at the lowest point
>
>or
>
>2) Snake a much larger loop through a couple of maple trees and branches fed
>at the same 35' point and averaging about 20-25 feet up, perhaps close to a
>80M loop size. Some articles I've read say that snaking across tree limbs
>can be used to max out the size without operational impacts.
>
>I want to use the loop on 160M (hoping) but mainly 80M through 10M and would
>like to know if snaking through the trees will impact the loop operations on
>any of the bands. Will the impact be greater the higher the frequency and
>if so, at what band do the branches start having an appreciable impact?
>
>Another option might be to build the 2 loops one inside of the other and fed
>with separate feeders but this might be stretching the optics with the XYL?
>
>Any thoughts? ..... Al VA3KAI
>

Hi Al,

Go for the biggest loop you can it will work great on 80 through 10 ,
I would not expect an 80m loop to do much on 160m though if 160 is
your goal. you'd be better off with an inverted L for that band.

I have a 160m loop up here that's 520 feet around and at an average
height of about 30 feet or so it slopes a little as on support is a 50
feet and all the rest at about 30 feet , but seems to work great on 80
through 10 m.. on the upper bands say 20-- 10m i also have a vertical
to fill in some of the pattern nulls on those bands. my yard is
surrounded by trees and I find no adverse effect of running the
antenna through them.. I would us insulated wire however were ever the
trees might touch the wire.

Good luck
73 Cave kc1di

5825. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 09:32:01 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <koDEa.11$0c4.3545@news20.bellglobal.com>
Source record: 115678

"Helmut Wabnig"
> I am secretly working on my faster-than-light Morse Key,

I was watching a National Geographic show about some geologists that wanted to visit a volcano in northern Ethiopia. They got into some bureaucratic trouble and we being held at a police outpost some 20 miles from their intended destination. The Ethiopian staff at the police outpost were communicating back to their head office with an HF radio. They were using Morse Code... ...by speaking "Dits" & "Dahs" into the microphone. Seriously.

5826. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 09:43:29 UTC
From: GC <gary@gcavie.freeserve.co.uk>
Message-ID: <MPG.194d159f9ae68aa8989681@news.cis.dfn.de>
Source record: 115677
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

In article <3ee2d938_1@mk-nntp-1.news.uk.worldonline.com>, SPAM@trap
says...
> The Computer Operator is the lowest-of-the-low in the world
> of computing, much lower than the M3 in the CB hierarchy.
>
> Nowadays, they call themselves, "sysadmin", but they're still
> computer operators, the turnip-brained of the computing world.
>

Presumably, this includes people who claim that anybody worth their salt
writes their own software, whilst using Outlook Express to do so?

5827. Re: one more test, please ignore.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 10:23:07 UTC
From: Mike <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194cd91fd6c83d46989686@news.earthlink.net>
Source record: 115679

In article <87r865j8ur.fld@barrow.com>, floyd@barrow.com says...
> Mike <m_remove_colasono@earthlink.net> wrote:
> >
> >"stupid" is the person who can't comprende "please ignore" in the
> >subject line. no offense to Floyd, who was at least polite.
>
> No offense taken, but please follow the advice and learn more
> about it instead of mouthing off when people are trying to
> direct you towards the right way to do it.

but you implied that i was ignorant without directing me to anything at all.

helmut's the one that mouthed off by calling me "stupid guy." >-(he could have left that faux paux out. i'm far from stupid, but i'd be glad to relate to you some stupid things i've done/not done. like not getting my ham ticket. something with higher priority always gets in the way. I can pass the Extra exam. I can get my CW receive speed up to 12 wpm or better in a couple of days. I call that stupid. but it doesn't make me a "stupid guy." and i will have that ticket this year. i've been itching to use all this stuff i've learned for too many years. there're VECs within an hours drive of every place i've ever lived.

sorry if i came off as cocky with you in my last reply to you-- oh, i haven't sent it yet, duh :-), but i'm honest enough to tack it on the end of this post for your reading enjoyment-- i basically explained a few things that indicate that earthlink is having problems and implied that you are not an earthlink customer and therefore couldn't know, in, IMHO, a humorous way. i put the " :-) " emoticons in there to indicate that you shouldn't take it the wrong way. earthlink had almost as many calls in queue at 0100 EST as we had at Ameritech (now SBC) DSL tech support. the known issues recording contributed a few minutes to the 30 min wait. the tech was cool though. poor guy's probably getting reamed by a lot of customers.

>
> Do put "ignore" in the subject line, but post your test articles
> to a test group. It might be difficult for you to understand,
> but this is *not* the appropriate place.
>
>
oh, i understand. i've just never seen anyone get reamed for it (i.e., called stupid.) but i realize helmut's response is not representative of the amature radio community in general, nor that of the German people (i assume he's german) and i was stationed there, so i know.

let's not start off on the wrong foot. this rock's too small and insignificant in the grand scheme of things for us humans to be squabling over petty stuff. let's just forget all the bad stuff in this thread and let it go. i do recall a UK guy who liked to jump on people, especially newcomers. thought i might be dealing with that.

for now, i guess i feel confident enough to post my question without some snafu causing a screwed up thread which would really irritate people. first i must sleep so i can pose a coherent question.

BTW i meant to change my screen name to Active8 but wanted to finish this thread first as mike. see, i'm honest. i'm not hiding behind a handle and obfuscating my email address except for the obvious anti-spambot stuff.

so tnx and 73s,
mike

the unsent reply to you:

<snip>
earthlink does not work fine when it won't get my mail (failed authentication) one minute and will get it five minutes later, without having to change (re-enter) the user name or password.

but you were an earthlink customer, right? that's why you're at barrow.com now :-)

it also evidently doesn't work when tech support has 5 messages pertaining to known issues and so many calls in queue that there's a 30 minute wait. but with Ameritech DSL support (now SBC telephone) we'd sometimes have so many calls in queue that the wait was 45 min. and most of them were 42p connection errors, with irate customers chomping at the bit waiting to bite a tech's head off. earthlink will do, for now.

yep, it was a dumb mistake, but this news reader never reverted to filtering out read articles in the past. i just caught it doing that again and found the fix. I still like the Gravity news client.

BTW, AFAIK, usenet works because my ISP's nntp server checks known nntp servers for article headers and downloads them on request. then you can download individual articles. it does not delete messages unless the poster requests his own posts to be deleted.

is there anything else i should know. maybe i'll look for alt.news.on.news or something :-)

</snip>

5828. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 11:01:05 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <n02dnavitNfBin6jXTWcpQ@crocker.com>
Source record: 115680

> > How does the C inhernet in an isolated dipole near resonance compare to
> the
> > C across the elements of that same dipole measured at DC (or computed)?
> >
> > I'm questioning the statement that the C in the tuned circuit model of a
> > dipole arises strictly from the simple capacitance between the two
> elements
> > (measured at DC or computed).
> >

yes and no.

the C is the same in all cases. there is no frequency dependence in the calculation of a simple capacitance.

but you can not model a dipole as a simple tuned circuit (RLC parallel or series combination) except over very narrow frequency ranges as an approximation to make some calculations simpler. I know, nobody here likes to apply limitations on these simplifying assumptions... this goes back to the sinusoidal steady state approximations we have argued about before, and why in some cases you can simplify a distributed circuit by replacing parts of it with lumped impedances. basically you can only replace an antenna with a lumped impedance over a very narrow frequency range, just the same as you can only replace a stub with an open or short at a specific frequency(remember those discussions???). a simple RLC circuit can not properly model the impedance changes due to propagation delays along a feedline or antenna, this leads to the incorrect conclusion that the L and/or C must be frequency dependent... the same way you can incorrectly conclude that L and/or C of a transmission line changes because you can't measure it at DC, but you get what looks like parallel or series resonances on a line at rf frequencies.

enough beating a dead horse for now, time to go finish rigging for an antenna party today.

5829. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 11:04:08 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <X7nPBqDogx4+EAgG@ifwtech.co.uk>
Source record: 115681

Mark Keith wrote:
>
>The way I modeled it didn't either. But I haven't seen his description
>of a "linear resonator" so I'm not even sure exactly what it looks
>like. I had just assumed it was about the same as the dipole/loop
>thing Art was trying to model a few months ago, being he is comparing
>the two. The one I modeled looked like this:
>http://web.wt.net/~nm5k/loopole.jpg

Thanks for that. The general shape is the same as a Moxon resonator, namely a line parallel to the main element, and fairly close-spaced. (Unless the spacing is very wide, I wouldn't describe that shape as a "loop".)

Also I'm not sure what the circle and cross symbols on the wires represent; different programs may mark feedpoints and loads in different ways. If you could post or e-mail the original file, I'd very much appreciate the change to play with the same models as you did. (EZNEC, NEC or AO would be fine for me, or just about any ASCII description.)

>The wires parallel to the dipole are a bit close, but I didn't seem to
>have any trouble making it work. I modeled it for each band 20-10m
>with different cap values for each band. I didn't try to model a
>feedline to go with it. All diameters were equal.
>>
>> >>It's not a way of feeding an antenna - it's a way of
>> inserting a frequency-dependent resonant/reactive load into it.
>
>I think this must be different than what Art described for his antenna
>and what I was modeling.

You can add a feedpoint to an element that also has a linear resonator - but the feedline is *never* connected to the side-arm that has the capacitor in it. In the T-match, the feedline is *always* connector to the capacitor side. That's what makes them different in many other ways too.

>But offhand, my first gut instinct
>would be to think using a linear resonator would be more lossy than
>the usual low loss loading devices. I've seen many that claim that
>linear loading as a whole is less efficient than say hi Q loading
>coils.

I've seen the same claims, but they are about using linear *loading* to resonate an element that's shorter than a physical half-wavelength.

But a linear *resonator* is completely different. All they have in common is the word "linear", and a vaguely similar appearance when squinting upward into the sun.

The main use of the linear resonator is to give an existing half-wave element an additional resonance on a *higher* band. A typical application might be to make an existing 14MHz dipole resonate at 21MHz as well. The conventional approach is to use resonant traps to open-circuit the outer ends of the element; but in Moxon's view this is wasting energy in the trap losses, and also failing to make use of the full aperture (length) of the element. Moxon likes to do it by using the linear resonator to stretch the current distribution over the whole physical length of the element at the higher frequency; or to look at it another way, the element has too much inductance at the higher frequency, and he uses a linear resonator to tune it out. Both viewpoints are valid.

In a different application, Moxon often uses a linear resonator in its parallel-resonant mode, for example to open-circuit the center of a 14MHz element at 28MHz. A typical application is to open-circuit the top of a 14MHz quad loop to turn it into a bi-square at 28MHz. The 28MHz linear resonator might be bridging out a 7ft section of the element, but it only has about 8pF in the center, so it has very little effect on the lower-frequency resonance.

These all look like useful tricks, but they are very different from using linear loading to make a physically short element look electrically longer, so you'd have to take a whole new look at the claims about losses. I haven't done this either... but a linear resonator generally leaves the main element un-cut, and doesn't involve any wound inductors, both of which are a very good start towards low losses.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5830. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 11:50:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbv7tcodt1@hercules.btinternet.com>
Source record: 115682

"Peter Brackett" wrote >
> Any thoughts on what good reason we should have for the accuracy of the
> incremental lumped circuit-theoretic models cast in terms of V and I,
> considering that they completely ignore the fields E and H?
>
==========

They work because they are approximations, the accuracy of which increases as the physical dimensions of the models become small in comparison with the free-space wavelength.

Especially in radio engineering very large errors can be tolerated. Furthermore, bounds can be set on error magnitudes.

For example, for practical purposes the near field and far field can be considered to be separate entities. And the error due to neglecting either of them is predictable. Everybody is happy all the time.

It's just a matter of knowing what and when to drop something. The bibles don't tell you that. To depend on bibles is like a blind person painting by numbers. Has anybody ever actually used Terman except perhaps for interesting reading, or as a check list in case something has been forgotten, or as someplace to where enquiries to this newsgroup can be redirected? ;o)

Reg

5831. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:19:02 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve6aesd405ih01@corp.supernews.com>
Source record: 115683

Thanks for my morning chuckle. Nothing virtual about that.
"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:o8m5ev03qp744dp9531r5aov6usr4ptiv9@4ax.com...
> On Sat, 07 Jun 2003 23:02:34 -0700, Wes Stewart <n7ws@!#!arrl.net>
> wrote:
>
> >Of course there aren't many 50 dB RL
> >connectors around, but that's another issue :)
>
> You simply don't have a stock of Cecil's "virtual connectors."
>
> 73's
> Richard Clark, KB7QHC

5832. Re: spectrum efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:20:52 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve6ai985o3dt49@corp.supernews.com>
Source record: 115684
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

At least he invented FM first.
Broadcasters (Sarnoff et al) suck.
"Phil Kane" <Phil.Kane@nov.shmovz.ka.pop> wrote in message
news:cuvyxnansvbet.hg51b44.pminews@netnews.attbi.com...
> On Sat, 7 Jun 2003 19:32:35 -0500, H. Adam Stevens wrote:
>
> >Hey folks.
> >Armstrong gave up and jumped; Look it up.
>
> The main reason leading to Armstrong's depression and suicide was
> his pal, David Sarnoff, stealing his patents.
>
> Had he waited, he would have been vindicated when Sarnoff/RCA was
> found liable for same shortly after and was ordered to pay
> Armstrong's estate a sizeable sum.
>
> ---
> 73 de K2ASP - Phil Kane
>
>

5833. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:22:12 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve6akod08rh37c@corp.supernews.com>
Source record: 115685

No, it is equal.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bbu49tapu1@hercules.btinternet.com...
> > And BTW Reg.......
> > The capacitance of a spherical conductor is equal to it's radius.
> > H.
> > NQ5H
> ======================================
>
> You've made a mistake. The capacitance of a sphere is NOT equal to its
> radius. It is in fact PROPORTIONAL to its radius.
>
> Actually I prefer to work in diameters. They are easier to measure and
> visualise than radii.
>
> The capacitance of an isolated sphere is 55.5*Diameter picofarads where
the
> Diameter is in metres. The capacitance of the Earth is surprisingly
mall -
> its only 707 microfarads.
>
> But you may have meant the capacitance of an ordinary circular antenna
> conductor is proportional to its radius.
>
> In which case you've made another mistake.
>
> The capacitance of a circular antenna conductor is proportional to the
> logarithm of its radius, a much more slowly changing relationship.
> ---
> Reg, G4FGQ
>
>

5834. Helical dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:28:50 UTC
From: fumper@aol.com
Message-ID: <20030608082850.06805.00000756@mb-m19.aol.com>
Source record: 115686

How well do the helical dipoles sold on Ebay work?

5835. Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:53:17 UTC
From: 5b4az@qsl.net
Message-ID: <e637e579.0306080453.2757393e@posting.google.com>
Source record: 115687

Hi all,

I am thinking of buying a wireless keyboard and trackball for my computer but I am not sure they will work OK when I am transmitting on HF, especially 28 MHz (since it seems these devices work in the 27 MHz band).

Has anyone had any problems in this respect, eg RFI from the rig via radiation from the feeder or even antenna itself? If so are there any solutions to the problem?

My thanks in advance for any info/tips!

73 "Nick"

5B4AZ

5836. Re: Helical dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 12:55:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bbvbo6$r2l$1@titan.btinternet.com>
Source record: 115688

> How well do the helical dipoles sold on Ebay work?

==========

About 3 or 4 or 5 S-units worse than a full-size dipole at a height of 1/2-wavelength.

They will work after a fashion. Somebody will hear you. Not recommended for SOS.

5837. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 13:05:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE334B0.7050401@ieee.org>
Source record: 115689

Tdonaly wrote:
> Would you like to give a detailed description of a perfect circulator, how it
> works, and why it should even be included in a linear circuit analysis?

It's a concept, Tom, a mental exercise akin to a lossless transmission line.
It eliminates extraneous noise from the discussion, Ockham's razor style.
Real world circulators are not perfect.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5838. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 13:48:24 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ee33e86.954615@news1.eircom.net>
Source record: 115690
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sun, 08 Jun 2003 07:43:31 GMT, kh2d@my-deja.com wrote:

>>I just went to his site with Netscape 3.01 and it works just fine. I
>>navigated around with no problems.
>>
>>Henry WA0GOZ
>
>Henry, the Cuban Missle Crisis is over now. You can come out
>of the basement.

5.3 5.5 5.6 5.3 5.4 5.5 5.3 5.7

5839. Re: 20m Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 13:56:39 UTC
From: dmu_pkearn_dmu@rondomondo.eircom.ru.tv.net
Message-ID: <3ee33fa5.1241541@news1.eircom.net>
Source record: 115691
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

On Sat, 7 Jun 2003 21:15:46 +0000 (UTC), Paul
<rhubarb1@btinternet.com> wrote:

>> i.e. are they RF or AF
>> if RF are they modulated, AM, SSB, FM ?
>>
>They are AF tones. If you listen in to Stockholm Radio (aeronautical service)
>on 11.345 Mhz USB you will probably hear them, as they are often asked to send
>them for test purposes. (Note that all Aeronautical HF is USB).
>
>Paul
>Licensed Aircraft Engineer (Avionic)
>British Airways, Terminal 4 Heathrow.

i couldnt have said it better myself.

and perhaps you might enlighten those who need it, that in the days of
the BOEING 707 and DC-8, PLL audio circuits didnt exist !

Vibraswitches/VibraThingies used to make the whole SELCAL box vibrate
when the right tones were applied to it...along the AUDIO input line
where the audio level is set at 100mV.

Nowadays, the SELCAL is in the AUDIO MANAGEMENT UNIT which takes care
of all the audio witching to/from the cockpit and around the inside of
the e&e bay.

Do you use the term CONEHEAD over there ?

5840. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 13:57:53 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939446D9516B2pookster@129.250.170.96>
Source record: 115692

'Doc <w5lz@cwis.net> wrote in news:3EE2C989.78911D56@cwis.net:

> PS - Never saw an antenna catch a tree on fire yet. I'm
> still hoping though...
>

The following was posted on rec.radio.amateur.antenna on June 25, 2001:

Amen brother! I burnt down my house one time because one end of my
inverted Vee had broken loose and dropped down into one of the roof
valleys where there was some metal flashing. I was tuning up a 4-1000
amp and noticed something wasn't right. About ten minutes later the
whole roof went up. I mean big time! Use 'good' insulators and check
the thing every once in awhile. It made a believer out of me!

de Jerry -n6jp-

So keep hoping, Doc. Your time will come. :-)

--
Bill, W7TI

5841. Re: Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 14:26:44 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030608102644.13710.00000193@mb-m25.aol.com>
Source record: 115693

My wireless mouse operates on 27.145 (or somewhere close to that) and I've never had any problems. I really don't think you have anything to worry about. Just don't buy a plasma TV! :)

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

5842. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 14:53:39 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbvilj$c5p$0@208.206.142.98>
Source record: 115694

W5DXP wrote:

>
> Back on earth, the capacitance to earth/ground can have an
> appreciable effect.

And that capacitance is actually two capacitors in series- the earth being the common plate for both dipole elements.

Dick

5843. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 14:54:50 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbvinq$c5p$1@208.206.142.98>
Source record: 115695

W5DXP wrote:

> Tdonaly wrote:
> > Now you've gone from "virtual impedance" to "virtual capacitance."
> > What will you think up next?
>
> A virtual capacitance has to be a possible part of a virtual impedance.

WIth the virtual reality we live in today, virtually anything is possible!
:-)

Dick

5844. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 14:59:35 UTC
From: Paul MW0CDO <gw7lhi@hotmail.com>
Message-ID: <bbvith$do77r$1@ID-117699.news.dfncis.de>
Source record: 115696
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"MattD.." <me@privacy.net> wrote in message
news:Xns93947F1C337A58008135@130.133.1.4...
> On 07 Jun 2003, Russ <carlzomer@hotmail.com> took time off from making
> flies explode with a broken elastic band to type:
>
> > Soon, Netscape-like browsers such as Mozilla will only run under
> > Linux, now that MS is distributing IE with AOHell (AOL owns Netscape,
> > for those not in the know).
> >
>
> Nah, not going to happen. The Mozilla project will keep the ports to other
> OSes alive. Moz is a development *branch* of Netscape, not a direct
> descendant. That relationship is actually the other way around.
>
> The AOL settlement gives them the right to use IE technology in their
> products for the next seven years, along with a small amount of cash (750
> million dollars, petty cash to Gates). They can choose not to use it, but
> since they're doing a deal for Media Player as well... :o(
>
> The interesting part of all this is that AOL used IE before this debacle.
> It was Compuserve who predominantly used Netscape as the core browser.
>
> --
> MattD..
>
> Email in headers is a privacy.net bitbucket.
> mattd145 <at> onetel <dot> com

For what it's worth, my 2 pence / cents / currency of your choice..

We don't have much WinXP at work, but obviously we have to evaluate because
of MS's propensity to allow older OS's to fall by the wayside.

In the department that I'm responsible for, we currently have 14 P2.4GHz /
512Mb / 80Gb boxes running XP Pro and Office XP Pro. User authentication and
applications are served by Novell Netware 5. whatever and ZenWorks.
These are used by secretarial staff and are in constant use.
With one exception, all of the old peripherals (printers scanners etc.)
were absolutely no problem.
The exception was a Mustek 1200USB scanner and despite having XP drivers
available for download, I found they didn't work. So I used the Win2000
drivers instead.. works faultlessly.

I have had a number of discussions with tech support people, and the universal advice seems to be that if you can't find a WinXP driver, find a Win2000 driver instead.. so far this has worked fine for me.
We also have all sorts of weird kit to plug in to computers as well.. electronic whiteboards, microscopes, data collection and logging kit, a scanning tunnelling electron microscope, digital cameras etc etc.

The rest of the computers in the department (approx 200) are a mixture.
In the open access rooms, we use Win2000 Pro.. again apps and authentication handled by Novell.
The staff computers are a mix of Win95 / 98. I never upgrade an old OS, just too much trouble afterwards. I suspect that quite a few people see an upgrade as a way to fix existing problems, this is wrong. All issues should be sorted before upgrading, if you must upgrade, but by far the best way is to zap the HD and start afresh.
Then we have the roaming laptops, most are new and run XP Pro, there are a few older ones running Win98.

The server farm runs all manner of OS.. Linux, Unix, SunOS, HPUX, Windows 2000 Server and Novell Netware. Most email is handled by MS Exchange.
I finally removed the last Netware 3.1 server a couple of years ago.

On balance, most problems with desktop machines are caused by the user doing silly things.
This has not changed either, they did the same things when we only had DOS or WFW3.11!
User brainstorms are definitely the main cause of problems these days for us.

So I'm quite happy with WinXP so far and use it here at home as well where I haven't had to reinstall it yet either.. used to find that Win98 needed reinstalling after 18 months or so at home. I don't have XP on this box as you can see from the headers.. it's only a P233 with 64Mb RAM, but happily runs all the radio software etc. under Win98.
I think XP would actually be OK on this box, but it would be slow so I'm not going to bother.

Has anyone else noticed that some of the new fancy cases with pretty moulded fronts cause physical floppy disk problems.. had to have all of the new XP boxes' cases changed from the ASUSTek cases to something else because 9 times out of ten the floppy disk would not go into the drive properly. Fiddling around with the physical mounting of the drives did nothing to help!

Now I'm off for a free feed!

Paul MW0CDO.

5845. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 15:18:07 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbvk3f$f5a$0@208.206.142.98>
Source record: 115697

"J. Harvey" wrote:

>
> I still don't quite believe that the C in the LC of an antenna is caused by
> the simple, geometrical, calculable capacitance between the two halves of
> the dipole antenna.

I don't either. If it was there would need to be differing formulations for dipoles depending on whether or not they were centerfed as two separated elements or a single halfwave element fed by a different match scheme such as a gamma match. To my knowledge there are no such different formulas.

Dick

5846. Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 15:43:55 UTC
From: Joe O <jenjoeo@zianet.com>
Message-ID: <3ee3591b@news.zianet.com>
Source record: 115698

I need guidance on how and what I have to load to Win98 to enable programs
that are written in BASIC (.BAS) to run.
I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program.
Thanks
Joe O, KI5FJ

5847. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 16:22:58 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <EdVroKEiL24+EAxe@ifwtech.co.uk>
Source record: 115621

Art Unwin KB9MZ wrote:
>> Show me where Moxon says anything about the linear resonator having
>> "gain attributes".
>
>O my! Stand by a moment....

Thanks to the person who scanned and e-mailed pages 311-313 of the
second edition.

>
>Page 311 Under improving the existing station.

Gain attributes? No, that's not what Moxon says at all.

It's important to understand that page 311 is in the chapter near the
end of the book, where Moxon speculates about what *could* be done with
the ideas he has put forward. He develops some ideas for a multi-band
yagi design which is purely conceptual and "yet to be tried", and then
compares its performance with a typical 3-element tribander. Since his
antenna is larger and has more elements, at optimised locations, it's
not surprising that he can claim some extra gain on every band, plus
18MHz and 24MHz coverage too.

On 14MHz, the claimed increase in gain from his proposed multi-band beam
comes from using full-sized elements on that band. This is well known.
Linear resonators are not involved.

On 21MHz, there is a small increase in gain due to using longer
elements, with linear resonators to make use of the full physical
length. Score an assist for linear resonators, though a switched
capacitor at the center of the element could have done the same job.

On 28MHz Moxon claims "at least one S-unit" advantage, which I find hard
to account for. Part of it is due to using extra elements, at the right
spacing for 28MHz. Part must also be due to his idea of making a longer
element act as two colinear half-waves... but this is uncharted
territory because the ordinary rules for yagi design would not apply.
You'd have to develop your own dimensions; Moxon hasn't.

>Might as well look at page 313 where he talks of operating this type of
>design on all bands from 14 to 28 Mhz which is certainly an
>understatement since it takes advantage of all aperture provided which
>the SteppIR antenna cannot do.

This is about using linear resonators with a tunable C to give
continuously adjustable coverage. There is a small increase in gain on
the higher bands through always making use of the entire physical length

of the element... but there are other ways to do that.

To sum up, Moxon nowhere claims that linear resonators have "gain attributes". Those remain Art's words.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5848. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 16:30:57 UTC
From: fmmck@aol.com
Message-ID: <20030608123057.23617.00000224@mb-m10.aol.com>
Source record: 115699

<< I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program >>

Joe-

Look on the Windows 98 CD, in the "tools" folder, and then in the "oldmsdos" folder. You will find QBASIC there.

I have Windows 98 running under Virtual PC on my Macintosh, and have been able to adapt some old BASIC programs to run using QBASIC.

On the Macintosh side, there is a simple version of BASIC called "Chipmunk" that requires little modification to the old programs.

In general, the more modern versions of BASIC are just not easy to use. No doubt they are quite powerful, but I would have to learn them and then to make major modifications to my old programs to get them to run. If I'm going to put that much effort into it, I'd rather use FORTRAN!

73, Fred, K4DII

5849. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:11:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <brp6evgkde33ceoj5554g8773bmfa0s23c@4ax.com>
Source record: 115700

Hi Ian,

It is obvious by a considerable margin that you are far more fluent in
Moxon's teaching than Art. His explanations shamble through all the
issues you describe below crossing one technique to describe another.
Given your simple accounting, I doubt if Art has any understanding of
Moxon at all beyond buzz-words.

On Sun, 8 Jun 2003 12:04:08 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>Mark Keith wrote:
>>The one I modeled looked like this:
>>http://web.wt.net/~nm5k/loopole.jpg
>
>Thanks for that. The general shape is the same as a Moxon resonator,
>namely a line parallel to the main element, and fairly close-spaced.
>(Unless the spacing is very wide, I wouldn't describe that shape as a
>"loop".)

Art has been offering this as a radiating body (you've already
commented on this)
>>Show me where Moxon says anything about the linear resonator having
>>"gain attributes".

>>>
>>> >>It's not a way of feeding an antenna - it's a way of
>>> inserting a frequency-dependent resonant/reactive load into it.
>>
>>I think this must be different than what Art described for his antenna
>>and what I was modeling.
>
>You can add a feedpoint to an element that also has a linear resonator -
>but the feedline is *never* connected to the side-arm that has the
>capacitor in it. In the T-match, the feedline is *always* connector to
>the capacitor side. That's what makes them different in many other ways
>too.

Art's artwork (no pun intended) offers some odd connection points
exhibited in his figure 9 on a page he seems to have forgotten (we/I
are the only ones who offer it to others who ask him for details):
http://www.roadkill.com/~unwin/Loop_Antenna.html
>
>>But offhand, my first gut instinct
>>would be to think using a linear resonator would be more lossy than
>>the usual low loss loading devices. I've seen many that claim that

>>linear loading as a whole is less efficient than say hi Q loading
>>coils.
>
>I've seen the same claims, but they are about using linear *loading* to
>resonate an element that's shorter than a physical half-wavelength.

This is where Art starts his sales pitch about "efficiency" where he now wants a shorter antenna for turn radius (the useless metal at the end of the dipoles don't have any current, so cut 'em off). This is then followed by a wild swing into discussion about double Zepps for their gain. Very hard to follow indeed, and Moxon is abused along the way to hold up his logic.
>
>These all look like useful tricks, but they are very different from
>using linear loading to make a physically short element look
>electrically longer, so you'd have to take a whole new look at the
>claims about losses.

Here Art claims to have less loss than a standard dipole. When it is pointed out how hard that is to imagine, he passes on to tests of the critic's responsibility for fomenting the Iraqi invasion.

No doubt Art will respond in outrage how these are all different designs with misattributed criticism. Could be. However, his communication skills and general chip on the shoulder conflict as he never seems to stick to the topic nor respond to technical issues. He shares the odd opinion that having started a topic that he owns the thread, but when I review the length and breadth of these discussions here under the imprimatur of Antenna Books (plural), I note he has not really followed that topic either. Book perhaps (singular), and only shortly insofar as it offers his claims advantage shrouded in the mantle of a Don offering authorities for reference.

I offer this as a critical review and have no hope that Art will engage in clarification - to anyone. This posting will be sufficient justification (historically by his own claim) for him to avoid such discussion. So his having drawn the line in the sand, I will simply kick it in his face and let him get back to the Charles Atlas ad in the back of his notebook.

Art, you may respond with a final comment(s) knowing full well I have nothing left to say in this thread.

73's
Richard Clark, KB7QHC

5850. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:26:38 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bbvrke$s41$0@208.206.142.94>
Source record: 115701

Bill Turner wrote:

> 'Doc <w5lz@cwis.net> wrote in news:3EE2C989.78911D56@cwis.net:
>
> > PS - Never saw an antenna catch a tree on fire yet. I'm
> > still hoping though...
> >
> ----------
>
> The following was posted on rec.radio.amateur.antenna on June 25, 2001:
>
> -----
>
> Amen brother! I burnt down my house one time because one end of my
> inverted Vee had broken loose and dropped down into one of the roof
> valleys where there was some metal flashing. I was tuning up a 4-1000
> amp and noticed something wasn't right. About ten minutes later the
> whole roof went up. I mean big time! Use 'good' insulators and check
> the thing every once in awhile. It made a believer out of me!

I recall reading years ago where a ham in Kansas City set his house afire
while on the air using an attic antenna fed by his Johnson Valiant on AM
running around 150 watts. No details on the antenna installation were given
but you can be sure it was a poorly installed antenna and not properly
insulated from the house structure. Seems most important to keep the
antenna well away from anything that could possibly cause an arc.
It's something to keep in mind. Such stuff can be avoided with the proper
exercise of care. And it's not something one would automatically think of.

Dick

5851. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:26:51 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306080926.77b0be39@posting.google.com>
Source record: 115702

Roy Lewallen <w7el@eznec.com> wrote in message news:<ve5n345hn950b4@corp.supernews.com>...

> . . . But I am convinced that trees
> can cause very substantial attenuation of vertically polarized signals
> under some conditions. I just wish I had a better idea of just what
> those conditions are.

Probably boils down to too many unmeasurable variables to ever be able
to make any sense of it by the numbers. Calibrated trees . . . ?

>
> Roy Lewallen, W7EL

w3rv

5852. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:31:27 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <kls6ev87hlv0m6jkb17a7vegglb6hnocjq@4ax.com>
Source record: 115703

On Sun, 8 Jun 2003 09:43:55 -0600, "Joe O" <jenjoeo@zianet.com> wrote:

|I need guidance on how and what I have to load to Win98 to enable programs
|that are written in BASIC (.BAS) to run.
|I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
|runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program.
|Thanks
|Joe O, KI5FJ

Why mess with that?

Go here:

http://www.qsl.net/ac6la/moxgen.html

|

5853. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:39:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE374D9.2070800@ieee.org>
Source record: 115704

Dick Carroll; wrote:
>
> W5DXP wrote:
>>A virtual capacitance has to be a possible part of a virtual impedance.
>
> WIth the virtual reality we live in today, virtually anything is possible!
> :-)

Every once in a while I am asked to define what I mean be a virtual
impedance. Here's my definition.

If the impedance is caused by a voltage to current ratio, then
the impedance is an effect and is virtual. The V/I ratio is
the cause of the virtual impedance.

If the voltage to current ratio is caused by an impedance, then
the impedance is the cause and is not virtual. The V/I ratio
is an effect.

It's extremely easy to confuse cause and effect between those two
things but IMO, virtual impedances, being an effect, cannot cause
reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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5854. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:41:55 UTC
From: richardharrison@webtv.net
Message-ID: <23480-3EE37563-246@storefull-2316.public.lawson.webtv.net>
Source record: 115716

J. Harvey wrote:
"How does the C inherent in an isolated dipole near resonance compare to the C acress the elements of that same dipole measured at DC (or computed)?"

First, capacitance is not a function of frequency. Capacitive reactance is a function of frequency.

Second, there are similarities between a half-dipole and a monopole.

Third, effects of a capacitance depend on the charge on the capacitance. Recall the Miller effect on the plate to grid capacitance in a triode.

The RLC model of an antenna is valid, resonant or non-resonant.

B. Whitfield Griffith, Jr. sheds some light on resonance in an antenna. It is found on page 390 of "Radio-Electronic Transmission Fundamentals".

Griffith`s example is a low-frequency "T-antenna". It`s a vertical monoopole resting on a base insulator which uses a capacitive hat for better current distribution in an antenna which is far too short for its frequency.

Griffith gives the equivalent circuit of series connected resistance, inductance, and capacitance. Due to the wire, perpendicular to the earth having a very s,mall capacitance, this wire capacitance is negleted. This would not be the case in a self-resonant dipole. Its wire to wire capacitance is vital. The large capacitance of the T-top, parallel with the earth, is one factor which makes ignoring the vertical wire`s capacitance possible. Horizontal wire capacitance is high in this case.

Griffith`s formula for inductance of his vertical wire is:
L = 0.2h (ln 4h/d -1)
h=vertical wire height in meters
d=diameter of the wire in the vertical in meters
ln=the natural log of 4h/d

The neglect of the capacitance of the vertical wire is based on the wire being short in terms of wavelength so that its current is nearly constant over its length. It also depends on the capacitive hat being small so that its voltage can be considered constant over its length.

Griffith specifies that this T-antenna is a ship antenna. Vertical inductance calculates as 30 microhenrys. Capacitance of the hat calculates as 500 mmfd.

The antenna does not resonate at 500 KHz as desired, so 173 microhenrys provided by a loading coil is added in series to cause resonance.

Another way to look at a resonant length of wire is in the distance between minima and maxima. To predict this, you need to know the wave velocity along the wire. For thin wires, it`s about 95% of the free-space velocity.

Best regards, Richard Harrison, KB5WZI

5855. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:42:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE37586.6060203@ieee.org>
Source record: 115705

Joe O wrote:
> I need guidance on how and what I have to load to Win98 to enable programs
> that are written in BASIC (.BAS) to run.
> I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
> runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program.

My MS Professional Basic 7.0 runs as a DOS program under Win98. I would
be surprised if QBASIC wouldn't run as a DOS program under Win98. Just
transfer QBASIC to your Win98 system and try it.
--
73, Cecil http://www.qsl.net/w5dxp

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5856. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:54:25 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d4241e182358a989687@news.earthlink.net>
Source record: 115706

In article <20030608123057.23617.00000224@mb-m10.aol.com>, fmmck@aol.com
says...
> << I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
> runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program >>
>
> Joe-
>
> Look on the Windows 98 CD, in the "tools" folder, and then in the "oldmsdos"
> folder. You will find QBASIC there.
>
> I have Windows 98 running under Virtual PC on my Macintosh, and have been able
> to adapt some old BASIC programs to run using QBASIC.
>
> On the Macintosh side, there is a simple version of BASIC called "Chipmunk"
> that requires little modification to the old programs.
>
> In general, the more modern versions of BASIC are just not easy to use. No
> doubt they are quite powerful, but I would have to learn them and then to make
> major modifications to my old programs to get them to run. If I'm going to put
> that much effort into it, I'd rather use FORTRAN!
>
> 73, Fred, K4DII
>
>
mmm... FORTRAN. I was converting cirpatch.f (you've probably seen it) to
C++ and did a little checking on FORTRAN compilers while looking for the
obsolete ALOG function which is really LOG not ANTILOG. I was also
checking out code for EM solvers and found this page pertaining to
FORTRAN90:

http://www.borg.umn.edu/toyfdtd/fpu.html

seems theres a floating point problem. did you know this and do you know
of a compiler (preferable free) that doesn't have this problem? i found
a GNU Fortran G77 v0.5.25 which is obsolete, but maybe the latest Linux
has a FORRTRAN compiler that doesn't have this prob.

thought you'd liked to know about the FPU error before you launch your
inter-galactic cruiser :-)

mike

5857. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:55:40 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE37846.9010602@attbi.com>
Source record: 115707

NICE

J. Harvey wrote:
> Some of you might find this interesting. You'll need a Java-enabled
> browser.
>
> Link:
> http://www.educatorscorner.com/index.cgi?CONTENT_ID=2483&SESSION_ID=1054902207-331
>
> Sure beats ASCII art...
>
> In case you want to browse further on various topics (a few levels up):
> http://www.educatorscorner.com/index.cgi?CONTENT_ID=6&SESSION_ID=1054954499-2424
>
> Thanks to Dave on Engtips for pointing this out.
>
>

5858. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:58:25 UTC
From: ryeburn@sfu.caz
Message-ID: <ryeburn-0806031058250001@bni030qny8kc.bc.hsia.telus.net>
Source record: 115709

In article <ijv5evcloforncih9ihj084aon23ga83fo@4ax.com>, KC1DI
<elbc2@gwi.net> wrote:

> Go for the biggest loop you can it will work great on 80 through 10 ,
> I would not expect an 80m loop to do much on 160m though if 160 is
> your goal. you'd be better off with an inverted L for that band.

I don't see why a loop one half wavelength in circumference on 160 metres would radiate all that badly. It seems to me it wouldn't be that much worse than a half-wave dipole at the same (low) height. Of course it would have a very high feedpoint impedance and using coax to feed it would not be a good idea.

The inverted L, if only 1/4 wavelength in overall length, would require a good ground system. A balanced high impedance load such as a one half wavelength loop could well have lower overall losses. Perhaps someone with EZNEC could compare the two choices. I suspect for NVI, the loop would be a much better antenna.

David, ex-W8EZE

--
David or Jo Anne Ryeburn
ryeburn@sfu.caz
To send e-mail, remove the letter "z" from this address.

5859. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 17:59:50 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE37941.1060602@attbi.com>
Source record: 115708

What ball game last night????? SPURS??? NETS????? Do they play hockey??

The ONLY game on tv last night was the Ducks/Devils. Go Bruins, errr,
wrong! Wait 'til next year!! The endless hope of Boston fans.

Deacon Dave, W1MCE, ;-)

W5DXP wrote:
> J. Harvey wrote:
>
>> J. Harvey wrote:
>>
>>>> It's all photons... not waves.
>>>
>>>
>> "W5DXP"
>>
>>> Doesn't that depend upon what mode of detection
>>> one is using? :-)
>>
>>
>> I changed my mind - it's all 'rays' today.
>>
>> It's amazing how many 'theories of light' there has been over the years.
>> 'Rays" are still alive and well and used on a daily basis in optics and,
>> yes, even RF. GTD/UTD (rays) is used to make predictions of antenna
>> patterns at higher frequencies where NEC models become intractable.
>
>
> If one is looking for wave interference in an experiment, one will detect
> waves. If one is looking for particles in an experiment, one will detect
> particles. Personally, I don't think the wave/particle duality questions
> have been answered. Why virtual photons are an improvement over fields
> escapes me.
>
> However, it makes me feel a little like God to know that my mere
> observation of an occurrence dictates the outcome. :-) (I should have
> observed the Spurs/Nets basketball game a little closer last night.)

5860. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:03:00 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE379FF.5000104@attbi.com>
Source record: 115710

Heisenburg [sp?] became uncertain about it's application at HF/VHF ;-)

Deacon Dave, W1MCE

W5DXP wrote:
> Bart Rowlett wrote:
>
>> W5DXP wrote:
>>
>>> J. Harvey wrote:
>>>
>>>> It's all photons... not waves.
>>>
>>>
>>> Doesn't that depend upon what mode of detection
>>> one is using? :-)
>>
>>
>> Nope.
>
>
> Last I heard, if one is looking for wave interference, one will
> detect waves and if one is looking for particles, one will detect
> particles. Whatever happened to the uncertainty principle?

5861. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:04:05 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d4482ef92b9ae989688@news.earthlink.net>
Source record: 115711

In article <kls6ev87hlv0m6jkb17a7vegglb6hnocjq@4ax.com>, n7ws@!#!
arrl.net says...
> On Sun, 8 Jun 2003 09:43:55 -0600, "Joe O" <jenjoeo@zianet.com> wrote:
>
> |I need guidance on how and what I have to load to Win98 to enable programs
> |that are written in BASIC (.BAS) to run.
> |I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
> |runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program.
> |Thanks
> |Joe O, KI5FJ
>
> Why mess with that?
>
> Go here:
>
> http://www.qsl.net/ac6la/moxgen.html
>
>
i like the way he offers the full package with the OCXs. i did that with
a Spice PWL file generator and graphic waveform editor i wrote in VB. it
ran fine on a few friends XP boxes and i had specific instructions on
how to get the Beta program to run.

only one person was interested (or knew about) the app at the time and
when his XP box wouldn't run it (i was also testing a crypto software
key) you'd think i'd tried to shoot him. had a guy in another NG opining
about how I should compile in all libraries statically -- can't be done
in vb and doesn't matter in C++ 'cause static linking just means that
the dlls are loaded at load time.)

mike

5862. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:06:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE37B10.6090605@ieee.org>
Source record: 115712

David or Jo Anne Ryeburn wrote:
> I don't see why a loop one half wavelength in circumference on 160 metres
> would radiate all that badly.

It's the matching that is the problem. It has a feedpoint impedance
of thousands of ohms, like a one-wavelength dipole. A 1/2WL closed
loop should be fed with open-wire transmission line. EZNEC says a
1/2WL closed loop fed with 50 ohm coax will have an SWR greater
than 100:1. Not good, even on 160m.
--
73, Cecil http://www.qsl.net/w5dxp

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5863. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:07:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE37B7F.4070406@ieee.org>
Source record: 115713

Dave Shrader wrote:
> What ball game last night????? SPURS??? NETS????? Do they play hockey??

Is hockey that game played on ice? What's ice?
--
73, Cecil http://www.qsl.net/w5dxp

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5864. Re: please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:13:58 UTC
From: ricknj101@hotmail.com
Message-ID: <3ee37cbb.20653656@news.optonline.net>
Source record: 115714

There are zillions of newsgroups devoted to testing.
go into the alt area and check 'em out.

5865. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:16:55 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <HOKdnVyQ1p8G4H6jXTWcpw@crocker.com>
Source record: 115715

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bbvk3f$f5a$0@208.206.142.98...
>
>
> "J. Harvey" wrote:
>
> >
> > I still don't quite believe that the C in the LC of an antenna is caused
by
> > the simple, geometrical, calculable capacitance between the two halves
of
> > the dipole antenna.
>
> I don't either. If it was there would need to be differing formulations
for
> dipoles depending on whether or not they were centerfed as two separated
> elements or a single halfwave element fed by a different match scheme such
as a
> gamma match. To my knowledge there are no such different formulas.
>
> Dick
>
ah, but its true... what makes it confusing is that you are thinking lumped
capacitors and inductors, antennas (at least ones that are a significant
fraction of a wavelength) can not be analyzed that way except for over a
very small bandwidth. so the capacitive reactance you measure with an rf
feed can be much different than what you would calculate from using the dc
measured or calculate value of C. this would lead you to believe that the
value of C has changed. where what you are really measuring is the effect of
all the field interactions, reflections from the ends of the wires, wire
inductance, mutual inductances, etc., etc., etc. of which the C that you
measured at DC is only a part of the equation.

5866. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:18:17 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <hvudneJJhtm9436jXTWcpg@comcast.com>
Source record: 115717

You need to install QBASIC. I have it on this PC, running Win98. Also, if the program is in the form of compiled QBASIC , and includes the run time package, it may run without QBASIC as a normal DOS program.

Tam/WB2TT
"Joe O" <jenjoeo@zianet.com> wrote in message
news:3ee3591b@news.zianet.com...
> I need guidance on how and what I have to load to Win98 to enable programs
> that are written in BASIC (.BAS) to run.
> I have downloaded L.B Cebik,(W4RNL)s Program for Moxon Rectangles and it
> runs OK on my older PC Win3.11 with DOS V 6.2 using the QBASIC program.
> Thanks
> Joe O, KI5FJ
>
>

5867. Re: 2:1 Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:23:28 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <LVCdnXSfSd--4n6jXTWcpA@comcast.com>
Source record: 115718

Thanks. Problem is their balun would be 14 - 60 MHz 50:25 Ohm. I need 3 - 30 MHz 50:100 Ohm, which implies about 8 times more inductance. There are people who hang out on this newsgroup who would know. Unfortunately, the way I posted it, people probably think I have a 2:1 balun for sale!

Tan/WB2TT
"H. Adam Stevens" <solo@totalaccess.net> wrote in message news:ve51sojae6tha6@corp.supernews.com...
> Have you asked the folks building the SteppIR for data?
> They're good guys and hams, too.
> H.
> NQ5H
>

5868. Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:29:29 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d4a7d6cb8967b989689@news.earthlink.net>
Source record: 115619

hi:

i'm very new to EM solvers and MOM antenna programs like NEC. i just converted cirpatch.f to a C++ app with a GUI and the solutions agree with those of cirpatch.f's author.

ultimately, this circular patch will sit inside an open ended cylindrical reflector (i've seen the page on the S-Band circular patch fed dish, also)

i'd like to model this antenna and i added code to the app to model the thing as a wireframe which pushes the number of wires limit (512) of MMANA. the mesh size is less than lambda/20 and the pattern results look normal when i use a perfect ground positioned where I estimate the closed end of the reflector will be, though it's off axis (78 deg) in the elevation plane. i would rewrite for NEC2 input, but:

is NEC2 even suited for modeling at 2.4GHz?

i also see that the SWR at the 50 Ohm feed point is "astronomical" - 9895 and MMANA reports that it is vertically polarized. i'll leave it at that, for now though i have a few more circular patch questions.

tnx 4 ur help,
mike

5869. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:40:52 UTC
From: ryeburn@sfu.caz
Message-ID: <ryeburn-0806031140520001@bni030qny8kc.bc.hsia.telus.net>
Source record: 115622

In article <3EE37B10.6090605@ieee.org>, W5DXP <Cecil.A.Moore@ieee.org> wrote:

> David or Jo Anne Ryeburn wrote:
> > I don't see why a loop one half wavelength in circumference on 160 metres
> > would radiate all that badly.
>
> It's the matching that is the problem. It has a feedpoint impedance
> of thousands of ohms, like a one-wavelength dipole. A 1/2WL closed
> loop should be fed with open-wire transmission line. EZNEC says a
> 1/2WL closed loop fed with 50 ohm coax will have an SWR greater
> than 100:1. Not good, even on 160m.

I realize that. I also wrote:

> Of course it would have a very high feedpoint impedance and using coax
> to feed it would not be a good idea.

I assumed that anyone trying this would use open wire to feed it. The question remains: once power is gotten into the thing efficiently, and I believe that could be done using open wire feedline, what would its radiation pattern look like and how would it compare with that of a half-wave dipole at the same height? My guess is that it would be more nearly omnidirectional than the dipole, and thus would have slightly less gain in its best direction than the dipole would have in the dipole's best direction (and slightly more gain in its worst direction than the dipole would have in the dipole's worst direction), all measured at high elevation angles of course. Anyone using either antenna for low elevation angle work should be doing so only because the alternative (a vertical with a good ground system) is impractical.

David, ex-W8EZE

--
David or Jo Anne Ryeburn
ryeburn@sfu.caz
To send e-mail, remove the letter "z" from this address.

5870. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:45:35 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE38403.3050801@attbi.com>
Source record: 115620

ICE Ah! It's the stuff that both cools and dilutes SCOTCH.

In the words of a local tv commercial it's 'stiff water'. It gets
'stiff' from cooling that SCOTCH. ;-)

DD,W1MCE

W5DXP wrote:
> Dave Shrader wrote:
>
>> What ball game last night????? SPURS??? NETS????? Do they play hockey??
>
>
> Is hockey that game played on ice? What's ice?

5871. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 18:52:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve71f9gg8v6r62@corp.supernews.com>
Source record: 115623

There's a very active Fortran users' newsgroup populated by helpful people - comp.lang.fortran. It's a good place to get answers to Fortran questions.

Roy Lewallen, W7EL

Active8 wrote:
>
> mmm... FORTRAN. I was converting cirpatch.f (you've probably seen it) to
> C++ and did a little checking on FORTRAN compilers while looking for the
> obsolete ALOG function which is really LOG not ANTILOG. I was also
> checking out code for EM solvers and found this page pertaining to
> FORTRAN90:
>
> http://www.borg.umn.edu/toyfdtd/fpu.html
>
> seems theres a floating point problem. did you know this and do you know
> of a compiler (preferable free) that doesn't have this problem? i found
> a GNU Fortran G77 v0.5.25 which is obsolete, but maybe the latest Linux
> has a FORRTRAN compiler that doesn't have this prob.
>
> thought you'd liked to know about the FPU error before you launch your
> inter-galactic cruiser :-)
>
> mike

5872. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:02:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve722k6oqk051d@corp.supernews.com>
Source record: 115624

There's no real frequency limit to NEC-2. 2.4 GHz is no problem, and
it's routinely used for frequencies much higher than that.

I don't know about your particular application, but NEC-2 isn't suited
for modeling conventional patch antennas on a dielectric substrate,
since it has no way of accommodating the dielectric in the model.

Roy Lewallen, W7EL

Active8 wrote:
> hi:
>
> i'm very new to EM solvers and MOM antenna programs like NEC. i just
> converted cirpatch.f to a C++ app with a GUI and the solutions agree
> with those of cirpatch.f's author.
>
> ultimately, this circular patch will sit inside an open ended
> cylindrical reflector (i've seen the page on the S-Band circular patch
> fed dish, also)
>
> i'd like to model this antenna and i added code to the app to model the
> thing as a wireframe which pushes the number of wires limit (512) of
> MMANA. the mesh size is less than lambda/20 and the pattern results look
> normal when i use a perfect ground positioned where I estimate the
> closed end of the reflector will be, though it's off axis (78 deg) in
> the elevation plane. i would rewrite for NEC2 input, but:
>
> is NEC2 even suited for modeling at 2.4GHz?
>
> i also see that the SWR at the 50 Ohm feed point is "astronomical" -
> 9895 and MMANA reports that it is vertically polarized. i'll leave it at
> that, for now though i have a few more circular patch questions.
>
> tnx 4 ur help,
> mike
>

5873. 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:05:30 UTC
From: Bob Lombardi <blombardi@cfl42.rr.com>
Message-ID: <3EE38924.8020507@cfl42.rr.com>
Source record: 115625

I've been doing some web searches for a 6 and 2 m interlaced yagi, but haven't found anything. I have seen the Cushcraft that mixes 6, 2 and 70 cm, but it also mixes polarizations, and I want them both horizontally polarized (for SSB/CW operation). At this point, I don't care much whether I build it or buy it.

It seems like the only single antenna solution I've found is a log periodic. Does anyone have a reference to a 6/2 interlaced yagi?

73,
Bob
W4ATM

if you wish to reply by email, there are no numbers in my address...

5874. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:08:32 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d53a3aaad013b98968a@news.earthlink.net>
Source record: 115626

In article <ve71f9gg8v6r62@corp.supernews.com>, w7el@eznec.com says...
> There's a very active Fortran users' newsgroup populated by helpful
> people - comp.lang.fortran. It's a good place to get answers to Fortran
> questions.

thanks, i had every intention of going there eventually. but if you were
coding in FORTRAN, wouldn't you like to know about a possible problem?
for that matter, if i suggested using FORTRAN to you, would you rather i
didn't mention that it might not be accurate? we're talking about a tool
used to model an antenna and in the case of the circular patch program,
the code iterates up to 10000 times, more than enough to introduce
cumulative error. it's like that old discussion about tower paint
failure that got into the topic of paint.

mike

>
> Roy Lewallen, W7EL
>
> Active8 wrote:
> >
> > mmm... FORTRAN. I was converting cirpatch.f (you've probably seen it) to
> > C++ and did a little checking on FORTRAN compilers while looking for the
> > obsolete ALOG function which is really LOG not ANTILOG. I was also
> > checking out code for EM solvers and found this page pertaining to
> > FORTRAN90:
> >
> > http://www.borg.umn.edu/toyfdtd/fpu.html
> >
> > seems theres a floating point problem. did you know this and do you know
> > of a compiler (preferable free) that doesn't have this problem? i found
> > a GNU Fortran G77 v0.5.25 which is obsolete, but maybe the latest Linux
> > has a FORRTRAN compiler that doesn't have this prob.
> >
> > thought you'd liked to know about the FPU error before you launch your
> > inter-galactic cruiser :-)
> >
> > mike
>
>

5875. YagiCad 4.1: An antenna design sought.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:24:23 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bc02ck$donb4$1@ID-150848.news.dfncis.de>
Source record: 115627

I think for my purposes YagiCad 4.1 would be okay for designing a 5 or 6 element yagi for the marine band (I57 Mhz). Basically all I want to do is scale and the odd bit of tweaking.

Has anyone designed a 5 or 6 element yagi with YagiCad optimized for gain? If so could you please email me the file?

Or maybe someone knows if any of the files in the link are already optimised for gain.

http://www.ipass.net/teara/kq3-frm.html

I was thinking about just using a folded dipole as the DE. But, I don't know what's best.

Thanks.

Rich.

news_emailREMOVE@ntlworld.com

Please remove "REMOVE".

5876. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:28:45 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE38E20.3060100@attbi.com>
Source record: 115628

Richard, I wonder if you asked the wrong question??

The following is basically correct for VHF at 157 MHz:

1 watt HT at 6 feet elevation has a radio horizon of approximately 3.4 miles.

25 watt base station at 6 feet elevation has a radio horizon of approximately 3.4 miles.

100 watt super base station at 6 feet elevation has a radio horizon of approximately 3.4 miles.

But, a 1 watt station with an antenna at 100 feet elevation has a radio horizon of approximately 14 miles.

The answer is not power BUT elevation!!

How high is your antenna?

Deacon Dave, W1MCE

5877. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:39:18 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE390E6.57D00899@cwis.net>
Source record: 115629

Bill,
Thanks! In 20 years as a professional firefighter
I've never seen a tree burn because of RF. Sooner or
later I'll get lucky...
'Doc

5878. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:55:52 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <BxednUAiRv5VCX6jXTWcoQ@crocker.com>
Source record: 115630

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:23480-3EE37563-246@storefull-2316.public.lawson.webtv.net...
> J. Harvey wrote:
> "How does the C inherent in an isolated dipole near resonance compare to
> the C acress the elements of that same dipole measured at DC (or
> computed)?"

they are the same.

>
> First, capacitance is not a function of frequency. Capacitive reactance
> is a function of frequency.

true

>
> Second, there are similarities between a half-dipole and a monopole.
>
> Third, effects of a capacitance depend on the charge on the capacitance.
> Recall the Miller effect on the plate to grid capacitance in a triode.

this is an effect of the free charges in the near vacuum of the tube, you do
not see this effect on antennas unless you get the voltage so high they
start to cause corona when you will note an increase in capacitance.

>
> The RLC model of an antenna is valid, resonant or non-resonant.

only over a narrow frequency range

>
> B. Whitfield Griffith, Jr. sheds some light on resonance in an antenna.
> It is found on page 390 of "Radio-Electronic Transmission Fundamentals".
>
> Griffith`s example is a low-frequency "T-antenna". It`s a vertical
> monoopole resting on a base insulator which uses a capacitive hat for
> better current distribution in an antenna which is far too short for its
> frequency.

the key to this example is 'far too short for its frequency', in this case
you can model it with lumped components. this is one example of a valid
substitution, as long as you remain in the realm where the antenna is 'far
too short...' the calculations can be used.

note in this case that the narrow frequency range would be from dc to a
point where the antenna becomes an appreciable fraction of a wavelenght.
anywhere up to about 1/8th of a wavelength has been used in various places

depending on how critical your calculation is.

>
> Griffith gives the equivalent circuit of series connected resistance,
> inductance, and capacitance. Due to the wire, perpendicular to the earth
> having a very s,mall capacitance, this wire capacitance is negleted.
> This would not be the case in a self-resonant dipole. Its wire to wire
> capacitance is vital. The large capacitance of the T-top, parallel with
> the earth, is one factor which makes ignoring the vertical wire`s
> capacitance possible. Horizontal wire capacitance is high in this case.

correct, again note that the comparison between the 'far too short' antenna
and a self resonant dipole (assuming 1/2 wave overall length) is not valid,
you have gone beyond the assumptions of the original problem when you get
into an antenna that is a large fraction of a wavelength.

>
> Griffith`s formula for inductance of his vertical wire is:
> L = 0.2h (ln 4h/d -1)
> h=vertical wire height in meters
> d=diameter of the wire in the vertical in meters
> ln=the natural log of 4h/d
>
> The neglect of the capacitance of the vertical wire is based on the wire
> being short in terms of wavelength so that its current is nearly
> constant over its length. It also depends on the capacitive hat being
> small so that its voltage can be considered constant over its length.
>
> Griffith specifies that this T-antenna is a ship antenna. Vertical
> inductance calculates as 30 microhenrys. Capacitance of the hat
> calculates as 500 mmfd.
>
> The antenna does not resonate at 500 KHz as desired, so 173 microhenrys
> provided by a loading coil is added in series to cause resonance.
>
> Another way to look at a resonant length of wire is in the distance
> between minima and maxima. To predict this, you need to know the wave
> velocity along the wire. For thin wires, it`s about 95% of the
> free-space velocity.

the 95% figure is a decent approximation for any long thin wire at a
reasonable distance above the ground. again though you can not use the
lumped approximations as you are 'at a resonant length'.

>
> Best regards, Richard Harrison, KB5WZI
>

5879. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 19:58:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve75c4od70ase9@corp.supernews.com>
Source record: 115631

I'm sorry, but I don't see any connection between what I posted and your response.

Roy Lewallen, W7EL

Active8 wrote:
> In article <ve71f9gg8v6r62@corp.supernews.com>, w7el@eznec.com says...
>
>>There's a very active Fortran users' newsgroup populated by helpful
>>people - comp.lang.fortran. It's a good place to get answers to Fortran
>>questions.
>
>
> thanks, i had every intention of going there eventually. but if you were
> coding in FORTRAN, wouldn't you like to know about a possible problem?
> for that matter, if i suggested using FORTRAN to you, would you rather i
> didn't mention that it might not be accurate? we're talking about a tool
> used to model an antenna and in the case of the circular patch program,
> the code iterates up to 10000 times, more than enough to introduce
> cumulative error. it's like that old discussion about tower paint
> failure that got into the topic of paint.
>
> mike

5880. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:05:36 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d60fcf0d62cce98968b@news.earthlink.net>
Source record: 115632

In article <ve75c4od70ase9@corp.supernews.com>, w7el@eznec.com says...
> I'm sorry, but I don't see any connection between what I posted and your
> response.

sorry. i though i was being chided for being off topic. thanks again for
the pointer.

mike
>
> Roy Lewallen, W7EL
>
> Active8 wrote:
> > In article <ve71f9gg8v6r62@corp.supernews.com>, w7el@eznec.com says...
> > >
> >>There's a very active Fortran users' newsgroup populated by helpful
> >>people - comp.lang.fortran. It's a good place to get answers to Fortran
> >>questions.
> > >
> > >
> > > thanks, i had every intention of going there eventually. but if you were
> > > coding in FORTRAN, wouldn't you like to know about a possible problem?
> > > for that matter, if i suggested using FORTRAN to you, would you rather i
> > > didn't mention that it might not be accurate? we're talking about a tool
> > > used to model an antenna and in the case of the circular patch program,
> > > the code iterates up to 10000 times, more than enough to introduce
> > > cumulative error. it's like that old discussion about tower paint
> > > failure that got into the topic of paint.
> > >
> > > mike
>
>

5881. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:05:43 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d6106a4453aca98968c@news.earthlink.net>
Source record: 115633

In article <ve722k6oqk051d@corp.supernews.com>, w7el@eznec.com says...
> There's no real frequency limit to NEC-2. 2.4 GHz is no problem, and
> it's routinely used for frequencies much higher than that.
>
> I don't know about your particular application, but NEC-2 isn't suited
> for modeling conventional patch antennas on a dielectric substrate,
> since it has no way of accommodating the dielectric in the model.
>
> Roy Lewallen, W7EL

excellent! i won't be using a substrate. sorry. the P3D antenna design article i read differentiates between patch (air dielectric) and microsrip. just a convention the author used.

my app will be for S-Band. it's good to know that NEC-2 may be up to the task for other bands. the NEC-2 user manual (nec2prt3.pdf sec II p.10) kind of suggests that patch modeling is for closed volumes and gets a little funny if the volume has a thin dimension. maybe my wire grid with mesh size <= lambda/20 is the way to go.

just to avoid confusion, this antenna/reflector combo can be thought of as what you'd get if you opened a can of tuna and let the lid drop down inside so it sits parallel to the can's bottom 2/3 the way up, except the radius of the lid/patch will be a little over half the radius of the can according to my initial estimates.

thanks
mike
>
> Active8 wrote:
> > hi:
> >
> > i'm very new to EM solvers and MOM antenna programs like NEC. i just
> > converted cirpatch.f to a C++ app with a GUI and the solutions agree
> > with those of cirpatch.f's author.
> >
> > ultimately, this circular patch will sit inside an open ended
> > cylindrical reflector (i've seen the page on the S-Band circular patch
> > fed dish, also)
> >
> > i'd like to model this antenna and i added code to the app to model the
> > thing as a wireframe which pushes the number of wires limit (512) of
> > MMANA. the mesh size is less than lambda/20 and the pattern results look
> > normal when i use a perfect ground positioned where I estimate the
> > closed end of the reflector will be, though it's off axis (78 deg) in

> > the elevation plane. i would rewrite for NEC2 input, but:
> >
> > is NEC2 even suited for modeling at 2.4GHz?
> >
> > i also see that the SWR at the 50 Ohm feed point is "astronomical" -
> > 9895 and MMANA reports that it is vertically polarized. i'll leave it at
> > that, for now though i have a few more circular patch questions.
> >
> > tnx 4 ur help,
> > mike
> >
>
>

5882. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:06:46 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <4o57evsqi77h3jm0c1femjjdll1be6tevl@4ax.com>
Source record: 115634

On Sun, 8 Jun 2003 05:32:01 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>"Helmut Wabnig"
>> I am secretly working on my faster-than-light Morse Key,
>
>I was watching a National Geographic show about some geologists that wanted
>to visit a volcano in northern Ethiopia. They got into some bureaucratic
>trouble and we being held at a police outpost some 20 miles from their
>intended destination. The Ethiopian staff at the police outpost were
>communicating back to their head office with an HF radio. They were using
>Morse Code... ...by speaking "Dits" & "Dahs" into the microphone.
>Seriously.
>
>

:-))

"PGP Ethiopian"

w.

5883. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:17:32 UTC
From: Paul MW0CDO <gw7lhi@hotmail.com>
Message-ID: <bc05hm$e602b$1@ID-117699.news.dfncis.de>
Source record: 115635
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Walt Davidson" <walt99@tiscali.co.uk> wrote in message
news:t8s6evotau9udorrv0j96k470v7c2kj3tm@4ax.com...
> On Sun, 8 Jun 2003 15:59:35 +0100, "Paul MW0CDO" <gw7lhi@hotmail.com>
> wrote:
>
> > I don't have XP on this box as
> >you can see from the headers.. it's only a P233 with 64Mb RAM, but
happily
> >runs all the radio software etc. under Win98.
> >I think XP would actually be OK on this box, but it would be slow so I'm
not
> >going to bother.
>
> P233? Luxury! My fastest PC is this one, which has a P200-MMX and
> 128 MB of RAM. I run Windows 98 on it and rigorously apply all the
> Microsoft updates as soon as they come out. (Excluding the spurious
> ones that arrive by email, of course!) It's over 2 years since I last
> reinstalled Windows. I just installed a 52x CD-R/RW drive last week
> and it works perfectly, despite the user guide recommending a minimum
> P-II/350 MHz. (I also have 2 P166-MMX machines, one of which runs
> Linux and the other Win98 in the shack.)
>
> >Has anyone else noticed that some of the new fancy cases with pretty
moulded
> >fronts cause physical floppy disk problems.. had to have all of the new
XP
> >boxes' cases changed from the ASUSTek cases to something else because 9
> >times out of ten the floppy disk would not go into the drive properly.
> >Fiddling around with the physical mounting of the drives did nothing to
> >help!
>
> My PC is so old that it's in an AT (not ATX) case! It has 3 hard
> disks, 1 floppy drive and the CD-R/RW drive, plus various things
> connected to USB ports ... including my Alcatel broadband modem.
>
> 73 de G3NYY
> [thread totally off topic, but hey ... !]
>
> --
> Walt Davidson Email: g3nyy @freeuk.com

OK then.. I'll get back on topic in a moment but..

128Mb RAM.. LUXURY :-)!! I can't fit any more SIMM in this box, all the slots are full.

This box also has a Mitsumi 32x CDRW in it, works faultlessly as does a 32x CDR.
Both run in UDMA thanks to a BIOS update found on the mobo makers' site.

Likewise, I usually apply the legitimate MS patches once in a while.

Now to get back on topic, it also has a D-Link DWL-520 WiFi card installed.
Much to my surprise, it works faultlessly, despite the PC being way below the guideline specs supplied.
If anyone is thinking of WLAN kit, the D-Link stuff works well.
They have firmware downloads at the web site to allow the 11Mb kit to work at 4x speed.
At the price, it's cheaper than buying 54Mb kit and only a tad slower.
The units I have are DI-614+ access point and DWL-520+ PCI cards.

And I can leave the thing running for days with Mix or whatever watching PSK with the waterfall running at maximum speed without it falling over.

There be life in these old dogs yet..

Paul MW0CDO.

5884. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:18:30 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <ve76es6v3kg130@corp.supernews.com>
Source record: 115636

Only a few days ago, to help a colleague who is putting the final touches to a book, I investigated just this issue. I used an octagonal loop fed in the middle of one of the eight legs and having a perimeter of 12 meters as a test antenna of resonance and "anti-resonance." Here is what I sent to him:

Conditions: A loop in free-space with a perimeter of 12 meters consisting of #10 loss-less wire.

Below 12.2454 MHz the reactive part of the impedance is inductive.
Resonance at 12.2454 MHz (0.5 WL) with the real part of Z = 72310 ohms
Between 12.2454 MHz and 26.162 MHz the reactive part of the impedance is capacitive.
Resonance at 26.162 MHz (1.0 WL) with the real part of Z = 135.6 ohms
Between 26.162 MHz and 37.699 MHz the reactive part of the impedance is inductive.
Resonance at 37.699 MHz (1.5 WL) with the real part of Z = 3782 ohms.

Note that I made no effort to investigate sensitivity to segments or the like. I also commented to him that it would be difficult to couple power into the loop at its 0.5 WL resonance (or anti-resonance).

Just a data point. 73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

5885. Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:23:38 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <KWMEa.17460$pK2.23919@news.indigo.ie>
Source record: 115637

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Hi all,
Has anyone here tried to make a satellite dish from scratch?
If so let me know how you got on.

Cheers,
Xanax.
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPuObRyGakPXr24F/EQIRwACfSxQodOHWC7MIQk/7Sp2YyE3Rja0AoKOA
E8+z6TigMHdDuxuQmCt/OuNd
=UAtA
-----END PGP SIGNATURE-----
```

5886. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:24:16 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <4I2cnccM1LTtBn6jXTWcow@comcast.com>
Source record: 115638

You could check out http://www.mosley-electronics.com/amateur.htm . I think this is a 50 year old design, though.

Tam/WB2TT
"Bob Lombardi" <blombardi@cfl42.rr.com> wrote in message news:3EE38924.8020507@cfl42.rr.com...
>
> I've been doing some web searches for a 6 and 2 m interlaced yagi, but
> haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
> 70 cm, but it also mixes polarizations, and I want them both
> horizontally polarized (for SSB/CW operation). At this point, I don't
> care much whether I build it or buy it.
>
> It seems like the only single antenna solution I've found is a log
> periodic. Does anyone have a reference to a 6/2 interlaced yagi?
>
>
>
> 73,
> Bob
> W4ATM
>
> if you wish to reply by email, there are no numbers in my address...
>

5887. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:29:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE39CB7.3090505@ieee.org>
Source record: 115639

Dave Shrader wrote:
> ICE Ah! It's the stuff that both cools and dilutes SCOTCH.

Why didn't you say you were talking about "rocks"? Now what
kind of game is played on rocks?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5888. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:37:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE39E88.5050306@ieee.org>
Source record: 115640

Richard Harrison wrote:
> First, capacitance is not a function of frequency. Capacitive reactance
> is a function of frequency.

Calculate the capacitance of a five foot long open stub of RG-8
on 4 MHz Vs 28 MHz. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5889. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:49:37 UTC
From: tdonaly@aol.com
Message-ID: <20030608164937.02070.00000837@mb-m23.aol.com>
Source record: 115641

Wes Stewart wrote,
>
>This one looks linear to me.
>
>http://www.wenzel.com/pdffiles/RFDesign3.pdf
>

That's an interesting circuit. It works down to DC. It
can even work with an "out of phase" DC signal. I'm
going to have to start reading Peter Brackett's posts
more carefully.
73,
Tom Donaly, KA6RUH

5890. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:50:15 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d6b752dac1cb698968d@news.earthlink.net>
Source record: 115642

In article <KWMEa.17460$pK2.23919@news.indigo.ie>,
keepItInTheNewsGroups@news.com says...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> Has anyone here tried to make a satellite dish from scratch?
> If so let me know how you got on.

no, but i've considering taking an existing solid dish, coating it with a mold release like vaseline and making a cast. then i'd need something really hard like that floor leveling concrete with JB weld as a load bearing surface to protect the stone, or ultimately a cast metal die that i can use to stamp one out of aluminum. luckily, i have a friend with an aluminum foundry. an accurate die might just do a nice job.

i think if you search hard, you'll find some projects others have out on the web. try the free Web Ferret ferretsoft.com for a good search tool.

mike
>
> Cheers,
> Xanax.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPuObRyGakPXr24F/EQIRwACfSxQodOHWC7MIQk/7Sp2YyE3Rja0AoKOA
> E8+z6TigMHdDuxuQmCt/OuNd
> =UAtA
> -----END PGP SIGNATURE-----
>
>
>
>

5891. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 20:54:03 UTC
From: andrew <andrew@nospam.co.uk>
Message-ID: <Ilp6qhArJ64+EwHx@gi0nwg.freeserve.co.uk>
Source record: 115643
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

In article <88m3ev4jb1ls3rnns7bi768g8v384699v4@4ax.com>, Walt Davidson
<walt99@tiscali.co.uk> writes
>On 7 Jun 2003 11:18:26 GMT, "MattD.." <me@privacy.net> wrote:
>
>>Windows XP, IMHO, was a big step backwards in
>>terms of driver availability, application compatibility and stability,
>>especially when you consider that SP1 breaks more than it fixes ;o)
>
>Agreed!!! I have stuck with Windows 98 ... and very glad that I have,
>having seen some people's experiences with trying to get things to run
>on XP.

And XP runs much slower than Win98SE. I built an AMD XP1800+ system
with 256Mb RAM a while back for a relative and to try it out I installed
Win98SE. The thing flew. Then the person insisted on having WinXP no
matter how much I tried to persuade them otherwise. The hit in
performance had to be seen to be believed. Stick to Win98SE (especially
if you need serial ports for radios).

Andrew Williamson GI0NWG / AC6WI
Homepage = http://www.gi0nwg.freeserve.co.uk/

One of the ZL9CI gang
http://www.qsl.net/zl9ci/

5892. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:19:53 UTC
From: tdonaly@aol.com
Message-ID: <20030608171953.02070.00000838@mb-m23.aol.com>
Source record: 115645

H. wrote,
>
>No, it is equal.
>

It is if you're using Gaussian cgs units. Since Reg is talking
picofarads, he's probably using SI units. Of course it wouldn't be
surprising if he used Heaviside units where epsilon zero is equal
to 1.
73,
Tom Donaly, KA6RUH

>"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
>news:bbu49tapu1@hercules.btinternet.com...
>> > And BTW Reg.......
>> > The capacitance of a spherical conductor is equal to it's radius.
>> > H.
>> > NQ5H
>> ======================================
>>
>> You've made a mistake. The capacitance of a sphere is NOT equal to its
>> radius. It is in fact PROPORTIONAL to its radius.
>>
>> Actually I prefer to work in diameters. They are easier to measure and
>> visualise than radii.
>>
>> The capacitance of an isolated sphere is 55.5*Diameter picofarads where
>the
>> Diameter is in metres. The capacitance of the Earth is surprisingly
>mall -
>> its only 707 microfarads.
>>
>> But you may have meant the capacitance of an ordinary circular antenna
>> conductor is proportional to its radius.
>>
>> In which case you've made another mistake.
>>
>> The capacitance of a circular antenna conductor is proportional to the
>> logarithm of its radius, a much more slowly changing relationship.
>> ---
>> Reg, G4FGQ
>>
>>
>

5893. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:20:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve7a5eqjvrq36a@corp.supernews.com>
Source record: 115644

Ah, patch vs. patch. For readers not familiar with NEC-2, a "patch" is a flat, conductive plate which can be used along with the wire as a basic modeling element. This is not to be confused with patch or microstrip antennas (terms usually used synonomously), although one might be tempted to use an NEC-2 patch to model an air-dielectric patch antenna.

But Mike's reading of the NEC-2 manual is correct. NEC-2 patches can't be used for modeling a plane surface like an air-dielectric patch antenna. The reason is that the current on the NEC-2 patch is forced to zero at the edges of the patch unless the patch is connected to another patch. On a real metallic plate, unlike the model patch, current readily flows around the edges and consequently modifies the radiated field. So patches can only be used to model closed volumes of reasonable thickness. Wire grid modeling is the generally accepted method of modeling a flat conductive plate, and is often used for closed structures also. (See, for example, the helicopter wire grid model at http://eznec.com/eznecpro.htm.) Some rules have evolved regarding the best choice of wire diameter for wire grid modeling. These are outlined in the EZNEC manual, available with the free demo version of EZNEC from http://eznec.com. Look up "Wire Grid Modeling" in the manual index.

A number of the NEC-2 based modeling programs, including EZNEC, don't include NEC-2 patches for various reasons.

Roy Lewallen, W7EL

Active8 wrote:
> In article <ve722k6oqk051d@corp.supernews.com>, w7el@eznec.com says...
>
>>There's no real frequency limit to NEC-2. 2.4 GHz is no problem, and
>>it's routinely used for frequencies much higher than that.
>>
>>I don't know about your particular application, but NEC-2 isn't suited
>>for modeling conventional patch antennas on a dielectric substrate,
>>since it has no way of accommodating the dielectric in the model.
>>
>>Roy Lewallen, W7EL
>
>
> excellent! i won't be using a substrate. sorry. the P3D antenna design
> article i read differentiates between patch (air dielectric) and
> microsrip. just a convention the author used.
>
> my app will be for S-Band. it's good to know that NEC-2 may be up to the
> task for other bands. the NEC-2 user manual (nec2prt3.pdf sec II p.10)

> kind of suggests that patch modeling is for closed volumes and gets a
> little funny if the volume has a thin dimension. maybe my wire grid with
> mesh size <= lambda/20 is the way to go.
>
> just to avoid confusion, this antenna/reflector combo can be thought of
> as what you'd get if you opened a can of tuna and let the lid drop down
> inside so it sits parallel to the can's bottom 2/3 the way up, except
> the radius of the lid/patch will be a little over half the radius of the
> can according to my initial estimates.
>
> thanks
> mike
>
>>Active8 wrote:
>>
>>>hi:
>>>
>>>i'm very new to EM solvers and MOM antenna programs like NEC. i just
>>>converted cirpatch.f to a C++ app with a GUI and the solutions agree
>>>with those of cirpatch.f's author.
>>>
>>>ultimately, this circular patch will sit inside an open ended
>>>cylindrical reflector (i've seen the page on the S-Band circular patch
>>>fed dish, also)
>>>
>>>i'd like to model this antenna and i added code to the app to model the
>>>thing as a wireframe which pushes the number of wires limit (512) of
>>>MMANA. the mesh size is less than lambda/20 and the pattern results look
>>>normal when i use a perfect ground positioned where I estimate the
>>>closed end of the reflector will be, though it's off axis (78 deg) in
>>>the elevation plane. i would rewrite for NEC2 input, but:
>>>
>>>is NEC2 even suited for modeling at 2.4GHz?
>>>
>>>i also see that the SWR at the 50 Ohm feed point is "astronomical" -
>>>9895 and MMANA reports that it is vertically polarized. i'll leave it at
>>>that, for now though i have a few more circular patch questions.
>>>
>>>tnx 4 ur help,
>>>mike
>>>
>>
>>

5894. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:23:54 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <u6icnaMgJuzZN36jXTWcqQ@crocker.com>
Source record: 115646

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE39E88.5050306@ieee.org...
> Richard Harrison wrote:
> > First, capacitance is not a function of frequency. Capacitive reactance
> > is a function of frequency.
>
> Calculate the capacitance of a five foot long open stub of RG-8
> on 4 MHz Vs 28 MHz. :-)

rg8u in the belden book is 29.5pf/ft (note for general interest, it is not specified at various frequencies as they do in the next column of the same table for losses) so 5' is 147.5pf.

to answer the next obvious question, no that is not the impedance you will read if you measure it at those two frequencies.

and no, you can't even use the basic formula for capacitive reactance of that 147.5pf at those two frequencies to calculate the impedance. it will be very close at 4 MHz, but substantially different at 28MHz as 5' is probably too long to be considered as a lumped impedance at that frequency.

5895. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:25:39 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <BEidnX-9LaFFNH6jXTWcog@crocker.com>
Source record: 115647

"Active8" <m_remove_colasono@earthlink.net> wrote in message
news:MPG.194d6b752dac1cb698968d@news.earthlink.net...
> In article <KWMEa.17460$pK2.23919@news.indigo.ie>,
> keepItInTheNewsGroups@news.com says...
> >
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all,
> > Has anyone here tried to make a satellite dish from scratch?
> > If so let me know how you got on.
>
> no, but i've considering taking an existing solid dish, coating it with
> a mold release like vaseline and making a cast. then i'd need something
> really hard like that floor leveling concrete with JB weld as a load
> bearing surface to protect the stone, or ultimately a cast metal die
> that i can use to stamp one out of aluminum. luckily, i have a friend
> with an aluminum foundry. an accurate die might just do a nice job.
>
> i think if you search hard, you'll find some projects others have out on
> the web. try the free Web Ferret ferretsoft.com for a good search tool.
>

seems like a lot of work for something you can often pick up for free from
someone who wants to get it out of their yard.

5896. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:38:05 UTC
From: richardharrison@webtv.net
Message-ID: <13697-3EE3ACBD-273@storefull-2318.public.lawson.webtv.net>
Source record: 115649

Evan, K9SQG wrote:
"The attenuation is primarily limited to vertical antennas in the HF range, mounted "close" to trees. The same is NOT true for horizontal antennas with nearby trees."

"Electrical Communication Systems Engineering". War Department TM 11-486, 25 April 1945 agrees. It says on page 241:
"Recent measurements using antennas somewhat below treetop level in densely wooded areas indicate that with both the transmitting and receiving antennas so situated, the loss when using vertical polarization is 3 or 4 db for frequencies in the 20 to 40 MHz band and 10 db in the 70 to 100 MHz band. With horizontal polarization, losses are negligible at 20 to 40 MHz and quite small at 70 to 100 MHz."

Dense jungle is much worse, says The War Department.

Best regards, Richard Harrison, KB5WZI

5897. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 21:57:11 UTC
From: Mike C <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194d7a99cfeedc4b989680@news.earthlink.net>
Source record: 115650

In article <BEidnX-9LaFFNH6jXTWcog@crocker.com>, k1ttt@arrl.net says...
>
> "Active8" <m_remove_colasono@earthlink.net> wrote in message
> news:MPG.194d6b752dac1cb698968d@news.earthlink.net...
> > In article <KWMEa.17460$pK2.23919@news.indigo.ie>,
> > keepItInTheNewsGroups@news.com says...
> > >
> > > -----BEGIN PGP SIGNED MESSAGE-----
> > > Hash: SHA1
> > >
> > > Hi all,
> > > Has anyone here tried to make a satellite dish from scratch?
> > > If so let me know how you got on.
> >
> > no, but i've considering taking an existing solid dish, coating it with
> > a mold release like vaseline and making a cast. then i'd need something
> > really hard like that floor leveling concrete with JB weld as a load
> > bearing surface to protect the stone, or ultimately a cast metal die
> > that i can use to stamp one out of aluminum. luckily, i have a friend
> > with an aluminum foundry. an accurate die might just do a nice job.
> >
> > i think if you search hard, you'll find some projects others have out on
> > the web. try the free Web Ferret ferretsoft.com for a good search tool.
> >
>
> seems like a lot of work for something you can often pick up for free from
> someone who wants to get it out of their yard.

most definitely. i was thinking of a repeatable method to make more than
one.

mike
>
>
>
>
>

5898. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 22:13:54 UTC
From: richardharrison@webtv.net
Message-ID: <1334-3EE3B522-179@storefull-2313.public.lawson.webtv.net>
Source record: 115652

Cecil, W5DXP wrote:
"Calculate the capacitance of a five foot long open circuit stub of RG-8 on 4 MHz versus 28 MHz."

The effect Cecil refers to is provided by combination of cable inductance and capacitance. Taken alone, The Antenna Book, page 24-19, tells me RG-8 capacitance is 24 to 30 pF/ft, depending on formulation, not frequency.

Best regards, Richard Harrison, KB5WZI

5899. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 22:34:11 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bc0dgl$dt256$1@ID-150848.news.dfncis.de>
Source record: 115651

Dave Shrader wrote:
> Richard, I wonder if you asked the wrong question??
>
> The following is basically correct for VHF at 157 MHz:
>
> 1 watt HT at 6 feet elevation has a radio horizon of approximately 3.4
> miles.
>
> 25 watt base station at 6 feet elevation has a radio horizon of
> approximately 3.4 miles.
>
> 100 watt super base station at 6 feet elevation has a radio horizon of
> approximately 3.4 miles.
>
> But, a 1 watt station with an antenna at 100 feet elevation has a
> radio horizon of approximately 14 miles.
>
> The answer is not power BUT elevation!!
>
> How high is your antenna?
>
> Deacon Dave, W1MCE

Well, I once worked a mobile in the area where the marine station is, and I think conditions were flat. I was using a 6dB co-linear at about 35 feet. I live on a hill prominence and the land is pretty flat towards the target.

I think I'll be able to receive the marine staion, but if I don't I'll have some fun building an antenna and trying. The station is about 50 miles away.

Anybody want to give their opinion whether in flat conditions I am able to receive the marine station? Nay, I bet 10 pence I can. :c)

5900. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 22:40:51 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <TXOEa.1967$Gm4.138243@news20.bellglobal.com>
Source record: 115653

"J. Harvey" wrote:
> I still don't quite believe that the C in the LC of an antenna
> is caused by the simple, geometrical, calculable capacitance
> between the two halves of the dipole antenna.

"Dick Carroll"
> I don't either. If it was there would need to be differing
> formulations for dipoles depending on whether or not
> they were centerfed as two separated elements or a
> single halfwave element fed by a different match scheme
> such as a gamma match. To my knowledge there are no
> such different formulas.

Good point.

"David Robbins" wrote something like this:
> Ah, but it's true... What makes it confusing is that you are
> thinking lumped capacitors and inductors; antennas (at
> least ones that are a significant fraction of a wavelength)
> cannot be analyzed that way except for over a very small
> bandwidth. So the capacitive reactance you measure with
> an RF feed can be much different than what you would calculate
> from using the dc measured or calculate value of C. This
> would lead you to believe that the value of C has changed.
> Where what you are really measuring is the effect of all the
> field interactions, reflections from the ends of the wires, wire
> inductance, mutual inductances, etc., etc., etc. of which the
> C that you measured at DC is only a part of the equation.

That all makes perfect sense and also happens to answer my question. Many
thanks.

5901. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 22:52:53 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <97PEa.1979$Gm4.139851@news20.bellglobal.com>
Source record: 115654

Richard Harrison:
> The RLC model of an antenna is valid,
> resonant or non-resonant.

"David Robbins"
> only over a narrow frequency range

My question has been unclear at times. It would be more clearly written as follows:

For an isolated dipole, how does the value of the C in the RLC model (near resonance) compare with the value of C measured at DC (or computed)?

David's answer (up-thread) seems to answer my question perfectly.

5902. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:10:16 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030608191016.08597.00001097@mb-m24.aol.com>
Source record: 115655

Appears that anything that has water and some other stuff dissolved in it and some physical properties making it look like some kind of conductor (even poor) can act as a "semi-wire" and participate in the antenna's performance. Hence trees are good candidate especially for the vertically polarized antennas. To what extent, it is fuzzy (and tough to model) but measurable as some of the examples stated. Tree can also be used as a (poor) antenna by properly coupling RF to it. The "quality" of the composition (tree material) and electrical length (yes Virginia) would determine its "performance" and participation in the vicinity of the array. If it got water and something that can make it (semi)conducting, then it will show up in the antenna's performance. It might be a good idea to plant the vertical arrays on the front of the forest for better F/B performance. The tress would "eat" the back lobe. Trees can be used wisely to enhance or hinder antenna performance.

Heck, I can make RF conductor out of my hand - I arch the hand so I touch my nose, inductively (small loop) couple RF to my "hand loop" and by lightly touching my nose I can create the burning sensation, or by pressing harder, I can feel the heat in the junction. Just don't report me to RF police for overdosing myself with RF exposure! (For F.Art, Nathan, Phil et al - I did it before "regulations" were in effect.)

Yuri, K3BUrn

5903. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:15:32 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE3C346.2000909@attbi.com>
Source record: 115656

When I lived in Massachusetts I could hear USCG [156.800 MHz] from
Portland Maine about 70 miles away, mostly over sea water. My antenna
was 90 feet above sea level.

Now I live in New Hampshire and the USCG station is only 55 miles away,
all over land, my antenna is at 520 feet above sea level and I can't
hear anything on the marine channels.

I bet you will be able to receive 157 MHZ on a fairly regular basis if
there is a water path between the two stations.

Deacon Dave, W1MCE

Richard wrote:
> Dave Shrader wrote:
>
>>Richard, I wonder if you asked the wrong question??
>>
>>The following is basically correct for VHF at 157 MHz:
>>
>>1 watt HT at 6 feet elevation has a radio horizon of approximately 3.4
>>miles.
>>
>>25 watt base station at 6 feet elevation has a radio horizon of
>>approximately 3.4 miles.
>>
>>100 watt super base station at 6 feet elevation has a radio horizon of
>>approximately 3.4 miles.
>>
>>But, a 1 watt station with an antenna at 100 feet elevation has a
>>radio horizon of approximately 14 miles.
>>
>>The answer is not power BUT elevation!!
>>
>>How high is your antenna?
>>
>>Deacon Dave, W1MCE
>
>
> Well, I once worked a mobile in the area where the marine station is,
> and I think conditions were flat. I was using a 6dB co-linear at about
> 35 feet. I live on a hill prominence and the land is pretty flat
> towards the target.
>
> I think I'll be able to receive the marine staion, but if I don't I'll

> have some fun building an antenna and trying. The station is about 50
> miles away.
>
> Anybody want to give their opinion whether in flat conditions I am able
> to receive the marine station? Nay, I bet 10 pence I can. :c)
>

5904. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:29:54 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <RFPEa.1998$Gm4.146349@news20.bellglobal.com>
Source record: 115657

"Dave Shrader"
> How high is your antenna?

Don't forget the other guy's height.

5905. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:30:09 UTC
From: Chuck / KE4ETH <chuck_hawks@hotmail.com>
Message-ID: <XMNEa.17389$gQ1.3716@fe10.atl2.webusenet.com>
Source record: 115648

I agree, most people seem to be glad to have them hauled away. Got a good 10 foot made of magnesium that way. Real lightweight, but sturdy a sin. Some day I'll build an AZ/EL mount and try EME.

That said, I have made a spherical dish used a mold made from fiberglass and plywood. Worked ok for C-Band, but big pain to make. It was an six footer, fiberglass and screen door wire.

Chuck
">
> seems like a lot of work for something you can often pick up for free from
> someone who wants to get it out of their yard.
>
>
>
>

5906. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:37:27 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <WMPEa.2001$Gm4.147507@news20.bellglobal.com>
Source record: 115658

"Roy Lewallen"
> There's no real frequency limit to NEC-2.
> 2.4 GHz is no problem, and it's routinely
> used for frequencies much higher than that.

True, but...

...don't (for example) try to include in your NEC model an entire aircraft fuselage (or other large structures) at very high frequencies. The computation time and memory requirements will be excessive.

Conveniently, GTD/UTD starts being valid right about where NEC chokes.

Fortunately for antenna designers, antennas scale with frequency.

Structures don't.

5907. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-08 23:44:07 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <aTPEa.2006$Gm4.148705@news20.bellglobal.com>
Source record: 115659

"Yuri Blanarovich"
> Heck, I can make RF conductor out of my hand -
> I arch the hand so I touch my nose, inductively
> (small loop) couple RF to my "hand loop" and
> by lightly touching my nose I can create the
> burning sensation, or by pressing harder, I
> can feel the heat in the junction.
> Yuri, K3BUrn

So you really are loopy ? ;-) !!

Jeff
VE1BLL (/VE3 for just a bit longer).

5908. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 00:03:32 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306081603.34b61913@posting.google.com>
Source record: 115660

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<EdVroKEiL24+EAxe@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
> >> Show me where Moxon says anything about the linear resonator having
> >> "gain attributes".
> >
> >O my! Stand by a moment....
>
> Thanks to the person who scanned and e-mailed pages 311-313 of the
> second edition.
>
> >
> >Page 311 Under improving the existing station.
>
> Gain attributes? No, that's not what Moxon says at all.
>
> It's important to understand that page 311 is in the chapter near the
> end of the book, where Moxon speculates about what *could* be done with
> the ideas he has put forward. He develops some ideas for a multi-band
> yagi design which is purely conceptual and "yet to be tried", and then
> compares its performance with a typical 3-element tribander. Since his
> antenna is larger and has more elements, at optimised locations, it's
> not surprising that he can claim some extra gain on every band, plus
> 18MHz and 24MHz coverage too.
>
> On 14MHz, the claimed increase in gain from his proposed multi-band beam
> comes from using full-sized elements on that band. This is well known.
> Linear resonators are not involved.

> On 21MHz, there is a small increase in gain due to using longer
> elements, with linear resonators to make use of the full physical
> length. Score an assist for linear resonators, though a switched
> capacitor at the center of the element could have done the same job.
>
> On 28MHz Moxon claims "at least one S-unit" advantage, which I find hard
> to account for. Part of it is due to using extra elements, at the right
> spacing for 28MHz. Part must also be due to his idea of making a longer
> element act as two colinear half-waves... but this is uncharted
> territory because the ordinary rules for yagi design would not apply.
> You'd have to develop your own dimensions; Moxon hasn't.

O.K. Ian I accept your interpretation at this time. Remember I started
on this trail many years ago and have done a lot of work after this
book first came out
so my interpretations may well jump ahead a bit .

I am more than happy that you are being thorough in what you say and
do,
I find great pleasure in that I have found someone who can "walk the
walk"
in taking a fresh look at this resonator and not relying on 'off the
cuff'
opinions but concentrating on facts found now we are computor assisted
which Les wasn't. You will not be disapointed in what you find but I
can wait.

>
> >Might as well look at page 313 where he talks of operating this type of
> >design on all bands from 14 to 28 Mhz which is certainly an
> >understatement since it takes advantage of all aperture provided which
> >the SteppIR antenna cannot do.
>
> This is about using linear resonators with a tunable C to give
> continuously adjustable coverage. There is a small increase in gain on
> the higher bands through always making use of the entire physical length
> of the element... but there are other ways to do that.

Exactly. This is why I have focussed on using a single element.
Making a three element form was not satisfactory for me without
having element spacing changes. I accept what he says about two
elements beams max.
I am looking forward to the single element program that possibly will
be based on 10 meters tho probably will not show maximum gain because
of element diameters. But it will show the current curve shape that
clearly is more than a three band element which has long elements
with much being inactive.
I prefer to with hold any comments until that time when you discuss
Mark's efforts and what you found when you played around with it to
see if you observe the same things. This is because I am not an
electrical engineer or have been to University and thus am somebody
who retired and took up antenna experimenting
as my hobby. Mark on the other hand is well versed in modelling and
probably a much better communicator

>
> To sum up, Moxon nowhere claims that linear resonators have "gain
> attributes". Those remain Art's words.

Very best regards
Art Unwin KB9MZ....XG

5909. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 00:32:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE3D5AC.8070409@ieee.org>
Source record: 115661

David Robbins wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Harrison wrote:
>>>First, capacitance is not a function of frequency. Capacitive reactance
>>>is a function of frequency.
>>
>>Calculate the capacitance of a five foot long open stub of RG-8
>>on 4 MHz Vs 28 MHz. :-)
>
> rg8u in the belden book is 29.5pf/ft (note for general interest, it is not
> specified at various frequencies as they do in the next column of the same
> table for losses) so 5' is 147.5pf.
>
> to answer the next obvious question, no that is not the impedance you will
> read if you measure it at those two frequencies.
>
> and no, you can't even use the basic formula for capacitive reactance of
> that 147.5pf at those two frequencies to calculate the impedance. it will
> be very close at 4 MHz, but substantially different at 28MHz as 5' is
> probably too long to be considered as a lumped impedance at that frequency.

Thanks David, my point exactly!
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5910. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 00:35:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE3D63B.2030309@ieee.org>
Source record: 115662

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Calculate the capacitance of a five foot long open circuit stub of RG-8
> on 4 MHz versus 28 MHz."
>
> The effect Cecil refers to is provided by combination of cable
> inductance and capacitance. Taken alone, The Antenna Book, page 24-19,
> tells me RG-8 capacitance is 24 to 30 pF/ft, depending on formulation,
> not frequency.

Why do I get approximately 20 times the capacitance at 28 MHz as
I do at 4 Mhz?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5911. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 00:50:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve7mec8h381ve8@corp.supernews.com>
Source record: 115663

Perhaps you know something about NEC which I don't. As far as I know, scaling a model for a different frequency will make no difference at all in memory requirements or calculating time. If you have information to the contrary, I'd be very interested in learning more details.

Certainly, if you try to model a very large structure at a high frequency, you'll need to use a lot of segments, since spacing for a wire grid model shouldn't exceed about 0.1 wavelength. And a lot of segments means slower calculation and a greater memory requirement. However, if you decide to make a scale model at a different frequency, everything, including wire spacing, scales equally, so the number of required segments (hence the calculation time and memory requirements) remain the same.

One technique used for modeling large objects at high frequencies is to first run some approximate analyses to see how large the currents are on various parts of the structure. Parts of the structure carrying relatively small currents contribute less to the overall field, so they can be more crudely modeled, i.e., with coarser segmentation. This often results in a model with the 0.1 wavelength or so wire spacing close to the antenna, getting coarser as you move farther away. This is a technique you'd use, for example, to model a 2 meter antenna on the side of a tower. The tower should be modeled carefully near the antenna, but it can probably be modeled more crudely, or not at all, beyond some distance from the antenna.

But modern machines are perfectly capable of running models with a pretty large number of segments when needed. A number of EZNEC pro users routinely analyze models having nearly those programs' limit of 10,000 segments. And it wasn't long at all after I introduced EZNEC pro that some customers asked about the possibility of having more segments yet. NEC includes code (implemented in EZNEC and almost certainly by similar programs) that efficiently partitions a problem that's too large to fit into memory all at once, and solves it in pieces with only a modest increase in calculation time.(*) But wih modern machines and cheap RAM, this is becoming necessary only for the largest models.

(*)Windows automatically provides 2GB of virtual memory per application, and provides it as necessary from RAM or by swapping to and from the hard drive. However, if the memory required by the application is a lot larger than the amount of physical RAM, this process gets very, very inefficient, resulting in nearly constant disk activity ("disk flogging") and extremely slow execution. The procedures within NEC are much more efficient, so EZNEC goes to great pains to switch over to the NEC virtual memory routines at a point before Windows tries to handle it.

Roy Lewallen, W7EL

J. Harvey wrote:
> "Roy Lewallen"
>
>>There's no real frequency limit to NEC-2.
>>2.4 GHz is no problem, and it's routinely
>>used for frequencies much higher than that.
>
>
> True, but...
>
> ...don't (for example) try to include in your NEC model an entire aircraft
> fuselage (or other large structures) at very high frequencies. The
> computation time and memory requirements will be excessive.
>
> Conveniently, GTD/UTD starts being valid right about where NEC chokes.
>
> Fortunately for antenna designers, antennas scale with frequency.
>
> Structures don't.
>
>
>

5912. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 01:00:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve7n2lrrufug36@corp.supernews.com>
Source record: 115664

W5DXP wrote:
> Richard Harrison wrote:
>
>> Cecil, W5DXP wrote:
>> "Calculate the capacitance of a five foot long open circuit stub of RG-8
>> on 4 MHz versus 28 MHz."
>>
>> The effect Cecil refers to is provided by combination of cable
>> inductance and capacitance. Taken alone, The Antenna Book, page 24-19,
>> tells me RG-8 capacitance is 24 to 30 pF/ft, depending on formulation,
>> not frequency.
>
>
> Why do I get approximately 20 times the capacitance at 28 MHz as
> I do at 4 Mhz?

Because you're doing the calculation wrong or calculating the wrong thing. The capacitance of any 50 ohm coaxial feedline with solid polyethylene dielectric is just about 30 pF/ft. The relevant equation can be found in just about any electromagnetics or basic physics text. From Z0 and C per unit length, you can calculate L per unit length as about 75 nH per foot -- the square root of L per unit length divided by C per unit length is the characteristic impedance of the line, and the square root of their product is the delay time per unit length. In the case of polyethylene dielectric cable, this is about 1.5 ns/ft.

It's this combination of constant capacitance per unit length and constant inductance per unit length that gives a (lossless) transmission line a constant and resistive characteristic impedance.

If a cable were lossless, L, C, and Z0 would be independent of frequency. Cable loss modifies them a bit at very high frequencies.

Roy Lewallen, W7EL

5913. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 01:25:07 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EE3E102.AD8B675C@gte.net>
Source record: 115665

Tarmo Tammaru wrote:

> You could check out http://www.mosley-electronics.com/amateur.htm . I think
> this is a 50 year old design, though.
>
> Tam/WB2TT
> "

I too think it has been around a while- and as I recall, the price was, well, breathtaking for its size.

Dale W4OP

5914. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 02:13:32 UTC
From: Robert Casey <wa2ise@ix.netcom.com>
Message-ID: <3EE3ED4C.5060605@ix.netcom.com>
Source record: 115666
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Airy R Bean wrote:

>The Computer Operator is the lowest-of-the-low in the world
>of computing, much lower than the M3 in the CB hierarchy.
>
>Nowadays, they call themselves, "sysadmin", but they're still
>computer operators, the turnip-brained of the computing world.
>
>
>
Don't you know, *NEVER* piss off the sysadmin. Not if you ever want to do
anything on the computer system......

==========
What did Santa Claus say at the house of ill repute?
"Ho Ho Ho"....

5915. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 02:21:31 UTC
From: Robert Casey <wa2ise@ix.netcom.com>
Message-ID: <3EE3EF2B.3040803@ix.netcom.com>
Source record: 115667
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

zpk wrote:

>netscape 7 may well be out but because of netscape 6, some people
>might like to stay with what they know works.
>
>
I upgraded from 4.77 to 7.02 a month ago. Haven't had any more
javascript hangs or other
crashes. Also no more email crashes. Only downside is that I can't
change pages if I have
a "file, save as" window open. Can happen if I go to a link, decide to
grab an image, and
then want to go back to the previous page to find out a model number or
whatever so I
can give the saved image a sensible name.

5916. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 02:30:33 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc0rg9$29j$0@208.206.142.109>
Source record: 115668

Richard Clark wrote:

> On Sat, 07 Jun 2003 23:02:34 -0700, Wes Stewart <n7ws@!#!arrl.net>
> wrote:
>
> >Of course there aren't many 50 dB RL
> >connectors around, but that's another issue :)
>
> You simply don't have a stock of Cecil's "virtual connectors."

He probably does, he just doesn't realize it yet!

5917. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 02:40:46 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc0s3enrd1@sparta.btinternet.com>
Source record: 115569

> If a cable were lossless, L, C, and Z0 would be independent of
> frequency. Cable loss modifies them a bit at very high frequencies.
>
> Roy Lewallen, W7EL
>
==========

Wrong! According to Oliver Heaviside, 1870 - 1925, cable loss R modifies Zo most at the lower frequencies despite the fact that R always decreases with frequency. L is also modified most at the lower frequencies but is due to the low frequency alone.

Reg, G4FGQ

5918. Re: Antenna Modeling Pgm (BASIC) & Win98

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 03:25:23 UTC
From: fmmck@aol.com
Message-ID: <20030608232523.04144.00000357@mb-m28.aol.com>
Source record: 115570

<< seems theres a floating point problem. did you know this and do you know of a compiler (preferable free) that doesn't have this problem? i found a GNU Fortran G77 v0.5.25 which is obsolete, but maybe the latest Linux has a FORRTRAN compiler that doesn't have this prob >>

Mike-

I understand the GNU people are hard at work on an update to their FORTRAN. I wonder if they are aware of the problem you mention? If someone would let them know about it, they could be sure to correct it in the new version.

73, Fred, K4DII

5919. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 03:37:09 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <EhTEa.1875$0c4.185278@news20.bellglobal.com>
Source record: 115571

"Roy Lewallen"
> There's no real frequency limit to NEC-2.
> 2.4 GHz is no problem, and it's routinely
> used for frequencies much higher than that.

"J. Harvey"
> True, but don't (for example) try to include
> in your NEC model an entire aircraft fuselage
> (or other large structures) at very high frequencies.
> The computation time and memory requirements
> will be excessive. Conveniently, GTD/UTD
> starts being valid right about where NEC chokes.
> Fortunately for antenna designers, antennas scale
> with frequency. Structures don't.

"Roy Lewallen" (all ">" below, snipped fairly)
> Perhaps you know something about NEC which I don't.

Not likely.

> As far as I know, scaling a model for a different frequency
> will make no difference at all in memory requirements or
> calculating time. If you have information to the contrary,
> I'd be very interested in learning more details.

We're in violent agreement.

I wrote, "Fortunately for antenna designers, antennas scale with frequency."
Just like you wrote above...

But, "Structures [like airplanes] don't [scale with frequency]." Just like
you wrote below...

> Certainly, if you try to model a very large structure at a high
> frequency, you'll need to use a lot of segments, since spacing
> for a wire grid model shouldn't exceed about 0.1 wavelength.
> And a lot of segments means slower calculation and a greater
> memory requirement.

Yes, that's what I wrote ("The computation time and memory requirements will
be excessive.").

(We're in violent agreement. Even if this is r.r.a.a, I'm still not going
to argue with you when we're in agreement... ;-))

Here's some background on what we've been up to. This shouldn't be read as
a Ford vs. Chevy (NEC vs. GTD/UTD) argument.

With NEC, one can model any antenna at any frequency. Just don't try to include a constant size structure as you go up in frequency. As you go up in frequency, the number of NEC segments needed to describe the structure (the airplane fuselage for example) can go up as the cube of the frequency (in the worst case). By the time you get to UHF, NEC is starting to choke unless one takes (manual, expensive) evasive action (as you describe below). By the time you get to L-band, it's probably hopeless.

People with airplanes are ~very~ interested in knowing where the signal is going, and where it isn't. Blockages, reflections, and so forth are of interest. With airplanes, the required coverage area is often larger than a hemisphere (due to pitch and roll). Isotropic coverage (low gain) is often the goal. Such low gain antennas illuminate large sections of the structure. The wings have large surface areas. Modeling a low gain, L-Band antenna on a large airplane is a nightmare with NEC. For GTD/UTD, it's simpler and much easier.

> One technique used for modeling large objects at high
> frequencies is to first run some approximate analyses
> to see how large the currents are on various parts of the
> structure. Parts of the structure carrying relatively small
> currents contribute less to the overall field, so they can be
> more crudely modeled, i.e., with coarser segmentation.
> This often results in a model with the 0.1 wavelength or
> so wire spacing close to the antenna, getting coarser as
> you move farther away. This is a technique you'd use,
> for example, to model a 2 meter antenna on the side
> of a tower. The tower should be modeled carefully
> near the antenna, but it can probably be modeled more
> crudely, or not at all, beyond some distance from the antenna.

Yes, we've studied that. It can help to a certain extent, but it takes time (=$) to customize the model for each analysis. Gets boring and expensive if you're modeling dozens of antennas on an aircraft.

Using GTD/UTD, for a 100-foot long airplane, one can easily conduct analysis in the frequency range of about 150MHz up to several GHz (where the model accuracy breaks down). Even making the GTD/UTD model is easier since it is built up from canonical shapes like cylindars and plates.

> But modern machines are perfectly capable of running
> models with a pretty large number of segments when
> needed. A number of EZNEC pro users routinely
> analyze models having nearly those programs' limit
> of 10,000 segments.

I wonder what sort of run time they experience when modeling 10k segments? Our project called for *thousands* of runs - each run producing a complete Mercator projection (the whole sphere) of the gain coverage. We certainly didn't want to wait around for more than a few minutes per run. I think we used a Pentium 3 at something a bit less than 1GHz.

Our project simply called out for GTD/UTD analysis. NEC was judged as being simply not practical for our application. We never went below about 150MHz. We used ALDAS software from ASL in the UK (links below *). It got pretty hairy when we mixed in antenna arrays, some circular polarization and even spinning antennas, but it all worked out. My co-worker gets the credit for the hands-on-keyboard work (not me).

If we were going to model the HF long wire antennas, then EZNEC was actually our leading contender. We haven't (yet?) got to that point.

In conclusion, GTD/UTD is the solution when NEC chokes (short wavelengths on big structures). If NEC isn't choking for your application, then use NEC.

*Related links (includes some pretty pictures...)
http://www.demon.co.uk/asl/aldas.html
http://www.demon.co.uk/asl/WhyGTD/TutorialSection2.html
http://www.demon.co.uk/asl/aldasexampleforhtm/structur.htm
http://www.demon.co.uk/asl/brest/Brestfinalhtml.html
http://www.demon.co.uk/asl/aldasgph.html#linkName20

Pre-canned search on GTD/UTD:
http://www.google.com/search?q=GTD+UTD

Cheers,

J. Harvey, Ottawa
VE1BLL (/VE3 for just a bit longer)

5920. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 04:26:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE40C5E.9070801@ieee.org>
Source record: 115572

Roy Lewallen wrote:
> W5DXP wrote:
>>> Cecil, W5DXP wrote:
>>> "Calculate the capacitance of a five foot long open circuit stub of RG-8
>>> on 4 MHz versus 28 MHz."
>>>
>> Why do I get approximately 20 times the capacitance at 28 MHz as
>> I do at 4 Mhz?
>
> Because you're doing the calculation wrong or calculating the wrong
> thing.

Well, you're right, I misspoke and should have said approximately 20
times the *reactance*.

5 ft of RG8 is ~0.03WL on 4 Mhz and is ~0.22WL on 28 Mhz.
Starting at X=infinity, and going toward the generator:
Xc on 4 MHz = j5 = 250 ohms, Xc on 28 MHz = j0.175 = 8.75 ohms.
If I didn't make a mistake on my calculator:
C on 4 Mhz = 160pf, C on 28 MHz = 650 pf.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5921. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 04:41:37 UTC
From: richardharrison@webtv.net
Message-ID: <18542-3EE41001-241@storefull-2317.public.lawson.webtv.net>
Source record: 115574

Cecil, W5DXP wrote:
"Why do I get approximately 20 times the capacitance at 28 MHz as I do at 4 MHz?"

This refers to a 5 ft open-circuit stub.

If the cable has 30 pF/ft capacitance, the correct determination is 150 pF total capacitance in 5 ft of cable, not 600 pF.

Cecil must mean the impedance looking into an open-circuit stub at 28 MHz appears to him as the reactance of a 600 pF capacitor. This is not magic and means very little.

Every 90 degrees along a shorted or open cable, the reactance flips its sign from minus to plus or from plus to minus. In the open-circuit stub, the capacitive reactance drops as the 90-degree "mark" is approached. That is equivalent to increasing capacitance. At 90-degrees back from the open-circuit, the impedance phase abruptly changes from leading to lagging.

Of course, the line can be a fixed length, and the frequency can be varied to change the effective length of the stub.

The sudden change in the sign of the reactance presented to the input of the stub when its length passes the 90-degree "mark" is similar to a trip through infinities for capacitance and inductance. The reactance has to go through zero to change signs.

"20 times the capacirtance" is entirely arbitrary.

The question of this thread was about antenna resonance from its inherent capacitance and inductance. Every straight piece of wire in free-space has a first resonance when it is about 1/2-wave in length. Exact length depends upon length to diameter ratio in the wire, loss, dielectric environment, etc. But, why confuse someone who asks a simple question? All the transmission line adds to a self-resonant antenna discussion is confusion. Tuned transmission lines are Moore obsession, however.

Best regards, Richard Harrison, KB5WZI

5922. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 04:46:45 UTC
From: dplatt@radagast.org
Message-ID: <ve849loheqsm09@corp.supernews.com>
Source record: 115573
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

In article <3EE3ED4C.5060605@ix.netcom.com>,
Robert Casey <wa2ise@ix.netcom.com> wrote:

>>The Computer Operator is the lowest-of-the-low in the world
>>of computing, much lower than the M3 in the CB hierarchy.

>>Nowadays, they call themselves, "sysadmin", but they're still
>>computer operators, the turnip-brained of the computing world.

>Don't you know, *NEVER* piss off the sysadmin. Not if you ever want to do
>anything on the computer system......

You've got that right. Anybody who thinks otherwise might want to
Google down and read the journals of the BOFH (Bastard Operator from
Hell).

Some sysadmins / operators are turnip-brained, no doubt... every niche
has some idiots. On the other hand, I've known some sysadmins,
operators, etc. who were highly skilled, very productive, and could
have taught some badly-needed lessons in usability and performance to
some of the programmers who designed the software being run on the
mainframes.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

5923. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 05:26:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve86jsgqnubhcf@corp.supernews.com>
Source record: 115575

You're right, I stand corrected. R becomes more significant, making Z0 partly imaginary, at low frequencies, not high. The key is loss per wavelength. As frequency decreases, the wavelength increases in inverse proportion, but R decreases only as the square root of wavelength. So the R per wavelength increases with decreasing frequency until you get so low that the conductor(s) is (are) no longer several wavelengths thick.

I was thinking of the small change in inductance caused by skin effect, and the dielectric loss that appears at very high frequencies. However, the small inductance change begins as soon as skin effect becomes noticeable, which is typically at low frequencies, as you say. And by the time you reach the high frequency at which dielectric loss becomes significant (around 1 to 10 GHz for typical coax), it's overwhelmed by jwC. So I don't think there would be a noticeable change in L, C, or Z0 at the high end.

Thanks for the correction.

Roy Lewallen, W7EL

Reg Edwards wrote:
>>If a cable were lossless, L, C, and Z0 would be independent of
>>frequency. Cable loss modifies them a bit at very high frequencies.
>>
>>Roy Lewallen, W7EL
>>
>
> ================================
>
> Wrong! According to Oliver Heaviside, 1870 - 1925, cable loss R modifies Zo
> most at the lower frequencies despite the fact that R always decreases with
> frequency. L is also modified most at the lower frequencies but is due to
> the low frequency alone.
> ---
> Reg, G4FGQ
>
>

5924. Re: Wave Propagation along a Transmission Line (Java animation)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 05:33:34 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <jc68evotoc70s4i6952uf4n7qd8i914878@4ax.com>
Source record: 115576

On 9 Jun 2003 02:30:33 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:

|
|
|Richard Clark wrote:
|
|> On Sat, 07 Jun 2003 23:02:34 -0700, Wes Stewart <n7ws@!#!arrl.net>
|> wrote:
|>
|> >Of course there aren't many 50 dB RL
|> >connectors around, but that's another issue :)
|>
|> You simply don't have a stock of Cecil's "virtual connectors."
|
| He probably does, he just doesn't realize it yet!

I'm virtually sure that I have some around here someplace.

5925. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 05:36:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve878a52n01h48@corp.supernews.com>
Source record: 115577

The reactance you're measuring comes about from the distributed C *and
L* of the line. While you can convert the reactance to an equivalent
series C, that C isn't the capacitance of the line. What you're doing is
similar to measuring a series LC circuit at various frequencies and
declaring that the circuit's capacitor is changing value.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> W5DXP wrote:
>>
>>>> Cecil, W5DXP wrote:
>>>> "Calculate the capacitance of a five foot long open circuit stub of
>>>> RG-8
>>>> on 4 MHz versus 28 MHz."
>>>>
>>> Why do I get approximately 20 times the capacitance at 28 MHz as
>>> I do at 4 Mhz?
>>
>>
>> Because you're doing the calculation wrong or calculating the wrong
>> thing.
>
>
> Well, you're right, I misspoke and should have said approximately 20
> times the *reactance*.
>
> 5 ft of RG8 is ~0.03WL on 4 Mhz and is ~0.22WL on 28 Mhz.
> Starting at X=infinity, and going toward the generator:
> Xc on 4 MHz = j5 = 250 ohms, Xc on 28 MHz = j0.175 = 8.75 ohms.
> If I didn't make a mistake on my calculator:
> C on 4 Mhz = 160pf, C on 28 MHz = 650 pf.

5926. Re: Antenna modeling question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 05:41:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ve87h36kocpj84@corp.supernews.com>
Source record: 115578

Thanks for the clarification. We do indeed agree. I apologize for misinterpreting your posting.

Roy Lewallen, W7EL

J. Harvey wrote:
> . . .
> We're in violent agreement.
>
> I wrote, "Fortunately for antenna designers, antennas scale with frequency."
> Just like you wrote above...
>
> But, "Structures [like airplanes] don't [scale with frequency]." Just like
> you wrote below...
>
>. . .

5927. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 05:44:39 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306082144.761e82@posting.google.com>
Source record: 115579

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<X7nPBqDogx4+EAgG@ifwtech.co.uk>...
> Mark Keith wrote:
> >
> >The way I modeled it didn't either. But I haven't seen his description
> >of a "linear resonator" so I'm not even sure exactly what it looks
> >like. I had just assumed it was about the same as the dipole/loop
> >thing Art was trying to model a few months ago, being he is comparing
> >the two. The one I modeled looked like this:
> >http://web.wt.net/~nm5k/loopole.jpg
>
> Thanks for that. The general shape is the same as a Moxon resonator,
> namely a line parallel to the main element, and fairly close-spaced.
> (Unless the spacing is very wide, I wouldn't describe that shape as a
> "loop".)

I didn't either. If you were to take a stretch and call it a loop,
being it's so small, it would not be much of an efficient radiator on
it's own.
>
> Also I'm not sure what the circle and cross symbols on the wires
> represent; different programs may mark feedpoints and loads in different
> ways. If you could post or e-mail the original file, I'd very much
> appreciate the change to play with the same models as you did. (EZNEC,
> NEC or AO would be fine for me, or just about any ASCII description.)

The "X" or cross, is the source. The circle is the cap. I did these
with MMANA which is a freeware program, I *think* using the same
engine as say elnec. The reason I used that program was it already had
examples of magnetic loops, which gave me ideas on feeding them, and
also I needed a lot of wire segments. I could send you the files for
that program. I can paste the ascii stuff here.
I'll paste the 10 meter version.

```
*
28.5
***Wires***
6
-0.5, -0.635, 0.0, -0.5, -4.875, 0.0, 0.01, -1
-0.5, 0.635, 0.0, -0.5, 4.875, 0.0, 0.01, -1
-0.5, 0.635, 0.0, -0.5, -0.635, 0.0, 0.01, -1
-0.5, 0.635, 0.0, -0.7, 0.635, 0.0, 0.0025, -1
-0.5, -0.635, 0.0, -0.7, -0.635, 0.0, 0.0025, -1
-0.7, 0.635, 0.0, -0.7, -0.635, 0.0, 0.0025, -1
*** Source ***
```

1, 1
w6c, 0.0, 1.0
*** Load ***
1, 1
w3c, 0, 0.0, 12.0, 0.0
Segmentation
400, 40, 2.0, 1
G/H/M/R/AzEl/X
0, 10.0, 4, 50.0, 120, 60, 0

The cap is 12 pf, and in the "load" column. "w3c"

For 17m, 44 pf. 15m, 30 pf. 12m, 18 pf. Hopefully you can make some
kind of sense of that. If you have MMANA, I could send you the files I
saved. It might be a good idea to use another program that is newer
and uses the newer NEC engine. MMANA is a mininec program same as say
elnec.
>
>
> >The wires parallel to the dipole are a bit close, but I didn't seem to
> >have any trouble making it work. I modeled it for each band 20-10m
> >with different cap values for each band. I didn't try to model a
> >feedline to go with it. All diameters were equal.
> >>
> >> >>It's not a way of feeding an antenna - it's a way of
> >> inserting a frequency-dependent resonant/reactive load into it.

Maybe so, but that seems kind of strange to me. To my way of thinking,
the example modeled was simply feeding the dipole in a manner much the
same as a T match, but using the capacitor to tune out reactance to a
point where you had a low SWR.
> >
> >I think this must be different than what Art described for his antenna
> >and what I was modeling.
>
> You can add a feedpoint to an element that also has a linear resonator -
> but the feedline is *never* connected to the side-arm that has the
> capacitor in it. In the T-match, the feedline is *always* connector to
> the capacitor side. That's what makes them different in many other ways
> too.

In this case, the cap was in the middle of the dipole, and the source
at the other side of the loop. "x". I only used one cap. I could see
some variations of T matches, etc using two caps.
>
> >But offhand, my first gut instinct
> >would be to think using a linear resonator would be more lossy than
> >the usual low loss loading devices. I've seen many that claim that
> >linear loading as a whole is less efficient than say hi Q loading
> >coils.

>
> I've seen the same claims, but they are about using linear *loading* to
> resonate an element that's shorter than a physical half-wavelength.
>
> But a linear *resonator* is completely different. All they have in
> common is the word "linear", and a vaguely similar appearance when
> squinting upward into the sun.
>
> The main use of the linear resonator is to give an existing half-wave
> element an additional resonance on a *higher* band. A typical
> application might be to make an existing 14MHz dipole resonate at 21MHz
> as well. The conventional approach is to use resonant traps to
> open-circuit the outer ends of the element; but in Moxon's view this is
> wasting energy in the trap losses, and also failing to make use of the
> full aperture (length) of the element. Moxon likes to do it by using the
> linear resonator to stretch the current distribution over the whole
> physical length of the element at the higher frequency; or to look at it
> another way, the element has too much inductance at the higher
> frequency, and he uses a linear resonator to tune it out. Both
> viewpoints are valid.

I'll accept what you say for now, but it still seems not much
different than using a tuner mounted at the feedpoint to me. But,
anyway, regardless of how it works, it did seem to work when modeled.
But I never said it wouldnt. I always thought it would work in that
regard. In past posts, Art seemed to give the impression you could
steer the pattern, by varying the cap. When modeled, I saw no
indication that this was possible, unless you used two sources, and
feed the dipole and the loop and two separate antennas. The loop would
not be connected to the dipole on any side in that case.
>
> In a different application, Moxon often uses a linear resonator in its
> parallel-resonant mode, for example to open-circuit the center of a
> 14MHz element at 28MHz. A typical application is to open-circuit the top
> of a 14MHz quad loop to turn it into a bi-square at 28MHz. The 28MHz
> linear resonator might be bridging out a 7ft section of the element, but
> it only has about 8pF in the center, so it has very little effect on the
> lower-frequency resonance.
>
> These all look like useful tricks, but they are very different from
> using linear loading to make a physically short element look
> electrically longer, so you'd have to take a whole new look at the
> claims about losses. I haven't done this either... but a linear
> resonator generally leaves the main element un-cut, and doesn't involve
> any wound inductors, both of which are a very good start towards low
> losses.

It's seems an interesting method. But the bottom line is: In modeling
these, I saw no difference at all in pattern or gain when compared to
feeding the same length dipole on it's own. They were the same. So if
there is an advantage, it would seem to have to be an efficiency

issue. Say comparing a "Cecil method" 20 m dipole on 12 m, to Art's 20m version on 12m. Or to a 20m dipole using an auto tuner at the feedpoint. etc...They are all just different ways of skinning the same cat. Or to me anyway... MK

5928. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 06:04:55 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306082204.57a52154@posting.google.com>
Source record: 115580

ryeburn@sfu.caz (David or Jo Anne Ryeburn) wrote in message
news:<ryeburn-0806031058250001@bni030qny8kc.bc.hsia.telus.net>...
> In article <ijv5evcloforncih9ihj084aon23ga83fo@4ax.com>, KC1DI
> <elbc2@gwi.net> wrote:
>
> > Go for the biggest loop you can it will work great on 80 through 10 ,
> > I would not expect an 80m loop to do much on 160m though if 160 is
> > your goal. you'd be better off with an inverted L for that band.
>
> I don't see why a loop one half wavelength in circumference on 160 metres
> would radiate all that badly. It seems to me it wouldn't be that much
> worse than a half-wave dipole at the same (low) height. Of course it would
> have a very high feedpoint impedance and using coax to feed it would not
> be a good idea.

Most of the people I know that do that, split the loop at the far end
for 160m use, and run exactly as you mention. Like a folded back
dipole. Works fairly well for NVIS. On 80m, they connect it back up.
MK

5929. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 06:19:41 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc18tthk0@208.206.142.112>
Source record: 115581

'Doc wrote:

> Bill,
> Thanks! In 20 years as a professional firefighter
> I've never seen a tree burn because of RF. Sooner or
> later I'll get lucky...
> 'Doc

Anyone who thinks that green stuff won't burn hasn't spent much time out
west.....

I haven't seen a tree set on fire by RF eitner, and I don't plan to, at
least via my own antenna installations.

5930. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 06:24:32 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc1970$24c$0@208.206.142.112>
Source record: 115582

Brian Kelly wrote:

> Roy Lewallen <w7el@eznec.com> wrote in message
news:<ve5n345hn950b4@corp.supernews.com>...
>
> > . . . But I am convinced that trees
> > can cause very substantial attenuation of vertically polarized signals
> > under some conditions. I just wish I had a better idea of just what
> > those conditions are.
>
> Probably boils down to too many unmeasurable variables to ever be able
> to make any sense of it by the numbers. Calibrated trees . . . ?

To me the logic goes that trees contain water and if water has effects on open wire feedline
there's no reason for it to act differently on an antenna that comes in close contact with part of a tree containing water, particularily when moisture content is high.

Dick

5931. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 06:33:57 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc19ol$24c$1@208.206.142.112>
Source record: 115583
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"J. Harvey" wrote:

> "Walt Davidson"
> > The DOS emulation in XP (such as it is) is problematic,
> > to say the least.
>
> DOS programs ?!? Definitely stay away from Win XP.

That's not all that's problematic with XP.....

5932. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 07:38:44 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5md8evsv91alljj919u4hhmmgd69d4t4sh@4ax.com>
Source record: 115584

On Sun, 08 Jun 2003 12:39:37 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>It's extremely easy to confuse cause and effect between those two
>things but IMO, virtual impedances, being an effect, cannot cause
>reflections.

Hi Cecil,

That is all well and good, but WHO trods that path in the first place
to make it an issue of importance?

And on second thought, I really don't care WHO and this is beyond
tiresome by 500 postings; especially when you have to prompt yourself
to amplify this non-distinction.

73's
Richard Clark, KB7QHC

5933. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 07:53:00 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bc1e8i$dmil4$1@ID-150848.news.dfncis.de>
Source record: 115585

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EE3C346.2000909@attbi.com...
> When I lived in Massachusetts I could hear USCG [156.800 MHz] from
> Portland Maine about 70 miles away, mostly over sea water. My antenna
> was 90 feet above sea level.
>
> Now I live in New Hampshire and the USCG station is only 55 miles
away,
> all over land, my antenna is at 520 feet above sea level and I can't
> hear anything on the marine channels.
>
> I bet you will be able to receive 157 MHZ on a fairly regular basis if
> there is a water path between the two stations.
>
> Deacon Dave, W1MCE

No water.

I'm kinda wondering if when I worked the mobile station at about the same distance there was a lift on. I always assumed conditions were flat. If they were I have a chance, if not probably just hear white noise, but get a signal whenever there is a lift on.

I'm really curious to see what happens.

5934. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 08:28:33 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3EE44531.2C945458@rickfrazier.com>
Source record: 115586

Once upon a time, when I was younger, I did make a mold to produce dishes out of fiberglas. Somewhere buried in "the archives" of the museum that serves as my office, I have the formulas and a couple of methods of generating a parabolic curve without significant tooling, but it might take me longer to find than if I looked for it on the Web...

Starting with a large, rather ugly and somewhat sperical form in the middle of the garage floor, I made a plaster mold of the inside surface of the dish. After many iterations to get the surface "just right" I ended up with about a six foot dish master mold, which I then used to create a fiberglas dish. At first, I just used roving or fabric and resin, but eventually "graduated" to using a chopper gun (like many boat manufacturers do). Strengthening ribs were made of plywood and part of the dish, which also provided handy mounting points. After the dish cured and came off the mold, I started with using aluminum foil, then fine mesh metal screen on the inside surface, which was overcoated with another layer of fiberglass and resin. It made a pretty good dish that was nice and sturdy, and didn't weigh much more than the commercially available ones that cost quite a bundle more (at that time).

Unfortunately, along came a significant increase in C-band and Ku-Band satellite popularity, and my home grown dishes were priced out of my local market nearly overnight... You could buy a larger, lighter dish for a bunch less money, and there were standard mounts available as well !!! For most purposes, the aluminum and steel mesh dishes available for standard satellite TV reception were close enough for most people, and you suddenly could buy a larger dish (with enough gain) to offset any loss of efficiency due to relatively minor imperfections in the mesh surface. Thus, a good, but smaller solid parabolic dish wasn't needed any more. Of course, I never made any real money with the project, but it was a lot of fun anyway (even though it was a lot of work. I hate to think about how many hours it took to get the mold correct...)

Today, the C-Band and Ku-Band popularity is waning, and in some areas there are dishes to be had for just asking, or for the labor of taking them down and removing them. Even if you have to pay a bit for one, it would still be a lot cheaper than building your own, unless you really prefer the do-it-yourself at any cost (or pain) approach... (I understand, if you do, having been there in another part of my life.)

Depending upon the diameter you want (and whether you are looking for a prime focus dish and not an offset focus like the little Dish Network and DirecTV that you see nearly everywhere now) and the frequencies you wish to investigate)play with), it is typically much less expensive and more fun to just look around and pick up a used C-Band or Ku-Band dish,

which will probably also come with a polar mount and such. Even buying one new is still a bunch cheaper than making your own, unless you are really off of the beaten path, or want to make some really esoteric size or configuration....

Good luck!
-_Rick AH7H

Xanax wrote:

> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> Has anyone here tried to make a satellite dish from scratch?
> If so let me know how you got on.
>
> Cheers,
> Xanax.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPuObRyGakPXr24F/EQIRwACfSxQodOHWC7MIQk/7Sp2YyE3Rja0AoKOA
> E8+z6TigMHdDuxuQmCt/OuNd
> =UAtA
> -----END PGP SIGNATURE-----

5935. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 10:30:59 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <3+kXw2LjHG5+EA8b@ifwtech.co.uk>
Source record: 115587

Mark Keith wrote:

>>
>> Also I'm not sure what the circle and cross symbols on the wires
>> represent; different programs may mark feedpoints and loads in different
>> ways. If you could post or e-mail the original file, I'd very much
>> appreciate the change to play with the same models as you did. (EZNEC,
>> NEC or AO would be fine for me, or just about any ASCII description.)
>
>The "X" or cross, is the source. The circle is the cap.

Got it - so it is indeed a "linear resonator" as described by Moxon.

>I did these
>with MMANA which is a freeware program, I *think* using the same
>engine as say elnec. The reason I used that program was it already had
>examples of magnetic loops, which gave me ideas on feeding them, and
>also I needed a lot of wire segments. I could send you the files for
>that program. I can paste the ascii stuff here.
>I'll paste the 10 meter version.
>
>*
>28.5
>***Wires***
>6
>-0.5, -0.635, 0.0, -0.5, -4.875, 0.0, 0.01, -1
>-0.5, 0.635, 0.0, -0.5, 4.875, 0.0, 0.01, -1
>-0.5, 0.635, 0.0, -0.5, -0.635, 0.0, 0.01, -1
>-0.5, 0.635, 0.0, -0.7, 0.635, 0.0, 0.0025, -1
>-0.5, -0.635, 0.0, -0.7, -0.635, 0.0, 0.0025, -1
>-0.7, 0.635, 0.0, -0.7, -0.635, 0.0, 0.0025, -1
>*** Source ***
>1, 1
>w6c, 0.0, 1.0
>*** Load ***
>1, 1
>w3c, 0, 0.0, 12.0, 0.0
>**Segmentation**
>400, 40, 2.0, 1
>*G/H/M/R/AzEl/X*
>0, 10.0, 4, 50.0, 120, 60, 0
>
>
>
>---------------------------------

>The cap is 12 pf, and in the "load" column. "w3c"
>
>For 17m, 44 pf. 15m, 30 pf. 12m, 18 pf. Hopefully you can make some
>kind of sense of that. If you have MMANA, I could send you the files I
>saved. It might be a good idea to use another program that is newer
>and uses the newer NEC engine. MMANA is a mininec program same as say
>elnec.

Thanks for that. In the meantime (owing to the time difference, and it being a rainy Sunday) I'd worked up a very similar model in EZNEC.

I'll try to describe it in words. Imagine a roughly half-wave dipole for 20m (length = 10.1m), fed in the center. The middle 2.2m of this dipole is bridged by a linear resonator: this is a parallel line, spaced 10cm away from the main dipole, with a jumper across to the main dipole at each end, and a variable capacitor at the center (right opposite the feedpoint).

This setup has two resonances. One is the normal half-wave resonance of the main dipole, and by adjusting the overall length this resonance can be placed in the 14MHz band. The second resonance is at some higher frequency, and is tuneable from 30MHz down to 18MHz (or below) by varying the capacitance in the linear resonator. Thus you can make a dipole that will automatically resonate on two bands: 14MHz plus one higher band.

Band-switching between 14 and 28MHz is the best case, because the tuning capacitance is so small (with these dimensions, only about 11pF) that the linear resonator has no noticeable effect on the 14MHz resonance.

The snags appear as you try to move the higher resonance downward in frequency. First of all, the 14MHz resonance starts to move down too, so you'd need to shorten the length of the whole dipole to keep the 14MHz resonance in-band.

Second, and perhaps more serious, the capacitance value becomes *very* critical as you reduce the second (higher) resonant frequency. Looking at the way the linear resonator works, this isn't at all surprising. The NEC model has not been optimized for accuracy, so we certainly shouldn't take the predicted capacitance values too seriously... but when a model predicts critical behavior - in this case, rapidly-changing capacitance values - that is usually a valid warning about the real antenna too.

The good news is that the circulating current in the linear resonator doesn't ever seem to go very high, even at 28MHz where the resonator is close to parallel resonance, so this does look like a low-loss technique as Moxon claimed.

>It seems an interesting method. But the bottom line is: In modeling
>these, I saw no difference at all in pattern or gain when compared to
>feeding the same length dipole on it's own.

Very little difference indeed. At 28MHz you're using the full length of a 14MHz dipole, so you get a few dB of gain compared with a trap dipole that deliberately cuts off the outer ends - but the same is true of conventional center feed. The only differences in the overall current distribution and gain arise from what you do in the middle 2.2m of the dipole (the length of the linear resonator in this particular example), so that can't amount to very much.

Compared with conventional center feed, the only thing the linear resonator really gives you is the automatic band-switching (dual resonance) feature... and the ability to apply it to parasitic resonators where there is no feedpoint.

> In past posts, Art seemed to give the impression you could
>steer the pattern, by varying the cap. When modeled, I saw no
>indication that this was possible

Not possible at all. Any increase in gain comes from narrowing the broadside beamwidth - but you can *not* get beam steering (change of direction without moving the antenna) in this way.

I believe we're in agreement on all points, Mark.

Finally, there has been nothing in this posting that hasn't already been said or implied by Moxon himself.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

5936. Re: Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 10:58:46 UTC
From: 5b4az@qsl.net
Message-ID: <e637e579.0306090258.6920912c@posting.google.com>
Source record: 115588

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote in message
news:<20030608102644.13710.00000193@mb-m25.aol.com>...
> My wireless mouse operates on 27.145 (or somewhere close to that) and I've
> never had any problems. I really don't think you have anything to worry about.
> Just don't buy a plasma TV! :)
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

Ok, thanks Andy. The mouse & keyboard keep getting in the way on my desk.
Should get rid of them soon.

73's de "Nick" 5B4AZ

5937. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 11:21:59 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306090321.40369027@posting.google.com>
Source record: 115589

Bob Lombardi <blombardi@cfl42.rr.com> wrote in message
news:<3EE38924.8020507@cfl42.rr.com>...
> I've been doing some web searches for a 6 and 2 m interlaced yagi, but
> haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
> 70 cm, but it also mixes polarizations, and I want them both
> horizontally polarized (for SSB/CW operation). At this point, I don't
> care much whether I build it or buy it.
>
> It seems like the only single antenna solution I've found is a log
> periodic. Does anyone have a reference to a 6/2 interlaced yagi?

Rumors to the contary there is life beyond yagis. Lightning Bolt
offers their 62MCQ-4 6/2M quad for $90. Two elements on six, four on
two, featherweight, compact and built like a tank. Will run horizontal
or vertical polarization depending on how you install it. Probably
will not burn any holes in the moon but it'll get you on 6 & 2 CW &
SSB with some decent gain & directivity.

> 73,
> Bob
> W4ATM

w3rv

5938. question,

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 11:27:13 UTC
From: Kounelis Kostas <sv2dgz@hol.gr>
Message-ID: <bc1quh$8nd$1@newsmaster.public.dc.hol.net>
Source record: 115590

Hello everyone,

I need an opinion on setting a 4 element 5 band beam antenna from ECO, the model ART 277 with an EMOTATOR Rotor Model 105TSX

I think that this rotor will not hold my antenna....Any suggestions BESIDES getting a new rotor ?

73's de SV2DGZ.

P.S Please reply via e-mail to this adress or to sv2dgz@qsl.net

5939. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 12:17:01 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030609081701.00956.00000264@mb-m17.aol.com>
Source record: 115591

Check out http://www.cubex.com/vhf.htm#6n2.

Not a yagi, but it might fit the bill for you.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

5940. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 12:28:30 UTC
From: Dennis Kaylor <k4oxg@tampabay.rr.com>
Message-ID: <3EE47D45.60808@tampabay.rr.com>
Source record: 115592

hell if he is going to spend money on an antenna he might as well get
something with some gain
he should check out the cubex kingbeeII its 4 eles on 6 and 8 ele on 2
and its only $250 i ran one for a year or so with great success
with 50 watts i on a nightly bases could work the entire state of
florida from my central florida QTH
check it out at www.cubex.com

5941. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 13:38:27 UTC
From: richardharrison@webtv.net
Message-ID: <13697-3EE48DD3-403@storefull-2318.public.lawson.webtv.net>
Source record: 115594

Mark Keith wrote:
"Most of the people I know that do that (operate an 80-mtr full-wave loop on the160-mtr band where its perimeter is only 1/2-wave), split the loop at the far end for 160m use, and run exactly as you mention."

That brings the drivepoint resistance down.
Arnold B. Bailey gives formulas in "TV and Other Receiving Antennas" on pages 407 and 408. He gives graphs on 408 and 409.

A 1/2-wave in circumference continuous loop is kin to a 1/4-wave short circuit stub. It has a high drivepoint impedance.

A 1/2-wave in circumference open-circuit loop is kin to a 1/4-wave open-circuit stub and has a low value of resistance at its terminals.

Best regards, Richard Harrison, KB5WZI

5942. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 13:43:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE48EF0.5040807@ieee.org>
Source record: 115593

Richard Harrison wrote:
> Cecil must mean the impedance looking into an open-circuit stub at 28
> MHz appears to him as the reactance of a 600 pF capacitor. This is not
> magic and means very little.

Means very little? That's how you calculate the length of a
capacitive stub using a Smith Chart.
--
73, Cecil http://www.qsl.net/w5dxp

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5943. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 13:51:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE490C4.8050305@ieee.org>
Source record: 115595

Roy Lewallen wrote:
> The reactance you're measuring comes about from the distributed C *and
> L* of the line.

Nope, the reactance I'm measuring comes about from the forward and
reflected waves within the stub, i.e. it is a virtual reactance.
On 4 MHz, the V/I ratio is the same as a 160 pf capacitor. On
28 MHz, the V/I ratio is the same as a 650 pf capacitor. The
reactance of a stub indeed does change with frequency.

>W5DXP wrote:
>> 5 ft of RG8 is ~0.03WL on 4 Mhz and is ~0.22WL on 28 Mhz.
>> Starting at X=infinity, and going toward the generator:
>> Xc on 4 MHz = j5 = 250 ohms, Xc on 28 MHz = j0.175 = 8.75 ohms.
>> If I didn't make a mistake on my calculator:
>> C on 4 Mhz = 160pf, C on 28 MHz = 650 pf.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5944. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 13:53:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE49176.1070909@ieee.org>
Source record: 115596

Richard Clark wrote:
> And on second thought, I really don't care ...

Well Richard, these threads are for people who do care.
If you don't care, then please ignore them.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5945. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 15:02:10 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc27hisas1@sparta.btinternet.com>
Source record: 115597

> > > The capacitance of a spherical conductor is equal to it's radius.
> > > H.
> > > NQ5H
> > ======================================

Dear H, it hardly matters whether they're equal or not. And it doesn't have to be a conductor.

But I'm still wondering what is the connection between spheres and dipoles. Why should you mention spheres? Am I missing something?

Reg

5946. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 15:32:13 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306090732.93c6656@posting.google.com>
Source record: 115598

"Dick Carroll;" <dixie@townsqr.com> wrote in message news:<bbu8g2$85s$0@208.206.142.91>...
> Brian Kelly wrote:
>
> >
> > The U.S, Army conducted some investigations into this subject a number
> > of years ago which were discussed in this NG earlier. The answer is
> > that trees do not absorb RF, leak RF or otherwise affect antenna
> > performance at frequencies below 30 mHz.
>
> I gotta wonder what time of year they did the tests, and it seems like it must have been in the dead of winter when
> the tree was dormant and essentially sap-less. I know that you can sure cause sparks and spitzen if you happen to
> transmit with amplifier power into an antenna -at least some portions thereof-
> touching a well-sapped twig or leaf. And when it rains, or if you live in a
> drippy climate, there's no way I'd believe there wouldn't be adverse effects
> on the radiated signal when in contact with any part of a tree.
> I took down my 160 meter dipole because the XYL's mimosa tree grew so tall it overtook the dipole. And here you are
> trying to tell me I did that unnecessarily! :-)

There is no way to get me even close to a discussion involving XYLs
and antennas, never mind a discussion which also includes her pet
tree.

??!

>
> Dick

w3rv

5947. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 15:39:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4AA18.5090303@ieee.org>
Source record: 115599

Richard Harrison wrote:
> All the transmission line adds to a self-resonant antenna
> discussion is confusion.

I always thought it performed the function of transferring the
generated energy from the source to the load. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5948. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 15:45:20 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0306090745.d582d76@posting.google.com>
Source record: 115600

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<3+kXw2LjHG5+EA8b@ifwtech.co.uk>...
>
Hi Ian
At the risk of interfering.

1
I have pointed out to Keith a month or so ago on a different thread
that Art refered to "rotating" not stearing the antenna.
2
Richard has pointed to figure 9 on Arts page regarding feedpoint.
Where you have already stated that the feed must "not" be on the line
containing the cap.

3
Art has already stated it can be resolved by an optimisation method
such as AO. EZNEC is incapable of providing optimisation.

With all this contradiction can you share your current curves with
the group.
Jaro.

5949. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 16:09:17 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <ve9cakkflrqt0c@corp.supernews.com>
Source record: 115601

Reg
It's an old Berkeley Course undergrad E&M homework problem (3.14) and true
in the right system of units.
The first sentence contains the general connection to the isolated wire C.

Anyway here's the problem:
By the capacitance of a single isolated conductor we mean the ratio
of the charge on the conductor to it's potential, taking the zero of
potential an infinite distance away. Show that the capacitance of a
spherical conductor,
in centimeters, is exactly equal to the radius of the sphere.
What is the capacitance of the Earth in microfarads?

73 es gud Merlot
;^)
H.
Generally the C of a sphere is proportional to it's radius.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bc27hisas1@sparta.btinternet.com...
> > > > The capacitance of a spherical conductor is equal to it's radius.
> > > > H.
> > > > NQ5H
> > > ======================================
>
> Dear H, it hardly matters whether they're equal or not. And it doesn't
have
> to be a conductor.
>
> But I'm still wondering what is the connection between spheres and
dipoles.
> Why should you mention spheres? Am I missing something?
> ---
> Reg
>
>

5950. WTB: Andrew 45AW N-Male connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 17:20:21 UTC
From: Alex <bmpdb@yahoo.com>
Message-ID: <rlg9evc1dsk010nv45s3nc0subolue62re@4ax.com>
Source record: 115603

This is an N-Male for FHJ5-50 spiral Heliax 7/8" cable.
Anyone wishing to sell these (new only) contact me.
Thank you.
Alex

5951. Re: please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 17:22:27 UTC
From: "Alexander S. Wood" <alec_wood@dont.spam.me.ntlworld.com>
Message-ID: <Qn3Fa.5402$0d7.161581@newsfep4-glfd.server.ntli.net>
Source record: 115602

"Rick " <ricknj101@hotmail.com> wrote in message
news:3ee37cbb.20653656@news.optonline.net...
> There are zillions of newsgroups devoted to testing.
> go into the alt area and check 'em out.
>
Maybe his problem is with this particular newsgroup, anyway he's not asking
for much

--
Alec Wood M1BNK
Teesside UK

Interested in Ham Radio....have a look at www.ukradioamateur.org

5952. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 18:08:55 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bc2ibh$efn8l$1@ID-150848.news.dfncis.de>
Source record: 115604

Dave Shrader wrote:
> When I lived in Massachusetts I could hear USCG [156.800 MHz] from
> Portland Maine about 70 miles away, mostly over sea water. My antenna
> was 90 feet above sea level.
>
> Now I live in New Hampshire and the USCG station is only 55 miles
> away, all over land, my antenna is at 520 feet above sea level and I
> can't hear anything on the marine channels.
>
> I bet you will be able to receive 157 MHZ on a fairly regular basis if
> there is a water path between the two stations.
>
> Deacon Dave, W1MCE

Well, I just put up a 2m folded dipole I had to hand in the loft.

I can receive Humber VTS (located in Hull apparantly) which is about 55
miles away.

I'm not surprised, because of my contact with Hull on 2m, years ago.

Still don't know though whether I get Hull because of lift conditions
prevailing or not. We have some high pressure.

5953. Re: question,

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 18:32:30 UTC
From: Mike C <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194e9d532d9c4493989681@news.earthlink.net>
Source record: 115605

In article <bc1quh$8nd$1@newsmaster.public.dc.hol.net>, sv2dgz@hol.gr
says...
> Hello everyone,
>
> I need an opinion on setting a 4 element 5 band beam antenna from ECO, the
> model ART 277 with an EMOTATOR Rotor Model 105TSX
>
> I think that this rotor will not hold my antenna....Any suggestions BESIDES
> getting a new rotor ?
>
> 73's de SV2DGZ.
>
> P.S Please reply via e-mail to this adress or to sv2dgz@qsl.net

we reply to the group so all can benefit, but i'll email you just in
case you figure you don't need to come back.

the rotor mfg should know if it'll handle your beam. you checked all the
lit that came with it?

you could relieve the rotor of the xtra weight by attaching a small hot
air ballon to the beams center of gravity :-)

what about a length of pvc (metal would possibly add parasitics to the
beam) to extend the mast above the antenna with a block (pulley) mounted
on top. attach a rope to the beam's cg, run it through the block, and
hang a counter weight on the rope. rig something to keep the wind from
messing with the weight.

i don't like the idea. it's like running cheap tires on a car and not
letting heavy people in. i prefer to use equipment rated for the task.

mike c

p.s. most OPs *are* questions. i rue the day when i see all subject
lines in all threads that say "question" and "Re: question" :-)

>
>
>

5954. Re: question,

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 18:35:38 UTC
From: Mike C <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194e9e12e9221040989682@news.earthlink.net>
Source record: 115606

er, um, er, uh. at least i'll email you when my ISP gets it's smtp
server sorted out. :-(

In article <MPG.194e9d532d9c4493989681@news.earthlink.net>,
m_remove_colasono@earthlink.net says...
> In article <bc1quh$8nd$1@newsmaster.public.dc.hol.net>, sv2dgz@hol.gr
> says...
> > Hello everyone,
> >
> > I need an opinion on setting a 4 element 5 band beam antenna from ECO, the
> > model ART 277 with an EMOTATOR Rotor Model 105TSX
> >
> > I think that this rotor will not hold my antenna....Any suggestions BESIDES
> > getting a new rotor ?
> >
> > 73's de SV2DGZ.
> >
> > P.S Please reply via e-mail to this adress or to sv2dgz@qsl.net
>
> we reply to the group so all can benefit, but i'll email you just in
> case you figure you don't need to come back.
>
> the rotor mfg should know if it'll handle your beam. you checked all the
> lit that came with it?
>
> you could relieve the rotor of the xtra weight by attaching a small hot
> air ballon to the beams center of gravity :-)
>
> what about a length of pvc (metal would possibly add parasitics to the
> beam) to extend the mast above the antenna with a block (pulley) mounted
> on top. attach a rope to the beam's cg, run it through the block, and
> hang a counter weight on the rope. rig something to keep the wind from
> messing with the weight.
>
> i don't like the idea. it's like running cheap tires on a car and not
> letting heavy people in. i prefer to use equipment rated for the task.
>
> mike c
>
> p.s. most OPs *are* questions. i rue the day when i see all subject
> lines in all threads that say "question" and "Re: question" :-)
>
> >
> >

> >
>

5955. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 18:52:46 UTC
From: Xanax <keepItInTheNewsGroups@news.com>
Message-ID: <xH4Fa.17590$pK2.24277@news.indigo.ie>
Source record: 115607

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Thanks for the reply.
To me honest I didn't even think of moulds etc...
This sounds hair brained but I was thinking of using one of those
huge golf umbrellas taped up with Alu. foil between the ribs but I
think the shape may be a bit sharp. I have a theory book on Satellite
comms so I may have to dig out the calulator and see if it is
possible.

OK Cheers for now,
Xanax.
<rick@rickfrazier.com> wrote in message
news:3EE44531.2C945458@rickfrazier.com...
> Once upon a time, when I was younger, I did make a mold to produce
> dishes out of fiberglas. Somewhere buried in "the archives" of the
> museum that serves as my office, I have the formulas and a couple
> of methods of generating a parabolic curve without significant
> tooling, but it might take me longer to find than if I looked for
> it on the Web...
>
> Starting with a large, rather ugly and somewhat sperical form in
> the middle of the garage floor, I made a plaster mold of the inside
> surface of the dish. After many iterations to get the surface
> "just right" I ended up with about a six foot dish master mold,
> which I then used to create a fiberglas dish. At first, I just
> used roving or fabric and resin, but eventually "graduated" to
> using a chopper gun (like many boat manufacturers do).
> Strengthening ribs were made of plywood and part of the dish, which
> also provided handy mounting points. After the dish cured and came
> off the mold, I started with using aluminum foil, then fine mesh
> metal screen on the inside surface, which was overcoated with
> another layer of fiberglass and resin. It made a pretty good dish
> that was nice and sturdy, and didn't weigh much more than the
> commercially available ones that cost quite a bundle more (at that
> time).
>
> Unfortunately, along came a significant increase in C-band and
> Ku-Band satellite popularity, and my home grown dishes were priced
> out of my local market nearly overnight... You could buy a larger,
> lighter dish for a bunch less money, and there were standard mounts
> available as well !!! For most purposes, the aluminum and steel
> mesh dishes available for standard satellite TV reception were
> close enough for most people, and you suddenly could buy a larger

> dish (with enough gain) to offset any loss of efficiency due to
> relatively minor imperfections in the mesh surface. Thus, a good,
> but smaller solid parabolic dish wasn't needed any more. Of
> course, I never made any real money with the project, but it was a
> lot of fun anyway (even though it was a lot of work. I hate to
> think about how many hours it took to get the mold correct...)
>
> Today, the C-Band and Ku-Band popularity is waning, and in some
> areas there are dishes to be had for just asking, or for the labor
> of taking them down and removing them. Even if you have to pay a
> bit for one, it would still be a lot cheaper than building your
> own, unless you really prefer the do-it-yourself at any cost (or
> pain) approach... (I
> understand, if you do, having been there in another part of my
> life.)
>
> Depending upon the diameter you want (and whether you are looking
> for a prime focus dish and not an offset focus like the little Dish
> Network and DirecTV that you see nearly everywhere now) and the
> frequencies you wish to investigate)play with), it is typically
> much less expensive and more fun to just look around and pick up a
> used C-Band or Ku-Band dish, which will probably also come with a
> polar mount and such. Even buying one new is still a bunch cheaper
> than making your own, unless you are really off of the beaten path,
> or want to make some really esoteric size or configuration....
>
> Good luck!
> -_Rick AH7H
>
>
>
> Xanax wrote:
>
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Hi all,
> > Has anyone here tried to make a satellite dish from scratch?
> > If so let me know how you got on.
> >
> > Cheers,
> > Xanax.
> > -----BEGIN PGP SIGNATURE-----
> > Version: PGP 8.0 (Build 294) Beta
> >
> > iQA/AwUBPuObRyGakPXr24F/EQIRwACfSxQodOHWC7MIQk/7Sp2YyE3Rja0AoKOA
> > E8+z6TigMHdDuxuQmCt/OuNd
> > =UAtA
> > -----END PGP SIGNATURE-----
>

```
-----BEGIN PGP SIGNATURE-----
Version: PGP 8.0 (Build 294) Beta

iQA/AwUBPuTXfCGakPXr24F/EQIpigCgx096lH2ZyuZByWnfimW9Nyff7vIAn2Xa
SVcv1LJ4Twp4IdnoUC6eXkN+
=Hy0z
-----END PGP SIGNATURE-----
```

5956. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:03:12 UTC
From: for-sale <nospam@spam.net>
Message-ID: <udm9ev84v3u24vh4a8c8gpc71jumf15863@4ax.com>
Source record: 115608

Have a look at KMA Antennas, they have what you want.
http://www.kmaantennas.com/6m.htm#KMA5054
73
OTR

On Sun, 08 Jun 2003 19:05:30 GMT, Bob Lombardi
<blombardi@cfl42.rr.com> wrote:

>
>I've been doing some web searches for a 6 and 2 m interlaced yagi, but
>haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
>70 cm, but it also mixes polarizations, and I want them both
>horizontally polarized (for SSB/CW operation). At this point, I don't
>care much whether I build it or buy it.
>
>It seems like the only single antenna solution I've found is a log
>periodic. Does anyone have a reference to a 6/2 interlaced yagi?
>
>
>
>73,
>Bob
>W4ATM
>
>if you wish to reply by email, there are no numbers in my address...

5957. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:11:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <p4m9evk0u9v15h89aanklk8pk3ts6lfv87@4ax.com>
Source record: 115609

On Mon, 9 Jun 2003 19:52:46 +0100, "Xanax"
<keepItInTheNewsGroups@news.com> wrote:

>
>Thanks for the reply.
>To me honest I didn't even think of moulds etc...
>This sounds hair brained but I was thinking of using one of those
>huge golf umbrellas taped up with Alu. foil between the ribs but I
>think the shape may be a bit sharp. I have a theory book on Satellite
>comms so I may have to dig out the calulator and see if it is
>possible.
>

Hi OM,

Not even close. This is like building a yagi from a step ladder.

A parabolic reflector is based on ray-tracing where the source at an infinite distance presents parallel rays of radiation. When those rays strike the parabolic surface, every point of the surface turns the rays to a common focus point where you would find the primary feed (transmit or receive).

This simplistic explanation serves sunlight and solar ovens, but the primary feed is not a bug on the sidewalk, nor a roast on the spit. The load of this focus is a dipole or horn that accumulates the signal into a transmission line. The geometry of that structure is not a point focus. As such, the parabolic reflector has other than parabolic curve features to focus to a broader region. The surface, mathematically, attempts to maintain correct phase relationships (which is a focus issue, but not a point focus). Needless to say, for RF purposes, the diameter of such a reflector is many wavelengths across (for sunlight and heat purposes, it is many thousand wavelengths).

When I built parabolic reflectors for microphones, I used a 1M Polystyrene block that I shaved down by degrees to match a simple parabolic template that I could rotate. Then as suggested by others, I simply used this product as a mold form and built up fiberglass on it. Worked well for a mike, but not recommended for RF (at least not for expected full gain).

73's
Richard Clark, KB7QHC

5958. Re: YagiCad 4.1: An antenna design sought.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:17:44 UTC
From: for-sale <nospam@spam.net>
Message-ID: <lan9ev0eqdk7rrfkvkkq8mchiutvit5t2f@4ax.com>
Source record: 115610

Do a search for "cheap yagis" by WA5VJB. One of these would be simple
to make.... with a simple feed method.

OTR

On Sun, 8 Jun 2003 20:24:23 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>I think for my purposes YagiCad 4.1 would be okay for designing a 5 or 6
>element yagi for the marine band (I57 Mhz). Basically all I want to do
>is scale and the odd bit of tweaking.
>
>Has anyone designed a 5 or 6 element yagi with YagiCad optimized for
>gain? If so could you please email me the file?
>
>Or maybe someone knows if any of the files in the link are already
>optimised for gain.
>
>http://www.ipass.net/teara/kq3-frm.html
>
>I was thinking about just using a folded dipole as the DE. But, I don't
>know what's best.
>
>Thanks.
>
>Rich.
>
>news_emailREMOVE@ntlworld.com
>
>Please remove "REMOVE".

5959. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:25:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4DF36.427D9E52@uci.edu>
Source record: 115611

W5DXP wrote:
> Assume that the wave reflected from the mismatched load is associated with Pref2.
> Pref2 encounters the impedance discontinuity and Pref2*rho^2 is re-reflected back
> toward the load. Jim and I agree up to that point. But if Pref2*rho^2 is re-
> reflected, then Pref2(1-rho^2) is not re-reflected, and in a matched system,
> engages in wave cancellation with a complimentary wave. Jim says there is not
> any energy in Pref2(1-rho^2). I say there is.
> --
> 73, Cecil http://www.qsl.net/w5dxp

From Halliday and Resnick:

"Note that P=dU/dt [rate of transfer of energy] applies to electrical
energy transfer of all kinds; P=I^2R and P=V^2/R apply only to the
transfer of electrical energy to thermal energy in a resistor."

Known as Joules law, these equations are "a particular way of writing
the conservation-of-energy principle for the special case in which
electrical energy is transferred into thermal energy (Joule energy)."
The conversion between Joules/sec and Watts is given in connection with
the performance of mechanical work.

5960. Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:32:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc2ndajpe1@titan.btinternet.com>
Source record: 115612

The following is an extract from a private e-mail, copied here because I dont like hard work being lost and forgotten for ever.

ANTENNA CAPACITANCE

Take a wire of length L and diameter D.

Let it be suspended above ground at height H.

The wire will have a DC or VLF capacitance.

Capacitance will be due to the two following components.

The first component is capacitance due to the ground.

The second component is capacitance due to the remainder of the Universe.

Because of the complexity and physical interactions between the electric lines of force its is impossible to calculate the two capacitances separately and then just add them together.

However, it IS possible to calculate the total capacitance of the wire directly as a very complicated function of L,D and H.

The two capacitances can then each be separately ESTIMATED, using the appropriate extreme conditions.

Estimate capacitance of wire-to-ground by setting L>>H and L>>D.

Estimate capacitance of an isolated wire to the whole universe by setting H>>L and L>>D.

For acceptable accuracy in the common (antenna) case of H of the same order as L then use the full formula. It covers a very wide range of applications.

To understand what goes on it is unnecessary to know the formula. It is in any case inexact. No formula is exact. They always differ from reality.

(Some indirect guidance on the full formula, if my weakening memory serves me correct, can be found in Terman who copied it from somebody else and mentions it in somewhat different terms and context, the significance of which is not immediately apparent to the reader. It was all sorted out long before Terman.)

For capacitance between the two halves of an isolated dipole substitute the other half of the dipole for the ground.

For the capacitance between the two halves of a dipole in the presence of the ground and the rest of the Universe (4 capacitance components) I fail to understand why anybody would ever need to know.

A little advice: Don't ever attempt to determine the resonant frequency of a wire using the above values of C. You'll get the wrong answer anyway. Be practical! All that's needed is a pair of garden pruning shears and a measuring tape. ;o)

PS: I'm now pouring a lovely glass, medium sweet, of 2002 Rivaner Rheinhessen - here's to the United States of Europe.

Regards to our American Friends, Reg, G4FGQ, Hic!

5961. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 19:46:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5ro9ev4ljbug63030d0v4t0v02f8gqeetq@4ax.com>
Source record: 115613

On Mon, 9 Jun 2003 19:32:58 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>(Some indirect guidance on the full formula, if my weakening memory serves
>me correct, can be found in Terman who copied it from somebody else and
>mentions it in somewhat different terms and context, the significance of
>which is not immediately apparent to the reader. It was all sorted out long
>before Terman.)

An entirely ingenuine disclaimer engineered to propagate our second
removed plagirist from sin while trying to stain the last one - sure -

5962. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:03:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc2p6kqil1@hercules.btinternet.com>
Source record: 115614

H, thanks, without the slightest intention of causing any offence, for confirming what I already knew.

The root of that trivial problem lay in the difference between my language and that of impractical university professors and their educational methods.

Just the same over here. There's more than one way of obtaining money under false pretences.

Yours, Reg.

5963. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:05:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4E891.5E65E79B@uci.edu>
Source record: 115615

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> > The energy you're referring to is not reflected, ...

> Please explain how Pref2, the reflected wave from a mismatched
> load, is not reflected. If Pref2 is reflected, then Pref2(1-rho^2)
> is also reflected. Pref2(1-rho^2) is P4.

I believe I've already explained that not all waves transfer energy from
one place to another. The energy contained in the wave oscillations was
transferred during the transient period.

> > It's apparent you're not really trying to understand this.
>
> It's apparent that you are pulling my leg. How you can assert that
> Alpha Centauri is smart enough to know nine years ahead of time whether
> its light is going to be used in a wave cancellation experiment on
> earth (or not), is pretty funny.
>
> >>For instance, let's set up an experiment involving light waves from
> >>Alpha Centauri. We cause wave cancellation between two waves. How
> >>did Alpha Centauri know not to put any energy in those waves nine
> >>years ago when the light was emitted?
> >
> > I'm game. How about vetting that out a little more. How do we cause
> > the "wave cancellation between two waves"? Is it by hand waving? ;-)

> You can't conceive of an experiment splitting the light from Alpha
> Centauri into two beams and using them in a wave cancellation experiment?

If you want me to comment on your experiment, you'll have to describe
it.
If you don't want to bother yourself enough to describe it, then I have
absolutely no reason to bother with it.

5964. Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:11:04 UTC
From: Sterling Garwood <slgarwood@comcast.net>
Message-ID: <BB0A5409.8571B%slgarwood@comcast.net>
Source record: 115616

I have a 1/4 mile roll of electric fence wire ... Anyone used it for a long wire or a dipole? Any problems?

5965. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:12:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4EA25.6DAA7D11@uci.edu>
Source record: 115617

W5DXP wrote:
> Now steady-state even makes time stand still?

Most enlightened people know that time is the only thing that does
change during the steady state.

> > I remember that problem differently than you do. You can't insert a
> > circulator with a 50 ohm load resistor between the discontinuity and the
> > load without changing the circuit conditions.
>
> If the wave thinks it is going to be canceled and therefore
> carries no energy and I surprise it with a resistor, does it deliver
> any energy to the resistor or not?

Most any high school student could see the difference in the two
circuits. Very strange that you find them to be the same.

5966. Re: Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:26:07 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <0q-dnUxGZrT2cHmjXTWcog@comcast.com>
Source record: 115618

Andy,

Did you ever transmit on 10 m while somebody was using the PC? What happens with plasma TV, I had thought I might buy one when the prices come down.

Tam/WB2TT
"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030608102644.13710.00000193@mb-m25.aol.com...
> My wireless mouse operates on 27.145 (or somewhere close to that) and I've never had any problems. I really don't think you have anything to worry about.
> Just don't buy a plasma TV! :)
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

5967. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:31:18 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <ItednYMIKt45c3mjXTWcog@crocker.com>
Source record: 115469

"Sterling Garwood" <slgarwood@comcast.net> wrote in message
news:BB0A5409.8571B%slgarwood@comcast.net...
> I have a 1/4 mile roll of electric fence wire ... Anyone used it for a
long
> wire or a dipole? Any problems?
>
the galvanized stuff rusts very quickly. the aluminum type is ok but not
exactly the strongest stuff around.

5968. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:32:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4EEC9.9030109@ieee.org>
Source record: 115470

Jim Kelley wrote:
> From Halliday and Resnick:
> "Note that P=dU/dt [rate of transfer of energy] applies to electrical
> energy transfer of all kinds; P=I^2R and P=V^2/R apply only to the
> transfer of electrical energy to thermal energy in a resistor."

Please define 'U'. That nomenclature does not appear in any of my
CGS or MKS references. Is this the old (outdated), "It's not power
unless it turns to heat" argument?

How does your reference handle transfer of energy to a virtual
(non-dissipationless) resistance? How does your reference handle
transfer of energy in a flat transmission line where, at any point,
the voltage is in phase with the current and therefore satisfies
the IEEE definition of power.

Is this still an attempt to prove that reflected waves carry no
energy? If reflected waves carry no energy then radar wouldn't
work. If reflected waves carry no energy, you wouldn't be able
to see reflections using a TDR. If reflected waves carry no
energy, you wouldn't be able to heat up a circulator resistor
back at the source.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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5969. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:33:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4EF28.2020207@ieee.org>
Source record: 115471

Richard Clark wrote:
> An entirely ingenuine disclaimer engineered to propagate our second
> removed plagirist from sin while trying to stain the last one - sure -

Is that one of the Ten Commandments?
--
73, Cecil http://www.qsl.net/w5dxp

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5970. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:36:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4EFB7.1020303@ieee.org>
Source record: 115472

Reg Edwards wrote:
> The root of that trivial problem lay in the difference between my language
> and that of impractical university professors and their educational methods.

What do you expect from a country that gave us our system of units
and then committed treason. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

5971. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:44:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4F1BF.5090400@ieee.org>
Source record: 115473

Jim Kelley wrote:
> I believe I've already explained that not all waves transfer energy from
> one place to another. The energy contained in the wave oscillations was
> transferred during the transient period.

But that's a violation of the boundary conditions associated with the wave reflection model, i.e. Pfor=Vfor*Ifor and Pref=Vref*Iref all up and down the transmission line. I'm using the wave reflection model for my postings. If you are not using the wave reflection model, then what you have to say is irrelevant to my postings. My Mother uses the Supreme Being model and that is also irrelevant to my postings.

If you want to attempt to discredit the wave reflection model, feel free to start another thread. I have no doubt that the wave reflection model will indeed be discarded in the future so have at it. Be sure to explain the exact nature of those unmeasurable virtual photons while you are at it.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

5972. Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:45:32 UTC
From: carlos Mendoza <no@spam.com>
Message-ID: <3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl>
Source record: 115474
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Hello All,

I received nice antenna information from VE7BQH.
It is the comparisation of 115 antenna's:

cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft, many more....

I made a nice chart (table) so you can easy compare!

http://www.qsl.net/pd0rkc (click on the technic button).

73's Cor

In my other mail (in the news-group) people complain that they could not see my menu bar on the left (netscape users, and others?).
I used shockwave flash buttons, I asume that was the problem.
I have now the buttons in gif pictures.
I hope it work now for those who does not use the microsoft-browser (let me know!!!!).

5973. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:56:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc2s9jbba1@sparta.btinternet.com>
Source record: 115475

> >(Some indirect guidance on the full formula, if my weakening memory
serves
> >me correct, can be found in Terman who copied it from somebody else and
> >mentions it in somewhat different terms and context, the significance of
> >which is not immediately apparent to the reader. It was all sorted out
long
> >before Terman.)
>
> An entirely ingenuine disclaimer engineered to propagate our second
> removed plagirist from sin while trying to stain the last one - sure -

==========

I threw that tasty little bit in specially for you - and you took the bait
immediately. ;o)

5974. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:57:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE4F4A2.9050601@ieee.org>
Source record: 115477

Jim Kelley wrote:
> W5DXP wrote:
>
>>Now steady-state even makes time stand still?
>
> Most enlightened people know that time is the only thing that does
> change during the steady state.

If time changes, there exists a before and after. You said there is no before and after during steady-state.

> Most any high school student could see the difference in the two
> circuits. Very strange that you find them to be the same.

But you and no high school student can predict exactly when I change from one circuit to another. Why is an unconscious wave smarter than you or a high school student?

There exists a lossless one-second long lossless transmission line with a reflection coefficient of 0.707. You do not know what is the configuration at the source. How do you know whether to allow the reflected wave to carry energy or not? If the source is equipped with a circulator+load, the reflected wave carries energy that gets dissipated in the resistor. If there exists a Z0-match at the source, you say the reflected wave carries no energy. But the wave must know one second ahead of time whether to carry energy or not. It also has to read my mind to know when I switch circuits in midstream. That sounds a lot like my Mother's Supreme Being model of reality.
--
73, Cecil http://www.qsl.net/w5dxp

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5975. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 20:59:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b8t9ev82nq44jcklsaq1a5e8ovs2nn2ejt@4ax.com>
Source record: 115476

On Mon, 9 Jun 2003 20:56:19 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>> >(Some indirect guidance on the full formula, if my weakening memory
>serves
>> >me correct, can be found in Terman who copied it from somebody else and
>> >mentions it in somewhat different terms and context, the significance of
>> >which is not immediately apparent to the reader. It was all sorted out
>long
>> >before Terman.)
>>
>> An entirely ingenuine disclaimer engineered to propagate our second
>> removed plagirist from sin while trying to stain the last one - sure -
>
>==========
>
>I threw that tasty little bit in specially for you - and you took the bait
>immediately. ;o)
>
that is called trolling, n'est pas?

5976. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:00:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <p9t9ev4jb5i2bbvhjffscnd5581gva8a18@4ax.com>
Source record: 115478

On Mon, 09 Jun 2003 15:33:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> An entirely ingenuine disclaimer engineered to propagate our second
>> removed plagirist from sin while trying to stain the last one - sure -
>
>Is that one of the Ten Commandments?

thou shalt not bear false witness

5977. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:16:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4F922.6ABD40B2@uci.edu>
Source record: 115479

W5DXP wrote:
>
> Jim Kelley wrote:
> > From Halliday and Resnick:
> > "Note that P=dU/dt [rate of transfer of energy] applies to electrical
> > energy transfer of all kinds; P=I^2R and P=V^2/R apply only to the
> > transfer of electrical energy to thermal energy in a resistor."
>
> Please define 'U'.

Rather than have me retype the entire text and then explain it to you,
why don't you just buy a copy of it. It's the most widely used
university level physics textbook.

> Is this still an attempt to prove that reflected waves carry no
> energy?

Haven't heard of that one.

> If reflected waves carry no energy then radar wouldn't
> work.

Sort of answered your own question there.

> If reflected waves carry no energy, you wouldn't be able
> to see reflections using a TDR. If reflected waves carry no
> energy, you wouldn't be able to heat up a circulator resistor
> back at the source.

I think you might somehow be confusioning this bizarre notion with the
fact that cancelled waves carry no energy.

5978. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:19:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4F9EB.A2E38D0A@uci.edu>
Source record: 115480

W5DXP wrote:
> There exists a lossless one-second long lossless transmission line
> with a reflection coefficient of 0.707. You do not know what is the
> configuration at the source. How do you know whether to allow the
> reflected wave to carry energy or not?

I think you're confused again. Try to learn what TRANSFER OF ENERGY
means.
That will really help your understanding of this subject.

5979. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:19:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc2tlp$186$1@titan.btinternet.com>
Source record: 115481

> >I threw that tasty little bit in specially for you - and you took the
bait
> >immediately. ;o)
> >
> that is called trolling, n'est pas?
>
You are slipping. With your extensive vocabulary I'm sure you could have
found a worse description than that.

5980. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:21:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE4FA47.6D124E06@uci.edu>
Source record: 115482

W5DXP wrote:
>
> Jim Kelley wrote:
> > I believe I've already explained that not all waves transfer energy from
> > one place to another. The energy contained in the wave oscillations was
> > transferred during the transient period.
>
> But that's a violation of the boundary conditions associated with the
> wave reflection model, i.e. Pfor=Vfor*Ifor and Pref=Vref*Iref all up and
> down the transmission line. I'm using the wave reflection model for my
> postings.

Yeah, you bet Cecil. Anything you say. ;-)

5981. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:53:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE501D8.306@ieee.org>
Source record: 115483

Jim Kelley wrote:
>
> W5DXP wrote:
>>Please define 'U'.
>
> Rather than have me retype the entire text and then explain it to you,
> why don't you just buy a copy of it. It's the most widely used
> university level physics textbook.

Your diversionary tactics speak volumes. How difficult can a definition
of 'U' be?

>>Is this still an attempt to prove that reflected waves carry no
>>energy?
>
> Haven't heard of that one.

You invented it.
--
73, Cecil http://www.qsl.net/w5dxp

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5982. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 21:59:18 UTC
From: richardharrison@webtv.net
Message-ID: <1334-3EE50336-385@storefull-2313.public.lawson.webtv.net>
Source record: 115486

Cecil, W5DXP wrote:
"Means very little?"

Yes, the length of a capacitive stub may be calculated to provide a desired reactance, but its length is a function of frequency.

Cable capacitance is not a function of frequency. Reactance is a function of frequency.

Best regards, Richard Harrison, KB5WZI

5983. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:07:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5052C.208@ieee.org>
Source record: 115484

Jim Kelley wrote:
>
> W5DXP wrote:
>>There exists a lossless one-second long lossless transmission line
>>with a reflection coefficient of 0.707. You do not know what is the
>>configuration at the source. How do you know whether to allow the
>>reflected wave to carry energy or not?
>
> I think you're confused again. Try to learn what TRANSFER OF ENERGY
> means.

I assume you mean that if energy is transferred to the load and then transferred back to the source that no net energy transfer has occurred. We are not discussing net energy transfer. We are discussing component energies which cause additional I^2*R losses in the transmission line so they exist in reality according to the wave reflection model.

Consider a system that transfers 60Hz energy from TX to CA, back to TX, and then to NY. You would say that no energy was transferred from TX to CA yet all the costs and losses of doing exactly that exist.

This is similar to the argument that the net power at the mouth of a lossless stub is zero. No argument there. But a forward wave flows into a stub and a reflected wave flows out of the stub. A Bird wattmeter will give you the magnitude of the power (joules/sec) in each of those waves. Choosing to ignore the component energies is just another seduction by the steady-state model.

You can prove what you are saying by presenting an example of a single source, single transmission line, single load system with standing waves that doesn't have any reflected waves. Do that and my argument will be defeated.
--
73, Cecil http://www.qsl.net/w5dxp

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5984. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:11:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE50618.5000101@ieee.org>
Source record: 115485

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>>I believe I've already explained that not all waves transfer energy from
>>>one place to another. The energy contained in the wave oscillations was
>>>transferred during the transient period.
>>
>>But that's a violation of the boundary conditions associated with the
>>wave reflection model, i.e. Pfor=Vfor*Ifor and Pref=Vref*Iref all up and
>>down the transmission line. I'm using the wave reflection model for my
>>postings.
>
> Yeah, you bet Cecil. Anything you say. ;-)

If you don't accept the wave reflection model, just say so, Jim, and
our arguments will cease. Every aspect of my argument is based on the
boundary conditions dictated by the wave reflection model. I suspect
you are trying to insert quantum physics into a field and waves discussion.
If so, please do it on another thread where your model can be well defined.
--
73, Cecil http://www.qsl.net/w5dxp

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5985. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:24:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE50912.EF245310@uci.edu>
Source record: 115487

W5DXP wrote:
> If you don't accept the wave reflection model, just say so, Jim, and
> our arguments will cease. Every aspect of my argument is based on the
> boundary conditions dictated by the wave reflection model. I suspect
> you are trying to insert quantum physics into a field and waves discussion.
> If so, please do it on another thread where your model can be well defined.

I showed you your math blunder. It has nothing to do with a rejection of wave reflection or propagation. It has to do with your erroneous energy analysis. When the net field in the direction of propagation is zero, no energy is transferred by the waves. Energy may be stored by the individual wave components, but it is necessarily transferred from one place to another by them. I suggest you do a Poynting vector analysis.

5986. Re: please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:34:24 UTC
From: Savage <look@this.con>
Message-ID: <1055197985.88820.0@iris.uk.clara.net>
Source record: 115488

"Mike" <m_remove_colasono@earthlink.net> wrote in message
news:MPG.194c8765d7d1481a989680@news.earthlink.net...
>
> hi:
>
> yeah, why can't they test it. a statement, not a question.
>
> since i'll need to post here, i need to figure out why my ISP's news
> server drops replies to my posts after i've retrieved the article
> headers and yet it doesn't drop my posts. the support techs can't help
> because, well, they'd be english teachers if they could understand
> english and so far, with this ISP they are incapable of rational
> integrated though. end of rant.
>
> we'll need a short thread for this test, so i can try out a possible fix
> that i thought of.
>
> any one word or more reply to my posts will do.
>
> tnx,
> mike
>
>
>

1. Do you by any chance have a "remove read messages/show only new
messages" filter applied?

2. Do you have a second newsreader - even Outlook Express - for comparison
purposes?

5987. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:44:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EE50DB2.9839ACF3@uci.edu>
Source record: 115489

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>There exists a lossless one-second long lossless transmission line
> >>with a reflection coefficient of 0.707. You do not know what is the
> >>configuration at the source. How do you know whether to allow the
> >>reflected wave to carry energy or not?
> >
> > I think you're confused again. Try to learn what TRANSFER OF ENERGY
> > means.
>
> I assume you mean that if energy is transferred to the load and then
> transferred back to the source that no net energy transfer has occurred.

The transfer of energy to the load is a one way process since energy is
converted to another form at the load, so I have no idea what you mean.

> We are not discussing net energy transfer. We are discussing component
> energies which cause additional I^2*R losses in the transmission line
> so they exist in reality according to the wave reflection model.

The energy analysis is not 100% analogous to the wave analysis, because
not all of the waves transfer energy.

> Consider a system that transfers 60Hz energy from TX to CA, back to TX,
> and then to NY. You would say that no energy was transferred from TX to
> CA yet all the costs and losses of doing exactly that exist.

Again you provide an inadequate description of the problem. If your
view of an energy analysis is this simplistic, then there's no wonder
you're coming up with these weird answers. At the least, energy is
transferred to the losses.

> This is similar to the argument that the net power at the mouth of a
> lossless stub is zero. No argument there. But a forward wave flows into
> a stub and a reflected wave flows out of the stub. A Bird wattmeter will
> give you the magnitude of the power (joules/sec) in each of those waves.
> Choosing to ignore the component energies is just another seduction
> by the steady-state model.

No it isn't. The Bird measures voltages and currents, and we assume
certain things from those measurements. The assumptions are not always
correct. The steady state description is an accurate representation of
the actual flow of energy after the transient period.

> You can prove what you are saying by presenting an example of a single
> source, single transmission line, single load system with standing waves
> that doesn't have any reflected waves.

You're not even making sense here, Cecil.

5988. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 22:50:50 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vea3rhjri3ard5@corp.supernews.com>
Source record: 115490

Reg
I suspect the reason capacitance in Gaussian units is measured in cm is
that's what Cavendish was measuring his spheres in, cm.
It's an interesting historical anecdote if accurate, nothing more; except
all those guys were Brits. ;^)
Always glad to have your presence in the group.
73 es gud Chianto Classico
H.
NQ5H

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bc2p6kqil1@hercules.btinternet.com...
> H, thanks, without the slightest intention of causing any offence, for
> confirming what I already knew.
>
> The root of that trivial problem lay in the difference between my language
> and that of impractical university professors and their educational
methods.
>
> Just the same over here. There's more than one way of obtaining money
under
> false pretences.
>
> Yours, Reg.
>
>
>
>

5989. Re: Capacitance of wires to other things.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 23:35:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nd6aev0mdfq3157rifednaf97e2alemucs@4ax.com>
Source record: 115491

On Mon, 9 Jun 2003 21:19:53 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>> >I threw that tasty little bit in specially for you - and you took the
>bait
>> >immediately. ;o)
>> >
>> that is called trolling, n'est pas?
>>
>You are slipping. With your extensive vocabulary I'm sure you could have
>found a worse description than that.
>
for bait?

5990. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 23:47:01 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE51C27.5020801@attbi.com>
Source record: 115492

In the study of Thermodynamics the term 'U' stands for the Energy in a system. The time rate of change of Energy, dU/dt, is by definition Power.

Cecil, I would have expected you to know that since we both graduated at about the same time.

Now, if there is another definition ?? ... Hmmm !!

Deacon Dave, W1MCE
+ + +

W5DXP wrote:
> Jim Kelley wrote:
>
>> From Halliday and Resnick:
>> "Note that P=dU/dt [rate of transfer of energy] applies to electrical
>> energy transfer of all kinds; P=I^2R and P=V^2/R apply only to the
>> transfer of electrical energy to thermal energy in a resistor."
>
>
> Please define 'U'. That nomenclature does not appear in any of my
> CGS or MKS references. Is this the old (outdated), "It's not power
> unless it turns to heat" argument?
>
> How does your reference handle transfer of energy to a virtual
> (non-dissipationless) resistance? How does your reference handle
> transfer of energy in a flat transmission line where, at any point,
> the voltage is in phase with the current and therefore satisfies
> the IEEE definition of power.
>
> Is this still an attempt to prove that reflected waves carry no
> energy? If reflected waves carry no energy then radar wouldn't
> work. If reflected waves carry no energy, you wouldn't be able
> to see reflections using a TDR. If reflected waves carry no
> energy, you wouldn't be able to heat up a circulator resistor
> back at the source.

5991. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-09 23:49:18 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE51CAF.6000300@attbi.com>
Source record: 115493

W5DXP wrote:
> Jim Kelley wrote:
>
>> W5DXP wrote:
>>
>>> Now steady-state even makes time stand still?
>>
>>
>> Most enlightened people know that time is the only thing that does
>> change during the steady state.
>
One second yesterday does not equal one second today and will not equal
one second tomorrow!!!

RELATIVELY speaking of course :-)

Deacon Dave, W1MCE
+ + +

5992. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 00:06:14 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vea88tgrk03276@corp.supernews.com>
Source record: 115494

The only place "virtual" has in E&M is in relativistic E&M.
Weizacker-Williams, 1934.

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EE51CAF.6000300@attbi.com...
>
>
> W5DXP wrote:
> > Jim Kelley wrote:
> >
> >> W5DXP wrote:
> >>
> >>> Now steady-state even makes time stand still?
> >>
> >>
> >> Most enlightened people know that time is the only thing that does
> >> change during the steady state.
> >
> One second yesterday does not equal one second today and will not equal
> one second tomorrow!!!
>
> RELATIVELY speaking of course :-)
>
> Deacon Dave, W1MCE
> + + +
>

5993. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 00:29:17 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <yb-dnVT3W7I-u3ijRTvU3Q@ctc.net>
Source record: 115495

>
> Thanks for the reply.
> To me honest I didn't even think of moulds etc...
> This sounds hair brained but I was thinking of using one of those
> huge golf umbrellas taped up with Alu. foil between the ribs but I
> think the shape may be a bit sharp. I have a theory book on Satellite
> comms so I may have to dig out the calulator and see if it is
> possible.

There is a plan in the older ARRL antenna books for a stressed parabolic antenna. Not sure how the center is made but something like aluminum counduit is fastened togerther at the center and a cord is used from the ends of the conduit and is pulled tight to a center post. A template is made to check to see how much stress to put on the conduit. It is then converted with chicken wire. It looks similar to the umbrella with the stress cords going to the "handle"

5994. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:16:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5315F.3090107@ieee.org>
Source record: 115496

Richard Harrison wrote:
> Cable capacitance is not a function of frequency. Reactance is a
> function of frequency.

Stub virtual capacitance *is* frequency dependent. The capacitance
of a five foot long open stub of RG8 is 160pf on 4 MHz and 650 pf
on 28 MHz, i.e. the virtual capacitance of a stub changes with
frequency. You can easily see that from the Smith Chart.
--
73, Cecil http://www.qsl.net/w5dxp

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5995. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:30:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5349A.5040908@ieee.org>
Source record: 115497

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>If you don't accept the wave reflection model, just say so, Jim, and
>>our arguments will cease. Every aspect of my argument is based on the
>>boundary conditions dictated by the wave reflection model. I suspect
>>you are trying to insert quantum physics into a field and waves discussion.
>>If so, please do it on another thread where your model can be well defined.
>
> I showed you your math blunder.

Nope, you didn't. You just showed that a wave must be smart enough to know,
a priori, whether it should carry energy or not.

> When the net field in the direction of propagation is
> zero, no energy is transferred by the waves.

Obviously, no energy is transferred by the waves in the original direction
but the energy cannot be destroyed so it can do nothing except change direction.

> Energy may be stored by
> the individual wave components, but it is necessarily transferred from
> one place to another by them.

RF energy *cannot* stand still and I agree that it is therefore necessarily
transferred from one place to another by them. We finally agree.

> I suggest you do a Poynting vector analysis.

The Poynting vector deals with net energy delivered to the load. We
already know that to be forward power minus reflected power. We are not
discussing net power so the Poynting vector tells us absolutely nothing
about the subject being discussed. We are discussing the power in the
forward wave and reflected wave. We know that energy is there because
it causes additional I^2*R losses in the transmission line.

If the forward power is 200 watts and the reflected power is 100 watts,
it means the load is accepting 100 watts and rejecting 100 watts. The
Poynting vector yields the power delivered to the load, not the forward
and reflected power. If the above transmission line is one second long,
there will be 300 joules stored in the transmission line during each
second. That's 300 watts flowing in the transmission line, 200 watts
flowing forward and 100 watts flowing rearward.
--
73, Cecil http://www.qsl.net/w5dxp

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5996. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:35:52 UTC
From: donut <none@none.com>
Message-ID: <Xns9395BBF2D4CADdonut@216.102.43.227>
Source record: 115500

"David Robbins" <k1ttt@arrl.net> wrote in
news:ItednYMIKt45c3mjXTWcog@crocker.com:

>
> "Sterling Garwood" <slgarwood@comcast.net> wrote in message
> news:BB0A5409.8571B%slgarwood@comcast.net...
>> I have a 1/4 mile roll of electric fence wire ... Anyone used it for a
> long
>> wire or a dipole? Any problems?
>>
> the galvanized stuff rusts very quickly. the aluminum type is ok but not
> exactly the strongest stuff around.
>
>
>

I used to use it as a portable Beverage. It kinks easily, but worked fine.
$10 for a 1000 feet - I could live with some problems.

5997. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:39:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veadnp9lmgvq57@corp.supernews.com>
Source record: 115498

W5DXP wrote:
>
> Stub virtual capacitance *is* frequency dependent. . .

Now, that's a new one. In previous postings, you've referred to a "virtual":

short
open
impedance
reflection coefficient
photon
resistance
mismatch
reality

So now capacitance can be added to the list.

Are the concepts you're trying to communicate so difficult -- or vague
-- that they can't be explained in terms of real quantities, but instead
require creation an ever-growing list of "virtual" objects?

Roy Lewallen, W7EL

5998. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:44:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5380F.8080300@ieee.org>
Source record: 115499

Jim Kelley wrote:
> The transfer of energy to the load is a one way process since energy is
> converted to another form at the load, so I have no idea what you mean.

And you never have. If the reflection coefficient at the load is 0.707,
the load will accept half the energy and reject half the energy. These
are equal amounts of energy, 1/2 delivered to the load and 1/2 reflected
back toward the source. Note that the load could be another transmission
line.

> The energy analysis is not 100% analogous to the wave analysis, because
> not all of the waves transfer energy.

All waves with the voltage and current in phase or 180 degrees out of
phase transfer energy because V*I*cos(a) is watts. The forward wave has
its voltage and current in phase and thus transfers energy. The reflected
wave has its voltage and current 180 degrees out of phase and thus
transfers energy.

> The Bird measures voltages and currents, and we assume
> certain things from those measurements. The assumptions are not always
> correct.

In the examples we have been discussing, the assumptions *are* correct.

> The steady state description is an accurate representation of
> the actual flow of energy after the transient period.

It is a *shortcut* description of the net energy flow. It is woefully
inadequate for doing a component wave analysis which is what we
are doing. Net energy is a no-brainer. We are not discussing net energy.

>>You can prove what you are saying by presenting an example of a single
>>source, single transmission line, single load system with standing waves
>>that doesn't have any reflected waves.
>
> You're not even making sense here, Cecil.

Translation: I am incapable of presenting such an example so I will
save face by pretending that you are not making sense.
--
73, Cecil http://www.qsl.net/w5dxp

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5999. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 01:49:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5393F.5010702@ieee.org>
Source record: 115501

Dave Shrader wrote:
> In the study of Thermodynamics the term 'U' stands for the Energy in a
> system. The time rate of change of Energy, dU/dt, is by definition Power.
>
> Cecil, I would have expected you to know that since we both graduated at
> about the same time.

I know the time rate of change of Energy is Power. I just didn't
know the definition of 'U' and Jim refused to provide it. So,
thank you, Dave, for providing it.
--
Thanks & 73, Cecil http://www.qsl.net/w5dxp

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6000. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 02:04:04 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <veaf5tht1cmc49@corp.supernews.com>
Source record: 115502

I'm waiting for virtual heat.
Then virtual money and sex.
But not too long.....
H.
NQ5H

Virtual Quanta refers to relativistic particle math constructs that allow
estimates.
I repeat: relativistic particles.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:veadnp9lmgvq57@corp.supernews.com...
> W5DXP wrote:
> >
> > Stub virtual capacitance *is* frequency dependent. . .
>
> Now, that's a new one. In previous postings, you've referred to a
"virtual":
>
> short
> open
> impedance
> reflection coefficient
> photon
> resistance
> mismatch
> reality
>
> So now capacitance can be added to the list.
>
> Are the concepts you're trying to communicate so difficult -- or vague
> -- that they can't be explained in terms of real quantities, but instead
> require creation an ever-growing list of "virtual" objects?
>
> Roy Lewallen, W7EL
>

6001. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 02:11:26 UTC
From: ricknj101@hotmail.com
Message-ID: <3ee53d77.135529531@news.optonline.net>
Source record: 115503

>the galvanized stuff rusts very quickly. the aluminum type is ok but not
>exactly the strongest stuff around.

And the copperweld (cooperclad steel) stuff kinks if you get any slack
in it.

For antennas I have found #14 stranded, insulated coper wire from Home
Depot on a 500 foot spool to be a pretty good value. Approx. $15.
Nice thing about it is..... if you lower it to the ground it just
lays there and behaves itself. #12 also available for a few bucks
more.

Rick K2XT

6002. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 02:32:29 UTC
From: "Gregory L. Dome" <gldome@livingston.net>
Message-ID: <veagpu5nsg7l97@corp.supernews.com>
Source record: 115504

Used for a Delta Loop in San Antonio, Tx. Worked very well with a 1:1 balun
and Mini 8
"Sterling Garwood" <slgarwood@comcast.net> wrote in message
news:BB0A5409.8571B%slgarwood@comcast.net...
> I have a 1/4 mile roll of electric fence wire ... Anyone used it for a
long
> wire or a dipole? Any problems?
>

6003. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 02:38:30 UTC
From: tdonaly@aol.com
Message-ID: <20030609223830.09271.00000482@mb-m29.aol.com>
Source record: 115505

Roy wrote,
>
>W5DXP wrote:
>>
>> Stub virtual capacitance *is* frequency dependent. . .
>
>Now, that's a new one. In previous postings, you've referred to a "virtual":
>
>short
>open
>impedance
>reflection coefficient
>photon
>resistance
>mismatch
>reality
>
>So now capacitance can be added to the list.
>
>Are the concepts you're trying to communicate so difficult -- or vague
>-- that they can't be explained in terms of real quantities, but instead
>require creation an ever-growing list of "virtual" objects?
>
>Roy Lewallen, W7EL
>

Until I started reading the amateur literature, the only "virtual" I'd
ever heard of was a "virtual" ground at one terminal of an op-amp.
The word "virtual" doesn't actually explain anything since it's really
just a metaphor masquerading as a technical term. It sounds neat
and futuristic, though, which is probably why it's so popular.
73,
Tom Donaly, KA6RUH

6004. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 02:41:26 UTC
From: tdonaly@aol.com
Message-ID: <20030609224126.09271.00000483@mb-m29.aol.com>
Source record: 115506

H. wrote,
>
>I'm waiting for virtual heat.
>Then virtual money and sex.
>But not too long.....
>H.
>NQ5H
>
>Virtual Quanta refers to relativistic particle math constructs that allow
>estimates.
>I repeat: relativistic particles.
>

Has anyone heard of "loveless love?"
73,
Tom Donaly, KA6RUH

6005. Re: Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 03:04:27 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030609230427.14935.00001090@mb-m12.aol.com>
Source record: 115507

>Did you ever transmit on 10 m while somebody was using the PC? What happens
>with plasma TV, I had thought I might buy one when the prices come down.
>
>Tam/WB2TT

Actually, I'm a tech, so I can't on HF, but I do monitor various HF bands from time to time and I've never noticed any interference.

As far as the plasma TV's go, I've heard they wreak havoc on HF. I'm sure if you do a search on the newsgroups, you'll find exact references to the effects.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6006. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 03:05:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE54AEF.1040201@ieee.org>
Source record: 115508

Tdonaly wrote:
> Until I started reading the amateur literature, the only "virtual" I'd
> ever heard of was a "virtual" ground at one terminal of an op-amp.
> The word "virtual" doesn't actually explain anything since it's really
> just a metaphor masquerading as a technical term. It sounds neat
> and futuristic, though, which is probably why it's so popular.

I've explained what I mean by "virtual". If a voltage to current ratio
is the cause of an impedance, the impedance is virtual. If the impedance
is the cause of the V/I ratio, the impedance is not virtual.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6007. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 03:29:32 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee551a7_2@news1.prserv.net>
Source record: 115509

I read somewhere that if you rotate a dish of liquid, the surface forms a parabola of rotation. Someone claimed to have done this with a large (80 gallon) pan of liquid epoxy and made a female mold, and went from there. One of the old line antenna manufacturers who shall forever remain nameless used to make aluminum dishes over a male mold by running a cement filled tire in an appropriate fixture round and round upon an aluminum disk, while moving it out very slowly from the center. Had to go to better accuracy when the new microwave sidelobe rules came in back in the 60s. I helped a friend build a cylindrical parabola for 432 back in the 50s using conduit, chicken wire and plywood.

--
Crazy George
Remove NO and SPAM from return address
"Xanax" <keepItInTheNewsGroups@news.com> wrote in message
news:KWMEa.17460$pK2.23919@news.indigo.ie...
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Hi all,
> Has anyone here tried to make a satellite dish from scratch?
> If so let me know how you got on.
>
> Cheers,
> Xanax.
> -----BEGIN PGP SIGNATURE-----
> Version: PGP 8.0 (Build 294) Beta
>
> iQA/AwUBPuObRyGakPXr24F/EQIRwACfSxQodOHWC7MIQk/7Sp2YyE3Rja0AoKOA
> E8+z6TigMHdDuxuQmCt/OuNd
> =UAtA
> -----END PGP SIGNATURE-----
>
>
>

6008. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 03:44:52 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns9395D30EA55A3pookster@129.250.170.96>
Source record: 115511

ricknj101@hotmail.com (Rick) wrote in news:3ee53d77.135529531
@news.optonline.net:

> And the copperweld (cooperclad steel) stuff kinks if you get any slack
> in it.
>

Old timers trick for making wire behave: Clamp one end to something and grab the other end with vise-grips. Pull hard, stretching it slightly. Presto, all the twists, curls and other mis-behaviors are magically gone.

Copperweld is tough stuff, may require two people or a lever, but the principle holds.

--
Bill, W7TI

6009. NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 04:00:18 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194f21c995c57459989683@news.earthlink.net>
Source record: 115510

Hi:

i'm using 4NEC-4 from http://www.qsl.net/wb6tpu/swindex.html

seems like a great app. this is from the get started text file.

i get this error:

NO SEGMENT HAS AN ITAG OF 10

here's the card i suspect is fouling up:

TL 1 10 2 1 50.0 0.0 0.0 0.0

here's the input deck:

```
CE
GW 1 19 -16.35 0.0 70.0 16.35 0.0 70.0 0.003
GW 2 1 -1.0 0.0 1.0 1.0 0.0 1.0 0.003
GS 0 0 .3058
GE 0
TL 1 10 2 1 50.0 0.0 0.0 0.0
LD 5 0 0 0 0.0 0.0 0.0 0.0
EX 0 2 1 0 1.0 0.0 0.0 0.0
GN 0 0 0 0 13.0 .005 0.0 0.0
FR 0 1 0 0 14.15 0.0 0.0 0.0
EN
```

and the bottom part of the output file (error at bottom):

```
- - - - SEGMENTATION DATA - - - -

COORDINATES IN METERS

I+ AND I- INDICATE THE SEGMENTS BEFORE AND
AFTER I

SEG. COORDINATES OF SEG. CENTER SEG. ORIENTATION ANGLES
WIRE CONNECTION DATA TAG
NO. X Y Z LENGTH ALPHA BETA
RADIUS I- I I+ NO.
1 -4.73668 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 0 1 2 1
2 -4.21038 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 1 2 3 1
3 -3.68409 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 2 3 4 1
4 -3.15779 0.00000 21.40600 0.52630 0.00000 0.00000
```

```
0.00092 3 4 5 1
5 -2.63149 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 4 5 6 1
6 -2.10519 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 5 6 7 1
7 -1.57889 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 6 7 8 1
8 -1.05260 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 7 8 9 1
9 -0.52630 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 8 9 10 1
10 0.00000 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 9 10 11 1
11 0.52630 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 10 11 12 1
12 1.05260 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 11 12 13 1
13 1.57889 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 12 13 14 1
14 2.10519 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 13 14 15 1
15 2.63149 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 14 15 16 1
16 3.15779 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 15 16 17 1
17 3.68409 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 16 17 18 1
18 4.21038 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 17 18 19 1
19 4.73668 0.00000 21.40600 0.52630 0.00000 0.00000
0.00092 18 19 0 1
20 0.00000 0.00000 0.30580 0.61160 0.00000 0.00000
0.00092 0 20 0 2

***** DATA CARD NO. 1 TL 10 1 1 19 5.00000E+01
0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

NO SEGMENT HAS AN ITAG OF 10
```

that doesn't look right. is there a 4NEC-2 bug here or is it my error?

thanks in advance for any help.

mike c

6010. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 04:44:11 UTC
From: tdonaly@aol.com
Message-ID: <20030610004411.09503.00001184@mb-m07.aol.com>
Source record: 115512

```
Cecil wrote,
>
>I've explained what I mean by "virtual". If a voltage to current ratio
>is the cause of an impedance, the impedance is virtual. If the impedance
>is the cause of the V/I ratio, the impedance is not virtual.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

I'm going to frame that definition and show it to all my friends.
73,
Tom Donaly, KA6RUH
```

6011. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 05:21:13 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306092121.1bf40da7@posting.google.com>
Source record: 115513

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0306090745.d582d76@posting.google.com>...
> "Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<3+kXw2LjHG5+EA8b@ifwtech.co.uk>...
> >
> Hi Ian
> At the risk of interfering.
>
> 1
> I have pointed out to Keith a month or so ago on a different thread
> that Art refered to "rotating" not stearing the antenna.

The case I'm referring to was about 10-11 months ago. Has nothing to do with the thread of a month ago except in general. After I kept telling him he couldn't steer it, he quit saying that and decided to say he was going to manually rotate it. Or I guess anyway...The whole reason I modeled it was because of his claim that it could be steered by changing the cap value. I didn't buy it, and it didn't pan out when modeled. Other than that, I would never have wasted my time. I had no doubt you could "tune" the antenna with the device. That wasn't my reason for modeling it. MK

6012. Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 05:23:07 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bc3pv2$en7$1@news.oregonstate.edu>
Source record: 115514

Hello,

I've been getting somewhat confused concerning the radiation and input impedances of simple dipoles with and without ground planes, and was wondering is someone could set me straight. Some questions are:

-- The input impedance of a half-wave (total length) dipole is ~73 ohms. The input impedance of a quarter-wave dipole above ground had better be ~73 ohms as well... correct?
-- The radiation resistance of that HW dipole is also ~73 ohms, yet that of the QWAG dipole is ~36.5 due to the definition of radiation resistance: Rrad=Prad/2*Imax, since the QWAG dipole only radiaties half the total power for the same input current (i.e., it only radiates above the ground plane).
-- The input impedance is supposed to be related to the radiation resistance through Rin=Rrad*|Imax/Iin|^2. Now, in both the case of the HW and QWAG dipole, Imax occurs at the feedpoint and therefore is numerically equal to Iin... right? Hence, the equation suggest that Rin=36.5 ohms for the QWAG... which isn't correct.

So... it would seem that the problem is that the Rin/Rrad relationship is meant to only be used on the _same_ style of antenna... but of a potentially different length. I.e., it can't be used for comparing HW and QWAG dipoles, right? Or am I missing something else here?

In general, if someone tells me the radiation resistance of an antenna above a ground plane, can I just modify the above equation with a factor of 2 to find the input impedance?

Thanks,
---Joel Kolstad

6013. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 05:43:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veas0lqmfg44e5@corp.supernews.com>
Source record: 115515

Joel Kolstad wrote:
> Hello,
>
> I've been getting somewhat confused concerning the radiation and input
> impedances of simple dipoles with and without ground planes, and was
> wondering is someone could set me straight. Some questions are:
>
> -- The input impedance of a half-wave (total length) dipole is ~73 ohms.
> The input impedance of a quarter-wave dipole above ground had better be ~73
> ohms as well... correct?

No, it's 1/2 that value. To get an intuitive feel for why this is, imagine the fields from a perfectly symmetrical dipole, driven with a purely differential signal. Put a plane perpendicular to the dipole, bisecting it. The field at any point on one side of the plane will be equal and opposite the field at the corresponding point on the other side of the plane. Therefore, the field strength at any point on the plane will be zero. So the plane can be made conductive without disturbing anything. On each side of the conducting plane you have a quarter wavelength monopole. Because the impedance between the two conductors of the dipole feedline is 73 ohms, you can see that the impedance from either conductor (the base of either monopole) to the plane is 73/2 ohms.

> -- The radiation resistance of that HW dipole is also ~73 ohms, yet that of
> the QWAG dipole is ~36.5 due to the definition of radiation resistance:
> Rrad=Prad/2*Imax, since the QWAG dipole only radiaties half the total power
> for the same input current (i.e., it only radiates above the ground plane).

You have the radiation resistance of both antennas correct. Be aware, though, that the definition of radiation resistance you're using isn't universal. Sometimes it's defined at the feedpoint, sometimes at the current loop (as in your definition). So when the two points don't coincide, it's important to state which definition you're using. (Actually, radiation resistance can be defined anywhere along an antenna, but it's nearly always referred to either the feedpoint or the current maximum.)

> -- The input impedance is supposed to be related to the radiation resistance
> through Rin=Rrad*|Imax/Iin|^2. Now, in both the case of the HW and QWAG
> dipole, Imax occurs at the feedpoint and therefore is numerically equal to
> Iin... right? Hence, the equation suggest that Rin=36.5 ohms for the
> QWAG... which isn't correct.

No, it is correct. Incidentally, your formula is good only when the input impedance is purely resistive, i.e., the antenna is resonant.

> So... it would seem that the problem is that the Rin/Rrad relationship is
> meant to only be used on the _same_ style of antenna... but of a potentially
> different length. I.e., it can't be used for comparing HW and QWAG dipoles,
> right? Or am I missing something else here?

As I said above, the radiation resistance can be defined at the
feedpoint. If it is, then the input resistance is simply the radiation
resistance plus the loss resistance (the latter referred to the feedpoint).

> In general, if someone tells me the radiation resistance of an antenna above
> a ground plane, can I just modify the above equation with a factor of 2 to
> find the input impedance?

No need for the factor of two. But remember to watch out for that
radiation resistance definition whenever the current loop isn't at the
feedpoint.
>
> Thanks,
> ---Joel Kolstad

Roy Lewallen, W7EL

6014. Re: Antenna books

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 06:04:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5tsaevkv8jb633hkuj1v7jj8vg8ujg314l@4ax.com>
Source record: 115516

On 9 Jun 2003 22:21:13 -0700, nm5k@wt.net (Mark Keith) wrote:

>
>The case I'm referring to was about 10-11 months ago. Has nothing to
>do with the thread of a month ago except in general. After I kept
>telling him he couldn't steer it, he quit saying that and decided to
>say he was going to manually rotate it. Or I guess anyway...The whole
>reason I modeled it was because of his claim that it could be steered
>by changing the cap value. I didn't buy it, and it didn't pan out when
>modeled. Other than that, I would never have wasted my time. I had no
>doubt you could "tune" the antenna with the device. That wasn't my
>reason for modeling it. MK

Hi Mark,

To this matter of beam steering, that was one of the observed features
of fractals (bite my tongue!).

Actually it was an observable of the wide spectrum characteristic of
what would be properly a "large" fractal (typically in the 1-2
wavelength maximum physical dimension). Over a range of frequencies,
the fractal would cause lobe(s) to rotate. At best it could be
described as a feature if you could shift great frequencies (certainly
not within the scope of any Ham band, but roughly correlatable to
jumps between band changes).

73's
Richard Clark, KB7QHC

6015. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 06:40:24 UTC
From: Joel Kolstad <jkolstad71hatespam@yahoo.com>
Message-ID: <r3fFa.1177270$F1.140486@sccrnsc04>
Source record: 115517

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:veas0lqmfg44e5@corp.supernews.com...
> Joel Kolstad wrote:
> > -- The input impedance of a half-wave (total length) dipole is ~73 ohms.
> > The input impedance of a quarter-wave dipole above ground had better be
~73
> > ohms as well... correct?
>
> No, it's 1/2 that value.

Well, I'll be... OK, that clears up a lot, and your detailed explanation of coming up with 73/2 ohms is more elegant than the "well, integrated over a sphere, there's half the power with the ground plane..." approach I've seen previously. Thanks!

One last set of questions then...

-- If we feed 1W of power into each antenna, one really _will_ measure twice the power density (at some far field point receiving the transmitted signal) -- +3dB -- with the QWAG dipole relative to the HW dipole, right? (I.e., the directivity is improved by 3dB.)
-- If we feed both antennas with the same _voltage_ at the feedpoint, the QWAG dipole will radiate twice the power and therefore have twice the field strength and FOUR times the power density at a received location, right?

Thanks much,
---Joel

6016. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 08:31:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veb5ru60e8l4ae@corp.supernews.com>
Source record: 115518

Joel Kolstad wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:veas0lqmfg44e5@corp.supernews.com...
>
>>Joel Kolstad wrote:
>>
>>>-- The input impedance of a half-wave (total length) dipole is ~73 ohms.
>>>The input impedance of a quarter-wave dipole above ground had better be
>
> ~73
>
>>>ohms as well... correct?
>>
>>No, it's 1/2 that value.
>
>
> Well, I'll be... OK, that clears up a lot, and your detailed explanation of
> coming up with 73/2 ohms is more elegant than the "well, integrated over a
> sphere, there's half the power with the ground plane..." approach I've seen
> previously. Thanks!
>
> One last set of questions then...
>
> -- If we feed 1W of power into each antenna, one really _will_ measure twice
> the power density (at some far field point receiving the transmitted
> signal) -- +3dB -- with the QWAG dipole relative to the HW dipole, right?
> (I.e., the directivity is improved by 3dB.)

Right. But watch out how you define directivity when you're restricted
to a hemisphere.

> -- If we feed both antennas with the same _voltage_ at the feedpoint, the
> QWAG dipole will radiate twice the power and therefore have twice the field
> strength and FOUR times the power density at a received location, right?

Right. 'Course if you fed both with the same *current*, you'd end up
with the same power density from both. Cool, huh?

One good way to look at the situation is that the dipole spreads its
radiated power over twice the volume that the monopole does, since the
monopole is restricted to a half-space. So naturally, the power density
from the monopole will be twice as great.

You really need to download the EZNEC demo from http://eznec.com. You'll
be able to answer a lot of your questions with it -- although it won't
tell you *why*.

Roy Lewallen, W7EL

6017. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 11:08:18 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vebf28goju3bf7@corp.supernews.com>
Source record: 115519

Tom
Wait 'till they're virtually drunk first.
H.
"Tdonaly" <tdonaly@aol.com> wrote in message
news:20030610004411.09503.00001184@mb-m07.aol.com...
> Cecil wrote,
> >
> >I've explained what I mean by "virtual". If a voltage to current ratio
> >is the cause of an impedance, the impedance is virtual. If the impedance
> >is the cause of the V/I ratio, the impedance is not virtual.
> >--
> >73, Cecil http://www.qsl.net/w5dxp
> >
>
> I'm going to frame that definition and show it to all my friends.
> 73,
> Tom Donaly, KA6RUH
>
>

6018. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 11:40:13 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE5C34A.5030003@attbi.com>
Source record: 115520

With my luck virtual 'money' and virtual 'sex' will be annihilated in
wave cancellation!! :-)

DD, W1MCE

H. Adam Stevens wrote:
> I'm waiting for virtual heat.
> Then virtual money and sex.
> But not too long.....
> H.
> NQ5H
>
> Virtual Quanta refers to relativistic particle math constructs that allow
> estimates.
> I repeat: relativistic particles.
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:veadnp9lmgvq57@corp.supernews.com...
>
>>W5DXP wrote:
>>
>>>Stub virtual capacitance *is* frequency dependent. . .
>>
>>Now, that's a new one. In previous postings, you've referred to a
>
> "virtual":
>
>>short
>>open
>>impedance
>>reflection coefficient
>>photon
>>resistance
>>mismatch
>>reality
>>
>>So now capacitance can be added to the list.
>>
>>Are the concepts you're trying to communicate so difficult -- or vague
>>-- that they can't be explained in terms of real quantities, but instead
>>require creation an ever-growing list of "virtual" objects?
>>
>>Roy Lewallen, W7EL
>>
>

>
>

6019. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 12:17:34 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610081734.08194.00000179@mb-m16.aol.com>
Source record: 115521

>the impedance is virtual.

What's the "regular" impedance?

Yuri

6020. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 12:18:20 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EE5CB97.9FFAE8C7@gte.net>
Source record: 115522

Crazy George wrote:

> I read somewhere that if you rotate a dish of liquid, the surface forms a
> parabola of rotation. Someone claimed to have done this with a large (80
> gallon) pan of liquid epoxy and made a female mold, and went from there.
> One of the old line antenna manufacturers who shall forever remain nameless
> used to make aluminum dishes over a male mold by running a cement filled
> tire in an appropriate fixture round and round upon an aluminum disk, while
> moving it out very slowly from the center. Had to go to better accuracy
> when the new microwave sidelobe rules came in back in the 60s. I helped a
> friend build a cylindrical parabola for 432 back in the 50s using conduit,
> chicken wire and plywood.
>

There are an infinte number of parabolas that can fit into a given diameter. The problem then comes down to focal length/diameter (F/D) ratio. Not every parabola can be properly illuminated to make it a useful reflector. F/D's in the range of 0.3 (deep) to 0.7 (shallow) are useful for today's feedhorns- different feed designs for different F/D's though- one "size" does not fit all.

How one could rotate the liquid epoxy to not only shape a parabola, but one of a useful F/D is a bit of a mystery. The other technique you refer to is called spinning and is still a common technique for medium sized surfaces- the small circular ridges from the tooling can be seen. Paraclipse developed a technique called hydro forming- using water pressure on a die to force and stretch soft aluminum (3000 series) into a near perfect parabola nearly 8' in diamete- useful to 24 GHz.

Dale W4OPr

6021. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 13:20:15 UTC
From: richardharrison@webtv.net
Message-ID: <1334-3EE5DB0F-514@storefull-2313.public.lawson.webtv.net>
Source record: 115523

Joel Kolstad wrote:
"Now, in both the case of the HW and QWAG dipole, Imax occurs at the feedpoint and therefore is numerically equat to Iin ...right?"

A guessing game: but, HW = half-wave, and QWAG = quarter-wave above ground?

Problem is a "QWAG" is not a dipole. It acts as a dipole may in some respects when the reflection from the earth is considered, and the "QWAG" rests near the earth.

If I broke the code, the short answer to the question is: yes.

Terman says:
"Radiation resistance. This is the resistance that, when inserted in series with the antenna, will consume the same amount of power as is actually radiated."

Customarily, radiation resistance is specified at a current maximum point in an ungrounded antenna, and at the base of a grounded antenna.

Power radiated is current squared times Rr, or voltage squared over Rr, where Rr is the radiation resistance.

100 watts into 73 ohms of radiation resistance is about 85.44 volts over 1.17 amps.

100 watts into 35.5 ohms of radiation resistance ia about 59.58 volts over 1.678 amps.

Best regards, Richard Harrison, KB5WZI

6022. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:18:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5E8B5.6060606@ieee.org>
Source record: 115524

Tdonaly wrote:
> Cecil wrote,
>
>>I've explained what I mean by "virtual". If a voltage to current ratio
>>is the cause of an impedance, the impedance is virtual. If the impedance
>>is the cause of the V/I ratio, the impedance is not virtual.
>
> I'm going to frame that definition and show it to all my friends.

It's similar to the definition of virtual image in optics. If the
image is not really there, it is virtual. If the impedance is not
really there, it is virtual.
--
73, Cecil http://www.qsl.net/w5dxp

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6023. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:25:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5EA61.9030903@ieee.org>
Source record: 115525

Joel Kolstad wrote:
> -- The input impedance of a half-wave (total length) dipole is ~73 ohms.

In free space. The earth causes a deviation from that value.

> The input impedance of a quarter-wave dipole above ground had better be ~73
> ohms as well... correct?

Nope, the input impedance of a quarter-wave dipole above ground
is something like 13-j722 ohms according to EZNEC.
--
73, Cecil http://www.qsl.net/w5dxp

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6024. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:27:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5EADB.4090405@ieee.org>
Source record: 115526

Roy Lewallen wrote:
>> The input impedance of a quarter-wave dipole above ground had better
>> be ~73 ohms as well... correct?
>
> No, it's 1/2 that value.

EZNEC says the input impedance of a quarter-wave dipole is
somewhere around 13-j722 ohms.
--
73, Cecil http://www.qsl.net/w5dxp

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6025. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:35:50 UTC
From: arrow146@aol.com
Message-ID: <20030610103550.15895.00000354@mb-m29.aol.com>
Source record: 115527

<< Old timers trick for making wire behave: Clamp one end to something and grab the other end with vise-grips. Pull hard, stretching it slightly. Presto, all the twists, curls and other mis-behaviors are magically gone.

Copperweld is tough stuff, may require two people or a lever, but the principle holds.

Bill, W7TI >>

New timers trick for straightening solid wire.
Clamp one end in a vice, put the other end in a reversible drill. With a slight pull, Twist the wire about 2 turns per foot of wire. Then reverse for the same amount.
Makes nice straight wire from a spool.

73 Al Lowe N0IMW

6026. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:36:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5ECD1.9090901@ieee.org>
Source record: 115528

Yuri Blanarovich wrote:
>>the impedance is virtual.
>
> What's the "regular" impedance?

A regular impedance is the *cause* of the V/I ratio.

A virtual impedance is the *result* of the V/I ratio.

Confusing those two types of impedances is a simple
confusion of cause and effect which leads to conceptual
errors, e.g. 1/4WL stubs having no reflections at the
shorted end.
--
73, Cecil http://www.qsl.net/w5dxp

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6027. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:57:14 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EE5F1CA.8070502@mwci-news>
Source record: 115529

Roy Lewallen wrote:
>
>
> One good way to look at the situation is that the dipole spreads its
> radiated power over twice the volume that the monopole does, since the
> monopole is restricted to a half-space. So naturally, the power density
> from the monopole will be twice as great.

One watt into a 35 ohm monopole and one watt into
a 70 ohm dipole must produce the same "average"
power density over a distant spherical or
hemispherical surface (no free lunch). The density
can only be different very close to the radiator
or at specific lobe angles.

In free space there is no such thing as a monopole
or a hemispherical surface. The very thin
reference plane, assumed not to be very large, for
the monopole is part of the antenna and it
radiates 50% of the power. The reflecting surface
affects the drive point impedance and the
radiation pattern but not the average power
density in free space.

Bill W0IYH

6028. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 14:59:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5F246.5060408@ieee.org>
Source record: 115530

Dave Shrader wrote:
>> "Roy Lewallen" <w7el@eznec.com> wrote:
>>> Are the concepts you're trying to communicate so difficult -- or vague
>>> -- that they can't be explained in terms of real quantities, but instead
>>> require creation an ever-growing list of "virtual" objects?

Virtual photons and virtual reality are not my inventions, Roy. Virtual
images are a well-understood concept from the field of optics.

Virtual impedances were introduced into amateur radio in the 1970-80's
and not by me. I am simply using pre-existing concepts.

A virtual impedance concept requires support from virtual resistance,
virtual capacitance, virtual inductance, and virtual reflection coefficients.
It is simply a logical extension of pre-existing concepts.

In order to discuss the difference between a virtual impedance and a
non-virtual impedance, a distinction has to be drawn between them.
You cannot discuss the difference between a live cow and a statue of
a cow without drawing a distinction between them.

The distinction I have drawn between a virtual and a non-virtual
impedance is:

A virtual impedance is the *result* of a V/I ratio.

A non-virtual impedance is the *cause* of the V/I ratio.

Example:

Source------1WL 50 ohm coax--------------50 ohm resistor

The 50 ohm resistor *causes* the V/I ratio at the resistor to be
equal to 50. The resistor is non-virtual, i.e. really there.

The 50 ohms seen at the source terminals is the *result* of the
V/I ratio existing at the source terminals. Therefore, the 50
ohms seen at the source terminals is virtual.

This distinction is necessary to correct the conceptual errors by
people who are ignorant of the difference, e.g. the people who
assert that there are no reflections at the shorted end of a 1/4
WL stub because the stub has an infinite input impedance.
--
73, Cecil http://www.qsl.net/w5dxp

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6029. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:14:47 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939653E275292pookster@129.250.170.96>
Source record: 115533

arrow146@aol.com (Arrow146) wrote in
news:20030610103550.15895.00000354@mb-m29.aol.com:

> New timers trick for straightening solid wire.
> Clamp one end in a vice, put the other end in a reversible
> drill. With a slight pull, Twist the wire about 2 turns per foot of
> wire. Then reverse for the same amount.
> Makes nice straight wire from a spool.
>
> 73 Al Lowe N0IMW
>
>

Clever idea, I'll have to give it a try. Thanks!

--
Bill, W7TI

6030. Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:28:19 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306100728.79270615@posting.google.com>
Source record: 115531

Before you buy a antenna program it is important to think about what you require from the use of them. Before Windows and the like scientists used their own type of programs such as Fortran not only to do the laborious legwork of simple problems but also to have a method of doing what humans do. This is by putting a known verified equations into use where if the desired result is not obtained they tell it to change a dimension by a little bit and do all the calculations over again until eventually it migrates to a desired solution.
For every day use where it is required to give an answer to a problem which is the only bound to solve what it is given then just a simple everyday program can be devised. NEC is an example of the latter, a basic program by present day standards that can tell you by the use of a rule how long a member is if that is what you want. An Optimiser (AO) follows the approach that an engineer or accountant would use ie. Cobal, Fortran or the like or even combine its use with present day Windows use as my son did with "Biology Workbench", the "San Diego Pipeline" e.t.c.. since in complex configurations even multiple use of Quadratic equations cannot solve or choose from the multiple answers provided from the use of Quadratics for arriving at a design for a requirement such as maximum gain that can be obtained. As can be seen, Optimisation programs can do much more than what NEC programs can do tho some may have advanced quite a lot from the early days where vendors used Goverment supplied information which could be prettied up with nice pictures and graghs for the general consumer. So if you what to learn or design new antennas think about things before hand if you want to delve in areas previously unknown where nearly insurmoutable mathematic and time hurdles were the norm which now with the aid of computors can now be revealed to all.

6031. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:34:24 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc4tq0jij1@208.206.142.92>
Source record: 115532

Art Unwin KB9MZ wrote:

> if you what
> to learn or design new antennas think about things before hand if you
> want to delve in areas previously unknown where nearly insurmoutable
> mathematic and time hurdles were the norm which now with the aid of
> computors can now be revealed to all.

So you design your computer program to confirm what you have already
determined to be the facts. Sounds like a winner to me!

6032. Jpole Mounting Question??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:37:47 UTC
From: TF <tafische@yahooooonospam.com>
Message-ID: <fXmFa.39046$X43.9481@clmboh1-nws5.columbus.rr.com>
Source record: 115534

I have a 2M copper J-pole I made back when I first got into ham radio. I have used it occasionally, but now I want to mount it on my house and make better use of it. I was thinking of mounting it to my chimney using strap mounts from radio shack. My antenna theory is pretty weak, so I am hoping someone can help me.

Questions:

1. Can I just clamp a ground wire onto the bottom "mounting" section of the antenna? I should do this right?

2. The bottom section of the J-Pole can be pretty much any length right? So I can extend it to help get me as high as possible (with limits I understand so it does not bend in the wind, I am using 1/2") or I was even thinking of using 3/4" copper tubing as a mount and droping the antenna into it - good idea or bad?

3. How well do 2M signals go through brick? My chimney is pretty high, but I don't have a ladder to get to the top, so my antenna will most likely be mounted next to the chimney - maybe with a little bit going over the top. Will this have a major impact?

Thanks! 73s...Terry KD4ZOY

6033. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:41:27 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc4u77jij2@208.206.142.92>
Source record: 115535

"H. Adam Stevens" wrote:

> The only place "virtual" has in E&M is in relativistic E&M.
> Weizacker-Williams, 1934.

Perhaps Cecil should reword his mantras to read "effective" rather than "virtual", for they are no less present.

Dick

6034. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:52:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE5FEB6.3040005@ieee.org>
Source record: 115537

Dick Carroll; wrote:
>
> "H. Adam Stevens" wrote:
>>The only place "virtual" has in E&M is in relativistic E&M.
>>Weizacker-Williams, 1934.
>
> Perhaps Cecil should reword his mantras to read "effective" rather than
> "virtual", for they are no less present.

That might be a good idea but then the kibitzers would just make
fun of the word "effective".

We have a five foot long piece of RG8 coax speced at 30.8 pf/ft.
30.8 x 5 = 154 pf. Yet, when we use that piece of coax on 4 MHz
as an open stub, it shows us a capacitance of 160 pf, and when
we use that piece of coax on 28 MHz as an open stub, it shows
us a capacitance of 650 pf. I've been using the word "virtual"
to tell the difference between the real capacitance of 154 pf
and the virtual capacitance of 650 pf.

The real capacitance of the coax is *caused* by the physical
geometry.

The virtual capacitance of the stub depends upon the
(Vfor+Vref)/(Ifor/Iref) ratio *caused* by the forward and
reflected waves inside the stub.
--
73, Cecil http://www.qsl.net/w5dxp

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6035. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 15:55:11 UTC
From: tdonaly@aol.com
Message-ID: <20030610115511.09634.00000268@mb-m21.aol.com>
Source record: 115536

```
Cecil wrote,
>
>
>Tdonaly wrote:
>> Cecil wrote,
>>
>>>I've explained what I mean by "virtual". If a voltage to current ratio
>>>is the cause of an impedance, the impedance is virtual. If the impedance
>>>is the cause of the V/I ratio, the impedance is not virtual.
>>
>> I'm going to frame that definition and show it to all my friends.
>
>It's similar to the definition of virtual image in optics. If the
>image is not really there, it is virtual. If the impedance is not
>really there, it is virtual.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

You're writing metaphorically again, Cecil. Optical images and
impedances are not the same thing. If you're going to wax
philosophical, you might want to ask yourself if any impedance is
"really there," or if the concept of impedance is merely a useful
abstraction engineers use in order to be able to manipulate, mathematically,
the variables in electrical interactions.
73,
Tom Donaly, KA6RUH
```

6036. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 17:24:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE6146B.2080506@ieee.org>
Source record: 115539

Tdonaly wrote:
> You're writing metaphorically again, Cecil. Optical images and
> impedances are not the same thing.

Tom, you make it sound like I introduced the concept of a virtual impedance - I didn't. I think that concept was introduced in the 1970's (if not before). I am simply using that pre-existing concept introduced by others.

What words would you use to differentiate between the 154 pf of capacitance in a five foot piece of RG8 Vs the virtual capacitance of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt whatever words are pleasing to the group.
--
73, Cecil http://www.qsl.net/w5dxp

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6037. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 17:25:58 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610132558.14935.00001121@mb-m12.aol.com>
Source record: 115538

F.Art writes:

>...previously unknown where nearly insurmoutable
>mathematic and time hurdles were the norm which now with the aid of
>computors can now be revealed to all.
>

Aw jeeez,
bring Nathan, Chip, Phil et al, CFA, EH back, they made much more (non)sense
than this "unrecognized genius" of reflecting directors "fame".

Bada BYng

6038. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 18:23:02 UTC
From: Dave <davenpat@btopenworld.com>
Message-ID: <bc57m5$fb0$1@hercules.btinternet.com>
Source record: 115540
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

<lucifer@eternal-flames.gov> wrote in message
news:s4n5ev4mp47gfev9lb7kjvok0a4elfta62@4ax.com...
> On Sat, 7 Jun 2003 23:18:06 +0000 (UTC), "Dave"
> <davenpat@btopenworld.com> pausing to cast envious glances at those
> who had mastered the skill of reading without moving their lips,
> wrote:
>
> >Sounds like I am in for some fun when I get my crack'd version of XP Pro
> >next week. I'll let you know how I get on, but don't hold your breath. It
> >takes me the best part of a week to re-install win 98 se from scratch
>
> A bleedin' week!

It's all the drivers that take the time. Some of them have ranking that
determines when they should be installed :-(
And I can never remember :-(

> What are you trying to install it into ... a Sinclair Spectrum?

No, but it as slow as loading a prog into one of those :-)
By the way, I have two of them under the stairs. Do you think they might
come back into fashion?

> A re-install of 98se, should take about 20-30 mins tops, unless you've
> knackered the registry and have to re-install every other program as
> well. Even then - depending on how much crap you've got installed -
> you should be able to do a complete system rebuild in 2-3 evenings.

Agreed, but I have taken the chance of a part time job recently and this is
where the time to do the recovery comes from :-)

> Less if you've got a recent backup.

Unfortunately, the back-up is now out of date :-(

> p.s. And there's n'owt wrong with bleedin' Preston!

All together now.

OH YES THERE IS.

It's a jumped up town that thinks it is a city.

Dave

6039. Re: please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 18:40:49 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194ff0c3d071f518989687@news.earthlink.net>
Source record: 115541

In article <Qn3Fa.5402$0d7.161581@newsfep4-glfd.server.ntli.net>,
alec_wood@dont.spam.me.ntlworld.com says...
>
> "Rick " <ricknj101@hotmail.com> wrote in message
> news:3ee37cbb.20653656@news.optonline.net...
> > There are zillions of newsgroups devoted to testing.
> > go into the alt area and check 'em out.
> >
> Maybe his problem is with this particular newsgroup, anyway he's not asking
> for much
>
>
thank you
mike, now Active8

6040. Re: please help me test my ISPs news server

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 18:49:54 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194ff2e23b3dcafa989688@news.earthlink.net>
Source record: 115542

In article <1055197985.88820.0@iris.uk.clara.net>, look@this.con says...
>
> "Mike" <m_remove_colasono@earthlink.net> wrote in message
> news:MPG.194c8765d7d1481a989680@news.earthlink.net...
> >
> > hi:
> >
> > yeah, why can't they test it. a statement, not a question.
> >
> > since i'll need to post here, i need to figure out why my ISP's news
> > server drops replies to my posts after i've retrieved the article
> > headers and yet it doesn't drop my posts. the support techs can't help
> > because, well, they'd be english teachers if they could understand
> > english and so far, with this ISP they are incapable of rational
> > integrated though. end of rant.
> >
> > we'll need a short thread for this test, so i can try out a possible fix
> > that i thought of.
> >
> > any one word or more reply to my posts will do.
> >
> > tnx,
> > mike
> >
> >
> >
>
> 1. Do you by any chance have a "remove read messages/show only new
> messages" filter applied?
>
> 2. Do you have a second newsreader - even Outlook Express - for comparison
> purposes?
>
bingo. you may have read below, that Gravity needed the message filter
locked to all msgs. i didn't have to do that before. might be the new
version. i don't use MS mail or news clients because they hash the
database and you have to figure out where they are and how to import
them back in after an OS reload. Microplanet (use to be, it's changed to
something else per my ISP's support page) Gravity and Pegasus Mail have
a backup util and an easy to find mail folder, respectively.

i suspected the ISP since I got a POP3 authentication error one minute,
and 5 minutes later, i pulled down my mail with no prob. mail was a know
issue with tech support that night.

thanks for your help,
mike c, now Active8

6041. Re: Jpole Mounting Question??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:09:23 UTC
From: Southbound <southbound*remove*@boxfrog.com>
Message-ID: <2iacev8s9lhfi0v4nn0lbcqfhclc2magjl@4ax.com>
Source record: 115543

On Tue, 10 Jun 2003 15:37:47 GMT, "TF" <tafische@yahooooooonospam.com>
picked his nose and came up with:

>I have a 2M copper J-pole I made back when I first got into ham radio. I
>have used it occasionally, but now I want to mount it on my house and make
>better use of it. I was thinking of mounting it to my chimney using strap
>mounts from radio shack. My antenna theory is pretty weak, so I am hoping
>someone can help me.
>
>
>
>Questions:
>
>
>
>1. Can I just clamp a ground wire onto the bottom "mounting" section of the
>antenna? I should do this right?
>
>
>
>2. The bottom section of the J-Pole can be pretty much any length right? So
>I can extend it to help get me as high as possible (with limits I understand
>so it does not bend in the wind, I am using 1/2") or I was even thinking of
>using 3/4" copper tubing as a mount and droping the antenna into it - good
>idea or bad?
>
>
>
>3. How well do 2M signals go through brick? My chimney is pretty high, but
>I don't have a ladder to get to the top, so my antenna will most likely be
>mounted next to the chimney - maybe with a little bit going over the top.
>Will this have a major impact?
>
>
>
>Thanks! 73s...Terry KD4ZOY
>
>
>

I can't answer all your questions, but I can make a suggestion on the
mounting of your antenna.

10 years ago I made a "double J-pole" antenna for 2m (top and bottom
mirrored) out of 1/2 inch copper tubing. If you have a tower of any

kind (even an old tv tower) it's very easy to mount. Use an approx. 3 foot piece of fairly large diameter PVC. Drill a hole all the way through one end a couple of inches from the end, then drill holes on the on the other end that would match U bolts (use 2). Take it up the tower, U bolt one end to the tower legs and slide the bottom end of the J-pole through the hole at the other end and you're done.

I was constantly amazed at the performance of mine. I only had it up as far as I could reach from the top of the house (I don't do heights well) and it surprised me many times. On most summer early mornings (before dawn) I could, from my location in west Kentucky, make direct connections to digipeaters in North Carolina and east Tennessee, and on many occasions made contacts on repeaters from Iowa to Florida (well, only once in Florida). It certainly was well worth the $10 or so I spent to build it.

Good luck...
KD4ZLR

6042. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:14:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecbhm18vph068@corp.supernews.com>
Source record: 115544

Yet somehow all the electromagnetics text authors have somehow muddled through their explanations without having to create these virtual objects. I'd say it's a good thing you've come along to make all this perfectly clear for us, but judging by the incredible length of the threads you've participated in, you haven't succeeded. Based on this failure to communicate, you might re-think the necessity and utility of invoking these phantoms.

Roy Lewallen, W7EL

W5DXP wrote:
> Dave Shrader wrote:
>
>>> "Roy Lewallen" <w7el@eznec.com> wrote:
>>>
>>>> Are the concepts you're trying to communicate so difficult -- or vague
>>>> -- that they can't be explained in terms of real quantities, but
>>>> instead
>>>> require creation an ever-growing list of "virtual" objects?
>
>
> Virtual photons and virtual reality are not my inventions, Roy. Virtual
> images are a well-understood concept from the field of optics.
>
> Virtual impedances were introduced into amateur radio in the 1970-80's
> and not by me. I am simply using pre-existing concepts.
>
> A virtual impedance concept requires support from virtual resistance,
> virtual capacitance, virtual inductance, and virtual reflection
> coefficients.
> It is simply a logical extension of pre-existing concepts.
>
> In order to discuss the difference between a virtual impedance and a
> non-virtual impedance, a distinction has to be drawn between them.
> You cannot discuss the difference between a live cow and a statue of
> a cow without drawing a distinction between them.
>
> The distinction I have drawn between a virtual and a non-virtual
> impedance is:
>
> A virtual impedance is the *result* of a V/I ratio.
>
> A non-virtual impedance is the *cause* of the V/I ratio.
>
> Example:

>
> Source------1WL 50 ohm coax--------------50 ohm resistor
>
> The 50 ohm resistor *causes* the V/I ratio at the resistor to be
> equal to 50. The resistor is non-virtual, i.e. really there.
>
> The 50 ohms seen at the source terminals is the *result* of the
> V/I ratio existing at the source terminals. Therefore, the 50
> ohms seen at the source terminals is virtual.
>
> This distinction is necessary to correct the conceptual errors by
> people who are ignorant of the difference, e.g. the people who
> assert that there are no reflections at the shorted end of a 1/4
> WL stub because the stub has an infinite input impedance.

6043. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:22:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE62FD8.4030308@ieee.org>
Source record: 115545

Roy Lewallen wrote:
> Yet somehow all the electromagnetics text authors have somehow muddled
> through their explanations without having to create these virtual
> objects. I'd say it's a good thing you've come along to make all this
> perfectly clear for us, but judging by the incredible length of the
> threads you've participated in, you haven't succeeded. Based on this
> failure to communicate, you might re-think the necessity and utility of
> invoking these phantoms.

OK, I am always open to better ways of communicating. If we don't speak
the same language, then we cannot possibly communicate effectively.

So how would you propose to differentiate between a physical resistor
that *causes* a V/I ratio and a resistance that is the *result* of a
V/I ratio? Please be specific. I will adopt whatever word convention
that is agreeable to you and others on this newsgroup. It is not the
words that matter - it is the concepts that matter.
--
73, Cecil http://www.qsl.net/w5dxp

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6044. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:26:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecc78p7p67cc8@corp.supernews.com>
Source record: 115546

Shucks, even your beloved IEEE Dictionary shows no entry for "virtual capacitance".

But for guidance I suggest you consult Kraus' _Electromagnetics_, Holt's _Introduction to Electromagnetic Fields and Waves_, Johnk's _Engineering Electromagnetic Fields and Waves_, Matick's _Transmission Lines for Digital and Communication Networks_, Magnusson's _Transmission Lines and Wave Propagation_, or the text of your choice. All these gentlemen have managed somehow to find ways to adequately and clearly express these phenomena without resorting to virtual capacitances. If amateurs have felt it necessary to create these phantasmic objects in order to understand common phenomena, I suggest you steer clear of amateur publications for your inspiration.

Who knows -- the threads might grow shorter.

Roy Lewallen, W7EL

W5DXP wrote:
> Tdonaly wrote:
>
>> You're writing metaphorically again, Cecil. Optical images and
>> impedances are not the same thing.
>
>
> Tom, you make it sound like I introduced the concept of a virtual
> impedance - I didn't. I think that concept was introduced in the
> 1970's (if not before). I am simply using that pre-existing concept
> introduced by others.
>
> What words would you use to differentiate between the 154 pf of
> capacitance in a five foot piece of RG8 Vs the virtual capacitance
> of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
> whatever words are pleasing to the group.

6045. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:32:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecchukdpoag7e@corp.supernews.com>
Source record: 115547

I apologize. I misread the posting as what he apparently intended to say (a quarter wave vertical monopole), not what he actually did say (a quarter wave dipole). Cecil is of course right in his answer to what was actually asked, if some assumption is made about height above ground, and you assume that the poster meant a horizontal and not vertical dipole. But of course, he meant neither.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>>> The input impedance of a quarter-wave dipole above ground had better
>>> be ~73 ohms as well... correct?
>>
>>
>> No, it's 1/2 that value.
>
>
> EZNEC says the input impedance of a quarter-wave dipole is
> somewhere around 13-j722 ohms.

6046. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:34:23 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.194ffd56992e4848989689@news.earthlink.net>
Source record: 115548

the problem was -- the 4NEC2 extender, 4NEC2dx does not work on *my*
XP Pro box. not surprising. i wrote a VB (never again) app that works on
a few XP boxes here in the US, but not on an aquiantance's XP Home box
in the UK. Swell!

mike c

4NEC2 is cool!

6047. Re: WTB: Andrew 45AW N-Male connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:40:55 UTC
From: gmz79@aol.comnospam
Message-ID: <20030610154055.15010.00001131@mb-m14.aol.com>
Source record: 115549

Try www.davisrf.com

Greg Z
to thine own sound be true

6048. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:41:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecd3blk5ev0e9@corp.supernews.com>
Source record: 115550

Yes. If fact, lossless antennas of all kinds produce the same average power density for the same power input, whether in space, over an infinite reflecting plane, or any other lossless environment -- provided that you restrict the averaging area to the same region that the field is restricted to. For example, when the antenna is over a flat, infinite ground plane, the region below the ground plane isn't included in the volume being averaged.

Whenever a 3D plot is run, EZNEC reports this average power density (normalized to the power supplied by the source(s)) as a check on overall numerical accuracy -- for a lossless antenna it should always be unity regardless of the type of antenna. It's also useful in assessing ground or antenna loss when either is included in the model, since either of these reduce the average power density by the amount of the loss. A similar function is available in NEC-2.

Roy Lewallen, W7EL

William E. Sabin wrote:
> Roy Lewallen wrote:
>
>>
>>
>> One good way to look at the situation is that the dipole spreads its
>> radiated power over twice the volume that the monopole does, since the
>> monopole is restricted to a half-space. So naturally, the power
>> density from the monopole will be twice as great.
>
>
> One watt into a 35 ohm monopole and one watt into a 70 ohm dipole must
> produce the same "average" power density over a distant spherical or
> hemispherical surface (no free lunch). The density can only be different
> very close to the radiator or at specific lobe angles.
>
> In free space there is no such thing as a monopole or a hemispherical
> surface. The very thin reference plane, assumed not to be very large,
> for the monopole is part of the antenna and it radiates 50% of the
> power. The reflecting surface affects the drive point impedance and the
> radiation pattern but not the average power density in free space.
>
> Bill W0IYH
>

6049. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:46:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <k9dcevkcifqc28lcm7nols8tdeilargnj7@4ax.com>
Source record: 115551

On Tue, 10 Jun 2003 14:22:00 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Roy Lewallen wrote:
>> Yet somehow all the electromagnetics text authors have somehow muddled
>> through their explanations without having to create these virtual
>> objects.
------- disconnect here --------
>I will adopt whatever word convention
>that is agreeable to you and others on this newsgroup. It is not the
>words that matter - it is the concepts that matter.

6050. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 19:57:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vece1tc06n32fe@corp.supernews.com>
Source record: 115552

Let's see, if we measure a 100 ohm resistor, we're actually measuring a virtual resistance of 100 ohms, not a real 100 ohms. That's because the 100 ohm real resistor *caused* the reading of 100 ohms.

Am I getting this right?

But does the virtual resistance exist if I'm not there to measure it? And is the virtual resistance dissipationless? Are all virtual resistances dissipationless, or only some?

I can hardly wait until all the elementary circuit analysis textbook writers jump on the bandwagon. It'll finally clear up all those mysteries!

Roy Lewallen, W7EL

W5DXP wrote:
> Dick Carroll; wrote:
>
>>
>> "H. Adam Stevens" wrote:
>>
>>> The only place "virtual" has in E&M is in relativistic E&M.
>>> Weizacker-Williams, 1934.
>>
>>
>> Perhaps Cecil should reword his mantras to read "effective" rather than
>> "virtual", for they are no less present.
>
>
> That might be a good idea but then the kibitzers would just make
> fun of the word "effective".
>
> We have a five foot long piece of RG8 coax speced at 30.8 pf/ft.
> 30.8 x 5 = 154 pf. Yet, when we use that piece of coax on 4 MHz
> as an open stub, it shows us a capacitance of 160 pf, and when
> we use that piece of coax on 28 MHz as an open stub, it shows
> us a capacitance of 650 pf. I've been using the word "virtual"
> to tell the difference between the real capacitance of 154 pf
> and the virtual capacitance of 650 pf.
>
> The real capacitance of the coax is *caused* by the physical
> geometry.
>
> The virtual capacitance of the stub depends upon the
> (Vfor+Vref)/(Ifor/Iref) ratio *caused* by the forward and
> reflected waves inside the stub.

6051. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:14:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kuecevgt0snko2m15f2f4saeqdo909rvkd@4ax.com>
Source record: 115553

On Tue, 10 Jun 2003 12:57:43 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>And is the virtual resistance dissipationless? Are all virtual
>resistances dissipationless, or only some?

Roy,

I asked this one a 10 days or a week ago - plenty of response, but no
answer.

73's
Richard Clark, KB7QHC

6052. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:16:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE63C86.6040103@ieee.org>
Source record: 115554

Roy Lewallen wrote:
> I suggest you steer clear of amateur publications for your inspiration.

There is an obvious difference between a resistor which causes a V/I ratio and a V/I ratio which results in a resistive impedance. What words do you use to differentiate between these two concepts? I'm certainly open to suggestions.
--
73, Cecil http://www.qsl.net/w5dxp

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6053. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:20:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE63D9D.1050300@ieee.org>
Source record: 115555

Roy Lewallen wrote:
> Let's see, if we measure a 100 ohm resistor, we're actually measuring a
> virtual resistance of 100 ohms, not a real 100 ohms. That's because the
> 100 ohm real resistor *caused* the reading of 100 ohms.
>
> Am I getting this right?

No, you are not and I hope for your sake, that you are kidding.

Shirley, you can conceive of the difference between a resistor that
consumes RF energy as heat and a V/I ratio in a transmission line
that does *NOT* consume RF energy as heat. What words do you use to
denote that difference?
--
73, Cecil http://www.qsl.net/w5dxp

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6054. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:26:09 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vecfobtkqcoh0f@corp.supernews.com>
Source record: 115556

"plenty of response, but no answer"

Richard
That's a "virtual response".
H.

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:kuecevgt0snko2m15f2f4saeqdo909rvkd@4ax.com...
> On Tue, 10 Jun 2003 12:57:43 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
> >And is the virtual resistance dissipationless? Are all virtual
> >resistances dissipationless, or only some?
>
> Roy,
>
> I asked this one a 10 days or a week ago - plenty of response, but no
> answer.
>
> 73's
> Richard Clark, KB7QHC

6055. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:28:25 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.195009f9e4f0406d98968a@news.earthlink.net>
Source record: 115557

almost forgot. the extender also rendered the regular exe (4nec2.exe)
useless, again, on *my* machine. so if it happens to you, just uninstall
both in the reverse order of install, and install 4NEC2.exe

6056. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:31:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE64015.5000706@ieee.org>
Source record: 115558

Richard Clark wrote:
> Roy Lewallen <w7el@eznec.com> wrote:
>>And is the virtual resistance dissipationless? Are all virtual
>>resistances dissipationless, or only some?
>
> I asked this one a 10 days or a week ago - plenty of response, but no
> answer.

I don't remember you asking that question, Richard. The answer is that a virtual resistance is dissipationless but a non-virtual resistance does not always dissipate power. That's why I have been very careful in my definitions.

A virtual resistance is the *result* of a V/I ratio. The V/I ratio is the *cause* of the virtual resistance.

A non-virtual resistance is the *cause* of the V/I ratio. Examples include a resistor or the Z0 of a transmission line which forces the relationship of the V to I to be equal to Z0.

Why are these trivial concepts so hard for you to understand? What words do you use to describe a resistance that is the *result* of a V/I ratio Vs a resistance that is the *cause* of the V/I ratio? I'm willing to adopt any rational set of semantics just to satisfy you and others on this newsgroup. Please enlighten me with the proper words to use.
--
73, Cecil http://www.qsl.net/w5dxp

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6057. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:36:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <48gcev82310p22o5dpk69pt9pj8aathqoe@4ax.com>
Source record: 115559

On Tue, 10 Jun 2003 15:20:45 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Shirley, you can conceive of the difference between a resistor that
>consumes RF energy as heat and a V/I ratio in a transmission line
>that does *NOT* consume RF energy as heat. What words do you use to
>denote that difference?

Hi Cecil,

Do you measure V/I with a thermometer?

73's
Richard Clark, KB7QHC

6058. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 20:39:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tegcev0nsh37jg95janj4trjqq5r0kce2k@4ax.com>
Source record: 115560

On Tue, 10 Jun 2003 15:31:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>a non-virtual resistance
>does not always dissipate power. That's why I have been very careful
>in my definitions.
... one has to wonder

6059. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:13:37 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <DDCdnfW0Pv-b13ujXTWcpA@crocker.com>
Source record: 115561

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE6146B.2080506@ieee.org...
> Tdonaly wrote:
> > You're writing metaphorically again, Cecil. Optical images and
> > impedances are not the same thing.
>
> Tom, you make it sound like I introduced the concept of a virtual
> impedance - I didn't. I think that concept was introduced in the
> 1970's (if not before). I am simply using that pre-existing concept
> introduced by others.
>
> What words would you use to differentiate between the 154 pf of
> capacitance in a five foot piece of RG8 Vs the virtual capacitance
> of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
> whatever words are pleasing to the group.

in my three 'bibles', Basic Circuit Theory by Desoer & Kuh, Fields and waves in communications electronics by Ramo, Whinnery & Van Duzer, and of course Classical Electrodynamics by Jackson, and even throw in an old ARRL Antenna book, there are NO Virtual Impedances.... how all those authors have gotten along for so many books without a virtual impedance is beyond me! the terms used when calculating impedances along a transmission line are 'load impedance' (the impedance at the far end of the line, be it a lumped component, an antenna, or the input impedance of another line) and 'input impedance' (the impedance measured at the frequency of interest at the end of the line in your hand). nothing else should be needed.

so to answer your questions specifically:

the 154pf of CAPACITANCE of that 5' piece of coax is NOT an impedance... capacitance is used to compute REACTANCE or IMPEDANCE of the component at a given frequency...

your 650pf measurement makes no sense at all. it should be an input impedance measurement given in ohms, stated like '50 ohms capacitive', '-50j ohms', 0-50j ohms, or 50 ohms at -90 degrees, or some other similar notation. (sorry, but -50j is probably not correct for that stub, i just don't feel like doing the calculation in detail)

There, now i have had virtually enough of this virtually endless thread and am going to virtually puke on the keyboard if it comes up again... from now on the only virtuals i want to deal with are c++ functions!

6060. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:18:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecip6ofrsd8d7@corp.supernews.com>
Source record: 115562

I call the ratio of V to I "resistance" as do virtually all writers of textbooks and professional papers. And somehow we've been able to communicate the concepts. People who don't know the difference between a resistor and a coax cable's characteristic impedance don't need new adjectives. What they need is an understanding of why the coax cable's characteristic impedance has the units of ohms. Simply declaring it "virtual" and "dissipationless" doesn't, in my opinion, do anything to convey this understanding, and only inserts another level of confusion for people who don't understand the concept.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> I suggest you steer clear of amateur publications for your inspiration.
>
>
> There is an obvious difference between a resistor which causes a V/I
> ratio and a V/I ratio which results in a resistive impedance. What words
> do you use to differentiate between these two concepts? I'm certainly
> open to suggestions.

6061. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:26:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecj8etlprc72a@corp.supernews.com>
Source record: 115563

What words do the writers of circuits textbooks and professional papers use?

And no, I wasn't kidding. I'm using exactly the same kind of logic you
used to define "virtual" capacitance.

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Let's see, if we measure a 100 ohm resistor, we're actually measuring
>> a virtual resistance of 100 ohms, not a real 100 ohms. That's because
>> the 100 ohm real resistor *caused* the reading of 100 ohms.
>>
>> Am I getting this right?
>
>
> No, you are not and I hope for your sake, that you are kidding.

Nope. I'm using exactly the same kind of logic you used to define
"virtual" capacitance. The resistor is the cause; the measured value of
resistance -- the "virtual" resistance -- is the effect.

> Shirley, you can conceive of the difference between a resistor that
> consumes RF energy as heat and a V/I ratio in a transmission line
> that does *NOT* consume RF energy as heat.

Surely I can. It would have been really, really tough to do what I've
done over my career without having a good handle on the difference. But
I and my millions of colleagues have managed to understand it without
requiring "virtual" and "dissipationless" qualifiers.

What words do you use to
> denote that difference?

Assuming that you have an elementary circuit analysis or
electromagnetics text on your bookshelf, get it down and see what the
author uses. That's what I use. If you don't have an elementary circuit
analysis or electromagnetics text, you might benefit from getting one
and taking a look at it.

Roy Lewallen, W7EL

6062. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:27:43 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vecjbmsigb1i77@corp.supernews.com>
Source record: 115564

Yup
J D Jackson Chapter 15
Virtual Quanta; Weizacker-Williams, 1934
Used to model relativistic particle's electromagnetic interaction with
matter.
Since I'm thinking about scintillator's right now, I've been reviewing.
Has not one thing to do with a transmission line at HF.
H.
NQ5H

"David Robbins" <k1ttt@arrl.net> wrote in message
news:DDCdnfW0Pv-b13ujXTWcpA@crocker.com...
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EE6146B.2080506@ieee.org...
> > Tdonaly wrote:
> > > You're writing metaphorically again, Cecil. Optical images and
> > > impedances are not the same thing.
> >
> > Tom, you make it sound like I introduced the concept of a virtual
> > impedance - I didn't. I think that concept was introduced in the
> > 1970's (if not before). I am simply using that pre-existing concept
> > introduced by others.
> >
> > What words would you use to differentiate between the 154 pf of
> > capacitance in a five foot piece of RG8 Vs the virtual capacitance
> > of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
> > whatever words are pleasing to the group.
>
> in my three 'bibles', Basic Circuit Theory by Desoer & Kuh, Fields and
waves
> in communications electronics by Ramo, Whinnery & Van Duzer, and of course
> Classical Electrodynamics by Jackson, and even throw in an old ARRL
Antenna
> book, there are NO Virtual Impedances.... how all those authors have
gotten
> along for so many books without a virtual impedance is beyond me! the
terms
> used when calculating impedances along a transmission line are 'load
> impedance' (the impedance at the far end of the line, be it a lumped
> component, an antenna, or the input impedance of another line) and 'input
> impedance' (the impedance measured at the frequency of interest at the end
> of the line in your hand). nothing else should be needed.
>

>
> so to answer your questions specifically:
>
> the 154pf of CAPACITANCE of that 5' piece of coax is NOT an impedance...
> capacitance is used to compute REACTANCE or IMPEDANCE of the component at
a
> given frequency...
>
> your 650pf measurement makes no sense at all. it should be an input
> impedance measurement given in ohms, stated like '50 ohms capacitive',
> '-50j ohms', 0-50j ohms, or 50 ohms at -90 degrees, or some other similar
> notation. (sorry, but -50j is probably not correct for that stub, i just
> don't feel like doing the calculation in detail)
>
> There, now i have had virtually enough of this virtually endless thread
and
> am going to virtually puke on the keyboard if it comes up again... from
now
> on the only virtuals i want to deal with are c++ functions!
>
>
>
>

6063. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:40:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veck2p86p8qf6@corp.supernews.com>
Source record: 115565

The impedance looking into a stub can be characterized in a number of ways. One is as just that, a complex impedance, in rectangular or polar form. Or as a complex admittance. Or it can be characterized as an equivalent series RC or RL, in which case the R is the "equivalent series resistance" and the C or L is the "equivalent series capacitance" or inductance. Or you can characterize it as a parallel equivalent RC or RL (or GC or GL) in which case the C or L would be the "equivalent parallel (or shunt) capacitance" or inductance.

I'm sure you'll find device input impedances characterized as equivalent shunt input resistance and capacitance in plenty of the data sheets produced by your former company, Intel. I don't recall ever seeing it specified as "virtual" input capacitance. You did look at a couple of data sheets while you were there, I assume?

Roy Lewallen, W7EL

W5DXP wrote:
> . . .
> What words would you use to differentiate between the 154 pf of
> capacitance in a five foot piece of RG8 Vs the virtual capacitance
> of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
> whatever words are pleasing to the group.

6064. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:54:41 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610175441.16006.00000512@mb-m03.aol.com>
Source record: 115566

>
>The 50 ohms seen at the source terminals is the *result* of the
>V/I ratio existing at the source terminals. Therefore, the 50
>ohms seen at the source terminals is virtual.
>

That's called fricken IMPEDANCE! No?
What's "virtual" needed here for?
Wher can I buy virtual impedance bridge?

Yuri

6065. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 21:56:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306101356.4843254@posting.google.com>
Source record: 115567

"Dick Carroll;" <dixie@townsqr.com> wrote in message news:<bc4tq0jij1@208.206.142.92>...
> Art Unwin KB9MZ wrote:
>
> > if you what
> > to learn or design new antennas think about things before hand if you
> > want to delve in areas previously unknown where nearly insurmoutable
> > mathematic and time hurdles were the norm which now with the aid of
> > computors can now be revealed to all.
>
> So you design your computer program to confirm what you have already
> determined to be the facts. Sounds like a winner to me!

That is correct Dick, If a yagi is modelled enough over time then
your prediction can be confirmed by NEC methods.If you are moving into
unchartered waters and you make a slight error say in your work up
NEC
will not point it out to you even tho that error is significant for
what you desire say max gain. Where as an optimiser program
investigates dimensions
and if there are errors it will correct it because its assigned task
is to find the dimensions for max gain and does not act as a somewhat
dumb computor.
As always the customer should think carefully if he is purchasing the
bare minimum program or one that is designed to pursue the ideal
results that you require using your supplied dimensions for starters.
Do amateurs have to be rocket scientists to decide what he needs from
a program and pay maximum price for that which provides minimum
results and assistance?
Art

6066. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:04:11 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610180411.16006.00000513@mb-m03.aol.com>
Source record: 115568

>
>A regular impedance is the *cause* of the V/I ratio.
>
>A virtual impedance is the *result* of the V/I ratio.
>
>Confusing those two types of impedances is a simple
>confusion of cause and effect which leads to conceptual
>errors, e.g. 1/4WL stubs having no reflections at the
>shorted end.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Now add the B for black coax and W for white coax and we have virtually limitless range of virtual and regular (and imaginary?) impotences (ooops, impedancias)?

Zb = Vb/Ib

You must been talking to Art too much? :-)
Back in old days if V/I wasn't resistance, it was impedance.

Yuri

6067. Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:14:51 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86u1axoa04.fsf@duchess.twilley.org>
Source record: 115419

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I'm interested in modeling some antennas, but all the software I see
is designed to run on Microsoft Windows. I prefer to use FreeBSD,
which can also run Linux binaries in compatibility mode if necessary.

Any suggestions? The software doesn't have to generate graphical
output directly -- building a Postscript file for printing or a JPEG
file for viewing would be okay.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+5lhiGPFSfAB/ezgRAsZiAJ9ghqmihQOr4EpuuZjPgepsVuHONwCgnguV
a/sp+IP353Yx6PSttbjK3og=
=q2lV
-----END PGP SIGNATURE-----
```

6068. NEW ham site!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:20:34 UTC
From: mirage123@ziplip.com
Message-ID: <bc5ljijmv1@news.netmar.com>
Source record: 115420

www.hamwave.com

----- Posted via NewsOne.Net: Free (anonymous) Usenet News via the Web -----
http://newsone.net/ -- Free reading and anonymous posting to 60,000+ groups
NewsOne.Net prohibits users from posting spam. If this or other posts
made through NewsOne.Net violate posting guidelines, email abuse@newsone.net

6069. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:38:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecnfnkr3kv10a@corp.supernews.com>
Source record: 115421

Thanks very much for the reference. It's the only one I can recall actually seeing that addresses HF, even though it mentions only the upper HF range and doesn't give any real information about the makeup of the forest. Although apparently some more work was done during the Vietnam war, references and specific information are elusive.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Evan, K9SQG wrote:
> "The attenuation is primarily limited to vertical antennas in the HF
> range, mounted "close" to trees. The same is NOT true for horizontal
> antennas with nearby trees."
>
> "Electrical Communication Systems Engineering". War Department TM
> 11-486, 25 April 1945 agrees. It says on page 241:
> "Recent measurements using antennas somewhat below treetop level in
> densely wooded areas indicate that with both the transmitting and
> receiving antennas so situated, the loss when using vertical
> polarization is 3 or 4 db for frequencies in the 20 to 40 MHz band and
> 10 db in the 70 to 100 MHz band. With horizontal polarization, losses
> are negligible at 20 to 40 MHz and quite small at 70 to 100 MHz."
>
> Dense jungle is much worse, says The War Department.
>
> Best regards, Richard Harrison, KB5WZI
>

6070. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:40:57 UTC
From: Ben Coleman <oloryn@benshome.net>
Message-ID: <cincev4bn5o4s99hq06p15lpsn7462d73h@4ax.com>
Source record: 115422
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Sun, 8 Jun 2003 07:27:39 +0100, "Airy R Bean" <SPAM@trap> wrote:

>The Computer Operator is the lowest-of-the-low in the world
>of computing, much lower than the M3 in the CB hierarchy.
>
>Nowadays, they call themselves, "sysadmin", but they're still
>computer operators, the turnip-brained of the computing world.

Try going over to alt.sysadmin.recovery and saying that.

Ben

6071. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 22:54:47 UTC
From: jgboyles@aol.com
Message-ID: <20030610185447.00319.00000338@mb-m12.aol.com>
Source record: 115423

>If a yagi is modelled enough over time then your prediction can be confirmed
by NEC methods.If you are moving into
>unchartered waters and you make a slight error say in your work up
>NEC will not point it out to you even tho
>that error is significant for
>what you desire say max gain. Where as an optimiser program
>investigates dimensions
>and if there are errors it will correct it because its assigned task
>is to find the dimensions for max gain and does not act as a somewhat
>dumb computor.

Art, I can find max gain with NEC, as well with an Optimizer program. However, If I introduce errors in either program, I will have errors out. Are you saying Optimizer programs are error correcting? I think both programs are garbage in, garbage out. If the Optimizer is as good as you say, and has error correcting, then that is what you should use for now and forevermore.

73 Gary N4AST

6072. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:17:46 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <oi-dnYiF1rCD-nujXTWcpw@comcast.com>
Source record: 115424

This brings up an interesting question. Is an end fed antenna ever a dipole?
Maybe a onepole?

Tam/WB2TT

6073. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:19:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecpsojhjtfn66@corp.supernews.com>
Source record: 115425

Art has a good point that optimizers are often useful. However, you do have to always be alert to the possibility that it could be converging on a local optimum rather than a global one. When that happens, small changes from the "optimized" dimensions result in degradation, but there's some other set of dimensions quite different from the ones found that provide a better solution yet. Like any other modeling tool, an optimizer has to be used with some care.

People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer) programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr., San Marcos, CA 92069. At the time of my last contact with him, he wouldn't accept orders or requests for information by phone or email. I've never personally used AO but have heard many positive comments -- like Art's -- about it. It is a MININEC-based program and has some of MININEC's inherent limitations. I have used YO and found it to be capable and useful. (Some EZNEC users have told me that they've been able to improve on YO designs by hand tweaking, but YO was good to get an initial design.) I very highly recommend Brian's TA (Terrain Analysis) program. There's nothing else like it, and it's essential if you want to make the best advantage of an irregular terrain.

Roy Lewallen, W7EL

6074. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:23:37 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vecq50nd47ep15@corp.supernews.com>
Source record: 115426

It's never a doublet.
But it might make a dipole field.
;^)
H.
NQ5H
"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:oi-dnYiF1rCD-nujXTWcpw@comcast.com...
> This brings up an interesting question. Is an end fed antenna ever a
dipole?
> Maybe a onepole?
>
> Tam/WB2TT
>
>

6075. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:47:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE66E14.4070006@ieee.org>
Source record: 115427

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org wrote:
>>Shirley, you can conceive of the difference between a resistor that
>>consumes RF energy as heat and a V/I ratio in a transmission line
>>that does *NOT* consume RF energy as heat. What words do you use to
>>denote that difference?
>
> Do you measure V/I with a thermometer?

One certainly can. If there's no temperature rise, the resistance
value is dissipationless.
--
73, Cecil http://www.qsl.net/w5dxp

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6076. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:55:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE66FFA.40903@ieee.org>
Source record: 115428

David Robbins wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EE6146B.2080506@ieee.org...
>
>>Tdonaly wrote:
>>
>>>You're writing metaphorically again, Cecil. Optical images and
>>>impedances are not the same thing.
>>
>>Tom, you make it sound like I introduced the concept of a virtual
>>impedance - I didn't. I think that concept was introduced in the
>>1970's (if not before). I am simply using that pre-existing concept
>>introduced by others.
>>
>>What words would you use to differentiate between the 154 pf of
>>capacitance in a five foot piece of RG8 Vs the virtual capacitance
>>of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
>>whatever words are pleasing to the group.
>
>
> in my three 'bibles', Basic Circuit Theory by Desoer & Kuh, Fields and waves
> in communications electronics by Ramo, Whinnery & Van Duzer, and of course
> Classical Electrodynamics by Jackson, and even throw in an old ARRL Antenna
> book, there are NO Virtual Impedances...

So what words do you use to differentiate between the 154 pf of capacitance
in a five foot piece of RG8 Vs the measured capacitance of 650 pf in that
same five foot piece of RG8 used as a stub on 28 Mhz. You object to the
use of the word "virtual". Please give me a word to use instead of "virtual".

> your 650pf measurement makes no sense at all.

Assume I need a parallel capacitance of 650 pf to neutralize a parallel
inductive reactance on 28 Mhz. I can use an actual 650 pf capacitor or
I can use a five foot long piece of RG8. Why doesn't that make any sense?
--
73, Cecil http://www.qsl.net/w5dxp

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6077. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-10 23:57:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE6707F.1060402@ieee.org>
Source record: 115429

Roy Lewallen wrote:
> I call the ratio of V to I "resistance" as do virtually all writers of
> textbooks and professional papers.

How do you differentiate between that resistance and the resistance of a resistor. They are *NOT* the same thing. You object to my use of the word "virtual" so please give me another word with which you would be happy.
--
73, Cecil http://www.qsl.net/w5dxp

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6078. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:04:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE671FA.9050500@ieee.org>
Source record: 115431

Roy Lewallen wrote:
> What words do the writers of circuits textbooks and professional papers
> use?

I don't know. What words did Sir Isaac Newton use to describe relativity and quantum physics? I may be trying to say something that has never been said before. I'm even willing to use your words. Please furnish me with the proper words.

What word(s) can be used to distinguish the resistance of a load resistor from the resistance one wavelength back along the transmission line toward the source? They certainly are not the same thing. Please give me your words if you were trying to differentiate between those two different types of resistances. One gets hot and the other doesn't.
--
73, Cecil http://www.qsl.net/w5dxp

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6079. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:04:58 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc5rnd$g8h$1@slb0.atl.mindspring.net>
Source record: 115430

Cecil:

[snip]
> A regular impedance is the *cause* of the V/I ratio.
>
> A virtual impedance is the *result* of the V/I ratio.
[snip]

What do you call the ratio of the voltage V across Yuri's car battery
to the current I in my camera flash at the moment I press the shutter
release?

;-)

--
Peter K1PO
Inidalantic By-the-Sea, FL.

6080. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:07:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE672C5.2050500@ieee.org>
Source record: 115432

Roy Lewallen wrote:
> The impedance looking into a stub can be characterized in a number of
> ways.

You didn't answer my question, Roy. You don't like my words but you
refuse to give me any new words that you do like. How do I differentiate
between the resistance of a resistor and the resistance of a V/I ratio?

> W5DXP wrote:
>> What words would you use to differentiate between the 154 pf of
>> capacitance in a five foot piece of RG8 Vs the virtual capacitance
>> of 650 pf in a five foot stub on 28 MHz? I'm willing to adopt
>> whatever words are pleasing to the group.
--
73, Cecil http://www.qsl.net/w5dxp

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6081. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:08:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE67319.4090005@ieee.org>
Source record: 115433

Yuri Blanarovich wrote:
>>The 50 ohms seen at the source terminals is the *result* of the
>>V/I ratio existing at the source terminals. Therefore, the 50
>>ohms seen at the source terminals is virtual.
>>
> That's called fricken IMPEDANCE! No?
> What's "virtual" needed here for?
> Wher can I buy virtual impedance bridge?

What are the words with which to differentiate between the resistance
of a resistor and the resistance of a V/I ratio? They are not the
same thing.
--
73, Cecil http://www.qsl.net/w5dxp

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6082. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:12:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE673E9.7000802@ieee.org>
Source record: 115435

Yuri Blanarovich wrote:
> You must been talking to Art too much? :-)
> Back in old days if V/I wasn't resistance, it was impedance.

You guys must be afraid of confronting this issue. The V/I ratio
across a load resistor is caused by the resistor's resistance.
The resistance 1WL down the transmission line is caused by the
V/I ratio and dissipates no power. They are NOT the same thing.
What word(s) can I use to differentiate them?
--
73, Cecil http://www.qsl.net/w5dxp

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6083. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:14:24 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc5s93omg1@slb6.atl.mindspring.net>
Source record: 115434

Cecil:

[snip]
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE63C86.6040103@ieee.org...
> Roy Lewallen wrote:
> > I suggest you steer clear of amateur publications for your inspiration.
>
> There is an obvious difference between a resistor which causes a V/I
> ratio and a V/I ratio which results in a resistive impedance. What words
> do you use to differentiate between these two concepts? I'm certainly
> open to suggestions.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Get real.

A resistor does not cause a V/I ratio! What the hell is that?

Without a V there will be no I regardless whether there is a resistor
present or not.

A resistor is just a dumb passive piece of conducting material sitting there
doing nothing,
it *causes* nothing! A generator, i.e. a "prime mover", can *cause*
something but
certainly not a resistor!

A V to I ratio is just that... i.e. "a V/I ratio", nothing more nothing
less! There is simply
no need to invoke virtual things to explain the obvious!

You claim that you are merely repeating what has appeared in the [amateur]
literature
before. Why don't you give the group the *exact* reference to the
paper/book/article/letter
that first invoked such silly ideas/concepts. i.e. Tell us... who, what,
where, why, when!

V/I is a ratio, what could be simpler?

Why make things more complicated than they need to be? To what purpose?

"Things should be explained as simply as they can be and no simpler." --
Albert Einstein

--
Peter K1PO
Indialantic By-the-Sea, FL.

6084. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:19:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE67582.9040009@ieee.org>
Source record: 115436

Peter Brackett wrote:
> What do you call the ratio of the voltage V across Yuri's car battery
> to the current I in my camera flash at the moment I press the shutter
> release?

Seriously Peter, I'm trying to solve a semantics problem here. In the following example, how do you distinguish between the resistance seen by the source and the resistance of the resistor at the load? They have the same units but they are not the same thing. For instance, one gets hot and the other doesn't.

Source---1WL 50 ohm lossless feedline---50 ohm resistor
--
73, Cecil http://www.qsl.net/w5dxp

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6085. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:24:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE676C1.4070009@ieee.org>
Source record: 115437

Peter Brackett wrote:
> A resistor does not cause a V/I ratio! What the hell is that?

Ohm's law. E/I=R

> Without a V there will be no I regardless whether there is a resistor
> present or not.

Get real! Given a variable V and the constant R, the R dictates the V/I
ratio no matter what the voltage (within limits).
--
73, Cecil http://www.qsl.net/w5dxp

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6086. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:32:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecu5qld05tu8f@corp.supernews.com>
Source record: 115438

Cecil, you've got a real problem there. I'll have to let you deal with it as you see fit. And I wish you the best of luck in communicating your concepts -- it seems that some is needed. Making up virtual objects doesn't seem to be helping a whole lot.

Roy Lewallen, W7EL

W5DXP wrote:
>
> You didn't answer my question, Roy. You don't like my words but you
> refuse to give me any new words that you do like. How do I differentiate
> between the resistance of a resistor and the resistance of a V/I ratio?

6087. Thanks, Ant Modeling Pgm

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:38:58 UTC
From: Joe O <jenjoeo@zianet.com>
Message-ID: <3ee6796b$1@news.zianet.com>
Source record: 115440

Thanks to all!
I copied QBASIC.HLP/EXE/INI into the windows directory on my Win98 machine
and it runs .bas files OK.

Joe O, KI5FJ

6088. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:39:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecuj061p5rj12@corp.supernews.com>
Source record: 115439

Yep, that's it, Cecil. We're afraid to confront this vital issue. But I've got an idea. I see by your email address that you're an IEEE member. How about writing a paper for, say, the IEEE Transactions on Circuits and Systems explaining this concept and the importance of creating terms to differentiate the different "kinds" of resistance, capacitance, impedance, reflection coefficient, short circuits, and so forth. The readers of that journal surely won't be as afraid to confront such an important issue as we amateurs are. Whattaya say?

Roy Lewallen, W7EL

W5DXP wrote:
> Yuri Blanarovich wrote:
>
>> You must been talking to Art too much? :-)
>> Back in old days if V/I wasn't resistance, it was impedance.
>
>
> You guys must be afraid of confronting this issue. The V/I ratio
> across a load resistor is caused by the resistor's resistance.
> The resistance 1WL down the transmission line is caused by the
> V/I ratio and dissipates no power. They are NOT the same thing.
> What word(s) can I use to differentiate them?

6089. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:44:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecusmc9cfvn6a@corp.supernews.com>
Source record: 115441

Sorry, Cecil, I'm not capable of answering your question, because it
makes no sense to me.

I'll leave you to your virtual world, where everything is apparently
perfectly clear to you, and resume stumbling about in my blissful ignorance.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> I call the ratio of V to I "resistance" as do virtually all writers of
>> textbooks and professional papers.
>
>
> How do you differentiate between that resistance and the resistance of
> a resistor. They are *NOT* the same thing. You object to my use of the
> word "virtual" so please give me another word with which you would be
> happy.

6090. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:46:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vecuvdcme1n57f@corp.supernews.com>
Source record: 115442

W5DXP wrote:
> Roy Lewallen wrote:
>
>> What words do the writers of circuits textbooks and professional
>> papers use?
>
>
> I don't know. . .

Perhaps it would be productive for you to open a textbook and see.

Roy Lewallen, W7EL

6091. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:52:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <38vcevcq9lcuc457qvvh110vrglt48q2u6@4ax.com>
Source record: 115443

On Tue, 10 Jun 2003 18:47:32 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org wrote:
>>>Shirley, you can conceive of the difference between a resistor that
>>>consumes RF energy as heat and a V/I ratio in a transmission line
>>>that does *NOT* consume RF energy as heat. What words do you use to
>>>denote that difference?
>>
>> Do you measure V/I with a thermometer?
>
>One certainly can. If there's no temperature rise, the resistance
>value is dissipationless.

Hi Cecil,

What is the V/I for a 1 degree rise?

73's
Richard Clark, KB7QHC

6092. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 00:58:08 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bc5uqe$7in$1@news.oregonstate.edu>
Source record: 115444

Roy Lewallen <w7el@eznec.com> wrote:
> I apologize. I misread the posting as what he apparently intended to say
> (a quarter wave vertical monopole), not what he actually did say (a
> quarter wave dipole).

Yes, I intended to say a quarter wave vertucak monopole. Sorry for the confusion.

---Joel

6093. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 01:02:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4rvcevkhvs7gdjbvnkncpq3psqkbe60uru@4ax.com>
Source record: 115445

On Tue, 10 Jun 2003 19:19:14 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Seriously Peter, I'm trying to solve a semantics problem here.
Have you tried Berlitz?

6094. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 01:23:23 UTC
From: Bob Lombardi <blombardi@cfl42.rr.com>
Message-ID: <3EE684BB.3070505@cfl42.rr.com>
Source record: 115446

Thanks for all the info. I had not considered a quad, because I'm going to mount this antenna above my HF Log Periodic (Tennadyne T6) and since the quad will end up closer to the LP, I was concerned with interaction. My mast only gives me another 5 feet above the T6. Right now, I use the HF LP on 6 meters with reasonable results, and it even presents a 2.5:1 or so match on 144.2.

I'll look into the Cubex quads and the KMA 6 meter antenna. There may be another Log Periodic in my future.

73,
Bob
W4ATM

Bob Lombardi wrote:

>
> I've been doing some web searches for a 6 and 2 m interlaced yagi, but
> haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
> 70 cm, but it also mixes polarizations, and I want them both
> horizontally polarized (for SSB/CW operation). At this point, I don't
> care much whether I build it or buy it.
>
> It seems like the only single antenna solution I've found is a log
> periodic. Does anyone have a reference to a 6/2 interlaced yagi?
>
>
>
> 73,
> Bob
> W4ATM
>
> if you wish to reply by email, there are no numbers in my address...
>

6095. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 01:30:49 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306101730.35fd47fb@posting.google.com>
Source record: 115447

jgboyles@aol.com (JGBOYLES) wrote in message
news:<20030610185447.00319.00000338@mb-m12.aol.com>...
> >If a yagi is modelled enough over time then your prediction can be confirmed
> by NEC methods.If you are moving into
> >unchartered waters and you make a slight error say in your work up
> >NEC will not point it out to you even tho
> >that error is significant for
> >what you desire say max gain. Where as an optimiser program
> >investigates dimensions
> >and if there are errors it will correct it because its assigned task
> >is to find the dimensions for max gain and does not act as a somewhat
> >dumb computor.
>
> Art, I can find max gain with NEC, as well with an Optimizer program.
Wow,how did I miss that? With an optimizer you can allow the computor
to determine the best dimension for the object required. When I bought
that
program NEC did not have the ability to gyrate towards the besr design
required
not did it allow for Somerfield ground as well as many other things.
How did the NEC program change the spacing of the elements to achieve
max gain?

However,
> If I introduce errors in either program, I will have errors out. Are you
> saying Optimizer programs are error correcting? I think both programs are
> garbage in, garbage out.
Oh I wouldn't say that! NEC assumes that it is used by a dumb terminal
where as
AO program allows the computor to calculate, revise,calculate again
e.t.c. until
maximum results are obtained. I wouldn,t call them garbage programs
just that
one is more versatile than the other .As luck would have it there is
now an optimiser on shareware and from what I understand it has many
more variables
to handle even the most complex problems but I haven,t tried it yet, A
thread some time ago gave it very high marks.

If the Optimizer is as good as you say, and has error
> correcting, then that is what you should use for now and forevermore.

That,s right Gary.

>
> 73 Gary N4AST

Regards
Art

6096. Re: Loop Antenna Inter-action With Tree Branches

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 01:37:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lg0devg0felo7a802sk2rj410j3cogvso6@4ax.com>
Source record: 115448

On Tue, 10 Jun 2003 15:38:34 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Thanks very much for the reference. It's the only one I can recall
>actually seeing that addresses HF, even though it mentions only the
>upper HF range and doesn't give any real information about the makeup of
>the forest. Although apparently some more work was done during the
>Vietnam war, references and specific information are elusive.
>
>Roy Lewallen, W7EL
>

Hi Roy,

Another reference is found in with one I share with Richard (we appear
to be the only two to have copies that I suggested to him in private
correspondence in a e-mail round robin with Walt many summers ago):
Arnold B. Bailey's "TV and Other Receiving Antennas"
Chapter "The Radio Path"
Section "Effect of Wooded Areas on Signal Strength"
Subsection "Horizontal versus Vertical Polarization"
which itself runs to three pages of discussion compared to the 83
pages of the chapter alone and two pages enumerating 47 references.

Discussion within these pages are generally confined to VHF and above,
but a good amount of data encompasses HF as a consequence of his
inclusive and approachable style. I would say that nearly half of his
44 figures in this chapter alone are charts of practical application.
One that is especially bookmarked by myself is Figure 5-13 - "Plot of
the electrical impedance of earth to electromagnetic was as a function
of the frequency" This figure spans from 100KHz to 10GHz for
intrinsic Z over a range of 1 to 1000 Ohms for Air/Vacumm (the
reference), Dry Soil, Wet Soil, Fresh Water, Ocean Water.

His Chapter 6 "The Theory of Signal Interception" runs 63 pages before
even introducing the simple dipole (which is Chapter 7 at 87 pages
long). Bailey's style is very readable and is not given over to the
numbing drone of dry math.

As a reference, it should be the first book read on the subject of
antennas and propagation.

73's
Richard Clark, KB7QHC

6097. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:06:36 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <G8wFa.5041$0c4.597880@news20.bellglobal.com>
Source record: 115452

"W5DXP"
> ...semantics problem...

New newsgroup: rec.radio.amateur.antenna.semantics

Motto: "Home of the world's longest threads."

:-)

6098. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:06:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dh3dev8eueuo3i5hu5d2dlg8o3r7ctl4rt@4ax.com>
Source record: 115449

On Wed, 11 Jun 2003 00:52:28 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Tue, 10 Jun 2003 18:47:32 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>
>>Richard Clark wrote:
>>> W5DXP <Cecil.A.Moore@ieee.org wrote:
>>>>Shirley, you can conceive of the difference between a resistor that
>>>>consumes RF energy as heat and a V/I ratio in a transmission line
>>>>that does *NOT* consume RF energy as heat. What words do you use to
>>>>denote that difference?
>>>
>>> Do you measure V/I with a thermometer?
>>
>>One certainly can. If there's no temperature rise, the resistance
>>value is dissipationless.
>
>Hi Cecil,
>
>What is the V/I for a 1 degree rise?
>
>73's
>Richard Clark, KB7QHC

Tough one, eh?

What is the temperature rise for a V/I of 2?

73's
Richard Clark, KB7QHC

6099. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:15:35 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610221535.23654.00000520@mb-m27.aol.com>
Source record: 115450

>What word(s) can I use to differentiate them?

IMPEDANCE vs. RESISTANCE

IMPEDANCE, repeat - IMPEDANCE :-)

Bada BYng

6100. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:18:58 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030610221858.23654.00000521@mb-m27.aol.com>
Source record: 115451

>They certainly are not the same thing. Please give me
>your words if you were trying to differentiate between those two different
>types of resistances. One gets hot and the other doesn't.
>--
>73, Cecil http://www.qsl.net/w5dxp

call it VIRTUANCE or VIRPEDANCE (if you can dance) and give me some credit

Yuri, da BUm

6101. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:26:40 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <urwFa.5062$0c4.604563@news20.bellglobal.com>
Source record: 115453

"W5DXP"
1) > ...a resistor that consumes RF energy as heat...
2) > ...a V/I ratio in a transmission line that does
> *NOT* consume RF energy as heat.
> What words do you use to denote that difference?

1) Resistance
2) Characteristic impedance.

6102. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:39:40 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <HDwFa.5071$0c4.611070@news20.bellglobal.com>
Source record: 115454

"Crazy George"
> I read somewhere that if you rotate a dish of liquid,
> the surface forms a parabola of rotation. <snip>

Perhaps you have read about the University of Arizona's Mirror Lab where
they have cast very large mirrors (for very big telescopes) using a rotating
oven. It looks like they're up to 8.4m diameter...

http://medusa.as.arizona.edu/mlab/mlhist.html

6103. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 02:53:47 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <WQwFa.5076$0c4.615133@news20.bellglobal.com>
Source record: 115455

"Roy Lewallen"
> In fact, lossless antennas of all kinds produce
> ???? the same average power density ????
> for the same power input, whether in space,
> over an infinite reflecting plane, or any other
> lossless environment -- provided that you restrict
> the averaging area to the same region that the field
> is restricted to. For example, when the antenna is
> over a flat, infinite ground plane, the region below
> the ground plane isn't included in the volume being
> averaged.

I would have thought that the more of the Universe that you wall up behind reflecting planes, the higher the power density would be in the ever-smaller volume of the Universe that remains with the antenna. If you provide six reflecting planes suitably arranged, then you've got yourself a Microwave Oven (typical volume: 1.1 cu ft, power density: very high).

6104. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:06:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE69CBC.5060401@ieee.org>
Source record: 115456

Roy Lewallen wrote:
> Cecil, you've got a real problem there. I'll have to let you deal with
> it as you see fit. And I wish you the best of luck in communicating your
> concepts -- it seems that some is needed. Making up virtual objects
> doesn't seem to be helping a whole lot.

I'm asking you what would help. There's an obvious difference between
the resistance in a load resistor and the V/I ratio resistance one
wavelength back up the feedline. How do you differentiate between
those two different types of resistances?
--
73, Cecil http://www.qsl.net/w5dxp

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6105. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:07:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE69D0F.1000307@ieee.org>
Source record: 115457

Roy Lewallen wrote:
> Yep, that's it, Cecil. We're afraid to confront this vital issue.

Why are you afraid to confront the issue?
--
73, Cecil http://www.qsl.net/w5dxp

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6106. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:09:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE69D6C.1090000@ieee.org>
Source record: 115458

Roy Lewallen wrote:
> Sorry, Cecil, I'm not capable of answering your question, because it
> makes no sense to me.

You object to the words I use yet you refuse to give me any words
to which you wouldn't object. Exactly what is your agenda?
--
73, Cecil http://www.qsl.net/w5dxp

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6107. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:13:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE69E68.8@ieee.org>
Source record: 115459

Yuri Blanarovich wrote:
>>What word(s) can I use to differentiate them?
>
> IMPEDANCE vs. RESISTANCE
>
> IMPEDANCE, repeat - IMPEDANCE :-)

How do I differentiate between an impedance with dissipation and
an impedance without dissipation? How do I differentiate between
an impedance caused by a V/I ratio and a V/I ratio caused by an
impedance?
--
73, Cecil http://www.qsl.net/w5dxp

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6108. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:15:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE69EDB.3090307@ieee.org>
Source record: 115460

J. Harvey wrote:
> "W5DXP"
> 1) > ...a resistor that consumes RF energy as heat...
> 2) > ...a V/I ratio in a transmission line that does
> > *NOT* consume RF energy as heat.
> > What words do you use to denote that difference?
>
> 1) Resistance
> 2) Characteristic impedance.

What if that lossless V/I ratio is not the characteristic
impedance of the feedline?
--
73, Cecil http://www.qsl.net/w5dxp

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6109. Re: Electric Fence Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:24:39 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <ved87u1m602hee@corp.supernews.com>
Source record: 115461

Tie one end to a post and the other to your car bumper or some other good
place..
Make sure one of the knots will give before the wire breaks..
Drive forward to knot give or just before and you'll have a nice straight
piece!
hank wd5jfr

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns939653E275292pookster@129.250.170.96...
> arrow146@aol.com (Arrow146) wrote in
> news:20030610103550.15895.00000354@mb-m29.aol.com:
>
> > New timers trick for straightening solid wire.
> > Clamp one end in a vice, put the other end in a reversible
> > drill. With a slight pull, Twist the wire about 2 turns per foot of
> > wire. Then reverse for the same amount.
> > Makes nice straight wire from a spool.
> >
> > 73 Al Lowe N0IMW
> >
> >
> ----------
>
> Clever idea, I'll have to give it a try. Thanks!
>
> --
> Bill, W7TI

6110. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:41:27 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <qs7dev0llobg7rn8gtoq2c1dq7u1i2401b@4ax.com>
Source record: 115462

On Tue, 10 Jun 2003 16:19:41 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

|Art has a good point that optimizers are often useful. However, you do
|have to always be alert to the possibility that it could be converging
|on a local optimum rather than a global one. When that happens, small
|changes from the "optimized" dimensions result in degradation, but
|there's some other set of dimensions quite different from the ones found
|that provide a better solution yet. Like any other modeling tool, an
|optimizer has to be used with some care.

Indeed.
|
|People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer)
|programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr.,
|San Marcos, CA 92069. At the time of my last contact with him, he
|wouldn't accept orders or requests for information by phone or email.
|I've never personally used AO but have heard many positive comments --
|like Art's -- about it. It is a MININEC-based program and has some of
|MININEC's inherent limitations. I have used YO and found it to be
|capable and useful. (Some EZNEC users have told me that they've been
|able to improve on YO designs by hand tweaking, but YO was good to get
|an initial design.) I very highly recommend Brian's TA (Terrain
|Analysis) program. There's nothing else like it, and it's essential if
|you want to make the best advantage of an irregular terrain.

Arie's '4nec2' also features an optimizer, and while I did a very
limited "beta" test (primarily of the 3D portion) I'll confess I
haven't used it much. I'm much more comfortable with EZNEC
particularly when used in conjunction with Dan's MultiNEC.xls.

While MultiNEC doesn't have an optimizer in the usual sense that the
computer makes judgments about what parameters to adjust, it does
allow the user to set up variables or equations that change specified
antenna parameters. For example if you want to change the height
above ground of an antenna over some range and see the effects on the
elevation pattern or the feedpoint impedance, this is easily done.

(This experiment is a great debunking tool for old wives' tales)

6111. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:52:48 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee6a8a9_4@news1.prserv.net>
Source record: 115463

How about the rotating dishes of mercury at Socorro sun observatory?

--
Crazy George
Remove NO and SPAM from return address
"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:HDwFa.5071$0c4.611070@news20.bellglobal.com...
> "Crazy George"
> > I read somewhere that if you rotate a dish of liquid,
> > the surface forms a parabola of rotation. <snip>
>
> Perhaps you have read about the University of Arizona's Mirror Lab where
> they have cast very large mirrors (for very big telescopes) using a
rotating
> oven. It looks like they're up to 8.4m diameter...
>
> http://medusa.as.arizona.edu/mlab/mlhist.html
>
>
>

6112. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 03:56:00 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc698g$6om$0@208.207.71.157>
Source record: 115464

Roy Lewallen wrote:

> Let's see, if we measure a 100 ohm resistor, we're actually measuring a
> virtual resistance of 100 ohms, not a real 100 ohms. That's because the
> 100 ohm real resistor *caused* the reading of 100 ohms.
>
> Am I getting this right?
>
> But does the virtual resistance exist if I'm not there to measure it?
> And is the virtual resistance dissipationless? Are all virtual
> resistances dissipationless, or only some?
>
> I can hardly wait until all the elementary circuit analysis textbook
> writers jump on the bandwagon. It'll finally clear up all those mysteries!

So what then is impedance but virtual resistance? For darn sure you aren't gonna measure it with an ohmmeter! I know, they call it AC resistance and it does "virtually" the same thing as DC resistance when the applied emf is AC, but resistance it is NOT.

When you get right into it, AC theory is loaded with virtuals.

Dick

6113. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 05:08:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc6dje$6s8$1@slb5.atl.mindspring.net>
Source record: 115465

Cecil:

[snip]
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE676C1.4070009@ieee.org...
> Peter Brackett wrote:
> > A resistor does not cause a V/I ratio! What the hell is that?
>
> Ohm's law. E/I=R
>
> > Without a V there will be no I regardless whether there is a resistor
> > present or not.
>
> Get real! Given a variable V and the constant R, the R dictates the V/I
> ratio no matter what the voltage (within limits).
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Cause and effect are well understood by all, scientist and lay persons alike, and your silly proposal to introduce names for "causors" that don't "cause" anything is just plain silly and confusing.

Don't do it man! No one will ever go there! Simply because...

Resistors don't *cause* anything.

Resistance is a material property of a passive lump of matter, a resistor is a completely passive object with no capablity to animate anything!.

Only "prime movers" can cause things.

A generator can cause a current to flow, you can cause sentences to be created, etc, etc...

But resistance in the role of prime mover! Bahhh... absurd, Cecil my man, you've reached a new low in obfuscation!

And... this one is not even entertaining.

--
Peter K1PO
Indialantic By-the-Sea, FL.

6114. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 05:30:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc6epulov1@slb6.atl.mindspring.net>
Source record: 115466

Cecil:

[snip]
> You didn't answer my question, Roy. You don't like my words but you
> refuse to give me any new words that you do like. How do I differentiate
> between the resistance of a resistor and the resistance of a V/I ratio?
:
:
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

You just did differentiate them.

One is resistance the other is a V/I ratio, what's the problem.

Does every combination of adjectives with nouns need a new name?

Perhaps languages should consist only of nouns and the world should just banish all adjectives. Is that what you are proposing.

How do I differentiate between a white Cadillac and a coffee colored Cadillac?

I know we'll call one a Whitadillac and the other a Coffeedillac, yeah... that's it! That will help everyone to understand what I'm talking about, and... Webster and Oxford will love it, think of all the new additional revenues from all of the new dictionary sales.

BTW... you are a little behind the times you know.

Surely you knew that Oliver Heaviside was the first to create the modern names "impedance", "reactance", "inductance", "imittance", etc...

Oliver did this way back in the nineteenth century when being an "electrician" was difficult because there were no names for anything instead, one had to use long strings of adjectives or create new nouns to make communication about the subject easier.

Most of Heaviside's works and definitions were published in that very advanced and popular nineteenth century science magazine called "The Electrician".

Oliver was an original!

Heaviside was the first "electrician" who *really* understood transmission lines. He even explained them to Maxwell and Kelvin!

Heaviside created the definitive study of transmission lines, way back in the nineteenth century.

Heaviside's lucid explanations appear just as modern today as the day they were written and all others since have never been able to improve upon his simple clear explanations.

Now that electrical science and the study of transmission lines has been in existence for nearly 200 years and at least 10 generations of "electricians" have learned that science and have used it to quantitatively design and create great engineering works, from trans-oceanic undersea cables, to EHV power transmission lines, from microwave waveguides to optical fibers, how is it that you feel you can improve on the subject by creating new names for well known things?

What is your problem?

--
Peter K1PO
Indialantic By-the-Sea, FL.

6115. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 05:50:59 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pogdev04oigra4uobgp3t5usliko638t6o@4ax.com>
Source record: 115467

On Tue, 10 Jun 2003 22:07:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Roy Lewallen wrote:
>> Yep, that's it, Cecil. We're afraid to confront this vital issue.
>
>Why are you afraid to confront the issue?

A Virtual Soap Opera

6116. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 07:18:48 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <5mKUWtGYft5+EANQ@ifwtech.co.uk>
Source record: 115369

W5DXP wrote:
>Roy Lewallen wrote:
>> Cecil, you've got a real problem there. I'll have to let you deal
>>with it as you see fit. And I wish you the best of luck in
>>communicating your concepts -- it seems that some is needed. Making
>>up virtual objects doesn't seem to be helping a whole lot.
>
>I'm asking you what would help. There's an obvious difference between
>the resistance in a load resistor and the V/I ratio resistance one
>wavelength back up the feedline. How do you differentiate between
>those two different types of resistances?

You don't - that is precisely the point you're missing!

ResistANCE is a *property* that can be measured at a point in a circuit, namely the V/I ratio when a non-zero voltage is applied. There is only *one* kind of resistANCE: that is a fundamental postulate of circuit theory and is absolutely non-negotiable.

However, there are, as you say, different *causes* of resistance. ResistORS are physical components that possess the property of resistANCE. Many other kinds of components and networks possess resistance too.

The same applies to complex impedance - there is only one kind, but it can be created by a wide range of components and networks.

The rest of the world sees exactly the same problem that you noticed, but is already dealing with it with complete success, by handling the language in a different way.

If you want to change the way the engineering world handles its language, then those comments about the IEEE deserve to be taken seriously. If you have a proposal to make, you should write a paper to IEEE and submit it to peer review. That's part of what IEEE is for. Good luck with that...

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6117. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 07:20:08 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <8lWlWGJogt5+EAtd@ifwtech.co.uk>
Source record: 115370

JGBOYLES wrote:
>>If a yagi is modelled enough over time then your prediction can be confirmed
>by NEC methods.If you are moving into
>>unchartered waters and you make a slight error say in your work up
>>NEC will not point it out to you even tho
>>that error is significant for
>>what you desire say max gain. Where as an optimiser program
>>investigates dimensions
>>and if there are errors it will correct it because its assigned task
>>is to find the dimensions for max gain and does not act as a somewhat
>>dumb computor.
>
>Art, I can find max gain with NEC, as well with an Optimizer program. However,
>If I introduce errors in either program, I will have errors out. Are you
>saying Optimizer programs are error correcting? I think both programs are
>garbage in, garbage out.

That's correct. All antenna modeling engines (NEC, MININEC etc) have their strengths and weaknesses, and are good for some kinds of antennas but poor with others. Some of these errors are signalled by error messages, but many are not - you, the user, have to know when to be wary.

For information on this topic of accuracy in general, see the extensive background papers at www.cebik.com and www.eznec.com

An optimizer doesn't model the antenna any differently - it only repeats the same calculations, automatically changing a few variables that you have selected and looking for improvements. The modeling engine is exactly the same, so the errors in any given calculation will be exactly the same as if that calculation had been set up and run by hand. If the program doesn't generate an error message in a one-off manual calculation, there won't be one either when that calculation is run as part of an automatic optimization.

Since the modeling engine is never getting it exactly right (due to limitations in the calculation engine, your input model, or both) this means that the optimizer will always have at least a slightly false sense of what is optimum. Therefore it's always best to re-run the model using the apparently optimized dimensions but with a different modeling engine.

On top of that, there's the different problem Roy referred to, where the optimizer reaches a local optimum and then stops. This has been likened to climbing a large mountain in thick fog without a map... you keep climbing until you can reach a peak and can't go any higher, but have no

way of knowing that the true summit is a mile away and much higher yet. There are both automatic and user-guided ways around this problem, but you have to know which ones to apply, and when, and how.

All of these are known and acknowledged problems of antenna modeling engines and optimizers (and it's all in the AO manual). That's why modeling of all kinds requires a large input of skill and healthy skepticism from the user - and computer-aided optimization requires *lots more* of both!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6118. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 07:49:01 UTC
From: jan-martin.hertzsch@rz.hu-berlin.de
Message-ID: <bc6mtd$1dd$1@lnews.rz.hu-berlin.de>
Source record: 115468

Jack Twilley <jmt+usenet@twilley.org> wrote:

> I'm interested in modeling some antennas, but all the software I see
> is designed to run on Microsoft Windows. I prefer to use FreeBSD,
> which can also run Linux binaries in compatibility mode if necessary.

> Any suggestions? The software doesn't have to generate graphical
> output directly -- building a Postscript file for printing or a JPEG
> file for viewing would be okay.

Have a look at http://www.qsl.net/wb6tpu/swindex.html or
http://www.nec2.org/, I've found there the NEC package as
well as some software to generate graphics from the output,
and it works well on my S.u.S.E. Linux machine.

73 de DL2LFH, Jan-Martin

6119. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 09:42:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc6thl$p6s$1@hercules.btinternet.com>
Source record: 115371

Addressed to Cecil -

> What is your problem?
>
=======================

Cecil hasn't got a problem - he just likes enjoying himself.

And so provides the opportunity for anybody else to follow suit.

6120. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:09:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE6FFBD.5050605@ieee.org>
Source record: 115372

Peter Brackett wrote:
> Resistors don't *cause* anything.

If resistors don't cause anything, why are they ever used in a circuit?
A bypassed resistor in a cathode circuit *causes* the tube to be DC biased
when power is applied.

When a voltage is applied to a resistor, the resistor causes the resulting
magnitude of current. Ohm's Law. The current is the dependent variable, i.e.
the *result*, in I=E/R.

Given any voltage and any current, the ratio of the voltage to the current
is *fixed* at V/I by the resistance of the resistor. Given any voltage and
any current in a flat transmission line, the ratio of the voltage to the
current is *fixed* at V/I by the Z0 of the feedline. To argue that the
resistance of a resistor is the result of the voltage and current applied
is ridiculous, a clear confusion of cause and effect.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6121. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:12:26 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306110212.2b012a11@posting.google.com>
Source record: 115373

Wes Stewart <n7ws@!#!arrl.net> wrote in message
news:<qs7dev0llobg7rn8gtoq2c1dq7u1i2401b@4ax.com>...
> On Tue, 10 Jun 2003 16:19:41 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
> |Art has a good point that optimizers are often useful. However, you do
> |have to always be alert to the possibility that it could be converging
> |on a local optimum rather than a global one. When that happens, small
> |changes from the "optimized" dimensions result in degradation, but
> |there's some other set of dimensions quite different from the ones found
> |that provide a better solution yet. Like any other modeling tool, an
> |optimizer has to be used with some care.
>
> Indeed.
> |
> |People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer)
> |programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr.,
> |San Marcos, CA 92069. At the time of my last contact with him, he
> |wouldn't accept orders or requests for information by phone or email.
> |I've never personally used AO but have heard many positive comments --
> |like Art's -- about it. It is a MININEC-based program and has some of
> |MININEC's inherent limitations. I have used YO and found it to be
> |capable and useful. (Some EZNEC users have told me that they've been
> |able to improve on YO designs by hand tweaking, but YO was good to get
> |an initial design.) I very highly recommend Brian's TA (Terrain
> |Analysis) program. There's nothing else like it, and it's essential if
> |you want to make the best advantage of an irregular terrain.
>
> Arie's '4nec2' also features an optimizer, and while I did a very
> limited "beta" test (primarily of the 3D portion) I'll confess I
> haven't used it much. I'm much more comfortable with EZNEC
> particularly when used in conjunction with Dan's MultiNEC.xls.
>
> While MultiNEC doesn't have an optimizer in the usual sense that the
> computer makes judgments about what parameters to adjust, it does
> allow the user to set up variables or equations that change specified
> antenna parameters. For example if you want to change the height
> above ground of an antenna over some range and see the effects on the
> elevation pattern or the feedpoint impedance, this is easily done.
>
> (This experiment is a great debunking tool for old wives' tales)

I certainly agree with regard to tweaking. When coupling is used as
with meshed

circuits I was quite surprised to see the program lurch from very thin wire to diameters in excess of 4 inches so continual tweaking is required to ensure diameters used fit into the real world with respect to mechanical structures.
Art

6122. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:20:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE70277.9030102@ieee.org>
Source record: 115374

Peter Brackett wrote:
> One is resistance the other is a V/I ratio, what's the problem.

Both are resistances. What adjective do I preface "resistance" with
to differentiate between those two types of resistances? What adjective
did Heavyside use for that particular differentiation?

> Does every combination of adjectives with nouns need a new name?

That's the way languages work. How would you differentiate a black car
from a white car without adjectives and nouns?

> Perhaps languages should consist only of nouns and the world should just
> banish all adjectives. Is that what you are proposing.

No, that's what you are proposing. You want to deny me an adjective for
differentiating the resistance of a resistor from the resistance of a
V/I ratio. Your motive for such is unclear.

> How do I differentiate between a white Cadillac and a coffee colored
> Cadillac?

My point exactly! Please give me an adjective that I can use to differentiate
between the resistance of a resistor and resistance of a V/I ratio. You don't
like "virtual" so please give me an adjective that you do like.

> ... how
> is it that you feel you can improve on the subject by creating new names for
> well known things?

Apparently, they are NOT well known things. You cannot even give me an
adjective to differentiate the resistance of a resistor from the resistance
of a V/I ratio.
--
73, Cecil http://www.qsl.net/w5dxp

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6123. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:27:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE70419.7030705@ieee.org>
Source record: 115375

Ian White, G3SEK wrote:
> W5DXP wrote:
>
>> Roy Lewallen wrote:
>>
>>> Cecil, you've got a real problem there. I'll have to let you deal
>>> with it as you see fit. And I wish you the best of luck in
>>> communicating your concepts -- it seems that some is needed. Making
>>> up virtual objects doesn't seem to be helping a whole lot.
>>
>>
>> I'm asking you what would help. There's an obvious difference between
>> the resistance in a load resistor and the V/I ratio resistance one
>> wavelength back up the feedline. How do you differentiate between
>> those two different types of resistances?
>
>
> You don't - that is precisely the point you're missing!

But one is dissipative and one is not dissipative. We need to differentiate between them.

> However, there are, as you say, different *causes* of resistance.

OK, please give me an adjective that I can use to differentiate the different causes of resistance.

> The rest of the world sees exactly the same problem that you noticed,
> but is already dealing with it with complete success, by handling the
> language in a different way.

All I am asking is that someone, somewhere, tell me how to handle the language for the subject matter. How do I differentiate between the different causes of resistance?

One of those causes of resistance causes reflections. One of those causes of resistance doesn't cause reflections. Resistance doesn't always cause reflections. How do I differentiate the resistance that causes reflections from the resistance that doesn't cause reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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6124. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:34:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE705BA.2010506@ieee.org>
Source record: 115376

Dick Carroll; wrote:
>
> Roy Lewallen wrote:
>>Let's see, if we measure a 100 ohm resistor, we're actually measuring a
>>virtual resistance of 100 ohms, not a real 100 ohms. That's because the
>>100 ohm real resistor *caused* the reading of 100 ohms.
>>
>>Am I getting this right?

Nope, you (deliberately) have it exactly backwards. The 100 ohm real resistor
caused the reading of 100 ohms. Therefore, it is ***NOT*** virtual. But, of
course, you already understood that and are just trying to confuse the readers.
--
73, Cecil http://www.qsl.net/w5dxp

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6125. The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:50:43 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3EE70983.A164A0CD@bloomer.net>
Source record: 115377

I've got a couple questions about the new band coming in July...

Why did the FCC specify the five channels by "center frequency"?
Wouldn't it have been easier to specify the supressed carrier frequency
and the bandwidth limit of 2.6 KHz?

Why did they set the power limit using ERP? Now we have to calculate
feedline loss and "guess" at antenna gain (rather difficult with
homebrew antennas) when determining ERP?

All in all, I'm still looking forward to that first QSO on 60M...

--

Scott N0EDV
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

6126. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:54:19 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3EE70A5B.953A3CFB@bloomer.net>
Source record: 115380

Oops, make that 2.8 KHz wide channels...

Scott
N0EDV

Scott wrote:
>
> I've got a couple questions about the new band coming in July...
>
> Why did the FCC specify the five channels by "center frequency"?
> Wouldn't it have been easier to specify the supressed carrier frequency
> and the bandwidth limit of 2.6 KHz?
>
> Why did they set the power limit using ERP? Now we have to calculate
> feedline loss and "guess" at antenna gain (rather difficult with
> homebrew antennas) when determining ERP?
>
> All in all, I'm still looking forward to that first QSO on 60M...
>
> --
>
> Scott N0EDV
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

6127. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 10:57:05 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3EE70B01.E07A74AF@bloomer.net>
Source record: 115378

The ARRL bulletin announcement can be seen at
http://www.arrl.org/w1aw/2003-arlb038.html

Scott
N0EDV

Scott wrote:
>
> I've got a couple questions about the new band coming in July...
>
> Why did the FCC specify the five channels by "center frequency"?
> Wouldn't it have been easier to specify the supressed carrier frequency
> and the bandwidth limit of 2.6 KHz?
>
> Why did they set the power limit using ERP? Now we have to calculate
> feedline loss and "guess" at antenna gain (rather difficult with
> homebrew antennas) when determining ERP?
>
> All in all, I'm still looking forward to that first QSO on 60M...
>
> --
>
> Scott N0EDV
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

6128. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:00:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE70BC9.5030600@ieee.org>
Source record: 115379

Ian White, G3SEK wrote:
> ResistANCE is a *property* that can be measured at a point in a circuit,
> namely the V/I ratio when a non-zero voltage is applied. There is only
> *one* kind of resistANCE: that is a fundamental postulate of circuit
> theory and is absolutely non-negotiable.

Another way of saying what I have been saying is:

The resistance of a variable resistor is an independent variable.

The resistance of a V/I ratio is a dependent variable.

What adjective can I use to differentiate those two
different conditions?
--
73, Cecil http://www.qsl.net/w5dxp

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6129. 18HT and radials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:12:58 UTC
From: Dev <dev@hardware.com>
Message-ID: <O8EFa.3417$Ly2.630836@cletus.bright.net>
Source record: 115381

I am looking for suggestions on the base for my upcoming installation of a HyGain HyTower, they specify a 3'x3'x3' base, but I would like to make it round.

The reason I want to make it round is to make it easier to spread out the radials. I also want to get it up off the ground about a foot. (snow)

I am looking at the cardboard tube forms for concrete, so far I haven't found any 3' diameter. I was thinking of just using a plastic garbage can or something as a form, but I am not sure how that would work out with strength, shrinkage, etc.

If anyone else has managed to get their tower bases up off the ground, please let me know! Thanks.

Larry N8KU

6130. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:28:26 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <pnEFa.3497$JN6.640156@news20.bellglobal.com>
Source record: 115383

"W5DXP"
1) > ...a resistor that consumes RF energy as heat...
2) > ...a V/I ratio in a transmission line that does
> *NOT* consume RF energy as heat.
> What words do you use to denote that difference?

J. Harvey wrote:
> 1) Resistance
> 2[a]) Characteristic impedance.

"W5DXP"
> What if that lossless V/I ratio is not the characteristic
> impedance of the feedline?

2b) A point on the Smith Chart.

6131. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:40:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE71512.3000405@ieee.org>
Source record: 115382

Ian White, G3SEK wrote:
> There is only
> *one* kind of resistANCE: that is a fundamental postulate of circuit
> theory and is absolutely non-negotiable.

What's the resistance of an antenna? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6132. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:46:02 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <VDEFa.3523$JN6.641478@news20.bellglobal.com>
Source record: 115386

Roy Lewallen
> ...an optimizer has to be used with some care.

Many years ago, I once used one of these programs (Yagi Optimiser, or something similar) to help design a small Yagi for TV channel 8. I pressed the Optimise button numerous times and eventually I got up to some ludicrous gain (something like +32dBi gain for a 6-element Yagi). A bit later I noticed that the bandwidth was less than one hertz. It was just a program anomaly.

This sort of experience led to a very careful approach in our professional work. When modeling the installed performance of antennas, we made sure to dither (adjust the value up and down slightly) every input parameter to ensure that the output results remained consistent. We did find several minor anomalies, but with further study we were able to quantify them and work around them.

One should assume that the computer is an insane assistant and continuously question its output.

6133. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 11:47:30 UTC
From: 4nec2@gmx.net
Message-ID: <ee90361b.0306110347.5e99705@posting.google.com>
Source record: 115384

Art:

> Do amateurs have to be rocket scientists to decide what he needs from
> a program and pay maximum price for that which provides minimum
> results and assistance?

No, I don't think this is strictly required, but it surely does help in
understanding why you got certain results or even more important: why not.

Gary:

> I think both programs are
> garbage in, garbage out. If the Optimizer is as good as you say, and has
> error correcting, then that is what you should use for now and forevermore.

I suppose this is not always true. Most nec-2 based modeling programs
(compared to the raw nec-2 program) do some error-checking on structure
and other guidelines. On the other hand, I also think you are lucky if
you introduced an error which is automatically corrected by an optimizer
program.

Roy:

> People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer)
> programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr.,
> San Marcos, CA 92069. At the time of my last contact with him, he
> wouldn't accept orders or requests for information by phone or email.
> I've never personally used AO but have heard many positive comments --
> like Art's -- about it. It is a MININEC-based program and has some of
> MININEC's inherent limitations.

Without saying anything about Roy's excellent contribution(s) to the HAM
community (unfortionally I discovered this just recently), I agree that
AO is also a very fine program. For those who would like to give it a try
there is another freeware program available based on the same principles
which uses the standard nec-2 engine.

Art:

> When I bought that program NEC did not have the ability to gyrate towards
> the besr design required not did it allow for Somerfield ground as well
> as many other things. How did the NEC program change the spacing of
> the elements to achieve max gain?

Nec didn't but other software helped it to do so :-)

Greetings,
Arie.

6134. Re: Printed antenna design (?)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:00:18 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0306110400.494a45fe@posting.google.com>
Source record: 115385
Cross-posted to:
rec.radio.amateur.antenna,sci.electronics.design,sci.electronics.components,sci.electronics.basics,sci.electronics.misc

nono240@altern.org (Nono) wrote in message
news:<63cec822.0306030542.7f6b2284@posting.google.com>...
> Hi !
>
> I would like to design a printed antenna on pcb for 433.92Mhz (Aurel
> frequency), but i haven't any document about that.
> Is someone can help me ?
>
> Thanks.

Millimeter-Wave Microstrip and Printed Circuit Antennas by Bhartia,
Rao and Tomar.

A printed linear, CP, annular or slot antenna at this frequency will
be large unless your PCB Er is also very large, which may not be
economical. You may want to consider a loop.

Kraus has a pretty good chapter on loop antennas. Here are the basics.

1) Make the loop Area as large as you can.
2) Use a low-inductance (Wide) copper track.
3) avoid putting cunductive or lossy elements inside the loop.

Small loops will have very low impedance and narrow bandwidth. The
matching network may need to be 'tuned'. Series capacitors will need
to have very low series resistance to minimize losses.

Frank Raffaeli
AOM Wireless
http://www.aomwireless.com/

6135. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:02:18 UTC
From: Ben Coleman <oloryn@benshome.net>
Message-ID: <jh6eev4059g4meacp9srdjo75djdpv5v12@4ax.com>
Source record: 115387
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Wed, 11 Jun 2003 06:48:41 +0000 (UTC), lucifer@eternal-flames.gov
wrote:

>On Tue, 10 Jun 2003 18:40:57 -0400, Ben Coleman <oloryn@benshome.net>
>pausing to cast envious glances at those who had mastered the skill of
>reading without moving their lips, wrote:
>
>>>Nowadays, they call themselves, "sysadmin", but they're still
>>>computer operators, the turnip-brained of the computing world.
>>
>>Try going over to alt.sysadmin.recovery and saying that.
>
>But just because it might upset them, it doesn't mean it's not true.

You really like taking your lift in your own hands, don't you?

Ben

6136. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:16:46 UTC
From: 4nec2@gmx.net
Message-ID: <ee90361b.0306110416.7edd52a1@posting.google.com>
Source record: 115388

> the problem was -- the 4NEC2 extender, 4NEC2dx does not work on *my*
> XP Pro box. not surprising. i wrote a VB (never again) app that works on
> a few XP boxes here in the US, but not on an aquiantance's XP Home box
> in the UK. Swell!

I don't think this is correct. The problem is the DOS extender used by
the traditional nec2d.exe program. It does not work anymore on w-XP.
That's why I created/added the nec2dXS***.exe programs. These run on
all windows platforms. See the ReadMeFirst.txt file for more details
about this.

These programs are also available as a separate package, including
sources and compile-instructions using the freeware g77 compiler on
www.qsl.net/wb6tpuy/swindex.html (to use on none windows platforms)

Furthermore when installing 4nec2, first install the 4nec2 default
package.
When done, upgrade with the 4nec2X extension to get full 3D support.

Concerning the TL problem, as I already wrote, I think you somehow
succeeded in messsing-up the relation between input- and output-file
naming.

> 4NEC2 is cool !

Aha, nice to know, although I do not know if specific software should
be discussed in this news-group....

Arie.

6137. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:21:35 UTC
From: John Passaneau <jxp16@psu.edu>
Message-ID: <bc76sa$120u$1@f04n12.cac.psu.edu>
Source record: 115389

Because that's the way the people we are sharing the band with do it.
I'm not interested myself in the "band" as it is just too limited to be of
any real use. Also the cost of getting on is just too high.

--
John Passaneau, W3JXP
Physics Dept. Electronics Shop
Penn State University
104 Davey Lab, University Park , Pa. 16802
814.863.4297, jxp16@psu.edu

"Scott" <acepilot@bloomer.net> wrote in message
news:3EE70983.A164A0CD@bloomer.net...
> I've got a couple questions about the new band coming in July...
>
> Why did the FCC specify the five channels by "center frequency"?
> Wouldn't it have been easier to specify the supressed carrier frequency
> and the bandwidth limit of 2.6 KHz?
>
> Why did they set the power limit using ERP? Now we have to calculate
> feedline loss and "guess" at antenna gain (rather difficult with
> homebrew antennas) when determining ERP?
>
> All in all, I'm still looking forward to that first QSO on 60M...
>
> --
>
> Scott N0EDV
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

6138. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:22:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE71F0A.8090207@ieee.org>
Source record: 115390

J. Harvey wrote:
> "W5DXP"
>>What if that lossless V/I ratio is not the characteristic
>>impedance of the feedline?
>
> 2b) A point on the Smith Chart.

A point on the Smith Chart incapable of causing reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6139. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:39:56 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <r8rwApScMy5+EAfy@ifwtech.co.uk>
Source record: 115401

W5DXP Wrote:

>>>How do you differentiate between
>>> those two different types of resistances?
>> You don't - that is precisely the point you're missing!
>
>But one is dissipative and one is not dissipative. We need to differentiate
>between them.
>
>> However, there are, as you say, different *causes* of resistance.
>
>OK, please give me an adjective that I can use to differentiate the
>different causes of resistance.
>
AFAIK there isn't an adjective. When a resistor is present, you use that
noun.

That works for the rest of the engineering world.

>> The rest of the world sees exactly the same problem that you noticed,
>>but is already dealing with it with complete success, by handling the
>>language in a different way.
>
>All I am asking is that someone, somewhere, tell me how to handle the
>language for the subject matter. How do I differentiate between the
>different causes of resistance?
>
>One of those causes of resistance causes reflections. One of those causes
>of resistance doesn't cause reflections. Resistance doesn't always cause
>reflections. How do I differentiate the resistance that causes reflections
>from the resistance that doesn't cause reflections.

By changing the way you look at the problem, and seeing the difference
between resistANCE, a V/I ratio which is a circuit property; and a
resistOR, which has a V/I ratio but is *also* a physical object.

Only physical objects cause physical effects, and only physical objects
get hot. The principle really is as simple as that.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6140. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 12:42:42 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <3cs34UTCPy5+EA+L@ifwtech.co.uk>
Source record: 115402

W5DXP wrote:
>Ian White, G3SEK wrote:
>> There is only *one* kind of resistANCE: that is a fundamental
>>postulate of circuit theory and is absolutely non-negotiable.
>
>What's the resistance of an antenna? :-)

Same as for any other two-terminal device: the V/I ratio at its
terminals.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6141. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 13:15:14 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <qmaeev4g3a0nvv18pjb4akdljelvbun0gk@4ax.com>
Source record: 115391

On Wed, 11 Jun 2003 10:54:19 +0000, Scott <acepilot@bloomer.net>
wrote:

>Oops, make that 2.8 KHz wide channels...
>
>Scott
>N0EDV
>
>
>Scott wrote:
>>
>> I've got a couple questions about the new band coming in July...
>>
>> Why did the FCC specify the five channels by "center frequency"?
>> Wouldn't it have been easier to specify the supressed carrier frequency
>> and the bandwidth limit of 2.6 KHz?
>>
>> Why did they set the power limit using ERP? Now we have to calculate
>> feedline loss and "guess" at antenna gain (rather difficult with
>> homebrew antennas) when determining ERP?

They're specifying 50 watts PEP into an antenna with 0 db gain, and
defining a dipole as such an antenna. I would imagine other simple
wire antennas would fall into the same class.

Bob
k5qwg

>>
>> All in all, I'm still looking forward to that first QSO on 60M...
>>
>> --
>>
>> Scott N0EDV
>> http://corbenflyer.tripod.com
>> http://groups.yahoo.com/group/ParasolAirplanes
>> Building RV-4
>> Gotta Fly or Gonna Die!

6142. Re: 18HT and radials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 13:23:53 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE72D69.F92DA9EE@cwis.net>
Source record: 115392

Dev,
A round pier won't make putting in the radials all
that much easier, but I don't see why it won't work.
One way is to make your own form. A sheet of corrugated
tin cut into 3 foot sections, then poprivited to make
a circle should do it. To raise the tower a foot above
ground simply extend the form as high as you want it.
(Unless I'm missing something??)
'Doc

6143. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 13:48:51 UTC
From: richardharrison@webtv.net
Message-ID: <8261-3EE73343-24@storefull-2316.public.lawson.webtv.net>
Source record: 115394

Cecil, W5DXP wrote:
"What if that lossless V/I ratio is not the characteristic of the feedline?"

It could be the lossless resistance of free-space.

Terman says on pages 84 and 88 of his 1955 edition:
"In the case of radio-frequency lines, Zo can nearly always be assumed to be a pure resistance, as discussed on page 88."
On page 88:
"It will be noted that at radio-frequencies the characteristic impedance is a resistance that is independent of frequency."

Terman had no need to call Zo a virtual resistance. It is a simple resistance which Terman considers devoid of dissipation in many cases. Reg once noted that you could measure Zo with your ohmmeter if the line were long enough.

There is a difference between a resistor and a resistance. A resistor is the lossy device that produces an ohms value. A resistance is just the ratio of volts / amps which are in-phase.

Best regards, Richard Harrison, KB5WZI

6144. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 13:57:08 UTC
From: Gary McAdams <g.m.mcadams@worldnet.att.net>
Message-ID: <UyGFa.1753$0v4.132371@bgtnsc04-news.ops.worldnet.att.net>
Source record: 115393

John, W3JXP sez:

> I'm not interested myself in the "band" as it is just too limited to be of
> any real use. Also the cost of getting on is just too high.
>
>

John,

While I agree with your assessment of the 60 meter allotment in terms of utility, your last sentence really gave me a chuckle.

Just how expensive is it to clip a diode?

Build a wire dipole?

Or utilize an existing antenna on the new band?

Personally, I will try out the band with the rest of the fellows on July 3rd of this year just for the heck of it. You have to realize that this band is primarily intended for emergency communications, not the casual type of operations usually found on the Amateur bands.

By-the-way, I will be using my 17 year old Kenwood rig, an already existing 80 meter dipole fed with ladder line and my tuner.

Total cost to get on 60 meters: Zero... As in no money and only a little time spent with the antenna analyzer and tuner to get the setting needed for 60 meters.

Thanks for the laugh though...

73, es CU on 60!

Gary WG7X

6145. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 14:21:27 UTC
From: richardharrison@webtv.net
Message-ID: <8261-3EE73AE7-26@storefull-2316.public.lawson.webtv.net>
Source record: 115395

Cecil, W5DXP wrote:
"I can use an actual 650 pF capacitor or I can use a five foot long
piece of RG8. Why doesn`t that make sense?"

That makes sense, but the stub is only equivalent to the capacitor at
one frequency, or some of its harmonics. Its reactance is equivalent to
the capacitor`s reactance at that single frequency. The stub is a tuned
circuit on its capacitive side of resonance.

The capacitance of the stub, Cecil calculates as 154 pF, not 650 pF.

Best regards, Richard Harrison, KB5WZI

6146. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 14:51:38 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns93974FF6A832Dpookster@129.250.170.96>
Source record: 115396

Bob Miller <bxmiller@texas.netNOSPAM> wrote in
news:qmaeev4g3a0nvv18pjb4akdljelvbun0gk@4ax.com:

> They're specifying 50 watts PEP into an antenna with 0 db gain, and
> defining a dipole as such an antenna. I would imagine other simple
> wire antennas would fall into the same class.
>

The FCC reference antenna is a *half* wave dipole. Dipoles longer than a half wave have some gain and that must be taken into account when using them. For example, a 160 meter half wave dipole used on 60 meters will have more than 2 db gain over the reference dipole in the most favored direction. Transmission line loss must also be factored in.

--
Bill, W7TI

6147. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:29:59 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE74AA4.5050307@attbi.com>
Source record: 115397

My recollection for the terms used in 1957, 58 were either Image
impedance in Networks theory and Iterative Impedance in transmission
lines being used for the 1/2 wavelength impedance[s].

Anybody have a different recollection?

Deacon Dave, W1MCE

W5DXP wrote:
> Roy Lewallen wrote:
>
>> What words do the writers of circuits textbooks and professional
>> papers use?
>
>
> I don't know. What words did Sir Isaac Newton use to describe relativity
> and quantum physics? I may be trying to say something that has never
> been said before. I'm even willing to use your words. Please furnish me
> with the proper words.
>
> What word(s) can be used to distinguish the resistance of a load resistor
> from the resistance one wavelength back along the transmission line
> toward the source? They certainly are not the same thing. Please give me
> your words if you were trying to differentiate between those two different
> types of resistances. One gets hot and the other doesn't.

6148. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:39:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m1jeev88rlm97f70ojopu6018r4f73cimo@4ax.com>
Source record: 115398

On Wed, 11 Jun 2003 07:22:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>J. Harvey wrote:
>> "W5DXP"
>>>What if that lossless V/I ratio is not the characteristic
>>>impedance of the feedline?
>>
>> 2b) A point on the Smith Chart.
>
>A point on the Smith Chart incapable of causing reflections.
it is also incapable of floating unless the chart is plastic;
it is capable of rendering heat if that same chart burns;
it is incapable of supporting life, except for fungii;
it is capable of being the focus for a magnifying glass that is used
to burn the chart;
it is incapable of being mixed with water without turning to mush;
it is capable of being xeroxed and being duplicated;
... any more to add?

6149. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:46:32 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <bc7j62$g3ci2$1@ID-34767.news.dfncis.de>
Source record: 115400

```
> CE
> GW 1 19 -16.35 0.0 70.0 16.35 0.0 70.0 0.003
> GW 2 1 -1.0 0.0 1.0 1.0 0.0 1.0 0.003
> GS 0 0 .3058
> GE 0
> TL 1 10 2 1 50.0 0.0 0.0 0.0

> LD 5 0 0 0 0.0 0.0 0.0 0.0 What for?
====================
> EX 0 2 1 0 1.0 0.0 0.0 0.0
> GN 0 0 0 0 13.0 .005 0.0 0.0
> FR 0 1 0 0 14.15 0.0 0.0 0.0
> EN
```

73!
Alex

6150. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:47:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE74F19.3000306@ieee.org>
Source record: 115399

Richard Harrison wrote:
> Terman had no need to call Zo a virtual resistance.

What did he call the current maximum point on an SWR circle?
(which is NOT equal to Z0)

The resistance at the current maximum point on an SWR circle
is different enough from a resistor of the same value that
there should be an adjective that differentiates the two.
I have been using "virtual" as that adjective. What adjective
would you like for me to use?

If we don't need any adjectives for "resistance", then why
do we talk about "radiation resistance"?
--
73, Cecil http://www.qsl.net/w5dxp

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6151. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:52:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE75022.2020804@ieee.org>
Source record: 115403

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "I can use an actual 650 pF capacitor or I can use a five foot long
> piece of RG8. Why doesn`t that make sense?"
>
> That makes sense, but the stub is only equivalent to the capacitor at
> one frequency, or some of its harmonics.

My point exactly!!! What adjective can I use to differentiate that 650 pF
of capacitance from the 154 pF of capacitance physically inherent in the line?

> The capacitance of the stub, Cecil calculates as 154 pF, not 650 pF.

No, on 28 MHz, the capacitance of that stub calculates as 650 pF.
That's a standard way of matching a feedline with a high SWR, a
stub close to the feedpoint that twists the impedance to 50 ohms.
--
73, Cecil http://www.qsl.net/w5dxp

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6152. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:55:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE750D4.3040209@ieee.org>
Source record: 115404

Dave Shrader wrote:
> My recollection for the terms used in 1957, 58 were either Image
> impedance in Networks theory and Iterative Impedance in transmission
> lines being used for the 1/2 wavelength impedance[s].

Well, finally a good will attempt to answer my question. Thanks, Dave.
I'm perfectly willing to switch from "virtual impedance" to "image
impedance" if it will make people happy.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6153. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 15:57:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE75165.1010901@ieee.org>
Source record: 115405

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:

>>J. Harvey wrote:
>>>2b) A point on the Smith Chart.
>>
>>A point on the Smith Chart incapable of causing reflections.
>
> it is also incapable of floating unless the chart is plastic;
> it is capable of rendering heat if that same chart burns;
> it is incapable of supporting life, except for fungii;
> it is capable of being the focus for a magnifying glass that is used
> to burn the chart;
> it is incapable of being mixed with water without turning to mush;
> it is capable of being xeroxed and being duplicated;
> ... any more to add?

It is different enough from a discrete component impedance to
warrent an adjective to differentiate it from a discrete component
impedance.
--
73, Cecil http://www.qsl.net/w5dxp

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6154. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:01:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE75270.9000502@ieee.org>
Source record: 115407

Richard Harrison wrote:
> Terman had no need to call Zo a virtual resistance.

Neither do I nor have I done so. Z0 is NOT a virtual resistance.
Z0 has a physical existence and can cause reflections. An image
resistance cannot, all by itself, cause reflections.

Note: I have switched from "virtual" to "image" as the adjective
to describe impedances caused by V/I ratios.
--
73, Cecil http://www.qsl.net/w5dxp

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6155. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:01:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3kjeevgb2r7mm0rf45gbc9fokvnfi7jlab@4ax.com>
Source record: 115406

On Wed, 11 Jun 2003 05:09:01 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>If resistors don't cause anything, why are they ever used in a circuit?
>A bypassed resistor in a cathode circuit *causes* the tube to be DC biased
>when power is applied.
>

Hi Cecil,

I notice the key component is constrained by the term "when." This
goes back to my observations here of poor math practices when it comes
to the determination of what is the dependant and what is the
independent variable of a system. The DC bias is dependant upon the
power, clearly for ANY resistance offered. Without it there is no
bias. On the other hand, without the resistance, you have changed the
bias circuitry such that there is none by design and the issue of bias
dependency on the resistor is rendered null. If you simply change
the value of the resistance, such that it exhibits some bias, you
still need power to evidence the bias.

>
>When a voltage is applied to a resistor, the resistor causes the resulting
>magnitude of current. Ohm's Law. The current is the dependent variable, i.e.
>the *result*, in I=E/R.
The current in the bias resistor is "caused" by grid potential in
excess of bias. Any grid potential is dependant upon the power
applied and the current through the bias resistor is established by
the voltage (in positive excess of the bias) at the grid and the
transconductivity of the tube. If the grid is grounded, there is no
potential in the bias (unless it is formed in combination from divider
action from the power applied).

The resistor is not causation of bias, it supports it.

73's
Richard Clark, KB7QHC

6156. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:06:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE7537A.8000602@ieee.org>
Source record: 115408

Ian White, G3SEK wrote:
> AFAIK there isn't an adjective. When a resistor is present, you use that
> noun.
>
> That works for the rest of the engineering world.

But it doesn't work to describe what I am trying to describe.

> By changing the way you look at the problem, and seeing the difference
> between resistANCE, a V/I ratio which is a circuit property; and a
> resistOR, which has a V/I ratio but is *also* a physical object.
>
> Only physical objects cause physical effects, and only physical objects
> get hot. The principle really is as simple as that.

But Z0 is not a physical resistance and doesn't get hot. However, Z0
is physical and can cause reflections. It appears that I can
differentiate what I am trying to say using "physical impedance" and
"image impedance". Would that satisfy you?
--
73, Cecil http://www.qsl.net/w5dxp

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6157. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:09:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE7542D.3040400@ieee.org>
Source record: 115409

Ian White, G3SEK wrote:
> W5DXP wrote:
>
>> Ian White, G3SEK wrote:
>>
>>> There is only *one* kind of resistANCE: that is a fundamental
>>> postulate of circuit theory and is absolutely non-negotiable.
>>
>> What's the resistance of an antenna? :-)
>
> Same as for any other two-terminal device: the V/I ratio at its terminals.

Which may be different from the *radiation resistance* or "I^2*R resistance".
Please note: "Radiation" in "radiation resistance" *IS* an adjective. Are
adjectives for the noun "resistance" really not needed?
--
73, Cecil http://www.qsl.net/w5dxp

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6158. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:17:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE755FD.5040208@ieee.org>
Source record: 115412

Richard Clark wrote:
> The resistor is not causation of bias, it supports it.

From Webster's: "causation - anything that produces an effect."

So a bias resistor does not produce the effect of biasing
an amplifier? Have you laid this tidbit of knowledge on
the hundreds of authors who say just the opposite?
--
73, Cecil http://www.qsl.net/w5dxp

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6159. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:17:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l6leev80oqvc4g0b9p5ojsapjofplh2tlh@4ax.com>
Source record: 115410

On Wed, 11 Jun 2003 10:57:25 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>>J. Harvey wrote:
>>>>2b) A point on the Smith Chart.
>>>
>>>A point on the Smith Chart incapable of causing reflections.
>>
>> it is also incapable of floating unless the chart is plastic;
>> it is capable of rendering heat if that same chart burns;
>> it is incapable of supporting life, except for fungii;
>> it is capable of being the focus for a magnifying glass that is used
>> to burn the chart;
>> it is incapable of being mixed with water without turning to mush;
>> it is capable of being xeroxed and being duplicated;
>> ... any more to add?
>
>It is different enough from a discrete component impedance to
>warrent an adjective to differentiate it from a discrete component
>impedance.

A point is different enough from a car to warrant not riding on it;
call it a bicycle?
it isn't different enough from a fly speck to warrant telling the
difference;
call it a blip?
it is different enough from a nail to warrant a smaller hammer;
call it a tack?

... any more to add?

6160. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:18:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dileev4idvntrad1vp3cpfc3nbck3276m9@4ax.com>
Source record: 115411

On Wed, 11 Jun 2003 10:47:37 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>If we don't need any adjectives for "resistance", then why
>do we talk about "radiation resistance"?
just to taunt you.

6161. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:20:44 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bc7ksssbe1@hercules.btinternet.com>
Source record: 115414
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Ben Coleman" wrote
> lucifer@eternal-flames.gov wrote:
> >Ben Coleman <oloryn@benshome.net wrote:
> >>>Nowadays, they call themselves, "sysadmin", but they're still
> >>>computer operators, the turnip-brained of the computing world.
> >>Try going over to alt.sysadmin.recovery and saying that.
> >But just because it might upset them, it doesn't mean it's not true.

E taught "ology"

> You really like taking your lift in your own hands, don't you?

Amazing what an opposing thumb will do for you. :)
Perhaps that is why of all the animals, only man masturbates.

Gary7SLL, I'll get to grips with this one day.

6162. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:20:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kjleev06jgea6ercn8ulst21a6kdheagoq@4ax.com>
Source record: 115413

On Wed, 11 Jun 2003 11:01:52 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Neither do I nor have I done so. Z0 is NOT a virtual resistance.
According to your definition of a "not virtual resistance," it must be
some temperature then. You ARE using your V/I thermometer are you
not?

6163. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:26:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nnleevo6nc1cuk91cdug093vqrctre2hhm@4ax.com>
Source record: 115415

On Wed, 11 Jun 2003 10:52:02 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>My point exactly!!! What adjective can I use to differentiate that 650 pF
>of capacitance from the 154 pF of capacitance physically inherent in the line?
how about:
Cecilated
Cecilized
Cceciled
cCeciled
Ceciltarried
Cecilloed

feel free to elaborate with a prefix:
enCecilated
adCecilized
conCecilloed

or suffix:
enCeciltarrieddisenstablishmentarism

... any other thoughts?

6164. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:28:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g3meevc50ffhuho3dfrku8f1jbr0685tgr@4ax.com>
Source record: 115416

On Wed, 11 Jun 2003 13:42:42 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>W5DXP wrote:
>>Ian White, G3SEK wrote:
>>> There is only *one* kind of resistANCE: that is a fundamental
>>>postulate of circuit theory and is absolutely non-negotiable.
>>
>>What's the resistance of an antenna? :-)
>
>Same as for any other two-terminal device: the V/I ratio at its
>terminals.

Hi Ian,

Cecil needs to know the temperature his thermometer would read to
support your statement.

73's
Richard Clark, KB7QHC

6165. Re: Wireless Keybd/Mouse + HF Rig: Is it OK??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:31:35 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <FdOcnYHmGbP3xHqjXTWcrg@comcast.com>
Source record: 115417

Actually, I was thinking of interference in the other direction. My guess is that transmitting on 28.xx would completely swamp the 27.xx receiver.

Tam/WB2TT
"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message news:20030609230427.14935.00001090@mb-m12.aol.com...
> >Did you ever transmit on 10 m while somebody was using the PC? What happens
> >with plasma TV, I had thought I might buy one when the prices come down.
> >
> >Tam/WB2TT
>
> Actually, I'm a tech, so I can't on HF, but I do monitor various HF bands from
> time to time and I've never noticed any interference.
>
> As far as the plasma TV's go, I've heard they wreak havoc on HF. I'm sure if
> you do a search on the newsgroups, you'll find exact references to the effects.
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

6166. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:31:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <h8meevsuh8u6vk988vcebn7qe1h7k6ffg2@4ax.com>
Source record: 115418

On Wed, 11 Jun 2003 11:17:01 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
> From Webster's: "causation - anything that produces an effect."
>
The IEEE doesn't have a definition?

This must be your problem of semantics then.

6167. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:36:32 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bfmeevcbhh9m05fpt0rn5gsrotuoc75fna@4ax.com>
Source record: 115319

On Wed, 11 Jun 2003 11:09:17 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
> Are adjectives for the noun "resistance" really not needed?
I think most here would agree your usage of "joke" would suit
eminently.
a joke resistance of 5 jokeOhms, or such....

it would cause me great grins (make me happy) :-)

73's
Richard Clark, KB7QHC

6168. Lightest mast for Mosley TA-33-JRN beam ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 16:37:26 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ee75ac5$1_1@news.vo.lu>
Source record: 115320

Hi,

Among european readers, do you know a manufacturer in F, DL, PA, BE, etc that sold very light but robust mast of about 10m high max, telescopic and easy to setup, able to support the short Mosley beam TA-33-JRN (with dipole and conversion kits) ? (I do not speak about www.fireco.be products).

I have searched on wimo.de, UKW-berichte.de and tonna.com but I am not sure that their light mast (i.e. ASM 90 or 10/11) could support this <15 kg beam.

Any hints or experience in using this antenna on light mast ?

Thanks in advance

Thierry
ON1SKY

6169. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 17:13:48 UTC
From: oo7@astro.as.utexas.edu
Message-ID: <bc7o0c$g1c$1@geraldo.cc.utexas.edu>
Source record: 115321
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

>>Amazing what an opposing thumb will do for you. :)
>>Perhaps that is why of all the animals, only man masturbates.

You must never have been to the monkey section of
your local zoo.

Derek aa5bt

6170. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 17:16:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE763EE.8080805@ieee.org>
Source record: 115322

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Neither do I nor have I done so. Z0 is NOT a virtual resistance.
>
> According to your definition of a "not virtual resistance," it must be
> some temperature then. You ARE using your V/I thermometer are you
> not?

Nope, that was an example, not a definition. I have already defined
the difference. If the impedance is the *result* of a V/I ratio, it
is virtual. If the impedance is the *cause* of the V/I ratio, it is
not virtual. Z0 is the cause of the V/I ratio in a matched line and
therefore, is not virtual as I have said for about a dozen times now.
It might help if you actually read my postings.
--
73, Cecil http://www.qsl.net/w5dxp

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6171. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 17:24:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8cpeevsnedtmsc63m5ohiefiu31mducmu4@4ax.com>
Source record: 115323

On Wed, 11 Jun 2003 12:16:30 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Neither do I nor have I done so. Z0 is NOT a virtual resistance.
>>
>> According to your definition of a "not virtual resistance," it must be
>> some temperature then. You ARE using your V/I thermometer are you
>> not?
>
>Nope

Then you cannot tell the difference can you?

6172. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 17:34:57 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc7p81apb0@208.207.71.172>
Source record: 115324

Peter Brackett wrote:

>
> Then go out in the lawn/garden with wire cutters and cut some of the end
> off the radial, then go
> back and look at the meter. Repeat the process until you find the maximum
> reading, if you cut too
> much off a radial just solder it back on.

Pete, I wonder if you had ever tried just doubling the radial wire back against itself as a way of determining how long it would need to be as opposed to cutting multiple times and resoldering when cut too short.
If not, do you think that's worth a try? Seems like the wire bent back close to itself would act as a shortened radial. Maybe you wouldn't even need to cut it, just tie the bent portion to the main wire and bury. Or not?

Dick

6173. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 17:42:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE769EA.9030003@ieee.org>
Source record: 115325

Richard Clark wrote:
> Then you cannot tell the difference can you?

It was one single example, Richard, not a definition. If a resistance causes a temperature rise, it is not virtual. If a resistance doesn't cause a temperature rise, we don't know if it is virtual or not. We have to run another test to find out.

The real test of whether a resistance is virtual or not is whether it is capable of causing reflections or not. Virtual resistances do not *cause* reflections. Virtual resistances are the *result* of reflections.
--
73, Cecil http://www.qsl.net/w5dxp

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6174. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:02:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc7qro$216$1@sparta.btinternet.com>
Source record: 115327

> Peter Brackett wrote:
> >
> > Then go out in the lawn/garden with wire cutters and cut some of the
end
> > off the radial, then go
> > back and look at the meter. Repeat the process until you find the
maximum
> > reading, if you cut too
> > much off a radial just solder it back on.

==========

If the antenna is tuned up and the radial or counterpoise is changed in length, then the meter reading can only get worse, regardless of whether the radial is shortened or lengthened.

If the radial is buried and it is changed in length the most likely thing which will happen to the meter is nothing.

Reg.

6175. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:03:01 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2jreev4oh3gr7cfgrfclhg9s1c73tui93g@4ax.com>
Source record: 115326

On Wed, 11 Jun 2003 12:16:30 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Neither do I nor have I done so. Z0 is NOT a virtual resistance.
>>
>> According to your definition of a "not virtual resistance," it must be
>> some temperature then. You ARE using your V/I thermometer are you
>> not?
>
>Nope

On Wed, 11 Jun 2003 12:42:02 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Then you cannot tell the difference can you?
>
>If a resistance causes a temperature rise, it is not virtual.

Then you cannot tell the difference can you?

6176. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:12:22 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bc7re6$371$1@sparta.btinternet.com>
Source record: 115328
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Walt Davidson" <walt99@tiscali.co.uk> wrote in message
news:m3oeev4q3ek5n7kc8dt7g4s0n4aofv8ijd@4ax.com...
> On Wed, 11 Jun 2003 16:20:44 +0000 (UTC), "Gary Peach"
> <garypeach@btinternet.com> wrote:
>
> >Perhaps that is why of all the animals, only man masturbates.
>
> You're joking. Never watched monkeys at the zoo?

Dirty old man. :) Still it makes a change from watching sheep.

Haven't Monkeys an opposing thumb?

Actually I've watched the monkeys pick their nose,
examine it, sniff it, and then eat it, obviously enjoying the salt.

Gary7SLL

6177. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:13:09 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bc7rflale1@hercules.btinternet.com>
Source record: 115329
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"Derek Wills" <oo7@astro.as.utexas.edu> wrote in message
news:bc7o0c$g1c$1@geraldo.cc.utexas.edu...
> >>Amazing what an opposing thumb will do for you. :)
> >>Perhaps that is why of all the animals, only man masturbates.
>
> You must never have been to the monkey section of
> your local zoo.

Not bloody likely, They might not let me out again.

Gary7SLL

6178. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:24:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE773ED.80902@ieee.org>
Source record: 115330
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Gary Peach wrote:
> Actually I've watched the monkeys pick their nose,
> examine it, sniff it, and then eat it, obviously enjoying the salt.

Sounds like my roommate at Texas A&M.
--
73, Cecil http://www.qsl.net/w5dxp

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6179. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:42:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veeu0cclcjvkf7@corp.supernews.com>
Source record: 115331

Reg is right that when radials are buried, moderate length changes make very little difference.

But I discovered something interesting many years ago. When I laid radial wires on the ground, I found very definite and surprisingly large sensitivity to their length. Relatively small changes in length noticeably changed the antenna input impedance, as if the radials were elevated. The ground surface was a bit lumpy, and the soil very dry. (Yes, the ground does dry out here for a couple of months in the summer.) And the wire wasn't particularly straight, so there were a lot of air gaps under the wires. Out of curiosity, I made up some "staples" out of short pieces of galvanized steel electric fence wire, and "stapled" the wires firmly down to conform with the ground surface. Lo and behold, the length sensitivity just about disappeared.

So I don't doubt that Peter has seen the effects he mentions. But I also believe that the effort is a waste of time if the radials are to be buried after the exercise.

Roy Lewallen, W7EL

Reg Edwards wrote:
>>Peter Brackett wrote:
>>
>>>Then go out in the lawn/garden with wire cutters and cut some of the
>
> end
>
>>>off the radial, then go
>>>back and look at the meter. Repeat the process until you find the
>
> maximum
>
>>>reading, if you cut too
>>>much off a radial just solder it back on.
>
>
> ======================
>
> If the antenna is tuned up and the radial or counterpoise is changed in
> length, then the meter reading can only get worse, regardless of whether the
> radial is shortened or lengthened.
>
> If the radial is buried and it is changed in length the most likely thing
> which will happen to the meter is nothing.

> ---
> Reg.
>
>

6180. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:49:05 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86of14mov2.fsf@duchess.twilley.org>
Source record: 115332

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "JM" == jan-martin hertzsch <jan-martin.hertzsch@rz.hu-berlin.de> writes:

Jack> I'm interested in modeling some antennas, but all the software I
Jack> see is designed to run on Microsoft Windows. I prefer to use
Jack> FreeBSD, which can also run Linux binaries in compatibility mode
Jack> if necessary.

Jack> Any suggestions? The software doesn't have to generate
Jack> graphical output directly -- building a Postscript file for
Jack> printing or a JPEG file for viewing would be okay.

JM> Have a look at http://www.qsl.net/wb6tpu/swindex.html or
JM> http://www.nec2.org/, I've found there the NEC package as well as
JM> some software to generate graphics from the output, and it works
JM> well on my S.u.S.E. Linux machine.

I visited that website and now I'm concerned.

There's a chaotic jumble of software packages there.

What would appear to be required would be three basic tools:

* something to generate NEC2 input files
* the NEC2 engine
* something to interpret NEC2 output files

I can see that the Fortran source code to the NEC2 engine is
available, and that it can be compiled with g77, which is good.

I had toyed with the Perl/Tk stuff a while back, but that's the only
portable output interpreter that I see on the list. There's some
Linux-specific stuff, but that's not going to be as helpful.

I haven't seen *anything* to build input files except for Windows
stuff. I may be missing something, though.

Isn't this the kind of software that Unix-loving hams would want to
write? I guess I'll have to dust off my rusty Fortran and do some
studying.

JM> 73 de DL2LFH, Jan-Martin

Jack.
- --
Jack Twilley
jmt at twilley dot org
```

```
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+53mnGPFSfAB/ezgRAlpcAJ0QGlozdb84nX2fI+YD9vM6YKTOqQCgkXaJ
UJLY/7NPA1VaX8HXKcwrm/8=
=A/mQ
-----END PGP SIGNATURE-----
```

6181. HF multiband antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:55:04 UTC
From: Bizon <bizongod@poczta.fm>
Message-ID: <bcd4mabtu1@atlantis.news.tpi.pl>
Source record: 115176

Hi!
I'm looking for description (how to fo) of
veritcal HF multiband antenna. How it's
only possible many bands. Have You?

Thanks
Karol

6182. Re: Antenna input impedance vs. radiation resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:56:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veeur2qde97ia3@corp.supernews.com>
Source record: 115333

Gad, what was I thinking? Obviously I wasn't. J is right, of course -- if you put the same amount of power into a smaller volume, the average power density in that volume has to increase in inverse proportion to the volume.

What I should have said is that all lossless antennas produce the same average power density for the same power input, regardless of how their radiation is restricted (as long is it isn't totally confined so it can't escape), *provided that you take the average over a whole sphere* distant from the antenna. That's just a way of saying that the total power output will be the same for all lossless antennas, given the same power input. Power out equals power in.

What EZNEC does for its "average gain" report is to integrate the radiated power density over either a whole sphere (for free space analysis) or a hemisphere (when a ground plane is present), to get the total radiated power. Then it divides that by the power input to the antenna from all the sources. When no losses are present, this ratio should ideally be unity.

I really appreciate J's response. It's good to know that when I do make an error like this, it'll be caught, so readers aren't left with bad information. Thanks! Please accept my sincere apology for the blunder.

Roy Lewallen, W7EL

J. Harvey wrote:
> "Roy Lewallen"
>
>>In fact, lossless antennas of all kinds produce
>>???? the same average power density ????
>>for the same power input, whether in space,
>>over an infinite reflecting plane, or any other
>>lossless environment -- provided that you restrict
>>the averaging area to the same region that the field
>>is restricted to. For example, when the antenna is
>>over a flat, infinite ground plane, the region below
>>the ground plane isn't included in the volume being
>>averaged.
>
>
> I would have thought that the more of the Universe that you wall up behind
> reflecting planes, the higher the power density would be in the ever-smaller
> volume of the Universe that remains with the antenna. If you provide six
> reflecting planes suitably arranged, then you've got yourself a Microwave
> Oven (typical volume: 1.1 cu ft, power density: very high).

>
>
>

6183. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 18:57:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ijueevc155q4t2g9f4nu4von2ee51egh9a@4ax.com>
Source record: 115334

On Wed, 11 Jun 2003 11:49:05 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>
>Isn't this the kind of software that Unix-loving hams would want to
>write? I guess I'll have to dust off my rusty Fortran and do some
>studying.
>
>JM> 73 de DL2LFH, Jan-Martin

Hi Jan_Martin,

User interface ALWAYS takes up more work than the engine it covers.
Engine: 5%-20%
Interface: 80%-95%

The effort is so enormous, that shareware and freeware packages are
usually quite primitive, or lack necessary support to be really useful
(a recent genetic optimizer package offered to this group illustrates
that last part, even though being quite comprehensive otherwise).

73's
Richard Clark, KB7QHC

6184. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:01:59 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <bc7ub7$fu0$1@hercules.btinternet.com>
Source record: 115335
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE773ED.80902@ieee.org...
> Gary Peach wrote:
> > Actually I've watched the monkeys pick their nose,
> > examine it, sniff it, and then eat it, obviously enjoying the salt.
>
> Sounds like my roommate at Texas A&M.

Pick
Roll
Flick
Goal

Gary7SLL

6185. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:12:00 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.195149974cc9d2dc98968b@news.earthlink.net>
Source record: 115336

>
> Arie's '4nec2' also features an optimizer, and while I did a very
> limited "beta" test (primarily of the 3D portion) I'll confess I
> haven't used it much. I'm much more comfortable with EZNEC
> particularly when used in conjunction with Dan's MultiNEC.xls.
>
> While MultiNEC doesn't have an optimizer in the usual sense that the
> computer makes judgments about what parameters to adjust, it does
> allow the user to set up variables or equations that change specified
> antenna parameters. For example if you want to change the height
> above ground of an antenna over some range and see the effects on the
> elevation pattern or the feedpoint impedance, this is easily done.
>
> (This experiment is a great debunking tool for old wives' tales)
>

that's good info for someone new to NEC modeling, like me. i can see where EZNEC is more comfortable but at $89 for 500 segments or what is it, $450 for 10000 segments(?), i think i'll stick with 4NEC2 for free. I'm waiting for a response from Arie whether the nec-pc-x.zip package will work. if not, i still get 5000 segs and the source code to compile bigger engines. plus it uses a NEC2 input deck and has a card editor, so i can learn NEC2 also.

now MultiNEC in conjuction with 4NEC2 is something i need to look at.

mike c

6186. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:14:59 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86adcomnnw.fsf@duchess.twilley.org>
Source record: 115337

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Richard" == Richard Clark <kb7qhc@attbi.com> writes:

Jack> Isn't this the kind of software that Unix-loving hams would want
Jack> to write? I guess I'll have to dust off my rusty Fortran and do
Jack> some studying.

JM> 73 de DL2LFH, Jan-Martin

Richard> Hi Jan_Martin,

Actually, I wrote the stuff above with the exception of Jan-Martin's
signature line.

Richard> User interface ALWAYS takes up more work than the engine it
Richard> covers. Engine: 5%-20% Interface: 80%-95%

Isn't this always the case? And most technical folks in my experience
are great with the engine, and so-so with the interface.

Richard> The effort is so enormous, that shareware and freeware
Richard> packages are usually quite primitive, or lack necessary
Richard> support to be really useful (a recent genetic optimizer
Richard> package offered to this group illustrates that last part,
Richard> even though being quite comprehensive otherwise).

Now here I'd disagree. I've used plenty of open source software with
sophisticated interfaces. In fact, I'm using a prime example right
now to send this message.

However, I do know I stink at UIs, and not just because I have trouble
with colors, but also due to a failure to separate the developing
community from the user community. I don't write things so my mom
could use them, I write them so I could use them.

Richard> 73's Richard Clark, KB7QHC

Jack.
(but everyone's got flaws)
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

```
iD8DBQE+53+5GPFSfAB/ezgRAlklAKCYB/5ZzFdx5d8WfxrWALlsI8i4LwCfVoZq
FL69fqUMC7JVdHWuJciY/Ow=
=1TzM
-----END PGP SIGNATURE-----
```

6187. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:40:10 UTC
From: John Passaneau <jxp16@psu.edu>
Message-ID: <bc80ik$oi0$1@f04n12.cac.psu.edu>
Source record: 115338

Well I don't have a old rig to use. I haven't looked into it closely but my FT1000 MK5 field has filters in the output that are switched in by band. I believe that the losses through the filters will be too high and may damage my radio so I'm not going to do it. If 60m was closer to one of the other ham bands then it could work. The real problem with a band that is used mainly for emergency work, is if it's not in regular use, it will not work when need. This is a basic rule of emergency preparedness. Also if the pool of operators that can use the band is too small there will not be enough operators when and were they are need if an emergency happens. Ham radio ops are all real volunteers as we train ourselves and buy our own equipment. If the band is not attractive for Hams outside of an emergency, why would I spend my own time and money for equipment for a band of such limited use. The best reasons for a full real armature band at 60m, is 30m. With the power and mode restrictions it's a very lightly used band. I bet 80% of hams don't have an antenna that would work on 30m.

--
John Passaneau, W3JXP
Physics Dept. Electronics Shop
Penn State University
104 Davey Lab, University Park , Pa. 16802
814.863.4297, jxp16@psu.edu

"Gary McAdams" <g.m.mcadams@worldnet.att.net> wrote in message
news:UyGFa.1753$0v4.132371@bgtnsc04-news.ops.worldnet.att.net...
> John, W3JXP sez:
>
>
> > I'm not interested myself in the "band" as it is just too limited to be
of
> > any real use. Also the cost of getting on is just too high.
> >
> >
>
> John,
>
> While I agree with your assessment of the 60 meter allotment in terms of
> utility, your last sentence really gave me a chuckle.
>
> Just how expensive is it to clip a diode?
>
> Build a wire dipole?
>
> Or utilize an existing antenna on the new band?
>

> Personally, I will try out the band with the rest of the fellows on July
3rd
> of this year just for the heck of it. You have to realize that this band
is
> primarily intended for emergency communications, not the casual type of
> operations usually found on the Amateur bands.
>
> By-the-way, I will be using my 17 year old Kenwood rig, an already
existing
> 80 meter dipole fed with ladder line and my tuner.
>
> Total cost to get on 60 meters: Zero... As in no money and only a little
> time spent with the antenna analyzer and tuner to get the setting needed
for
> 60 meters.
>
>
> Thanks for the laugh though...
>
> 73, es CU on 60!
>
> Gary WG7X
>
>

6188. Re: 18HT and radials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:42:17 UTC
From: John Passaneau <jxp16@psu.edu>
Message-ID: <bc80mioia1@f04n12.cac.psu.edu>
Source record: 115339

I've seen the round cardboard forms at the local Lowes store up to 4 feet in diameter.

--
John Passaneau, W3JXP
Physics Dept. Electronics Shop
Penn State University
104 Davey Lab, University Park , Pa. 16802
814.863.4297, jxp16@psu.edu

"'Doc" <w5lz@cwis.net> wrote in message news:3EE72D69.F92DA9EE@cwis.net...
> Dev,
> A round pier won't make putting in the radials all
> that much easier, but I don't see why it won't work.
> One way is to make your own form. A sheet of corrugated
> tin cut into 3 foot sections, then poprivited to make
> a circle should do it. To raise the tower a foot above
> ground simply extend the form as high as you want it.
> (Unless I'm missing something??)
> 'Doc

6189. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 19:51:16 UTC
From: Allodoxaphobia <nobody@frontier.net>
Message-ID: <slrnbef21k.2ls7.nobody@localhost.config.com>
Source record: 115340

On Wed, 11 Jun 2003 15:40:10 -0400, John Passaneau hath writ:
.....
> I bet 80% of hams
> don't have an antenna that would work on 30m.

Hell. 79% of `Licensed Amateur Radio Operators` probably
don't have an antenna that would work *below* 145 mcs. :-)

Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

6190. Dish illumination question. (ref Antenna Engineer's Handbook 3rd Ed.)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 20:00:44 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19515501e206081a98968c@news.earthlink.net>
Source record: 115341

hi:

According to "Antenna Engineer's Handbook" 3rd ed. pp. 17-17 thru 17-19, the field at the edge of the dish should be 10dB below that of the center for max gain and 20dB down for "good sidelobe performance."

The first question *that* statement raises is:

Since it says "field" then I need my pattern to be for E field, not power, correct?

The book then gives an example which starts off as follows:

"If it is reguired that the edge illumination should be 20dB in a reflector whose f/D ratio is 0.5 ..."

Can i interpret that to mean "20dB down" for the E field pattern where it hits the edge?

If so, that would mean I use the charts to find the angle subtended by the rays drawn from the focal point to the edges and shape my beam so that the 20dB beamwith is at that angle, eh?

i think that's the case because the example then finds the space attenuation at the angle from the axis to the edge and subtracts it from 20dB to come up with "18.1 dB down" which is higher than 20dB down, thus accounting for the loss.

i'll leave the last part of the example for later after I've had more time to re-study it. It covers determining what 10dB width is associated with the angle i need for 18.1 dB down, and improving that figure.

thanks for squaring me away on this. sorry if I'm answering my own questions. i'd like to be as sure as the sun rises in the morning ;-)

mike c

6191. Re: Vertical? Which one?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 20:14:38 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ee78dad$1_1@news.vo.lu>
Source record: 115342

"H. Adam Stevens" <solo@totalaccess.net> wrote in message
news:ve1aqntbo4gsbc@corp.supernews.com...
> "> > Not receiving any responses to my query, I can only presume that
"none"
> of
> > > you use a commercial made vertical."
>
> Missed the thread.
> Check www.steppIR.com .
> I have the BiggIR vertical.
> 40 - 2, self-adjustable; always resonant.
> H.
> NQ5H
>
> "Dr. William J. Schmidt, II" <bill@wjschmidt.com> wrote in message
> news:ve12pvmrit36b3@corp.supernews.com...
> > Yeah I use a Shakespeare model 222 - 32' fiberglass military vert and
the
> > 601 Kw plus tuner at the base with 240 full sized radials in an antenna
> > challenged neighborhood disguised as a flagpole (flag on top). Works
like
> > gang busters. Not as well as a beam on 40... but better than a dipole.
> >
> > --
> >
> > Sincerely,
> >
> > Dr. William J. Schmidt, II K9HZ
> >
> > "Collector of Edison Wind-up Phonographs... Do you have one for me?"
> > Email: bill@wjschmidt.com
> > Alternate Email: wmschmidt@charter.net
> > WebPage: www.wjschmidt.com
> >
> >
> >
> > <Pappy@USA.net> wrote in message news:3DB6A0A8.4A770716@USA.net...
> > > Not receiving any responses to my query, I can only presume that
"none"
> of
> > > you use a commercial made vertical.
> > >
> > > Which I find totally impossible.
> > >

> > > Pappy@USA.net wrote:
> > >
> > > > I am going to purchase a new vertical HF antenna, my problem is
which
> > > > one:
> > > >
> > > > MFJ-1798 or GAP Titan DX
> > > >
> > > > Has any one here had any experience with either of these antennas?
> > > >
> > > > Or, what vertical have you had a pleasant or unpleasant experience
> with.
> > > >
> > > > I chose these two from a host of others brands and models.
> > > >
> > > > Your assistance would be appreciated.
> > > >
> > > > 73's
> > >
> >
> >
>
>

6192. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 20:29:14 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19515ba0fc17d24398968d@news.earthlink.net>
Source record: 115343

In article <vecpsojhjtfn66@corp.supernews.com>, w7el@eznec.com says...
> Art has a good point that optimizers are often useful. However, you do
> have to always be alert to the possibility that it could be converging
> on a local optimum rather than a global one. When that happens, small
> changes from the "optimized" dimensions result in degradation, but
> there's some other set of dimensions quite different from the ones found
> that provide a better solution yet. Like any other modeling tool, an
> optimizer has to be used with some care.
>
> People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer)
> programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr.,
> San Marcos, CA 92069. At the time of my last contact with him, he
> wouldn't accept orders or requests for information by phone or email.
> I've never personally used AO but have heard many positive comments --
> like Art's -- about it. It is a MININEC-based program and has some of
> MININEC's inherent limitations. I have used YO and found it to be
> capable and useful. (Some EZNEC users have told me that they've been
> able to improve on YO designs by hand tweaking, but YO was good to get
> an initial design.) I very highly recommend Brian's TA (Terrain
> Analysis) program. There's nothing else like it, and it's essential if
> you want to make the best advantage of an irregular terrain.
>
> Roy Lewallen, W7EL
>
>
where is the TA program?

mike c

6193. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 21:02:29 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <Q7ydndnbXP9vBXqjXTWcow@ctc.net>
Source record: 115344

> .....
> > I bet 80% of hams
> > don't have an antenna that would work on 30m.
>
> Hell. 79% of `Licensed Amateur Radio Operators` probably
> don't have an antenna that would work *below* 145 mcs. :-)
>
Sure they do. Make that 26 mhz.

6194. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 21:07:48 UTC
From: Gary McAdams <g.m.mcadams@worldnet.att.net>
Message-ID: <ESMFa.2325$0v4.164549@bgtnsc04-news.ops.worldnet.att.net>
Source record: 115345

"John Passaneau" <jxp16@psu.edu> wrote in message ...
> Well I don't have a old rig to use. I haven't looked into it closely but
my
> FT1000 MK5 field has filters in the output that are switched in by band.

Here you go John... Taken from the www.mods.dk website:

For FT1000

>Remove power and ant.
>Open case like explained in your "operating manual".
>Locate four screws attaching frount panel and remove the top screws. loosen
the bottom screws.
>Tilt front panel forward.
>On the left side of the radio, remove the plug from power supply to the
front panel. (gray and white wires.)
>Locate the jumper position 3 on control board.
>Change the jumper status in position 3.
>Reassemble radio.
>Reset CPU (see your OPERATING MANUAL).
>73's de Phil, F1LOU @ ON7RC.BT.BEL.EU

For FT1000 MK V field:

>Since most of us use their Transceiver also as an Signal Transmitter here
the way how to extend the FT-1000MP >MARK-V, only by pressing switches and
keys it really is a few seconds job!
>Press the POWER on while pressing FAST and LOCK switch gives you an
extended menu up to 9-9
>
>Press the ENT key while pressing the FAST switch gets you into the menu
>
>Turn the VRF/MEM knob up to Function number 9-9 = selection name t-SELEct
>Turn the MAIN VFO counter clockwise till you find at the very end Gen and
press the ENT switch.
>
>73 Henk Teunissen pa7ht@amsat.org

Another way for the "field" Model:

>Remove power from Unit.
>
>
>Remove upper and lower cover.
>
>

>On the Control Unit, you will need to move the resister from the R-5164
location to the open spot where R-5163 is >not in place.
>
>
>Reset the CPU by holding down the "SUB" + "29" + "ENT" buttons while you
power on the radio.
>
>
>Turn off the radio.
>
>
>Hold down the Fast and Lock buttons while you power on the radio. Release
the Fast and Lock buttons.
>
>
>Press the "Fast" button and hold it down while you momentarily press the
"ENT" button.
>
>
>Rotate the "MEM/CH" knob to Menu 9-9.
>
>
>Rotate the VFO to "GEN".
>
>
>Press the "ENT" button.
>
>
>Modification is complete.
>This modification will open the transmit from 1.500-29.999 MHz.

This last modification was complete with photo's and looked pretty easy. You
should probably visit that site, if only to become educated on the mods
already tried for your radio.

The only reason I included these was to show you just how easy it really is
to "mod" today's radios. It is even easier than modifying my older rig. Most
of these rigs employ bands pass filters, and they will switch automatically
to the proper filter as you change bands. These rigs were designed with
general coverage transmit and receive in mind.

But that's all beside the point.

If 60 meters is to be a viable ham band, I agree that it should be in line
with the allocations already granted to the Amateur service. The problem
here was that the various government agencies could not agree to give us
free rein in this slice of the spectrum.

Remember, the ARRL wanted 250 Khz at 5 MHz, not this measly 5 "channels"...

As to the readiness of the various Amateur radio emergency service
organizations... I suspect that they will utilize this new allocation to the

fullest. No need to worry about that. Personally, I will test my ability to use the new band, then I will probably go back to the usual places... Just like the rest of us.

While we are on the subject, the WARC bands in general need to be larger in order to attract a larger amount of the Amateur population to them. 250-300 kHz would be nice...

Oh well! We will take what we can I guess...

CUL es 73

Gary WG7X

6195. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 21:09:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vef6l4pok055e6@corp.supernews.com>
Source record: 115346

Active8 wrote:
>
> where is the TA program?
>
> mike c

TA is available from Brian Beezley, K6STI, at the address I posted (his Callbook address). I don't know the current prices of any of his programs.

Roy Lewallen, W7EL

6196. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 21:27:37 UTC
From: Steve Miller <millersg@qrt.dma.org>
Message-ID: <3ee79ec9_2@athena.netset.com>
Source record: 115347

Roy Lewallen <w7el@eznec.com> wrote:
> I very highly recommend Brian's TA (Terrain
> Analysis) program. There's nothing else like it, <snip>

Actually there is.

The YT program (distributed with the latest edition of the ARRL antenna book) is a terrain analysis program. It also displays HF elevation angle of arrival statistics based on extensive IONCAP simulations. This is a DOS program, however the next edition of the ARRL antenna book will contain a Windows version called HFTA. W4ZV has an example of HFTA output at:

http://users.vnet.net/btippett/terrain_&_toa's.htm

YT/HFTA shows how irregular terrain affects your (elevation) radiation pattern. YT/HFTA used with the IONCAP statistical data is very helpful for determining the best antenna heights for various HF paths (higher is not always better).

73,
Steve N8SM

P.S. A big thanks to Dean, N6BV, for the YT/HFTA development and the IONCAP studies.

6197. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 21:56:21 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <OaqdnX3dTIQDO3qjXTWcqg@crocker.com>
Source record: 115348

"Gary McAdams" <g.m.mcadams@worldnet.att.net> wrote in message
news:ESMFa.2325$0v4.164549@bgtnsc04-news.ops.worldnet.att.net...
>
> >This modification will open the transmit from 1.500-29.999 MHz.
>
> This last modification was complete with photo's and looked pretty easy.
You
> should probably visit that site, if only to become educated on the mods
> already tried for your radio.
>
>
>
> The only reason I included these was to show you just how easy it really
is
> to "mod" today's radios. It is even easier than modifying my older rig.
Most
> of these rigs employ bands pass filters, and they will switch
automatically
> to the proper filter as you change bands. These rigs were designed with
> general coverage transmit and receive in mind.
>
the mods you discuss may enable the transmitter on that full band spread,
but i would not recommend doing them unless you have the proper test
equipment to verify the results... and after checking with the mfg. in the
mkV field, like the older 1000mp's there are only 7 (actually 9 as they
double up on the 15m/17m and 10m/12m) lpf's in the tx output path. one is
labeled for 3.5mhz the next for 7mhz, which one might be selected and how it
would work at 5mhz is something that would have to be verified... if the
wrong one is selected or it is too far out of its passband you could damage
the finals or the filters.

6198. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 22:15:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fb9fevghfo3ua33drb3vk62v3n00iu9n4n@4ax.com>
Source record: 115349

On Wed, 11 Jun 2003 12:14:59 -0700, Jack Twilley
<jmt+usenet@twilley.org> wrote:

>Richard> The effort is so enormous, that shareware and freeware
>Richard> packages are usually quite primitive, or lack necessary
>Richard> support to be really useful (a recent genetic optimizer
>Richard> package offered to this group illustrates that last part,
>Richard> even though being quite comprehensive otherwise).
>
>Now here I'd disagree. I've used plenty of open source software with
>sophisticated interfaces. In fact, I'm using a prime example right
>now to send this message.
>

Hi Jack,

You are disagreeing to an unrelated and unstated fact. Historically and currently, Open Source software is NOT freeware nor shareware. Both of the latter have never implied that the code was accessible. The product of that OSF code may be freely available (as a matter of convenience - not necessity) but I would offer that in the multitude of sites that dispense free/shareware you would be hard pressed to find a copy of OpenOffice (which I use for excel spreadsheets offered here) for distribution.

The work performed in such OSF efforts are clearly head and shoulders above the common packages distributed for free; but this is not to diminish the free/shareware packages' utility, I use them too; but at the cost of greater effort and the general requirement to assemble several packages to find the utility of a single commercial product.

I've pounded out the code for nearly 100 Java application screens, and more database calls than I care to do again. It goes beyond color selection and jazzy graphics which occupied no more than half a week in a 6 month project. It took such little time because Java is prepared to build these issues of convenience behind the scenes (you get them for free whether you use them or not).

73's
Richard Clark, KB7QHC

6199. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 22:16:58 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE7AA5A.38F45373@cwis.net>
Source record: 115350

John,
Your radio will work just fine on 60 meters, after
it has been slightly modified. A legal modification,
by the way, and one that does not void your warranty.
I don't know where you are getting your 'basic rule'
of emergency preparedness, but someone should do some
revising of those 'basic rules'. This is a 'NEW' band,
how can anyone be expected to be prepared for it's use?
(Maybe, publish the facts about it before it's officially
made a new band?) The particular frequency of use makes
very little difference for someone who is really prepared
for emergency communications.
If you don't want to do what is necessary to allow your
radio to operate on 60 meters, that's fine. It's your
radio and your option, I doubt if anyone 'twists' your arm
to ~make~ you operate there. I do tend to think that the
5 channel 60 meter band is more a consolation prize than
a major increase in frequency allocations for amateur radio.
All things considered, I don't think I'll give it back
though...
'Doc

6200. Re: 18HT and radials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 22:29:37 UTC
From: Ed Williams <sunset392@cox.net>
Message-ID: <u3OFa.957$PY2.689@lakeread05>
Source record: 115351

I thinnk that you will need to increase the diameter of the tube to cover
the missing concrete that would be used compared to the square hole.

Square Hole = 3' x 3' x 3' = 27.0 Cu. Feet of concrete.
3' Diameter Hole x 3' Deep = 21.2 Cu. Feet of Concrete.
3.385' Dia. Hole X 3' Deep = 26.99 Cu. Feet of Concrete.
4' Diameter Hole x 3' Deep = 37.6 Cu. Feet of Concrete.

Ok yes, Don't forget to use a rebar cage in the hole. Also the manual states
that a minimum distance of 6 inches are needed below the frost line. You
should be able to get the that information from the site below.

http://www.hy-gain.com/man/pdf/AV-18HT.pdf
I hopes this helps a little.

73 es gud dxing
de KN4KL ed

"Dev" <dev@hardware.com> wrote in message
news:O8EFa.3417$Ly2.630836@cletus.bright.net...
> I am looking for suggestions on the base for my upcoming installation of a
> HyGain HyTower, they specify a 3'x3'x3' base, but I would like to make it
> round.
>
> The reason I want to make it round is to make it easier to spread out the
> radials. I also want to get it up off the ground about a foot. (snow)
>
> I am looking at the cardboard tube forms for concrete, so far I haven't
> found any 3' diameter. I was thinking of just using a plastic garbage can
or
> something as a form, but I am not sure how that would work out with
> strength, shrinkage, etc.
>
> If anyone else has managed to get their tower bases up off the ground,
> please let me know! Thanks.
>
> Larry N8KU
>
>

6201. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 22:56:44 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <4jcfev8ja5um4e73i5io13s1ho1racufmp@4ax.com>
Source record: 115352

On Wed, 11 Jun 2003 19:12:00 GMT, Active8
<m_remove_colasono@earthlink.net> wrote:

[snip]
|
|that's good info for someone new to NEC modeling, like me. i can see
|where EZNEC is more comfortable but at $89 for 500 segments or what is
|it, $450 for 10000 segments(?), i think i'll stick with 4NEC2 for free.
|I'm waiting for a response from Arie whether the nec-pc-x.zip package
|will work. if not, i still get 5000 segs and the source code to compile
|bigger engines. plus it uses a NEC2 input deck and has a card editor, so
|i can learn NEC2 also.

Well, EZNEC predated several of the freeware packages and that's what
I "grew up on." Plus the customer support is better than you can find
anywhere else. (Not to put down Arie, Brian, Joe, etc.)

|
|now MultiNEC in conjuction with 4NEC2 is something i need to look at.

Works there too.

6202. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 23:20:25 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE7B8E6.2080005@attbi.com>
Source record: 115353

Well, I've been listening evenings on the 5 listed frequencies and hear
nothing from across the pond. I thought the band was authorized in G land!

DD, W1MCE

John Passaneau wrote:
> Well I don't have a old rig to use. I haven't looked into it closely but my
> FT1000 MK5 field has filters in the output that are switched in by band. I
> believe that the losses through the filters will be too high and may damage
> my radio so I'm not going to do it. If 60m was closer to one of the other
> ham bands then it could work. The real problem with a band that is used
> mainly for emergency work, is if it's not in regular use, it will not work
> when need. This is a basic rule of emergency preparedness. Also if the pool
> of operators that can use the band is too small there will not be enough
> operators when and were they are need if an emergency happens. Ham radio ops
> are all real volunteers as we train ourselves and buy our own equipment. If
> the band is not attractive for Hams outside of an emergency, why would I
> spend my own time and money for equipment for a band of such limited use.
> The best reasons for a full real armature band at 60m, is 30m. With the
> power and mode restrictions it's a very lightly used band. I bet 80% of hams
> don't have an antenna that would work on 30m.
>
>

6203. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 23:35:39 UTC
From: Frank Turner-Smith G3VKI <g3vki@ntlworld.com>
Message-ID: <bc8ebv$frqn9$1@ID-185765.news.dfncis.de>
Source record: 115354
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

<lucifer@eternal-flames.gov> wrote in message
news:mkeeev028b2vj54s2lce40bfn1aofr60hg@4ax.com...
> There's a delivery shute down to my place, but I've never had a lift
> installed, since nobody who gets here, ever gets out.
>
> Old Nick.
>
Did those tunnelers from that WW2 movie 'The Great Escape' give you any
problems, or are they still digging in circles?
--
;>)
73 de Frank Turner-Smith G3VKI

watch this space - if it moves, see your optician.

6204. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 23:36:28 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bc8edancu1@slb3.atl.mindspring.net>
Source record: 115355
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Hi,

Great.

But, what do I click on, on your page to see it ?

Bob

"carlos Mendoza" <no@spam.com> wrote in message
news:3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> I received nice antenna information from VE7BQH.
> It is the comparisation of 115 antenna's:
>
> cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft, many
> more....
>
> I made a nice chart (table) so you can easy compare!
>
> http://www.qsl.net/pd0rkc (click on the technic button).
>
> 73's Cor
>
>
> In my other mail (in the news-group) people complain that they
> could not see my menu bar on the left (netscape users, and others?).
> I used shockwave flash buttons, I asume that was the problem.
> I have now the buttons in gif pictures.
> I hope it work now for those who does not use the microsoft-
> browser (let me know!!!!).
>
>

6205. Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 23:37:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc8effjbs1@hercules.btinternet.com>
Source record: 115356

Having just cleared everything out of the newsgroups, to start another thread -

When assessing the pro's and con's of fitting a tuner somewhere between an antenna and the transmitter, in comparison with the performance already available without a tuner, would it be more useful to think in unconventional terms of "Insertion Gain" of a tuner?

But how can a circuit consisting only of L's and C's have power gain when it's plugged in.

Reg, G4FGQ

6206. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-11 23:52:24 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <_7PFa.3660$V5.1579@fe01.atl2.webusenet.com>
Source record: 115357

Reg -- Simply, IT CANT !! It can only minimize the loss's by matching the input impedence, to the output impedence. Worse, the l-c network has loss (small amout, but there).
Tho it MIGHT SOUND like it gives gain, it is the reduction of the LOSS'S that you hear!
Jim NN7K

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:bc8effjbs1@hercules.btinternet.com...
> Having just cleared everything out of the newsgroups, to start another
> thread -
>
> When assessing the pro's and con's of fitting a tuner somewhere between an
> antenna and the transmitter, in comparison with the performance already
> available without a tuner, would it be more useful to think in
> unconventional terms of "Insertion Gain" of a tuner?
>
> But how can a circuit consisting only of L's and C's have power gain when
> it's plugged in.
> ---
> Reg, G4FGQ
>
>

6207. Re: Dish illumination question. (ref Antenna Engineer's Handbook 3rd Ed.)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 00:03:36 UTC
From: nx7u@arrl.net
Message-ID: <3ee7c309.909113@news.west.cox.net>
Source record: 115358

see body of text:

On Wed, 11 Jun 2003 20:00:44 GMT, Active8
<m_remove_colasono@earthlink.net> wrote:

>
>hi:
>
>According to "Antenna Engineer's Handbook" 3rd ed. pp. 17-17 thru 17-19,
>the field at the edge of the dish should be 10dB below that of the
>center for max gain and 20dB down for "good sidelobe performance."
>
>The first question *that* statement raises is:
>
>Since it says "field" then I need my pattern to be for E field, not
>power, correct?

No actually it's the power pattern.

>
>The book then gives an example which starts off as follows:
>
>"If it is reguired that the edge illumination should be 20dB in a
>reflector whose f/D ratio is 0.5 ..."
>
>Can i interpret that to mean "20dB down" for the E field pattern where
>it hits the edge?
>

20dB down for the power pattern, yes.

>If so, that would mean I use the charts to find the angle subtended by
>the rays drawn from the focal point to the edges and shape my beam so
>that the 20dB beamwith is at that angle, eh?
>
>i think that's the case because the example then finds the space
>attenuation at the angle from the axis to the edge and subtracts it from
>20dB to come up with "18.1 dB down" which is higher than 20dB down, thus
>accounting for the loss.
>

Exactly...

>i'll leave the last part of the example for later after I've had more
>time to re-study it. It covers determining what 10dB width is associated
>with the angle i need for 18.1 dB down, and improving that figure.
>

That figure is confusing to be sure!

>thanks for squaring me away on this. sorry if I'm answering my own
>questions. i'd like to be as sure as the sun rises in the morning ;-)
>
>mike c

6208. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 00:20:16 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE7C6EE.4050305@attbi.com>
Source record: 115359

Let me see if I understand your question.

Assume I have an antenna system that has 1 dB reflection loss. I insert
a tuner with 0.25 dB loss. Now, I have achieved a conjugate match and
have maximum power flow through the antenna system.

Can your question be rephrased as follows: "Does the tuner increase the
effective antenna system by +0.75 dB? [thereby getting Insertion gain],
or have I missed the point?

Deacon Dave, W1MCE

Reg Edwards wrote:
> Having just cleared everything out of the newsgroups, to start another
> thread -
>
> When assessing the pro's and con's of fitting a tuner somewhere between an
> antenna and the transmitter, in comparison with the performance already
> available without a tuner, would it be more useful to think in
> unconventional terms of "Insertion Gain" of a tuner?
>
> But how can a circuit consisting only of L's and C's have power gain when
> it's plugged in.
> ---
> Reg, G4FGQ
>
>

6209. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 00:42:17 UTC
From: jgboyles@aol.com
Message-ID: <20030611204217.13692.00000541@mb-m25.aol.com>
Source record: 115360

>Having just cleared everything out of the newsgroups, to start another
>thread -

>would it be more useful to think in
>unconventional terms of "Insertion Gain" of a tuner?

How about "insertion loss". I used to worry about all the stuff I was
inserting in the path to my antenna.

>But how can a circuit consisting only of L's and C's have power gain

It can't have power gain, only loss, but you know that. Summing all the power
loss devices I have in my path to the rest of the Universe. I have 5 pigtails
with PL 259 coax connectors on each end, a 5 position antenna changeover
switch, a tuner, an amplifier, (its not on line most of the time). These all
have losses. Good lord, it is a wonder I get out to the edge of town.
I guess what you are getting at is that none of these devices create a power
gain, but, a proper tuner, as well as other station accessories can increase
the efficiency of your station, but have no power gain.
An 80m dipole used on 40 meters does not work well without a tuner. But you
know that also:-).
The tuner does not increse the power gain, but increases the amount of RF
spewed to the rest of the Universe from the transmitter behind it.
73 Gary N4AST

6210. Moxon rectangle

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 00:50:22 UTC
From: David McBeth <damarg@globe.net.nz>
Message-ID: <3ee7eaf8$1@news.iconz.co.nz>
Source record: 115226

Can directors be added to the basic antenna?

David ZL2DG

6211. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:32:12 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc8l76$p6n$1@slb1.atl.mindspring.net>
Source record: 115361

Folks:

I have used tuned counterpoises with the antenna system I was discussing in two different QTH's both were in deed restricted neighbourhoods where antennas were forbidden. The antenna was an inverted L antenna made from quite fine and flexible Radio Shack SWL antenna wire with shirt button style insulators, in both cases it was strung up the side of a big southern yellow pine tree and then across to another such tree. About 2/3 of the antenna was vertical, and about 2-3 inches from the trunk of the 1-1/2 foot diameter pine tree trunk, the remaining 1/3 was horizontal at about 35 - 40 feet. Dimensions were never known exactly and the antenna was erected at dusk using a sling shot and lead fishing weights so the neighbours would not notice. At first I fed this stealth inverted L antenna against a single 8 foot copper ground rod, and I got lousy signal reports. Only some hams a few miles away could hear me.

Then I decided to try to improve things by "messing" with my ground system, that's when I discovered that "tuning"counterpoises was a great thing.

Just to be clear, I didn't "bury" the counterpoises rather they were laid out on the ground/grass
and only pressed into the grass far enough so as not to engage the blade of my lawn mower.

They were not "radials" they were individual counterpoises, i.e. they were not all of equal length spread out at equal angles as for a single band monopole or MF broadcast antenna, rather they were "one of" counterpoises, one per band and each was of a different length, the longest for 160m, the next shorter for 80m, the next for 40m, etc... and were used together as the counterpoise to an inverted L antenna which was operated against those counterpoises as an all-band antenna fed by a "tuner".

Each counterpoise was "tuned" to length by adjusting for maximum current in the countepoise for that band.

Previously that inverted L "stealth" antenna had been worked against a single 8 foot ground rod, and it didn't work
worth a damm.

With the "tuned" counterpoises the antenna was a real winner and I worked over 100 countries and countless CW net and traffic QSO's using that antenna with it's tuned counterpoises.

Worked for me.

FWIW...

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:veeu0cclcjvkf7@corp.supernews.com...
> Reg is right that when radials are buried, moderate length changes make
> very little difference.
>
> But I discovered something interesting many years ago. When I laid
> radial wires on the ground, I found very definite and surprisingly large
> sensitivity to their length. Relatively small changes in length
> noticeably changed the antenna input impedance, as if the radials were
> elevated. The ground surface was a bit lumpy, and the soil very dry.
> (Yes, the ground does dry out here for a couple of months in the
> summer.) And the wire wasn't particularly straight, so there were a lot
> of air gaps under the wires. Out of curiosity, I made up some "staples"
> out of short pieces of galvanized steel electric fence wire, and
> "stapled" the wires firmly down to conform with the ground surface. Lo
> and behold, the length sensitivity just about disappeared.
>
> So I don't doubt that Peter has seen the effects he mentions. But I also
> believe that the effort is a waste of time if the radials are to be
> buried after the exercise.
>
> Roy Lewallen, W7EL
>
> Reg Edwards wrote:
> >>Peter Brackett wrote:
> >>
> >>>Then go out in the lawn/garden with wire cutters and cut some of the
> >
> > end
> >
> >>>off the radial, then go
> >>>back and look at the meter. Repeat the process until you find the
> >
> > maximum
> >
> >>>reading, if you cut too
> >>>much off a radial just solder it back on.
> >
> >
> > ======================
> >
> > If the antenna is tuned up and the radial or counterpoise is changed in
> > length, then the meter reading can only get worse, regardless of whether
the
> > radial is shortened or lengthened.
> >
> > If the radial is buried and it is changed in length the most likely

thing
> > which will happen to the meter is nothing.
> > ---
> > Reg.
> >
> >
>

6212. Dish illumination question. (ref Antenna Engineer's Handbook 3rd Ed.)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:36:21 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1951a308381ddbd798968e@news.earthlink.net>
Source record: 115362

hi:

According to "Antenna Engineer's Handbook" 3rd ed. pp. 17-17 thru 17-19, the field at the edge of the dish should be 10dB below that of the center for max gain and 20dB down for "good sidelobe performance."

The first question *that* statement raises is:

Since it says "field" then I need my pattern to be for E field, not power, correct?

The book then gives an example which starts off as follows:

"If it is reguired that the edge illumination should be 20dB in a reflector whose f/D ratio is 0.5 ..."

Can i interpret that to mean "20dB down" for the E field pattern where it hits the edge?

If so, that would mean I use the charts to find the angle subtended by the rays drawn from the focal point to the edges and shape my beam so that the 20dB beamwith is at that angle, eh?

i think that's the case because the example then finds the space attenuation at the angle from the axis to the edge and subtracts it from 20dB to come up with "18.1 dB down" which is higher than 20dB down, thus accounting for the loss.

i'll leave the last part of the example for later after I've had more time to re-study it. It covers determining what 10dB width is associated with the angle i need for 18.1 dB down, and improving that figure.

thanks for squaring me away on this. sorry if I'm answering my own questions. i'd like to be as sure as the sun rises in the morning ;-)

mike c

6213. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:36:44 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1951a3267eb852a598968f@news.earthlink.net>
Source record: 115363

In article <vecpsojhjtfn66@corp.supernews.com>, w7el@eznec.com says...
> Art has a good point that optimizers are often useful. However, you do
> have to always be alert to the possibility that it could be converging
> on a local optimum rather than a global one. When that happens, small
> changes from the "optimized" dimensions result in degradation, but
> there's some other set of dimensions quite different from the ones found
> that provide a better solution yet. Like any other modeling tool, an
> optimizer has to be used with some care.
>
> People interested in the AO (Antenna Optimizer) and YO (Yagi Optimizer)
> programs should contact Brian Beezley, K6STI, at 3532 Linda Vista Dr.,
> San Marcos, CA 92069. At the time of my last contact with him, he
> wouldn't accept orders or requests for information by phone or email.
> I've never personally used AO but have heard many positive comments --
> like Art's -- about it. It is a MININEC-based program and has some of
> MININEC's inherent limitations. I have used YO and found it to be
> capable and useful. (Some EZNEC users have told me that they've been
> able to improve on YO designs by hand tweaking, but YO was good to get
> an initial design.) I very highly recommend Brian's TA (Terrain
> Analysis) program. There's nothing else like it, and it's essential if
> you want to make the best advantage of an irregular terrain.
>
> Roy Lewallen, W7EL
>
>
where is the TA program?

mike c

6214. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:37:18 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1951a33eed15b02e989690@news.earthlink.net>
Source record: 115364

>
> Arie's '4nec2' also features an optimizer, and while I did a very
> limited "beta" test (primarily of the 3D portion) I'll confess I
> haven't used it much. I'm much more comfortable with EZNEC
> particularly when used in conjunction with Dan's MultiNEC.xls.
>
> While MultiNEC doesn't have an optimizer in the usual sense that the
> computer makes judgments about what parameters to adjust, it does
> allow the user to set up variables or equations that change specified
> antenna parameters. For example if you want to change the height
> above ground of an antenna over some range and see the effects on the
> elevation pattern or the feedpoint impedance, this is easily done.
>
> (This experiment is a great debunking tool for old wives' tales)
>

that's good info for someone new to NEC modeling, like me. i can see where EZNEC is more comfortable but at $89 for 500 segments or what is it, $450 for 10000 segments(?), i think i'll stick with 4NEC2 for free. I'm waiting for a response from Arie whether the nec-pc-x.zip package will work. if not, i still get 5000 segs and the source code to compile bigger engines. plus it uses a NEC2 input deck and has a card editor, so i can learn NEC2 also.

now MultiNEC in conjuction with 4NEC2 is something i need to look at.

mike c

6215. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:40:53 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbefmh4.18lq.bit-bucket@localhost.config.com>
Source record: 115365
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

On Wed, 11 Jun 2003 19:36:28 -0400, Robert11 hath writ:
>
> But, what do I click on, on your page to see it ?

> "carlos Mendoza" <no@spam.com> wrote in message
>>
>> http://www.qsl.net/pd0rkc (click on the technic button).

hmmmmmmm...

6216. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 01:57:36 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE7DE10.7226DDF5@cwis.net>
Source record: 115366

Craig,
If there is any of the coating around the connections
I'd remove that. No need to sand the whole antenna. It
shouldn't make any difference anyway unless the composition
of the varnish/paint/whatever has changed over time to make
it conductive. Try feeding the antenna without the 'balun'
(or choke).
'Doc

6217. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:02:45 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE7DF45.5E1AB2CF@cwis.net>
Source record: 115367

Reg,
I don't know if you guys over there ever went
through the "STP" stickers on cars thing, but a
tuner having gain is just about like adding an
"STP" sticker to a car bumper. It adds an instant
40 horsepower, and I don't see why adding a tuner
wouldn't add gain to the antenna system in exactly
the same way...
'Doc

6218. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:05:46 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc8n5vedr1@slb9.atl.mindspring.net>
Source record: 115368

Cecil:

[snip]
> But Z0 is not a physical resistance and doesn't get hot. However, Z0
> *is* physical and can cause reflections. It appears that I can
> differentiate what I am trying to say using "physical impedance" and
> "image impedance". Would that satisfy you?
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

"He who ignores history is condemned to repeat it." Shakespeare I believe?

Image impedance has a well established meaning and was first elucidated around the
early part of the twentieth century by folks like Zobel and Campbell.

In any case the name that was established by "The Masters" for Zo lo those many
years ago was "surge impedance" not "image impedance".

For the record... if an impedance Z = R + jX "faces" an impedance R - jX there is
said to be a "conjugate match", if the impedance Z = R + jX faces an impedance
R + jX then there is said to be an "image match".

The "image impedance" was defined many years agoby Zobel and Campbell to be
simply an impedance identical to the one under discussion. Zobel, Campbell and others
established all of this very lucid terminology in the 1910 - 1925 time frame. Much later
some young and unknowledgeable whipper snapper from NIST came along and gave the
image match a new name!... "Zo match" which is just an "image match" as defined
by Zobel and his cohorts. Any one remember image parameter filter design, with
"m-derived" sections, and "constant-k" sections, etc...? BTW... what were those
"m's" anyway? Heh, heh... "m's" were the gamma transforms of the loss poles!

Anyway, IMHO it is certainly a bummer and a great sleight to those "Masters" that
some unknowledgeable punk kid had to come along decades later and rename the

same old thing.

Cecil the term "Zo match" needs to be suppressed, it is simply plagarism at it's worst.
That NIST kid who called the elderly image match a Zo match was simply renaming
the term "image match" established many decades earlier by folks more knowledgeable
and wiser, those two great men, the "electricians" Zobel and Campbell.

Cec, please stick with the standard established nomenclature, and don't try to invent
your own names for old things that already have a name, resisitance is resistance and a
surge impedance is a surge impedance.

End of story.

Jeeesh, Cecil what are you looking for. Go to the library, do some research, study the
prior art. You haven't invented or discovered anything new, here... It was all done back
in the nineteenth century, read your electromagnetic history and learn from it!

Instead of trying to re-hash and re-explain very old concepts that were named long
ago, try working on some new concepts where you might have a chance and perhaps
even the right to name something your self!

How about coming up with something new where you get to name it, for instance
like the "nullor" or the "norator" invented by Gorski-Popiel or the "Frequency Dependent
Negative Resistance" which the inventor Len Bruton was gracious enough to call the FDNR.
Or the Generalized Impedance Converter which the inventor Andreas Antonio called the GIC.
I thought that Tellegen found the most elegant new name"gyrator" for his novel invention.

But... trying to rename "old stuff" is tiresome... Cecil... Give us a break!

:-)
--
Peter K1PO
Indialantic By-the-Sea, FL.

6219. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:09:45 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030611220945.23300.00000441@mb-m26.aol.com>
Source record: 115219

Yea, waves speed up in the coil, double up in the capacitor of the tuner and come out more than they went in. So when you add 10 tuners you will get what? 1kW out of 100W?

Jeez guys, wouldn't it more beneficial to mankind to play with some antenna designs that would have some benefit for the hamdom, rather than argue endlesly about silly stuff?

Yuri

6220. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:10:56 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc8nfi$ar9$1@slb2.atl.mindspring.net>
Source record: 115220

Cecil:

Heh, heh...

Perhaps like Mark Twain, I should have written a postscript to my posting stating, "the above was writ ironic."

To make myself plain, we don't need no stinkin adjectives, a Cadillac is a Cadillac.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EE70277.9030102@ieee.org...
> Peter Brackett wrote:
> > One is resistance the other is a V/I ratio, what's the problem.
>
> Both are resistances. What adjective do I preface "resistance" with
> to differentiate between those two types of resistances? What adjective
> did Heavyside use for that particular differentiation?
>
> > Does every combination of adjectives with nouns need a new name?
>
> That's the way languages work. How would you differentiate a black car
> from a white car without adjectives and nouns?
>
> > Perhaps languages should consist only of nouns and the world should just
> > banish all adjectives. Is that what you are proposing.
>
> No, that's what you are proposing. You want to deny me an adjective for
> differentiating the resistance of a resistor from the resistance of a
> V/I ratio. Your motive for such is unclear.
>
> > How do I differentiate between a white Cadillac and a coffee colored
> > Cadillac?
>
> My point exactly! Please give me an adjective that I can use to
differentiate
> between the resistance of a resistor and resistance of a V/I ratio. You
don't
> like "virtual" so please give me an adjective that you do like.
>
> > ... how
> > is it that you feel you can improve on the subject by creating new names

for
> > well known things?
>
> Apparently, they are NOT well known things. You cannot even give me an
> adjective to differentiate the resistance of a resistor from the
resistance
> of a V/I ratio.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6221. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:12:24 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vefoa1qqsr5e43@corp.supernews.com>
Source record: 115221

Dear John:
I have exactly the same radio. Under government license, I use that
radio on frequencies quite some distance from the amateur frequencies.
During one of the last FEMA drills, I became NCS because FEMA in VA did
not have propagation for a couple of hours. One menu entry and the MkV
will work on any HF frequency.
Just a data point.
73 Mac N8TT and others

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"John Passaneau" <jxp16@psu.edu> wrote in message
news:bc80ik$oi0$1@f04n12.cac.psu.edu...
> Well I don't have a old rig to use. I haven't looked into it closely
but my
> FT1000 MK5 field has filters in the output that are switched in by
band. I
> believe that the losses through the filters will be too high and may
damage
> my radio so I'm not going to do it. If 60m was closer to one of the
other
> ham bands then it could work. The real problem with a band that is
used
> mainly for emergency work, is if it's not in regular use, it will not
work
> when need. This is a basic rule of emergency preparedness. Also if the
pool
> of operators that can use the band is too small there will not be
enough
> operators when and were they are need if an emergency happens. Ham
radio ops
> are all real volunteers as we train ourselves and buy our own
equipment. If
> the band is not attractive for Hams outside of an emergency, why would
I
> spend my own time and money for equipment for a band of such limited
use.
> The best reasons for a full real armature band at 60m, is 30m. With
the
> power and mode restrictions it's a very lightly used band. I bet 80%
of hams
> don't have an antenna that would work on 30m.
>

>
> --
> John Passaneau, W3JXP
> Physics Dept. Electronics Shop
> Penn State University
> 104 Davey Lab, University Park , Pa. 16802
> 814.863.4297, jxp16@psu.edu
>
>
>
> "Gary McAdams" <g.m.mcadams@worldnet.att.net> wrote in message
> news:UyGFa.1753$0v4.132371@bgtnsc04-news.ops.worldnet.att.net...
> > John, W3JXP sez:
> >
> >
> > > I'm not interested myself in the "band" as it is just too limited
to be
> of
> > > any real use. Also the cost of getting on is just too high.
> > >
> > >
> >
> > John,
> >
> > While I agree with your assessment of the 60 meter allotment in
terms of
> > utility, your last sentence really gave me a chuckle.
> >
> > Just how expensive is it to clip a diode?
> >
> > Build a wire dipole?
> >
> > Or utilize an existing antenna on the new band?
> >
> > Personally, I will try out the band with the rest of the fellows on
July
> 3rd
> > of this year just for the heck of it. You have to realize that this
band
> is
> > primarily intended for emergency communications, not the casual type
of
> > operations usually found on the Amateur bands.
> >
> > By-the-way, I will be using my 17 year old Kenwood rig, an already
> existing
> > 80 meter dipole fed with ladder line and my tuner.
> >
> > Total cost to get on 60 meters: Zero... As in no money and only a
little

> > time spent with the antenna analyzer and tuner to get the setting
needed
> for
> > 60 meters.
> >
> >
> > Thanks for the laugh though...
> >
> > 73, es CU on 60!
> >
> > Gary WG7X
> >
> >
>
>

6222. RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:21:10 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030611222110.23617.00000382@mb-m10.aol.com>
Source record: 115222

Found this. I wonder if RF police will stop this due to dangerous RF exposure?

Yuri
****

Hand-held scanner designed to detect cancer

LONDON (Reuters) - Italian scientists have developed and are testing a hand-held scanner, similar to metal detectors used in airports, to diagnose cancerous tumours.

In clinical trials of the device called Trimprobe, the scanner pinpointed 93 percent of prostate cancer tumours that were later confirmed by biopsies.

"The development holds out the prospect of a mass-screening technology that is cheap, quick and non-invasive," New Scientist magazine said on Wednesday.

The white plastic baton, which was developed by physicist Clarbruno Vedruccio of the University of Bologna and the Italian aerospace firm Galileo Avionica, is passed over the body. There is no need to undress.

The scanner contains an antenna that produces a beam of microwaves that vary in frequency from 400 to 1350 megahertz. According to Vedruccio and his team, tumours generate strong interference at about 400 megahertz.

A computer details the amount of interference at different frequencies.

Carlo Bellorofonte, a urologist who tested the scanner on prostate patients at the San Carlo Borromeo Hospital in Milan, described the results as amazing.

"The scanner seems ideal for mass-screening of cancer because it is rapid, non-invasive and highly sensitive," he told the magazine.

In a separate trial of breast cancer patients at the European Institute of Oncology in Milan the scanner detected breast cancer in 66 percent of cases.

Further tests are being conducted on patients with lung, stomach, liver and colorectal cancer.

"However, the results of the early trials have yet to appear in a peer-reviewed medical journal and must be regarded with caution until then," the magazine added.

6223. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:29:03 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <KzRFa.8249$0c4.792871@news20.bellglobal.com>
Source record: 115223

"Peter Brackett"
> ...resisitance is resistance...

I have it on good authority that...
"Resistance is futile."

6224. Re: RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:38:43 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <PIRFa.8254$0c4.795428@news20.bellglobal.com>
Source record: 115224

"Yuri Blanarovich"
> According to Vedruccio and his team,
> *tumours* generate strong interference
> at about 400 megahertz.

Ah - that explains the origin of the Q-code QRT.

6225. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 02:58:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bc8q96adg1@hercules.btinternet.com>
Source record: 115225

> You haven't invented or discovered anything new, here...
> It was all done back in the nineteenth century, read your
> electromagnetic history and learn from it!
==========

Peter, now you are plagiaring ME ! ;o)

And Cecil has been enjoying himself for days just pulling legs sticking out like sore thumbs from these threads, inviting argument.

You can't win. Give up. Cecil is indefatigable. It's that Texan diet of rattlesnakes
---
Reg, G4FGQ

6226. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 03:32:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE7F45B.7090304@ieee.org>
Source record: 115227

Peter Brackett wrote:
> But... trying to rename "old stuff" is tiresome... Cecil... Give us a break!

I have invited everyone to furnish me with the proper nomenclature.
The silence has been deafening.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6227. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 03:35:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE7F4F0.9070108@ieee.org>
Source record: 115228

Peter Brackett wrote:
> To make myself plain, we don't need no stinkin adjectives, a Cadillac is a
> Cadillac.

You object to the words I use yet refuse to share with me the words that are
acceptable to you. One wonders why.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6228. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 03:47:44 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <8ptfevspgjlmhh45sus63cj4ji11td4mhu@4ax.com>
Source record: 115229

On Wed, 11 Jun 2003 23:20:25 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>Well, I've been listening evenings on the 5 listed frequencies and hear
>nothing from across the pond. I thought the band was authorized in G land!

It is, but only one of the frequencies is the same for England and the
U.S. -- I forget which one it is. Try eHam net -- they have a fairly
informative article there...

Bob
k5qwg

>
>DD, W1MCE
>
>

6229. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 04:35:32 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <oqTFa.2208$3o3.182687@bgtnsc05-news.ops.worldnet.att.net>
Source record: 115230

At a junk sale ....enuff said
--

Those who want to be successful, will find a way,
those that don't, will find an excuse!

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.488 / Virus Database: 287 - Release Date: 6/5/03

6230. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 07:24:29 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bc99rdfpr0@208.206.142.95>
Source record: 115231

Make up a simple three or four element cubical quad. It'll do the job
nicely.

Dick

Richard wrote:

> Hi. Just wondering if anyone ever used a yagi for the marine band
> (around 157 Mhz). I suppose one could resize a cheaper model of 2m
> yagi. Or I could build myself a marine band yagi, I suppose. Any web
> sites with instructions on how to make say a 5 element VHF yagi.
>
> I need a yagi or something with gain, because I'm quite some ways from
> the marine station.
>
> Maybe even a 6dB co-linear would do. Perhaps a secondhand Ringo Ranger
> resized.
>
> Rich.

6231. Cushcraft R8 or Hy-gain AV-640?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 07:46:31 UTC
From: "Wolfgang K. Meister" <no.mail@please.com>
Message-ID: <jtbgevsjl606u30dlmb7gslvi6na04rvct@4ax.com>
Source record: 115232

Hi all,

if want to make a decission to replace my existing vertical.

The new options are: Cushcraft R8 or Hy-gain AV-640?

Any comments?

73s
Wolfgang
OE1MWW

6232. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 08:02:23 UTC
From: jan-martin.hertzsch@rz.hu-berlin.de
Message-ID: <bc9c2f$l2v$1@lnews.rz.hu-berlin.de>
Source record: 115233

Jack Twilley <jmt+usenet@twilley.org> wrote:

> What would appear to be required would be three basic tools:

> * something to generate NEC2 input files

That will be your text editor - you just follow the examples from
the manuals (which you should download and print).

> * the NEC2 engine

Of course :-)

> * something to interpret NEC2 output files

necview or xnecview should do the trick - at least they produce
graphical output, interpretation is up to the user.

> I haven't seen *anything* to build input files except for Windows
> stuff. I may be missing something, though.

Same here, but I haven't searched for it - for my wires in the garden
the old-fashioned technique has been good enough :-)

73, Jan-Martin

6233. Re: Dish illumination question. (ref Antenna Engineer's Handbook 3rd Ed.)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 09:57:19 UTC
From: mcolasono@earthlink.net
Message-ID: <e079e35e.0306120157.557828f6@posting.google.com>
Source record: 115234

nx7u@arrl.net (Scott Townley) wrote in message news:<3ee7c309.909113@news.west.cox.net>...
> see body of text:
>
>
> On Wed, 11 Jun 2003 20:00:44 GMT, Active8
> <m_remove_colasono@earthlink.net> wrote:
>
> > >
> > >hi:
> > >
> > >According to "Antenna Engineer's Handbook" 3rd ed. pp. 17-17 thru 17-19,
> > >the field at the edge of the dish should be 10dB below that of the
> > >center for max gain and 20dB down for "good sidelobe performance."
> > >
> > >The first question *that* statement raises is:
> > >
> > >Since it says "field" then I need my pattern to be for E field, not
> > >power, correct?
>
> No actually it's the power pattern.
>
> > >
> > >The book then gives an example which starts off as follows:
> > >
> > >"If it is reguired that the edge illumination should be 20dB in a
> > >reflector whose f/D ratio is 0.5 ..."
> > >
> > >Can i interpret that to mean "20dB down" for the E field pattern where
> > >it hits the edge?
> > >
>
> 20dB down for the power pattern, yes.
>
> > >If so, that would mean I use the charts to find the angle subtended by
> > >the rays drawn from the focal point to the edges and shape my beam so
> > >that the 20dB beamwith is at that angle, eh?
> > >
> > >i think that's the case because the example then finds the space
> > >attenuation at the angle from the axis to the edge and subtracts it from
> > >20dB to come up with "18.1 dB down" which is higher than 20dB down, thus
> > >accounting for the loss.
> > >
>
> Exactly...

>
> >i'll leave the last part of the example for later after I've had more
> >time to re-study it. It covers determining what 10dB width is associated
> >with the angle i need for 18.1 dB down, and improving that figure.
> >
>
> That figure is confusing to be sure!

Hi Scott:

thanks.

yes that was a nebulous statement so i'll get on with it. BTW sorry about the xtra post. the ISP is at it again. a tracert shows the news server unreachable and they're in denial. i reposted and somehow they got it. i still can't retrieve. it's routed from PA to Pasedena via St. Louis and a pile of other hops. Google saves the day!

though this started as a dish question, it's heading for math ...

on p. 17-17 there's a graph for "Universal feed-horn pattern" (fig. 17-17 - you don't know how badly i wish you could see it) and the text reads:

"Since the feed-horn design curves are given in terms of 10dB beamwidth, it is necessary to determine what 10dB width is associated with 18.1dB at 53 deg."

note: 53 deg came from a graph with an equation (fig. 17-18) to find the subtended angle for a given f/D ratio. this angle was 106 deg. divide by 2 to get the angle from the axis to the dish edge or 53 deg.

getting back to fig. 17-17,
i'll define theta10 to be theta sub(script) 10 sub dB, the 10dB beamwidth, and
E is E sub dB or the ratio of -18.1dB at the edge to -10dB (from the 10dB width) or 18.1/10

the graph's x axis is theta / theta10 from 0 to 1.4 (the x intercept of the curve) the y axis is just the ratio E from 20 at the origin to 0 (y-intercept)at the top of the range and the curve relates theta/theta10 to E by this eq., which may be an approximation from a nonlinear least-squares fit or some easy math i'm not able to see at this time:

E = 10*(theta/theta10)^2 ; eq. 1 from the graph

that "E" suggests E field, but that factor of 10 (as in 10*log rather than 20*log) suggests a power ratio. on the other hand, for a system with constant impedance, any level whether power or volts minus X dB gives the same result, i.e. 10 dBm - 3dB = (the dBmV equiv of 10dBm at that impedance) - 3dB. and being a ratio of dB ... i can't think anymore.

so if there are no arguments with that line of thinking, I could use power or E field. I've never heard of "power field" just power density in W/m^2 and E field or field strength in V/m.

for the next part, you'll need to manipulate the above eq. by dividing both sides by 10 and taking the sqrt of both sides,

sqrt(E/10) = theta/theta10

inverting both sides to try make sense of what's below in the graphical solution,

sqrt(10/E) = theta10/theta, eq. mike1

the text shows none of that and goes on to say:

"Since, as previously stated, the beamwidth ratio is proportional to the square root of the decibel ratio, the desired width is given by

sqrt(10/18.1) * 53 deg = 39.5 deg, so that the total 10dB width is equal to 79 deg."

ok, 39.5 is close to what my calculator says and they're working with the off axis angles, so they multiply by 2. we could just as easily say:

sqrt(10/18.1) = 39.5/53 = 79/106

but 10/E should be 10/(18.1/10) or 10*10/18.1 (!) they leave out a factor of 10 one one side only and the proportion supposedly still holds.

so don't ask me where in blazes the factor of 10 (or the 10dB from the 10dB width) went. how can the proportion hold true without it. any ideas?

want some more confusion?

at this point the aforementioned "improvement" is illustrated by using the graph, which shows that the calculated curve exactly matches the experimental data up to (theta/theta10) = 1.0, afterwhich it diverges just a little, so this is good engineering. so it looks like they move horizontally from the decible ratio (10/18.1) or .5524 ... wait, i said the range, E, was from 20 to 0 and if i use .5524, and move to the curve and down, i don't get 0.73 like they do/claim in the text. and they just state that with no explaination.

but what about that missing factor of ten or the missing 10db, whichever way you want to look at it?

from eq. mike1

sqrt(10/E) = theta10/theta

10/E = 10/(18.1/10) = 100/18.1 = 5.524

using that number, i get .73 on the x axis like the text says i should. where'd the square root go?

yes sqrt(10/18.1) is .743 but that's not what they're doing. they start with 5.524 on the E axis.

now the x axis is theta/theta10 (=.73 ??), but when i inverted to get eq. mike1, where 5.524 eventually comes from, that also inverted and is now theta10/theta. aaarrrggghhh!!!

if .73 = theta/theta10 = 53/theta10, then
theta10 = theta/.73 = 72.6, not close to 79 from the math solution or the text's answer of 77.5 from the graphical solution.

but now if i use the inverted angle ratio from eq. mike1:

.73 = theta10/theta, then

theta10 = .73*53 = 38.69, and since it's an off axis angle,

38.69*2=77.38, might as well say

theta10 = .73*106 = 77.38 which the author says is 77.5 while 53 and .73 are consistent throughout the text.

yay!!! oh looky! it's close enough to the mathematical solution of 79 to not matter according to the authors and i agree. it's physically tweakable for the purist. double aarrgghh!! no need for interpolation in a low resolution graph.

sorry, this last part of my quandry may belong in math.undergrad or something, but i see a lot of smart fellers in this group and it *is* an antenna thing. i'll think about trying to relate the problem elsewhere later if i need to.

can anyone make sense of this? i know how to work the problem, now, but damned if i know what's going on.

thanks again Scott

thanks to all

and special thanks to Kenneth S. Kelleher, Consultant and
Geoffrey Hyde, COMSAT Laboratories for their comprehensive covrage of this topic, Reflector Antennas, in particular, paraboloidal-type reflectors.

mike c.

6234. Re: Moxon rectangle

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 10:26:09 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bc9kg5qtp1@slb3.atl.mindspring.net>
Source record: 115235

David:

[snip]
"David McBeth" <damarg@globe.net.nz> wrote in message
news:3ee7eaf8$1@news.iconz.co.nz...
> Can directors be added to the basic antenna?
>
> David ZL2DG
[snip]

Yep, I've done it, it works fine.

Sort of like two rectangles side by side sharing a common edge...

Moxon published a couple of designs for such in his RSGB book.

--
Peter K1PO
Indialantic By-the-Sea, FL.

6235. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 10:48:13 UTC
From: mcolasono@earthlink.net
Message-ID: <e079e35e.0306120248.5ec3a3f9@posting.google.com>
Source record: 115236

"Alexander Schewelew" <dl1pbd@gmx.net> wrote in message
news:<bc7j62$g3ci2$1@ID-34767.news.dfncis.de>...
> > CE
> > GW 1 19 -16.35 0.0 70.0 16.35 0.0 70.0 0.003
> > GW 2 1 -1.0 0.0 1.0 1.0 0.0 1.0 0.003
> > GS 0 0 .3058
> > GE 0
> > TL 1 10 2 1 50.0 0.0 0.0 0.0
>
> > LD 5 0 0 0 0.0 0.0 0.0 0.0 What for?

the loading card in this case sets the wire conductance. it was in the
example in the get started file. i noticed leaving it out or maybe
using a perfect conductor didn't seem to matter?

what's your opinion on the use of the loading card?

mike c
> ====================
> > EX 0 2 1 0 1.0 0.0 0.0 0.0
> > GN 0 0 0 0 13.0 .005 0.0 0.0
> > FR 0 1 0 0 14.15 0.0 0.0 0.0
> > EN
>
> 73!
> Alex

6236. Re: Cushcraft R8 or Hy-gain AV-640?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 11:06:50 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vegnnff8cck979@corp.supernews.com>
Source record: 115237

Hi Wolfgang
I have an R8.
It is lying on the ground broken. I am not using it.
My vertical is the FluidMotion BiggIR vertical.
Check www.SteppIR.com .
You might also look at the Gap antennas.
73
H.
NQ5H

"Wolfgang K. Meister" <no.mail@please.com> wrote in message
news:jtbgevsjl606u30dlmb7gslvi6na04rvct@4ax.com...
> Hi all,
>
> if want to make a decission to replace my existing vertical.
>
> The new options are: Cushcraft R8 or Hy-gain AV-640?
>
> Any comments?
>
> 73s
> Wolfgang
> OE1MWW

6237. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 12:34:11 UTC
From: Charles Hampton KA8JVX <hampton@wvnet.edu>
Message-ID: <3EE87343.521B@wvnet.edu>
Source record: 115238
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Allodoxaphobia wrote:
>
> On Wed, 11 Jun 2003 19:36:28 -0400, Robert11 hath writ:
> >
> > But, what do I click on, on your page to see it ?
>
> > "carlos Mendoza" <no@spam.com> wrote in message
> >>
> >> http://www.qsl.net/pd0rkc (click on the technic button).
>
> hmmmmmmm...

Works with Netscape 7.0 Won't work with the two earlier versions on my computer.

Charles, ka8jvx

6238. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 13:16:54 UTC
From: John Passaneau <jxp16@psu.edu>
Message-ID: <bc9ufv$s7o$1@f04n12.cac.psu.edu>
Source record: 115239

I was commenting on future use of the band. If a band/mode/equipment used
for emergency work, is not regularly used it will not work when need. This
is almost a corollary of Murphy's law. As for "mod's" for my radio, until I
know exactly what a "mod" does and the un-intended results of that mod I'm
not doing it. I run the electronics shop in the Physics dept. at Penn State
University and I've seen the results of "mod's" to equipment by people who
didn't think through what they were doing. That's not to say that some or
all of the "mods" may be OK. I'm saying that I have not looked closely at
them to convince myself that they are.
I will be happy if 60m works out to be useful for emergency work, but I
don't think that it will because the pool of users will be too small.

--
John Passaneau, W3JXP
Physics Dept. Electronics Shop
Penn State University
104 Davey Lab, University Park , Pa. 16802
814.863.4297, jxp16@psu.edu

"'Doc" <w5lz@cwis.net> wrote in message news:3EE7AA5A.38F45373@cwis.net...
> John,
> Your radio will work just fine on 60 meters, after
> it has been slightly modified. A legal modification,
> by the way, and one that does not void your warranty.
> I don't know where you are getting your 'basic rule'
> of emergency preparedness, but someone should do some
> revising of those 'basic rules'. This is a 'NEW' band,
> how can anyone be expected to be prepared for it's use?
> (Maybe, publish the facts about it before it's officially
> made a new band?) The particular frequency of use makes
> very little difference for someone who is really prepared
> for emergency communications.
> If you don't want to do what is necessary to allow your
> radio to operate on 60 meters, that's fine. It's your
> radio and your option, I doubt if anyone 'twists' your arm
> to ~make~ you operate there. I do tend to think that the
> 5 channel 60 meter band is more a consolation prize than
> a major increase in frequency allocations for amateur radio.
> All things considered, I don't think I'll give it back
> though...
> 'Doc

6239. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 13:19:45 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <R5%Fa.1024$Hw.1290650@news2.news.adelphia.net>
Source record: 115240

"George Kinzer" <horseflygk@worldnet.att.net> wrote in message
news:oqTFa.2208$3o3.182687@bgtnsc05-news.ops.worldnet.att.net...
>
> At a junk sale ....enuff said
> --
>
>
>
>
> Those who want to be successful, will find a way,
> those that don't, will find an excuse!
>
Must be nice to have such knowledge, to be able to make such a glib remark. But to me you just being a wise ass. Do you mean to tell everyone that you have never bought anything at a yard/junk sale. You buy only certified, tested used equipment. The man asked a simple question, just needing some help. I am sure everyone will agree that you provided a truly simple answer!

Jim Simmons kf4tun

6240. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 13:31:58 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <ih%Fa.1027$Hw.1292277@news2.news.adelphia.net>
Source record: 115241

First thing to do would be to dissemble the antenna and clean all the joints. In this case the paint means nothing, will not help or hurt the swr. Use the vom that you have just setting around to check the joints for loss, there should be zero resistance reading across the joints. Try hooking the antenna up without the balun.

Jim Simmons, kf4tun

"Craig Morrison" <craigmorrison1@hotmail.com> wrote in message news:pujfev4tp63k87umuo5l0npr3fesmchmka@4ax.com...
> At a junk sale I recently bought a 10 element 2M yagi in which the
> boom and all the elements had been coated in polyurethane, or some
> other similar type of clear varnish.
>
> I made a 4:1 balun for it but the SWR was completly off the scale. I
> checked all the connections and confirmed the coax loop of 677mm
> (26.67 inches) was the right length for 146MHz.
>
> I'm completely stumped by the SWR reading and it has now occurred to
> me that maybe the polyurethane has completely changed the
> characteristics of the antenna.
>
> I would be delighted if anyone can confirm this is a possible reason
> for the high SWR reading and maybe suggest a solution. I'm
> considering sanding off the varnish, but it will be a long slow
> process.
>
> All suggestions grateful recived!
> Craig

6241. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 13:34:54 UTC
From: richardharrison@webtv.net
Message-ID: <12932-3EE8817E-50@storefull-2316.public.lawson.webtv.net>
Source record: 115242

Cecil, W5DXP wrote:
"For instance, one (resistance) gets hot and the other doesn`t."

Call them by the same names others use if you would be understood,
"resistance" and "lossless resistance". A "resistor" converts electrical
energy into heat energy.

Best regards, Richard Harrison, KB5WZI

6242. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 13:58:35 UTC
From: richardharrison@webtv.net
Message-ID: <12931-3EE8870B-117@storefull-2316.public.lawson.webtv.net>
Source record: 115243

Peter Brackett wrote:
"A resistor does not cause a V/I ratio!"

Current through the resistance drops a voltage across the resistor. This voltage is proportional to the resistor`s ohms, resistance value, or its V/I ratio. Ohms, resistance value, and V/I ratio are all identical.

It is reasonable to say that a resistor makes a voltage drop when passing a current, thus it causes a V/I ratio.

Best regards, Richard Harrison, KB5WZI

6243. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:14:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE88AD1.40708@ieee.org>
Source record: 115245

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "For instance, one (resistance) gets hot and the other doesn`t."
>
> Call them by the same names others use if you would be understood,
> "resistance" and "lossless resistance". A "resistor" converts electrical
> energy into heat energy.

I've been criticized for using the term "non-dissipative" resistance.
I was told, "resistance is resistance", and there do not exist
different kinds of resistance - "No steenking adjectives needed!"

Here are the two conditions that I need to differentiate.

source---1WL 150 ohm line---+---1WL 150 ohm line---50 ohm resistor

The impedance at the resistor is 50+j0.
The impedance at '+' is 50+j0.
The impedance at the resistor causes reflections.
The impedance at '+' does not cause reflections.

What words can I use to differentiate between the 50+j0 impedance
at the load and the 50+j0 impedance at '+'?

For instance, it is necessary to differentiate between the "feedpoint
resistance" and the "radiation resistance" of an antenna so adjectives
for "resistance" already exist.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6244. 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:16:19 UTC
From: dannycyc@aol.com
Message-ID: <7e46f862.0306120616.678df719@posting.google.com>
Source record: 115244

I was told that any conductor like a cable that is more than 1/20 of
a wavelength is an effective antenna for that wavelength.

(Of course, at one fourth of a wavelength or longer,
cables become efficient antennas.)

Well, for any wavelength, there must be a relationship between
the radiation strength and the length of an antenna.
(The length could be ANY positive number.)

What is that formula exactly?

-- Danny

6245. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:23:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE88CD2.8030304@ieee.org>
Source record: 115246

Richard Harrison wrote:
> Peter Brackett wrote:
> "A resistor does not cause a V/I ratio!"
>
> It is reasonable to say that a resistor makes a voltage drop when
> passing a current, thus it causes a V/I ratio.

This might be better understood from the standpoint of dependent Vs independent variables. In a resistor circuit, if voltage is chosen as an independent variable, current becomes a dependent variable. If current is chosen as an independent variable, voltage becomes a dependent variable. But in all cases involving a physical resistor, the resistance of the resistor is an independent variable. Either, I=E/R, where I is the dependent variable or E=IR, where E is the dependent variable.

However, in a feedline with reflections, the points on the SWR circle become the dependent variable. Both the net voltage and net current are, in this case, the independent variables. Z=V/I, where Z is the dependent variable.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6246. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:29:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE88E3B.2020205@ieee.org>
Source record: 115247

Danny wrote:
> I was told that any conductor like a cable that is more than 1/20 of
> a wavelength is an effective antenna for that wavelength.

That's pretty small, even for a small loop. According to the ARRL Antenna
Book, the smallest small loop is about 1/12 WL.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6247. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:36:28 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE88FEC.6235E685@cwis.net>
Source record: 115248

Danny,
Which formula is that? An 'effective radiator'
doesn't necessarily mean a 'good' radiator by any
means.
'Doc

6248. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:46:41 UTC
From: Button_pusher <button_pusher_operator@nospam.com>
Message-ID: <3EE8924F.417090CF@nospam.com>
Source record: 115249
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Very interesting comment from someone who don't know jack about
operations !

Sure, we don't use punch cards any longer (well I am sure one shop has them !)

Operations is there, keeping the systems running.
Even the most complex shop has software tools to help run and schedule,
operators and systems programmers will always be needed to supervise the
system(s)

UPS systems, standby gensets, fire suppression systems, vital records and data
storage.

Operations is the guardian of the data center and YOUR DATA !

I've been a button pusher for 27 years and nothing runs on my shop unless I say
so !

regards

Airy R Bean a troll.....

> The Computer Operator is the lowest-of-the-low in the world
> of computing, much lower than the M3 in the CB hierarchy.
>
> Nowadays, they call themselves, "sysadmin", but they're still
> computer operators, the turnip-brained of the computing world.

6249. Re: Moxon rectangle

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:50:52 UTC
From: walt <walter@nospam.com>
Message-ID: <3EE8934B.9E607234@nospam.com>
Source record: 115250

hi,

http://www.cebik.com

lots of info on antenna including the Moxon

Dr. Cebik has optimized many of the Moxon antenna.

73 walt

David McBeth wrote:

> Can directors be added to the basic antenna?
>
> David ZL2DG

6250. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 14:51:17 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EE89365.9B8E9093@cwis.net>
Source record: 115251

John,
Then I think the thing for you to do would be to ask
Yaesu exactly what they're "mod" (MARS/CAP) does. I'm
sure that they wouldn't mind telling you.
As for 60 meters being a good emergency band, no, it
wouldn't be, at least for several years. A 'good'
emergency frequency should be one that is 'common' to all
those participating. Since it's new, 60 meters obviously
isn't a very good one.
'Doc

6251. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 15:40:19 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3ee89db1.1163874515@news.galilei.com>
Source record: 115252

Hi Craig

I have painted many assembled antenna's with everything from automotive clear lacquer to swimming pool epoxy and it never changed the SWR one iota.

I would suspect that perhaps the antenna was painted before it was assembled and the joints are not making a good DC electrical contact. Or, if it has capacitors, one or more may be bad.

The only time I turned an antenna into a dummy load was way back when you could buy zinc based paint!

TTUL
Gary

6252. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 15:41:13 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <bca78h$g0mp9$1@ID-34767.news.dfncis.de>
Source record: 115253

> > > LD 5 0 0 0 0.0 0.0 0.0 0.0 What for?
>
> the loading card in this case sets the wire conductance. it was in the
> example in the get started file. i noticed leaving it out or maybe
> using a perfect conductor didn't seem to matter?
>
> what's your opinion on the use of the loading card?

You need not the loading card for a perfect conductor.
The unit for LDTYP=5 is mhos/m and not Ohm/m!!!

73!
Alex

6253. Re: Cushcraft R8 or Hy-gain AV-640?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 16:15:07 UTC
From: Bob Nielsen <nielsen@remove_this.oz.net>
Message-ID: <bca8ub$52o$0@216.39.144.81>
Source record: 115254

On Thu, 12 Jun 2003 07:46:31 GMT, Wolfgang K Meister wrote:
> Hi all,
>
> if want to make a decission to replace my existing vertical.
>
> The new options are: Cushcraft R8 or Hy-gain AV-640?
>
> Any comments?

The R8 had pretty good quantitative results in the vertical antenna report by K7LXC and N0AX <http://www.championradio.com>, compared to several other popular verticals. The AV-640 was not one of those evaluated in that report, but it is very similar in construction to the R-8, except that instead of traps, it uses top loading and capacity hats. It is also somewhat less expensive than the R-8. My AV-640 has been up for nearly one year and the performance meets my expectations on the upper bands and is better than I had expected on 40 meters.

Bob, N7XY

6254. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 16:15:24 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bca8usvb1@sparta.btinternet.com>
Source record: 115255

You were told correctly.

Example:

Short centre-fed dipole.

Construction = self-supporting aluminium tube.

Operating frequency = 1.9 MHz. (160m band).

Antenna length = 6.6 feet = 1/80th wavelengths.

Antenna diameter = 1/2".

Antenna radiating efficiency = 61 percent.

Which is only half a receiver S-unit less than perfection.

Efficiency = Rradiation/(Rradiation+Rconductorloss) which increases rapidly with length.

Unfortunately, with very short antennas, 99% or more of the transmitter power can be lost in the tuner and transmission line.

Reg, G4FGQ

6255. Re: many ANTENNAS compared, and COAX cable info!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 17:01:27 UTC
From: Airy R Bean <SPAM@trap>
Message-ID: <3ee8b69c$2_3@mk-nntp-1.news.uk.worldonline.com>
Source record: 115257
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

So....you spend your time operating the equipment and software
that was developed by somebody else?

So.....are you agreeing or disagreeing with the assertion?

Button_pusher <button_pusher_operator@nospam.com> wrote in message
news:3EE8924F.417090CF@nospam.com...
> Very interesting comment from someone who don't know jack about
> operations !
> Sure, we don't use punch cards any longer (well I am sure one shop has
them !)
> Operations is there, keeping the systems running.
> Even the most complex shop has software tools to help run and schedule,
> operators and systems programmers will always be needed to supervise the
> system(s)
> UPS systems, standby gensets, fire suppression systems, vital records and
data
> storage.
> Operations is the guardian of the data center and YOUR DATA !
> I've been a button pusher for 27 years and nothing runs on my shop unless
I say
> so !

6256. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 17:07:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7nchev8dnhauts0mn7dodgc5d3dfpg71ct@4ax.com>
Source record: 115256

On Wed, 11 Jun 2003 22:32:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Peter Brackett wrote:
>> But... trying to rename "old stuff" is tiresome... Cecil... Give us a break!
>
>I have invited everyone to furnish me with the proper nomenclature.
>The silence has been deafening.

You've gotten at least two.

I still like joke resistance measured in joke-Ohms.

I can understand your deafness, but this is really about being blind.

73's
Richard Clark, KB7QHC

6257. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 17:23:01 UTC
From: richardharrison@webtv.net
Message-ID: <12932-3EE8B6F5-62@storefull-2316.public.lawson.webtv.net>
Source record: 115259

Cecil, W5DXP wrote:
"What words can I use to differentiate between the 50+j0 impedance at the load and the 50+j0 impedance at "+"?"

Terman calls impedance at any point in a transmission line, the line impedance at the specified point.

The impedance at your load is a pure resistance of 50 ohms. Referred to the junction of two full wavelengths of any good transmission lines connecting the source and the load, the 50-ohm load presents 50 ohms, regardless of the Zo of either line.

Terman`s vocabulary includes Zs, ZL, and Zo.

You can call the impedance at "+", the impedance at the junction of the lines or you can call it the load impedance as referred to that point, or as the load impedance as it appears at that point.

Terman also uses "image impedance" and "iterative impedance" but I don`t recall them being applied to transmission lines. Probably Terman did not want to use more terms than necessary. Coupling circuits in filters and such makes use of these terms.

Best regards, Richard Harrison, KB5WZI

6258. Re: RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 17:32:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5kdhevkin76nctuc1sgjnkd6ie980n8940@4ax.com>
Source record: 115258

On 12 Jun 2003 02:21:10 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
wrote:

>In clinical trials of the device called Trimprobe, the scanner pinpointed 93
>percent of prostate cancer tumours that were later confirmed by biopsies.
...
>The white plastic baton...
>is passed over the body. There is no need to undress.
>
>The scanner contains an antenna that produces a beam of microwaves that vary in
>frequency from 400 to 1350 megahertz. According to Vedruccio and his team,
>tumours generate strong interference at about 400 megahertz.

Hi Yuri,

This is the power of the unstated conditions. Such "trials" that
predate peer review are heavily front loaded with rich prospects. My
guess is that they were surveying a population already diagnosed with
the problem, and lacking confirmation. This "trial" was then slipped
into the regimen just before the biopsy and BINGO the confirmation is
attached to the last step. In prospector lingo, this is salting the
claim and then hi-grading the ore.

The second paragraph reveals the distance from the affected site (the
white baton is apparently not employed in the fashion one might expect
for this kind of test); and the third paragraph reveals the
wavelength: 75cM. This typically gives a resolution of about 7 inches
and we are lead to believe that tumors much smaller, in an organ much
smaller are distinguishable to the effect of 93%?

I suspect they could have brought in a Gypsy to wave her hands to
similar success.

73's
Richard Clark, KB7QHC

6259. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 18:02:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE8C02A.6000201@ieee.org>
Source record: 115260

Richard Harrison wrote:
> You can call the impedance at "+", the impedance at the junction of the
> lines or you can call it the load impedance as referred to that point,
> or as the load impedance as it appears at that point.

One of the purposes of language is to streamline the language. When too many words are needed to describe a concept, a new word is needed and is usually invented and adopted. I find it strange that in 300 years, no word has been adopted for an impedance that is a dependent variable Vs an impedance that is an independent variable.

"the impedance at the junction of the lines" (8 words)

"the impedance as referred to that point" (7 words)

"the load impedance as it appears at that point" (9 words)

- are all too many words to describe such a simple concept.

How about "referred impedance"?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6260. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 18:24:30 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86llw7kvc1.fsf@duchess.twilley.org>
Source record: 115261

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "JM" == jan-martin hertzsch <jan-martin.hertzsch@rz.hu-berlin.de> writes:

Jack> What would appear to be required would be three basic tools:

Jack> * something to generate NEC2 input files

JM> That will be your text editor - you just follow the examples from
JM> the manuals (which you should download and print).

That'd work, except it's a huge mental jump for me to go from visualizing a bunch of wire and metal to Fortran punch cards. I was kinda hoping for something vaguely graphical, or at least heavily documented with sanity checking.

Hmmm. Is there an elisp mode for NEC2? :-)

Jack> * the NEC2 engine

JM> Of course :-)

Yes, and nobody's gotten a FreeBSD port of this yet. AF0D was working on it several years ago according to his webpage but it hasn't arisen, so I've emailed him to find out what's up.

Jack> * something to interpret NEC2 output files

JM> necview or xnecview should do the trick - at least they produce
JM> graphical output, interpretation is up to the user.

I found references to a Perl script by AF0D which will translate NEC2 output to Gnuplot-friendly data. Of course, he didn't make it available on his web page, so I guess I should email him about that, too.

Jack> I haven't seen *anything* to build input files except for
Jack> Windows stuff. I may be missing something, though.

JM> Same here, but I haven't searched for it - for my wires in the
JM> garden the old-fashioned technique has been good enough :-)

I hope to use NEC2 not only for modeling my own antennas but also for learning more about antennas in general. The idea of being able to crank the elements up to 3k or 5k and let the process cogitate over the weekend appeals to me, if only to see whether more elements makes for better analysis. The demo version of EZNEC will handle twenty elements, and some of the antennas it includes have nearly one hundred

elements. It's an effective tease. :-)

JM> 73, Jan-Martin

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+6MVjGPFSfAB/ezgRAoE7AJ4s0Sm30WjeEz+kwOhwPoTpUniE2wCfUUhV
492gnY5XyUUTsjQHxrpWdLQ=
=wgVb
-----END PGP SIGNATURE-----

6261. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 18:25:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5ughevodscr51727lh75neuoiaj9sc36v5@4ax.com>
Source record: 115262

On Thu, 12 Jun 2003 13:02:18 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

> - are all too many words to describe such a simple concept.

That is part and parcel to your shaggy dog science- hence the term
joke resistance (or pick the component of your choice) measured in
joke-Ohms.

If those two word expressions are too long:
Jokistor, Jokacitor, Jokductor
jokOhms

Apparently (related to virtuality) your mission to "make us happy" is
a hollow goal. :-(

73's
Richard Clark, KB7QHC

6262. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 18:35:43 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee8c912_2@news1.prserv.net>
Source record: 115263

It sounds like you are asking about EMI exposure. The sine of the
equivalent length in wavelengths is a rough approximation, i. e. start with
1/4 wavelength = 90 degrees = 1 (100%). 1/20 wavelength = 18 degrees ~
31%. For 1%, you need to get down to ~0.6 degrees which is 1/628 of a
wavelength. This shows why small unshielded items are so undesirable.

The confounding factor, as Reg obliquely points out, is impedance matching.
But, immersed in a field, a conductor of any length > 0 will exhibit current
flow. Ask Maxwell.
--
Crazy George
Remove NO and SPAM from return address
"Danny" <dannycyc@aol.com> wrote in message
news:7e46f862.0306120616.678df719@posting.google.com...
> I was told that any conductor like a cable that is more than 1/20 of
> a wavelength is an effective antenna for that wavelength.
>
> (Of course, at one fourth of a wavelength or longer,
> cables become efficient antennas.)
>
> Well, for any wavelength, there must be a relationship between
> the radiation strength and the length of an antenna.
> (The length could be ANY positive number.)
>
> What is that formula exactly?
>
> -- Danny

6263. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 18:40:27 UTC
From: Jim Richardson <warlock@eskimo.com>
Message-ID: <r1umr-a7k.ln1@grendel.myth>
Source record: 115264

On 12 Jun 2003 08:02:23 GMT,
jan-martin.hertzsch@rz.hu-berlin.de wrote:
> Jack Twilley <jmt+usenet@twilley.org> wrote:
>
>> What would appear to be required would be three basic tools:
>
>> * something to generate NEC2 input files
>
> That will be your text editor - you just follow the examples from the
> manuals (which you should download and print).
>
>> * the NEC2 engine
>
> Of course :-)
>
>> * something to interpret NEC2 output files
>
> necview or xnecview should do the trick - at least they produce
> graphical output, interpretation is up to the user.
>
>> I haven't seen *anything* to build input files except for Windows
>> stuff. I may be missing something, though.
>
> Same here, but I haven't searched for it - for my wires in the garden
> the old-fashioned technique has been good enough :-)
>
>

There's antennavis, it's getting a bit old and requires Togl and
specific versions of TCL/TK.

<http://n5xu.ae.utexas.edu/antennavis/>

Can be a pain to get compiled and functional, but pretty neat once you
have done so.

--
Jim Richardson http://www.eskimo.com/~warlock

Linux, because eventually, you grow up enough to be trusted with a fork()

6264. Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 19:05:18 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306121105.71efd7d5@posting.google.com>
Source record: 115265

Hi all,

I thought it would be useful to start a thread for people to share ideas (and perhaps ask specific questions) about the materials they've found most helpful in homebrew antenna construction, for both conductors and insulators. "Most helpful" often means what was easy to find, once you realized where to get it. For example, farm supply stores often have fiberglass rods about half an inch in diameter that are designed for electric fence use, and they can be very useful for some things around antennas--and they're pretty cheap. Of course, PVC pipe isn't the best of dielectrics, but at voltage minima in antennas it often works fine and is readily available. I'm curious about people's experience with copper pipe for conductors in Yagis and verticals...I've used it for 2-meter Yagis, but wonder if anyone has comments about using larger sizes for lower frequencies. And what do people use when they want an insulator with higher strength and less deflection than what PVC will do? How about favorite construction techniques for masts from readily available materials?

I hope that lots of you out there will jump in with comments about not only the couple of questions I asked, but anything at all about materials you've found useful, and for that matter, ones you'll avoid next time.

Cheers,
Tom

6265. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 19:43:02 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306121143.6154e087@posting.google.com>
Source record: 115266

There really isn't an exact formula, but as the antenna becomes
smaller two things will happen, both of which cause you trouble. One
is that the radiation resistance as measured at the feedpoint will
drop to such a low value that the resistance of the antenna conductors
themselves (reflected to the feedpoint) will become a significant
fraction of the total feedpoint resistance, and that means you'll be
wasting a significant fraction of your power heating the antenna. The
other is that the feedpoint resistance will become small enough, AND
the feedpoint reactance will become large enough, that you won't be
able to build an efficient matching network to match your transmitter
(or receiver...or feedline) to the antenna. Associated with that will
be a very narrow bandwidth (when you include the matching network),
especially on lower frequencies. Some configurations will work better
than others, but any configuration will have those problems as you
shrink its size for a given frequency of operation. The limit depends
on the losses you can tolerate and the bandwidth you require. Extreme
examples often occur with folk trying to operate mobile on 1.8MHz or
3.5MHz...a mobile antenna for 80 meters is commonly shorter than
1/20th wavelength (4 meters).

Cheers,
Tom

dannycyc@aol.com (Danny) wrote in message
news:<7e46f862.0306120616.678df719@posting.google.com>...
> I was told that any conductor like a cable that is more than 1/20 of
> a wavelength is an effective antenna for that wavelength.
>
> (Of course, at one fourth of a wavelength or longer,
> cables become efficient antennas.)
>
> Well, for any wavelength, there must be a relationship between
> the radiation strength and the length of an antenna.
> (The length could be ANY positive number.)
>
> What is that formula exactly?
>
> -- Danny

6266. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 20:17:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE8DFDA.9020108@ieee.org>
Source record: 115267

Richard Clark wrote:
> Apparently (related to virtuality) your mission to "make us happy" is
> a hollow goal. :-(

Apparently you are afraid of something and will never be happy.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6267. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 20:58:24 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86d6hjko7j.fsf@duchess.twilley.org>
Source record: 115268

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Jim" == Jim Richardson <warlock@eskimo.com> writes:

[...]

Jack> I haven't seen *anything* to build input files except for
Jack> Windows stuff. I may be missing something, though.

Jim> There's antennavis, it's getting a bit old and requires Togl and
Jim> specific versions of TCL/TK.

Jim> <http://n5xu.ae.utexas.edu/antennavis/>

I checked out the URL. That stuff wasn't supported even when it was
released three years ago. Sheesh. :-)

Jim> Can be a pain to get compiled and functional, but pretty neat
Jim> once you have done so.

Mmm. I don't have any Irix boxes handy, and I can't imagine how fun
it would be to get all the dependencies working. Ah well.

Jim> -- Jim Richardson http://www.eskimo.com/~warlock

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+6Ol2GPFSfAB/ezgRAmp2AKDe5jel8fKL/wK8VwTJQzZFE/3jlQCeOsdj
Wtt4jatwdY4LdYcjVLMSmak=
=bfqw
-----END PGP SIGNATURE-----
```

6268. antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:05:35 UTC
From: Ramilacaponi <acuadrad@puc.cl>
Message-ID: <3ee8ebf3$1@omega.ifxnw.cl>
Source record: 115269

I'm building a remote controller where I've a transmitter and a receiver. My question is ¿can I use the same antenna for both? I'm not interested in receiving while I'm transmitting. And something else, ¿Does anybody know any page about building PCB antennas? Thanks.

6269. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:16:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcaqjaetq1@hercules.btinternet.com>
Source record: 115270

Are there programs which make Unix and other machines think they are DOS machines?

6270. Re: RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:39:11 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <lumdnfrjCriAbnWjRTvU3Q@crocker.com>
Source record: 115271

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:5kdhevkin76nctuc1sgjnkd6ie980n8940@4ax.com...
> On 12 Jun 2003 02:21:10 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
> wrote:
>
> >In clinical trials of the device called Trimprobe, the scanner pinpointed
93
> >percent of prostate cancer tumours that were later confirmed by biopsies.
> ...
> >The white plastic baton...
> >is passed over the body. There is no need to undress.
> >
> >The scanner contains an antenna that produces a beam of microwaves that
vary in
> >frequency from 400 to 1350 megahertz. According to Vedruccio and his
team,
> >tumours generate strong interference at about 400 megahertz.
>
> Hi Yuri,
>
> This is the power of the unstated conditions. Such "trials" that
> predate peer review are heavily front loaded with rich prospects. My
> guess is that they were surveying a population already diagnosed with
> the problem, and lacking confirmation. This "trial" was then slipped
> into the regimen just before the biopsy and BINGO the confirmation is
> attached to the last step. In prospector lingo, this is salting the
> claim and then hi-grading the ore.
>
> The second paragraph reveals the distance from the affected site (the
> white baton is apparently not employed in the fashion one might expect
> for this kind of test); and the third paragraph reveals the
> wavelength: 75cM. This typically gives a resolution of about 7 inches
> and we are lead to believe that tumors much smaller, in an organ much
> smaller are distinguishable to the effect of 93%?
>

i find two things very odd, how would a small tumor 'generate strong
interference at about 400 mhz', and second, the 93% figure is highly
dependent on the sample group used... i don't remember the numbers, but a
large percentage of men over 50 or 60 years old have prostate cancer, it is
very slow growing and most of those men will die of something else before it
is detected, or before any symptoms that need treatment are felt. a trial
like this could easily be detecting the doctors more closely scanning older
men in the test group resulting in finding a higher percentage of 'hits' in

that group which could skew the statistics even more... another one they probably don't talk about is how what percentage of the men actually had biopsies done??? normally a biopsy wouldn't be done in all men unless they had some other symptom, so it is highly likely that if a biopsy is done there will be a tumor detected... i would doubt that they did biopsies based on the result of waving this wand over someone.

to do this type of test properly is very hard, you would have to come up with a test procedure that tightly controls the handling of the device so that a doctor's knowledge of the test subject doesn't skew his use of it, and also remove knowledge of the subject from the interpretation of the data... this would be worse than running a normal double blind drug study since whoever is doing the exam has to know the subject, you might be able to make an automated device to wave the wand in a predetermined pattern, record the results and tag them with a random identifier, then have them interpretted without knowing which results were from which patient, but from the description it doesn't sound like they did that.

6271. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:41:44 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <_VSdncqfSbgEbnWjXTWcpA@crocker.com>
Source record: 115272

"Ramilacaponi" <acuadrad@puc.cl> wrote in message
news:3ee8ebf3$1@omega.ifxnw.cl...
> I'm building a remote controller where I've a transmitter and a receiver.
My
> question is ¿can I use the same antenna for both? I'm not interested in
> receiving while I'm transmitting. And something else, ¿Does anybody know
any
> page about building PCB antennas? Thanks.
>
>

yes, you can use the same antenna for transmitting and receiving if you
either switch the antenna between the transmitter and receiver, or separate
them with a circulator or duplexer.

6272. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:42:47 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vehsvs4brl2188@corp.supernews.com>
Source record: 115273

yes
"Ramilacaponi" <acuadrad@puc.cl> wrote in message
news:3ee8ebf3$1@omega.ifxnw.cl...
> I'm building a remote controller where I've a transmitter and a receiver.
My
> question is ¿can I use the same antenna for both? I'm not interested in
> receiving while I'm transmitting. And something else, ¿Does anybody know
any
> page about building PCB antennas? Thanks.
>
>

6273. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:43:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oushev8gq8psevtr75q6ot877bhtcd0f9l@4ax.com>
Source record: 115274

On Thu, 12 Jun 2003 15:17:30 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Apparently (related to virtuality) your mission to "make us happy" is
>> a hollow goal. :-(
>
>Apparently you are afraid of something and will never be happy.

Now there's a value of at least 2 jokOhms!

6274. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 21:49:47 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vehtd059kfkj9d@corp.supernews.com>
Source record: 115275

don't worry ------- be happy
what, me worry?
I give it 708 PicojokFarads myself......

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:oushev8gq8psevtr75q6ot877bhtcd0f9l@4ax.com...
> On Thu, 12 Jun 2003 15:17:30 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
> >Richard Clark wrote:
> >> Apparently (related to virtuality) your mission to "make us happy" is
> >> a hollow goal. :-(
> >
> >Apparently you are afraid of something and will never be happy.
>
> Now there's a value of at least 2 jokOhms!

6275. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 22:08:31 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <864r2vkkyo.fsf@duchess.twilley.org>
Source record: 115276

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Reg" == Reg Edwards <g4fgq.regp@btinternet.com> writes:

Reg> Are there programs which make Unix and other machines think they
Reg> are DOS machines?

Yes, and no. I could probably run EZNEC in Wine or some such, but I
think I'm going to have to break down and learn to visualize Fortran
punch cards. It would be truly nifty if AF0D could get back to me on
the Perl script. That would rock. Otherwise, I could probably take a
simple known antenna with a known output and write the Perl script
myself.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+6PnkGPFSfAB/ezgRAoVLAKDYO28jpF6CAcoMjlm0wtNML4TF9wCg1Onk
eUti8fAnhDt2ZtEdf7Duk+Y=
=H9p+
-----END PGP SIGNATURE-----
```

6276. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 23:07:08 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030612190708.14248.00000828@mb-m29.aol.com>
Source record: 115277

>
>I hope that lots of you out there will jump in with comments about not
>only the couple of questions I asked, but anything at all about
>materials you've found useful, and for that matter, ones you'll avoid
>next time.
>
>Cheers,
>Tom
>

How refreshing subject away from virtual nonsense :-)

Antenna element material - most popular is the aluminum, light weight, reasonably strong and good conductivity. Copper has (virtually :-) better conductivity but is soft and heavier and not too good for larger antenna elements. Titanium is super but pricey.

Finding material - junkyards, old antennas and new material from suppliers. This subject is good for 300 threads at least. From irrigation pipes, to copper water pipes, to wire, to ....

Insulators, I think the best bet is using fiberglass rods and tubes. They are easy to match to tubing diameters, strong and good dielectric constant. I use them for insulators in verticals and for insulators for loading devices (coils, stubs). Slit the tubing, use the hose clamp and voila (pardon my freedom fries). Use stainless steel hardware.

That should be enough to start some "treads".

Yuri, K3BU

6277. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 23:18:17 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vei2iuocke0b57@corp.supernews.com>
Source record: 115278

trees
do you have any trees?
fish poles with reels
get the idea?
use wire
H.

"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030612190708.14248.00000828@mb-m29.aol.com...
> >
> >I hope that lots of you out there will jump in with comments about not
> >only the couple of questions I asked, but anything at all about
> >materials you've found useful, and for that matter, ones you'll avoid
> >next time.
> >
> >Cheers,
> >Tom
> >
>
> How refreshing subject away from virtual nonsense :-)
>
> Antenna element material - most popular is the aluminum, light weight,
> reasonably strong and good conductivity. Copper has (virtually :-) better
> conductivity but is soft and heavier and not too good for larger antenna
> elements. Titanium is super but pricey.
>
> Finding material - junkyards, old antennas and new material from
suppliers.
> This subject is good for 300 threads at least. From irrigation pipes, to
copper
> water pipes, to wire, to ....
>
> Insulators, I think the best bet is using fiberglass rods and tubes. They
are
> easy to match to tubing diameters, strong and good dielectric constant. I
use
> them for insulators in verticals and for insulators for loading devices
(coils,
> stubs). Slit the tubing, use the hose clamp and voila (pardon my freedom
> fries). Use stainless steel hardware.
>
> That should be enough to start some "treads".
>
> Yuri, K3BU

6278. Re: RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 23:20:36 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030612192036.14248.00000830@mb-m29.aol.com>
Source record: 115279

> This typically gives a resolution of about 7 inches
>and we are lead to believe that tumors much smaller, in an organ much
>smaller are distinguishable to the effect of 93%?
>
>I suspect they could have brought in a Gypsy to wave her hands to
>similar success.
>
>73's
>Richard Clark, KB7QHC

Hard to say if this is in Fractal dream land or there is something to it. I wonder if GDO would detect the tumor, or the SWR method is needed to transmit the frequency and look for detuning.

This whole cancer thing is attacked from the wrong end. Rather than striving for prevention, medical establishment is looking for magical pill or knife. Like the ba$tards tried to fix my blood pressure and hypertension problem with pills (its for life), when I simply cured it with Dr. Atkins way of eating. The same goes for cancer. Apparently it is of viral origin, everybody has it, it is up to the damaged immune system where it shows up. Again, the best "recipe" is to prevent it by proper eating, not junk food. Many people dump on Wayne W2NSD but he has a lot of wisdom in his endless editorials.

RF heating is "cooking" tumors, but we got "blessed" with stupid RF danger guidlines and regulations. Sounds to me like the "no fat, no cholesterol" vegetarian crap pushing people to sickness and pill consumption or bypass business.
I guess the insurance industry and health "professionals" need to make living too from our misery.

Yuri

6279. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 23:42:39 UTC
From: jgboyles@aol.com
Message-ID: <20030612194239.00447.00000590@mb-m12.aol.com>
Source record: 115280

>However, in a feedline with reflections, the points on the SWR circle
>become the dependent variable. Both the net voltage and net current
>are, in this case, the independent variables. Z=V/I, where Z is
>the dependent variable.

Hi Cecil, I'm sure this has been brought up before on the 5,000 posts on this subject.

If you consider the model of a lossless transmission line consisting of ideal lumped circuit constants of inductance and capacitance, then you have no power dissipation along the transmission line. Ideal L and C's dissipate no power. You have a V/I ratio along the line, and the power (heat) is given by VI cos (A), A being the phase angle between the voltage and current. Along the lossless line A must equal 90 degrees, since cos (90)=0. No power consumed. But at the termination point, the 50 ohm resistor will get hot as a firecracker cause V and I are now in phase, cos (0)=1.
So a lossless transmission line consumes no power, although there are V/I ratios all up and down the line. Looks like the only thing that can cause reflections is that terminating resistance. Even if you transition from one Z line to another Z line, if the lines are lossless, what happens? Remember that I am looking at this from the lumped circuits constants model of a transmission line.
73 Gary N4AST

6280. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-12 23:49:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ev3iev4l9ruf7s9ubb7nmhgodgrr1gr2i4@4ax.com>
Source record: 115281

Sling shot
Fishing weights
Bow and Arrow
braided Nylon line
Wire (lots of it)

Barn nails (about 1 foot long, half inch thick)

Visit metal scrap yard for tubular material

pop rivets (especially those fitted with nuts)

Hose clamps (small, 3/8ths to half inch diameter)

Army Surplus (Boeing Surplus for Seattle residents)

73's
Richard Clark, KB7QHC

6281. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 00:00:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE91418.20906@ieee.org>
Source record: 115282

JGBOYLES wrote:
> Along the
> lossless line A must equal 90 degrees, since cos (90)=0.

Nope, that's an old wives' tale. Unless the SWR is equal to
infinity, any point on the SWR circle will have a resistive
component which is dissipationless in a lossless line. For
instance, the current maximum point on an SWR circle is
always perfectly resistive, i.e. the net voltage and net
current is in zero phase at that point.
--
73, Cecil, W5DXP

6282. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:19:17 UTC
From: richardharrison@webtv.net
Message-ID: <10662-3EE92695-25@storefull-2317.public.lawson.webtv.net>
Source record: 115285

Cecil, W5DXP wrote:
"How about "referred impedance"?"

I thought the ARRL Handbook might show a ready precedent. I was disappointed to find no reference to "referred impedance" in the discussion of transformer impedance matching on page 2-31 of my 1987 Handbook which shows the impedance ratio as the square of the transformer turns ratio. I seem to remember the load being referred to the primary using the secondary load and the transformer`s impedance ratio to make the calculation. It must have appeared that way elsewhere.

As I recall, Terman and many other authors expect the reader to know how the load comes to be imposed on the active device, and simply call it RL. If confusion might result, they might make it RL with a "prime" mark. If they need more of the same in other locations, they keep adding marks to tell them apart.

Best regards, Richard Harrison, KB5WZI

6283. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:42:56 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcba73$3dp$1@slb2.atl.mindspring.net>
Source record: 115283

Cecil:

Your problem is with the "non-existant" reflections not with the
non-existant resistance.

As you well know, there are simply no reflections in the steady state,
period end of story.

Now in the transient epoch reflections do actually occur, but you don't need
a "fancy" named
resistance to substantiate that kinda time domain stuff.

:-)

--
Peter K1PO
Indialantic By-the-Sea, FL.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EE88AD1.40708@ieee.org...
> Richard Harrison wrote:
> > Cecil, W5DXP wrote:
> > "For instance, one (resistance) gets hot and the other doesn`t."
> >
> > Call them by the same names others use if you would be understood,
> > "resistance" and "lossless resistance". A "resistor" converts electrical
> > energy into heat energy.
>
> I've been criticized for using the term "non-dissipative" resistance.
> I was told, "resistance is resistance", and there do not exist
> different kinds of resistance - "No steenking adjectives needed!"
>
> Here are the two conditions that I need to differentiate.
>
> source---1WL 150 ohm line---+---1WL 150 ohm line---50 ohm resistor
>
> The impedance at the resistor is 50+j0.
> The impedance at '+' is 50+j0.
> The impedance at the resistor causes reflections.
> The impedance at '+' does not cause reflections.
>
> What words can I use to differentiate between the 50+j0 impedance
> at the load and the 50+j0 impedance at '+'?
>
> For instance, it is necessary to differentiate between the "feedpoint
> resistance" and the "radiation resistance" of an antenna so adjectives

> for "resistance" already exist.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6284. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:45:19 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcbabitol1@slb0.atl.mindspring.net>
Source record: 115284

Richard, Cecil:

It's called "surge impedance", has been for many many years. No need for new names.

Call it what it is, "surge impedance".

Just do it!

Oh... and while you'r at it just stop calling an "image match" a "Zo-match" it just ain't right.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Richard Harrison" <richardharrison@webtv.net> wrote in message news:12932-3EE8B6F5-62@storefull-2316.public.lawson.webtv.net...
> Cecil, W5DXP wrote:
> "What words can I use to differentiate between the 50+j0 impedance at
> the load and the 50+j0 impedance at "+"?"
>
> Terman calls impedance at any point in a transmission line, the line
> impedance at the specified point.
>
> The impedance at your load is a pure resistance of 50 ohms. Referred to
> the junction of two full wavelengths of any good transmission lines
> connecting the source and the load, the 50-ohm load presents 50 ohms,
> regardless of the Zo of either line.
>
> Terman`s vocabulary includes Zs, ZL, and Zo.
>
> You can call the impedance at "+", the impedance at the junction of the
> lines or you can call it the load impedance as referred to that point,
> or as the load impedance as it appears at that point.
>
> Terman also uses "image impedance" and "iterative impedance" but I don`t
> recall them being applied to transmission lines. Probably Terman did not
> want to use more terms than necessary. Coupling circuits in filters and
> such makes use of these terms.
>
> Best regards, Richard Harrison, KB5WZI
>

6285. Skeleton Slot/Hentenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:53:19 UTC
From: "T.E.O" <rfmscpa@earthlink.net>
Message-ID: <j8aGa.46266$lo.4266322@newsread2.prod.itd.earthlink.net>
Source record: 115286

Has anyone built either of these?

I am contemplating a 40' vertical x 13' horizontal multi-band Skeleton Slot suspended from a 60' tree. Modeled after G3LDO's design in ARRL Compendium # 6. Top @ about 55'. Fed with 450 ohm window ladder line. Modeling says it should be a good, rotatable, bi-directional performer from 40 meters up to 6 meters with good gain on 20, 17, 15, 10 and 6.

Question is, "Is it worth the effort?".

6286. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:55:30 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcbaul$37h$1@slb3.atl.mindspring.net>
Source record: 115287

Cecil:

[snip]
> is usually invented and adopted. I find it strange that in 300 years,
> no word has been adopted for an impedance that is a dependent variable
> Vs an impedance that is an independent variable.
[snip]

Man you very confused. I can't believe that you so casually misuse simple
mathematical terms that way.
Where did you study mathematics?

Cecil, impedance is not a "variable" in any electro-dynamic equations.
Impedance, like resistance,
inductance and capacitance, etc... are "parameters". These quantities
always appear in electro-dynamic equations
as parameters, not as variables.

Time is an independent variable, frequency is an independent variable,
voltage may be either an independent or a dependent variable, depending
whether it acts as a prime mover or not, current may be either a dependent
or an independent variable, depending upon whether it acts as a prime mover
or not, but impedance is not a variable, impedance is always a parameter in
the equations of electrodynamics.

Examine how impedance occurs in electrodynamic equations, either time domain
differential equations,
or frequency domain operational equations, it is *always* as parameter not
as a variable.

If a voltage source is applied to a resistor then a current flows. The
current is caused by the voltage which
is the prime mover. The resistance is merely a parameter in the equation,
it causes nothing!

Get out any basic freshman math textbook and re-learn how variables and
parameters in equations are defined.

Resistance never causes anything!

--
Peter K1PO
Indialantic By-the-Sea, FL.

6287. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 01:56:56 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcbb1blvp1@slb1.atl.mindspring.net>
Source record: 115288

NO it's NOT!

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:12931-3EE8870B-117@storefull-2316.public.lawson.webtv.net...
> Peter Brackett wrote:
> "A resistor does not cause a V/I ratio!"
>
> Current through the resistance drops a voltage across the resistor. This
> voltage is proportional to the resistor`s ohms, resistance value, or its
> V/I ratio. Ohms, resistance value, and V/I ratio are all identical.
>
> It is reasonable to say that a resistor makes a voltage drop when
> passing a current, thus it causes a V/I ratio.
>
> Best regards, Richard Harrison, KB5WZI
>

6288. Re: Satelite dish construction first spet

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:07:06 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <0aciev0dq9lg1mavns0qv2h1i8b3t231qo@4ax.com>
Source record: 115289

On Mon, 9 Jun 2003 22:29:32 -0500, "Crazy George"
<munschNO@attglobal.net.SPAM> wrote:

>I read somewhere that if you rotate a dish of liquid, the surface forms a
>parabola of rotation. Someone claimed to have done this with a large (80
>gallon) pan of liquid epoxy and made a female mold, and went from there.
>One of the old line antenna manufacturers who shall forever remain nameless
>used to make aluminum dishes over a male mold by running a cement filled
>tire in an appropriate fixture round and round upon an aluminum disk, while
>moving it out very slowly from the center. Had to go to better accuracy
>when the new microwave sidelobe rules came in back in the 60s. I helped a
>friend build a cylindrical parabola for 432 back in the 50s using conduit,
>chicken wire and plywood.

"Spin Casting" is one of the more modern methods for casting the rough
blanks for medium size newtonian telescopes...Although it does not
eliminate the mirror grinding and polishing it does greatly reduce the
amount of grinding required and thus speeds the process of mirror
making greatly.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)

6289. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:09:52 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <KnaGa.14243$Gm4.1145742@news20.bellglobal.com>
Source record: 115291

"Tom Bruhns"
> ...materials....homebrew antenna construction...

Boom - scrap steel electrical conduit
Elements - ceiling tile system suspension wire
Joints - brazed (support the elements or they'll droop when hot)
Insulator (for driven element) - scrap plastic and surplus expired epoxy
Insulator attached to boom with SS hardware
Mount for mast - conduit hardware brazed together

The above "junk" was used to produce a small production run of TV VHF channel-8 (channel specific), 6-element Yagis to solve a particular TV reception problem in the suburbs of Halifax. The antennas worked great and at least some are still in use ~6 years later.

6290. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:17:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE93428.8080509@ieee.org>
Source record: 115290

Peter Brackett wrote:
> As you well know, there are simply no reflections in the steady state,
> period end of story.

Nope, I don't know that, Peter. But I do know about your Catch-22
steady-state smoke and mirrors that bears no resemblance to reality.

If there are no reflections in steady-state, please tell us exactly
how standing waves form without forward and reflected waves traveling
in opposite directions. Remember, it is a single source, single feedline,
and single load.
--
73, Cecil http://www.qsl.net/w5dxp

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6291. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:31:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE93786.2060403@ieee.org>
Source record: 115292

Peter Brackett wrote:
> Call it what it is, "surge impedance".

A surge impedance is any impedance on the SWR circle? Not according
to the IEEE dictionary.

> Oh... and while you'r at it just stop calling an "image match" a "Zo-match"
> it just ain't right.

What's wrong with Z0-match? defined as: The condition in which the
impedance seen looking into a transmission line is equal to the
characteristic impedance of the line. (HP AN-56) Note that if no
reflections are present, the image impedance looking back into the
source doesn't matter.
--
73, Cecil http://www.qsl.net/w5dxp

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6292. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:42:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE939F9.6090509@ieee.org>
Source record: 115293

Peter Brackett wrote:
> Cecil, impedance is not a "variable" in any electro-dynamic equations.

Peter, I can write an equation for the variable impedance equal to the function of the SWR and Gamma angle. If you like, call it a variable parameter. Jeezzzz ...

> ... impedance is always a parameter in the equations of electrodynamics.

If the impedance *varies* with the V/I ratio, why isn't it a variable?

> Resistance never causes anything!

Just how far away from reality can you get before you don't come back? Last time I checked, a 12 ohm resistor across a 12 volt battery causes one amp to flow.
--
73, Cecil http://www.qsl.net/w5dxp

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6293. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:45:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE93AB3.4020109@ieee.org>
Source record: 115294

Peter Brackett wrote:
> NO it's NOT!

It is reasonable to say that the characteristic impedance of the
feedline in a flat system causes a V/I ratio.
--
73, Cecil http://www.qsl.net/w5dxp

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6294. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:46:38 UTC
From: richardharrison@webtv.net
Message-ID: <19020-3EE93B0E-107@storefull-2313.public.lawson.webtv.net>
Source record: 115295

Ramilacaponi wrote:
"Can I use the same antenna for both (transmitter and receiver)?"

Yes. That is the most common antenna usage when the same frequency is used for both transmitting and receiving.

An antenna relay is operated by the transamitter keying voltage. Solid-state switches are sometimes used in place of relays. Relays are simpler and in most cases they last indefinitely and operate comletely. They are hard to beat in most applications.

In the de-energized condition, the antenna relay makes a connection between the receiver input and the antenna. The connection between the transmitter and the antenna is interrupted.

Keying the transmitter actuates the antenna relay. This opens the normally-closed contacts which had connected the antenna to the receiver. This closes the normally-open contacts which connect the transmitter to the antenna.

When the keying voltage is removed from the transmitter, the antenna relay is de-energized. This returns the antenna relay contacts to their initial conditions, receiver connected to the antenna and the transmitter disconnected.

Best regards, Richard Harrison, KB5WZI

6295. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 02:57:06 UTC
From: richardharrison@webtv.net
Message-ID: <19020-3EE93D82-108@storefull-2313.public.lawson.webtv.net>
Source record: 115296

Peter Brackett wrote:
"Resistance never caused anything!"

Funny! Most panel controls are potentiometers, a form of variable resistor.

Best regards, Richard Harrison, KB5WZI

6296. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 03:19:05 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3EE942A9.BF620101@powerup.com.au>
Source record: 115297

Electric fence tape - (stainles/copper mix) - very strong
Irrigation system wire - (thin and black for stealth)

Tom Bruhns wrote:
>
> Hi all,
>
> I thought it would be useful to start a thread for people to share
> ideas (and perhaps ask specific questions) about the materials they've
> found most helpful in homebrew antenna construction, for both
> conductors and insulators. "Most helpful" often means what was easy
> to find, once you realized where to get it. For example, farm supply
> stores often have fiberglass rods about half an inch in diameter that
> are designed for electric fence use, and they can be very useful for
> some things around antennas--and they're pretty cheap. Of course, PVC
> pipe isn't the best of dielectrics, but at voltage minima in antennas
> it often works fine and is readily available. I'm curious about
> people's experience with copper pipe for conductors in Yagis and
> verticals...I've used it for 2-meter Yagis, but wonder if anyone has
> comments about using larger sizes for lower frequencies. And what do
> people use when they want an insulator with higher strength and less
> deflection than what PVC will do? How about favorite construction
> techniques for masts from readily available materials?
>
> I hope that lots of you out there will jump in with comments about not
> only the couple of questions I asked, but anything at all about
> materials you've found useful, and for that matter, ones you'll avoid
> next time.
>
> Cheers,
> Tom

--
****
* Murray Kelly vk4aok mailto://mkelly@powerup.com.au *
* 6 Spyglass Place, Oxley Ridge QLD. 4075. Australia *
* ph/fax Intl+ 61 7 3879 7968 *
****

6297. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 03:45:31 UTC
From: mcolasono@earthlink.net
Message-ID: <e079e35e.0306121945.767954a0@posting.google.com>
Source record: 115298

"Alexander Schewelew" <dl1pbd@gmx.net> wrote in message
news:<bca78h$g0mp9$1@ID-34767.news.dfncis.de>...
> > > > LD 5 0 0 0 0.0 0.0 0.0 0.0 What for?
> >
> > the loading card in this case sets the wire conductance. it was in the
> > example in the get started file. i noticed leaving it out or maybe
> > using a perfect conductor didn't seem to matter?
> >
> > what's your opinion on the use of the loading card?
>
> You need not the loading card for a perfect conductor.
> The unit for LDTYP=5 is mhos/m and not Ohm/m!!!

the example was for copper wire.

LDTYP? thats not in the NEC2 manual. who said anything about Ohm/m?

mike c

6298. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 06:20:51 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.195337dbd5f21e1898968f@news.earthlink.net>
Source record: 115299

In article <20030612190708.14248.00000828@mb-m29.aol.com>,
k3bu@aol.comnoSaddam says...
> >
> >I hope that lots of you out there will jump in with comments about not
> >only the couple of questions I asked, but anything at all about
> >materials you've found useful, and for that matter, ones you'll avoid
> >next time.
> >
> >Cheers,
> >Tom
> >
i see my electric supply store now has a gun with a spin-cast fishing
reel attached. i won't have to brandish my crossbow.

alternately, i 'm pretty adept with 1/4" round braid poly line with a
CATV strand eye bolt on one end.

mike c.

6299. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 06:27:05 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1953394cabbf7b1c989690@news.earthlink.net>
Source record: 115300

In article <20030612190708.14248.00000828@mb-m29.aol.com>,
k3bu@aol.comnoSaddam says...
> >
> >I hope that lots of you out there will jump in with comments about not
> >only the couple of questions I asked, but anything at all about
> >materials you've found useful, and for that matter, ones you'll avoid
> >next time.
> >
> >Cheers,
> >Tom
> >

i forgot. i may still have a rubber coated throwing weight. one draw back. it bounces back if you miss and hit a branch or balcony. but it didn't hurt the guy who got hit in the noggin :-) i was relieved when he started laughing.

cost of general liability for me has varied from $250 - $750 per year for $1M, $1M, $500K. it's at $250 now.

insurance. muy importante.

mike c.

6300. Are Smart Antennas available?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 07:02:04 UTC
From: Paul Winton <paul.winton@paric.co.nz>
Message-ID: <SGeGa.4931$Jq3.805319@news02.tsnz.net>
Source record: 115301

Hi all,

Does anybody know whether smart antennas are commercially available in 2.4GHz. In particular I would like to cover a 180 degree (left to right) range in 3 to 5 'segments', switching depending on location of transmitter in a TDMA system (indoors). In the perfect world I would like all energy in this 36-50 degree lobe.

Cheers

Paul

6301. Re: Skeleton Slot/Hentenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 07:12:30 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <98I1wVFelX6+EA0D@ifwtech.co.uk>
Source record: 115303

T.E.O wrote:
>Has anyone built either of these?
>
No, but I did the original modeling for G3JYP, who developed the
skeleton slot for HF. G3JYP has used one for years, on a fairly wooded
site that doesn't have turning space for an HF yagi.

>I am contemplating a 40' vertical x 13' horizontal multi-band Skeleton Slot
>suspended from a 60' tree. Modeled after G3LDO's design in ARRL Compendium #
>6. Top @ about 55'. Fed with 450 ohm window ladder line. Modeling says it
>should be a good, rotatable, bi-directional performer from 40 meters up to 6
>meters with good gain on 20, 17, 15, 10 and 6.
>
This antenna is effectively three stacked shortened dipoles, and as with
any stacked antenna the phase centre is only half-way up. Therefore you
really do need that tall pole to see the benefit. Guying the pole brings
some problems with the vertical sections fouling the guys when the pole
is rotated, though the bi-directional pattern helps to give all-round
coverage.

Bear in mind that each of the horizontal sections is only 13ft long (the
vertical sections don't contribute significantly to far-field radiation)
and acts as a dipole. That's a very short dipole for the lower bands,
especially 40m, so don't expect spectacular gain down there, even though
it is efficiently fed.

It will in fact work on *all* the higher bands, including 30m, 12m and
even the UK 4m band (70MHz). The only issue for multi-band operation is
your ATU's ability to match the balanced feed impedances.

>Question is, "Is it worth the effort?".

Only you can decide that.

A similar antenna worth considering is a single diamond quad loop, fed
with open-wire at the bottom. This will behave (loosely speaking) as two
shortened stacked dipoles, with the same kind of bi-directional pattern
on all the higher HF bands. When mounted on the same 55ft pole, the
phase centre would be higher than the skeleton slot. You might also be
able to rotate it inside the guys. Moxon's book has some good
suggestions.

There are lots of antennas you could mount on a 55ft pole... it depends
what your priorities are. In particular, how far are you prepared to
trade gain on one band for ability to cover several bands? How important
is rotation? How important is low-angle DX performance?

On the other hand, if experimenting is one of your main priorities, then
of course you can try them all!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6302. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 08:17:27 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcc1an$n02$1@titan.btinternet.com>
Source record: 115302

35mm film containers.
Plastic aspirin containers.
Cardboard toilet roll tubes.
20 awg enamelled copper wire.
Super-glue.

6303. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 09:03:07 UTC
From: Jim Richardson <warlock@eskimo.com>
Message-ID: <bjgor-df6.ln1@grendel.myth>
Source record: 115170

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

On Thu, 12 Jun 2003 13:58:24 -0700,
Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
>>>>>> "Jim" == Jim Richardson <warlock@eskimo.com> writes:
>
> [...]
>
> Jack> I haven't seen *anything* to build input files except for
> Jack> Windows stuff. I may be missing something, though.
>
>Jim> There's antennavis, it's getting a bit old and requires Togl and
>Jim> specific versions of TCL/TK.
>
>Jim> <http://n5xu.ae.utexas.edu/antennavis/>
>
> I checked out the URL. That stuff wasn't supported even when it was
> released three years ago. Sheesh. :-)
>
>Jim> Can be a pain to get compiled and functional, but pretty neat
>Jim> once you have done so.
>
> Mmm. I don't have any Irix boxes handy, and I can't imagine how fun
> it would be to get all the dependencies working. Ah well.
>
>Jim> -- Jim Richardson http://www.eskimo.com/~warlock
>

Well, I can't help WRT FreeBSD, I am a neophyte there, but I got it
working fine on Linux, so it can be done.

As for other tools, I have some python scripts that I use, kinda clunky,
little more than preprocessors and iterators, but they work for my
limited needs. I hope to knock off the rough edges and release them in
the near future. But they aren't exactly a click and point solution. I
would like to see a modeler and GL based viewer for the antenna and data
files. I had to wrap nec2 in an expect script to let it accept stdin and
stdout. I'd look at reimplimenting nec2 in numeric python, but frankly,
I think that would exceed my abilities in both Python, and understanding
of antenna modeling. :)
```

```
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (GNU/Linux)

iD8DBQE+6ZNLd90bcYOAWPYRArnOAJ9wLOpf4M0D1jvoPQMo2VcytZgSlwCg3V5z
7uAHIqPrm4ZlafeQ2mYUTLo=
=MYVt
-----END PGP SIGNATURE-----

--
Jim Richardson http://www.eskimo.com/~warlock

Linux, because eventually, you grow up enough to be trusted with a fork()
```

6304. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 09:05:17 UTC
From: 4nec2@gmx.net
Message-ID: <ee90361b.0306130105.46457887@posting.google.com>
Source record: 115304

Jack Twilley <jmt+usenet@twilley.org> wrote in message
news:<86llw7kvc1.fsf@duchess.twilley.org>...
>
> I hope to use NEC2 not only for modeling my own antennas but also for
> learning more about antennas in general. The idea of being able to
> crank the elements up to 3k or 5k and let the process cogitate over
> the weekend appeals to me, if only to see whether more elements makes
> for better analysis. The demo version of EZNEC will handle twenty
> elements, and some of the antennas it includes have nearly one hundred
> elements. It's an effective tease. :-)

Aha, you seemed to have used windows-?? nevertheless. In case you have
problems with the max-nr of segments to run, you could try 4nec2.
Although not usable within the linux environment it has something in
common, namely the freeware aspect. For you particular needs I think
it's nice to know you can run, optimize and visualize as many as 11000
segments.

Success with your quest,
Arie.

6305. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 09:25:18 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306130125.2391e302@posting.google.com>
Source record: 115305

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
> > I need a yagi or something with gain, because I'm quite some ways from
> > the marine station.
>
> Remember to put the Yagi up vertical on a non-metalic pole.

Why the non-metalic pole? I've used plenty of vertical yagi's on metal masts. My present 3 el 2m yagi is on a metal mast. No problems at all. Actually, here in lightning country, a non metal mast is kind of dangerous. If the reflector is on the same side of the mast as the rest of the elements, the mast is fairly "invisible" as far as the antenna is concerned. Even if the reflector is on the other side, I bet it would still work in many cases, being the mast is not resonant and so long. I think the antenna would ignore the mast to a large extent. But my reflector is on the director side of the mast, so no worries at all. MK

6306. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 09:56:36 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306130156.16702b1e@posting.google.com>
Source record: 115306

"John Passaneau" <jxp16@psu.edu> wrote in message
> I will be happy if 60m works out to be useful for emergency work, but I
> don't think that it will because the pool of users will be too small.

I doubt that. Not to mention it will only take 5 qso's to fill up the
band.
But I agree with doc. A band where it takes a "mod" to work, and to
where many won't have the capability, does not make for a good
emergency band. But you also have to think about propagation, and the
distances you want to work. For the most part, emergency use would be
fairly regional, and shorter to medium distances. Much will be NVIS.
So naturally, I think 40m for day, and 75/80m for night makes the most
sense. I can see where 60m would have too long a skip zone at the
later night hours for close in stuff. "mainly winter" But I could see
it being a good band in the daytime, and evenings, etc. But so is 40m.
The only radio I have that could probably easily work 60m is my 706.
And to do that I'd need to "open" it up. I haven't done that so far.
My drakes will go there, but there may be a possible "IF" problem with
that frequency with the drakes. I'd have to check. I'm in no real rush
to work the band. Not enough room to do too much. I think a "true"
emergency station should be able to work nearly all bands. I qualify
both at home at mobile. But I don't bother with emergency practice
games, and such routines. If we have a *real* emergency, I'm ready. I
don't need to practice for it.
Living in hurricane country, the likelyhood of using it is not small.
The lights can go off here, and I'm still on the air with my 12v
radios. If the house is blown down, I can get in my truck if it's
still there. It's good for 80-10m HF, 2m,6m,70cm VHF/UHF. I'll even
add a tap for 60m, if I decide to open my radio up for it. :/ MK

6307. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 10:17:13 UTC
From: Alexander Schewelew <dl1pbd@gmx.net>
Message-ID: <bcc8kl$hs2au$1@ID-34767.news.dfncis.de>
Source record: 115307

>the example was for copper wire

Conductivity of copper is ~ 5.8* 10E7 mhos/m and the loading card for
copper wire is:

LD 5 0 0 0 5.8E7

73!
Alex

6308. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 10:36:29 UTC
From: BJ <rajohngm@worldnet.att.net>
Message-ID: <NOhGa.4430$0v4.333148@bgtnsc04-news.ops.worldnet.att.net>
Source record: 115308
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

She is a crook and screwed many investors. Give her 20 years.

6309. Re: Cushcraft R8 or Hy-gain AV-640?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 10:51:28 UTC
From: K4SQR@juno.com
Message-ID: <7c8be5b4.0306130251.5a9909f9@posting.google.com>
Source record: 115309

The AV-640 has no traps and a Teflon top-loading coil for 40M.
Less expensive and more reliable than CC R8.

I have Ameritron AV-620 SN: 002 and quality is top notch. Later
reverted to Hy-Gain models after Hy-Gain purchased by MFJ.

Good luck,
Jim, K4SQR

Wolfgang K. Meister <no.mail@please.com> wrote in message
news:<jtbgevsjl606u30dlmb7gslvi6na04rvct@4ax.com>...
> Hi all,
>
> if want to make a decission to replace my existing vertical.
>
> The new options are: Cushcraft R8 or Hy-gain AV-640?
>
> Any comments?
>
> 73s
> Wolfgang
> OE1MWW

6310. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 11:25:18 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EE9B449.3000206@attbi.com>
Source record: 115310

Peter Brackett wrote:
[SNIP ed]

> Resistance never causes anything!
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.
>

There is an exception, there always is... !

Resistance can cause a whole range of complex impedances at any point in a transmission line!!!!

Deacon Dave, W1MCE

PS: DD rises to Cecil's defense <grin>

6311. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 11:43:00 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <veje7d6on6tld6@corp.supernews.com>
Source record: 115311

remember the beer can vertical?
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bcc1an$n02$1@titan.btinternet.com...
> 35mm film containers.
> Plastic aspirin containers.
> Cardboard toilet roll tubes.
> 20 awg enamelled copper wire.
> Super-glue.
>
>

6312. Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 12:55:56 UTC
From: Michael <mw@lisp.com.au>
Message-ID: <3ee9c9e7$0$59954$c30e37c6@lon-reader.news.telstra.net>
Source record: 115312
Cross-posted to: aus.radio.broadcast,aus.radio.cb,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

Well,

Ch3 has been timmed out yet again by a door bell sounds transmitter hidden somewhere ..... some say it sounds like Mr Whippy. Lets see how long the repeater is down for !

Mike

6313. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 13:10:06 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ee9cd1c$0$48889$edfadb0f@dtext02.news.tele.dk>
Source record: 115313

Hello Mark

> and so long. I think the antenna would ignore the mast to a large
> extent. But my reflector is on the director side of the mast, so no
> worries at all.

Your right here, it is no problem if you set all the antenna on one side
of the mast, the problem is only there when you want to put op a long
yagi and have to mount it at the balance point.

Regards Max

6314. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 13:43:23 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <O4mcnS4uJ8CYSHSjXTWcrg@crocker.com>
Source record: 115314
Cross-posted to: aus.radio.broadcast,aus.radio.cb,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

"Michael" <mw@lisp.com.au> wrote in message
news:3ee9c9e7$0$59954$c30e37c6@lon-reader.news.telstra.net...
> Well,
>
> Ch3 has been timmed out yet again by a door bell sounds transmitter hidden
> somewhere .... some say it sounds like Mr Whippy. Lets see how long
the
> repeater is down for !
>
> Mike
>
and this should be interesting to a world wide antenna discussion forum in
what way??

6315. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 14:05:44 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ee9db7a_2@news1.prserv.net>
Source record: 115315

Tom:

I attempted to start a similar thread on Yagi construction a while back. I was referred to the rather good book by Leeson: Physical Design of Yagi Antennas, which covers a lot of the survivability and mechanical engineering issues with antennas in general. I never subscribed to the adage: I"f it didn't blow down last winter, it wasn't big enough". Rather, my opinion of that is : If it blew down last winter, you were either too cheap or too stupid to put it up correctly. When you have a couple acres of antennas, routine maintenance is a absolute must, but lifetimes measured in decades are also highly desirable.

Richard Harrison and I had a long running argument on here a while back about the use of stainless steel fasteners until we discovered we were arguing apples and oranges. Stainless has a couple of characteristics which need attention in the amateur antenna application. First, they are not as strong as grade 5 steel, so they must be sized correctly and installed carefully. Direct replacement in existing designs is risky. Second, the nuts don't rust in place, so some reliable nut locking mechanism must be employed.

Learn both steel alloy nomenclature and aluminum alloy nomenclature if you want to avoid surprises when the wind blows hard.

--
Crazy George
Remove NO and SPAM from return address

6316. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 14:14:45 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <08kjev8hf834mf3cgq94kut1vcdkr62373@4ax.com>
Source record: 115316

On 12 Jun 2003 12:05:18 -0700, k7itm@aol.com (Tom Bruhns) wrote:

|Hi all,
|
|I thought it would be useful to start a thread for people to share
|ideas (and perhaps ask specific questions) about the materials they've
|found most helpful in homebrew antenna construction, for both
|conductors and insulators. [snip]

Good idea. I'll comment more on sources that unique materials.

Tubing source, old antennas. Example: My 3el 20-meter monoband built from tubing from defunct TH6DXX.

Your local power company for insulators and misc hardware. Example: My company (a co-op) has hundreds of epoxy insulators pulled from service after the Arizona sunshine caused them to craze and leak. Cutting off the epoxy reveals a 3/4" fiberglass rod swaged into aluminum terminations, 10,000 pound breaking strength.

A fellow ham acquired (and I bought from him) some 40-foot telescoping, self-locking fiberglass poles that power company linemen use to toggle switch gear from ground level. These are great for supporting temporary antennas but probably not good for permanent use. Especially since they're bright yellow.

Stainless hardware. The bigger Ace Hardware stores stock this. Buy a box of 100 pieces and save big. Larger industrial wholesale supply houses will usually sell to you if you buy a box, although there is one in my town that will sell by the piece. About a fifth of the price of Home Depot.

Wire. Again a specialty store will be much cheaper than HD or Lowes, etc. I bought 4 AWG copper at an electrical supply store that caters to DIY for half the price of HD.

Everybody knows about the CATV company for coax. I found some linemen cutting down some cable runs. They just climbed the poles, cut at each pole, dropped it to the ground and rolled it up. I told them that I would buy a six-pack if they would put a couple of 200-foot runs in the bed of my truck. Besides the pair of 3/4" coax, what I really wanted was the 1/4" EHS messenger cable. It's guying my tower.

Speaking of towers. Keep your eyes open for towers that appear to support defunct antennas. This may indicate that the owners would rather get rid of them. I paid $300 for my Rohn 45, 45ft foldover, with a HamM rotator and the aforemention TH6DXX. The owner had bought

the house from a ham and had once figured he would try to get a license. Nine years later he figured he wouldn't and was willing to sell the stuff for a token amount.

6317. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 14:24:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EE9DE8F.5040700@ieee.org>
Source record: 115317

Peter Brackett wrote:
> As you well know, there are simply no reflections in the steady state,
> period end of story.

Peter, you are one of a growing number of technical people who
think that if they can make reflections disappear by manipulating
equations on a piece of paper, then Mother Nature will obey their
every whim. Hint: Reality doesn't obey math models. Math models
are *supposed* to represent reality.

Since noise is not steady-state and since noise cannot be 100%
eliminated, there is really no such thing as steady-state.
Steady-state does not allow any perturbations but perturbations
always exist in reality. Those perturbations can be used to
prove that reflections always exist. A unique noise pattern can
be tracked all the way from the source to a mismatched load and
back to the source.
--
73, Cecil, W5DXP

6318. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 14:39:31 UTC
From: goopyt <dorusty400@yahoo.com>
Message-ID: <3ee9e750@snipnews.snip.net>
Source record: 115318
Cross-posted to: aus.radio.broadcast,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

```
Mabey he's talking about the "door bell sounds
transmitter hidden" on the "doorbell repreater"
on 29.680 or when long-skip is in and the doorbell
sounding paging transmitters from Jamaca are bouncing
in via long-path between 43-45 mHz?

"David Robbins" <k1ttt@arrl.net> wrote in message
news:O4mcnS4uJ8CYSHSjXTWcrg@crocker.com...
>
> "Michael" <mw@lisp.com.au> wrote in message
> news:3ee9c9e7$0$59954$c30e37c6@lon-reader.news.telstra.net...
> > Well,
> >
> > Ch3 has been timmed out yet again by a door bell sounds transmitter
hidden
> > somewhere ......... some say it sounds like Mr Whippy. Lets see how long
> the
> > repeater is down for !
> >
> > Mike
> >
> and this should be interesting to a world wide antenna discussion forum in
> what way??
>
>
```

6319. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 15:31:37 UTC
From: Matt <eat.shite@spammers.com>
Message-ID: <PTlGa.754$Ab2.23718@newsfeeds.bigpond.com>
Source record: 115169
Cross-posted to: aus.radio.broadcast,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

Nope - Ch3 Canobolas is a UHF CB repeater in Australia - TX freq is 476.475 MHz, so yes, the relevancy to most of the NGs posted to is damn close to zero.

Matt

goopyt <dorusty400@yahoo.com> wrote in message news:3ee9e750@snipnews.snip.net...
> Mabey he's talking about the "door bell sounds
> transmitter hidden" on the "doorbell repreater"
> on 29.680 or when long-skip is in and the doorbell
> sounding paging transmitters from Jamaca are bouncing
> in via long-path between 43-45 mHz?
>
>
> "David Robbins" <k1ttt@arrl.net> wrote in message
> news:O4mcnS4uJ8CYSHSjXTWcrg@crocker.com...
> >
> > "Michael" <mw@lisp.com.au> wrote in message
> > news:3ee9c9e7$0$59954$c30e37c6@lon-reader.news.telstra.net...
> > > Well,
> > >
> > > Ch3 has been timmed out yet again by a door bell sounds transmitter
> hidden
> > > somewhere ..... some say it sounds like Mr Whippy. Lets see how long
> the
> > > repeater is down for !
> > >
> > > Mike
> > >
> > and this should be interesting to a world wide antenna discussion forum in
> what way??
> >
> >
>
>

6320. Re: Antenna construction materials

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 15:57:21 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1953bef1dbe1b0f5989691@news.earthlink.net>
Source record: 115171

In article <08kjev8hf834mf3cgq94kut1vcdkr62373@4ax.com>, n7ws@!#!
arrl.net says...
> On 12 Jun 2003 12:05:18 -0700, k7itm@aol.com (Tom Bruhns) wrote:
>
> |Hi all,
> |
> |I thought it would be useful to start a thread for people to share
> |ideas (and perhaps ask specific questions) about the materials they've
> |found most helpful in homebrew antenna construction, for both
> |conductors and insulators. [snip]
>

> Everybody knows about the CATV company for coax. I found some linemen
> cutting down some cable runs. They just climbed the poles, cut at
> each pole, dropped it to the ground and rolled it up. I told them
> that I would buy a six-pack if they would put a couple of 200-foot
> runs in the bed of my truck. Besides the pair of 3/4" coax, what I
> really wanted was the 1/4" EHS messenger cable. It's guying my tower.

that was nice of you. i would have let you have the line for free. trunk
line is hard to roll up. we used to cut long spans in the middle to make
it easier for the ground hands. and 2 200' rolls takes up a lot of space
on a flat bed.

you can probably use the stainless or galvanized lashing wire for
something and the aluminum enclosures from the old passives are
excellent. sometimes the old line is still in the old frame rather than
raised up onto a j-hook driven into the pole, so large bolts and j-hooks
come down too. the preforms or "twisted loop dead-end grips" used to
terminate the strand (messenger) are nice. they cost over $2.50, last i
heard. on pole transfers, if i'm the last off the pole, the poles mine,
too.

CATV heat shrink.

mike

6321. Re: Lightest mast for Mosley TA-33-JRN beam ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 16:37:04 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3ee9fdab$1_1@news.vo.lu>
Source record: 115172

Hi,
If that interest someone, UKW-Berichte in DL sold a "portable" mast that can handle the MINI-33 and TA-33-JRN WARC beam (the ASM 10/11, ASM 70 or ASM 90 models are not robust enough and cannot handle the charge/windload of these 2 "small" beams) :
The product is the Alu-Mast FGRM 70, that costs 180 euros, including Inbus-wrench and screw (clamps simlilar to ASM 10/11 but cheaper and better)
Length : 10 m, Element length 1.95 m, Diameter 45 to 70 mm, weight is 12 kg, Elementclamping with Inbus-screw (looks similar to ASM 10/11, but cheaper and better).

Additional mandatory accessories :
- spanning piece, two pieces, Euro 14,00 (one set is enough to maintain the mast ! Looks similar to ABSP model)
- Ground plate, Euro 16,00 (useful)
Shipping / Handling inside Europe is about Euro 22,00
So for about Euro 100, taxes incl. you get it.
Delivery-time is about 2 weeks from order.

The product is displayed in their catalog, www.UKW-berichte.de you can get by post.

Other info about portable installations on http://www.astrosurf.com/lombry/qsl-portable.htm where I have tried to select some performing small or cheap antennas to work in the field.
But you had to make compromises...

Thierry
ON1SKY

"Thierry" <lombrytNOSPAM@hotmail.com> wrote in message news:3ee75ac5$1_1@news.vo.lu...
> Hi,
>
> Among european readers, do you know a manufacturer in F, DL, PA, BE, etc
> that sold very light but robust mast of about 10m high max, telescopic and
> easy to setup, able to support the short Mosley beam TA-33-JRN (with dipole
> and conversion kits) ? (I do not speak about www.fireco.be products).
>
> I have searched on wimo.de, UKW-berichte.de and tonna.com but I am not sure
> that their light mast (i.e. ASM 90 or 10/11) could support this <15 kg
> beam.
>
> Any hints or experience in using this antenna on light mast ?

>
> Thanks in advance
>
> Thierry
> ON1SKY
>
>

6322. Ingenuity prevails.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 17:42:09 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcd2dh$gt3$1@sparta.btinternet.com>
Source record: 115173

A genuine radio amateur picks up his heavy junk box, turns it upside down all over the shack floor, pours himself a favourite drink, and asks himself "What the heck can I do with this load of rubbish?"

It works every time!

Miraculously, the junk box always weighs heavier after every completed project. Terman never produced a satisfactory explanation for such a sequence of events.

Reg, G4FGQ

6323. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 17:51:30 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <868ys5kgrh.fsf@duchess.twilley.org>
Source record: 115174

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Arie" == 4nec2 <4nec2@gmx.net> writes:

Jack> I hope to use NEC2 not only for modeling my own antennas but
Jack> also for learning more about antennas in general. The idea of
Jack> being able to crank the elements up to 3k or 5k and let the
Jack> process cogitate over the weekend appeals to me, if only to see
Jack> whether more elements makes for better analysis. The demo
Jack> version of EZNEC will handle twenty elements, and some of the
Jack> antennas it includes have nearly one hundred elements. It's an
Jack> effective tease. :-)

Arie> Aha, you seemed to have used windows-?? nevertheless. In case
Arie> you have problems with the max-nr of segments to run, you could
Arie> try 4nec2. Although not usable within the linux environment it
Arie> has something in common, namely the freeware aspect. For you
Arie> particular needs I think it's nice to know you can run, optimize
Arie> and visualize as many as 11000 segments.

I was reading about EZNEC. I don't have access to a Windows box
that's suitable for this kind of work, so it felt like looking in a
store window. Any tool I use will have to run on FreeBSD.

I know the NEC2 source is out there, and I'm getting hold of a version
that is known to compile on FreeBSD. I am insufficiently skilled to
write a graphical user interface for visualizing the antennas, but I
expect that with or without AF0D's help I will be able to translate
NEC2 output to something that gnuplot can display properly.

Arie> Success with your quest, Arie.

It'll be an adventure, for sure.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+6g8rGPFSfAB/ezgRAmAgAJ94x81sSLDXCkRRbjWDq6nGfCbcRwCgxgtY
uqby1SL3fKo+t1kW2o2JQkE=
=LdlZ
-----END PGP SIGNATURE-----
```

6324. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 18:14:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcd49r$p36$1@titan.btinternet.com>
Source record: 115175

Thanks for replies. Made me think.

Suppose you have a generator of some sort connected to a load. The load resistance and the volts across it can be measured. Hence the power dissipated in the load is also known.

You are now given a Black Box. The black box is inserted between the generator and load - and the measured power dissipated in the load greatly INCREASES. Let's say by 20 times.

There has been a big, 13dB, Insertion Gain.

You are asked what must be inside the black box. How many would immediately cry it must be an amplifier?

Reg, G4FGQ

6325. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 18:43:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEA1B6E.10105@ieee.org>
Source record: 115177

Reg Edwards wrote:
> You are asked what must be inside the black box. How many would immediately
> cry it must be an amplifier?

Does the black box have MFJ written on it? :-)
--
73, Cecil, W5DXP

6326. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 19:10:54 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EEA2165.3030806@attbi.com>
Source record: 115178

My Black Box actually has a BLACK front panel but a Green cover. It is over 30 years old, in pretty good shape, only has 3 components [no tubes or power devices], it has no connection to external power, yet will handle 3 KW, it has no meters of any type and does not use a balun!!

Can you guess what it is???

It was made in the State of Maine!!

It originally sold for $189.00

Deacon Dave, W1MCE

Reg Edwards wrote:
> Thanks for replies. Made me think.
>
> Suppose you have a generator of some sort connected to a load. The load
> resistance and the volts across it can be measured. Hence the power
> dissipated in the load is also known.
>
> You are now given a Black Box. The black box is inserted between the
> generator and load - and the measured power dissipated in the load greatly
> INCREASES. Let's say by 20 times.
>
> There has been a big, 13dB, Insertion Gain.
>
> You are asked what must be inside the black box. How many would immediately
> cry it must be an amplifier?
>
> ---
> Reg, G4FGQ
>
>

6327. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 19:14:29 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcd7ql$333$1@titan.btinternet.com>
Source record: 115179

> Does the black box have MFJ written on it? :-)
==========

What's MFJ ?

6328. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 19:54:22 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EEA2B98.5040706@attbi.com>
Source record: 115180

Reg Edwards wrote:
>>Does the black box have MFJ written on it? :-)
>
> ======================
>
> What's MFJ ?
>
Reg, since you asked THAT QUESTION we can all conclude
that your ham radio career has been truly protected from
corrupting influences. :-)

DD, W1MCE

6329. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 20:43:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <28dkevg7sb9fj10um6tqloi4jtkr532lvi@4ax.com>
Source record: 115181

On Fri, 13 Jun 2003 18:14:19 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Thanks for replies. Made me think.

Given you have only responded to a joke from Cecil (and none of the
other's observations), the depth of thought is not very deep and the
appreciation equally shallow.

What follows seems to imply the nature of the thought was that the
original troll had the wrong bait set.
>
>Suppose you have a generator of some sort connected to a load. The load
>resistance and the volts across it can be measured. Hence the power
>dissipated in the load is also known.
>
>You are now given a Black Box. The black box is inserted between the
>generator and load - and the measured power dissipated in the load greatly
>INCREASES. Let's say by 20 times.
>
>There has been a big, 13dB, Insertion Gain.
>
>You are asked what must be inside the black box. How many would immediately
>cry it must be an amplifier?

Lacking this response to the earlier bait, it seems you want to steer
to the wrong answer to then recover the correct one. Cecil has burned
that bridge and stranded your catch.

>
>---
>Reg, G4FGQ
>

You asked why I hadn't committed as much eloquence to your last
valentine for Terman. Same goes here. The quality of effort is
slipping and doesn't even rise to entertainment. Given the flat
response in this thread I don't suppose you would answer your own
speculation yourself.

If something provoked thought in you, it sure is lacking otherwise in
these musings you offer. Who knows, it may grow to 600 postings, but
that is hardly the arbiter of success.

73's
Richard Clark, KB7QHC

6330. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 20:53:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dtdkevk8bk9nsl56klt4sgbr82p26qi04i@4ax.com>
Source record: 115182

On Thu, 12 Jun 2003 21:16:27 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Are there programs which make Unix and other machines think they are DOS
>machines?
>
Yes.

Apple (admittedly not Unix, until their recent flavor of OS) has been
doing it for years. The Sun world has been doing it too (even
Windows) but the name of the bridge software (even though designed
here in town) escapes my recall. I have a Linux box and I am not
particularly interested in doing things slower when I can run native
in my Win2K box. The Linux box is for testing servers.

Right now I have an 8051 based server running a Java application in a
Linux/Unix-like environment at:
http://12.230.78.56/
where it serves up a page holding a picture of the server (about the
size of a stick of memory) and a link to my professional page under
development (or under-developed, depending upon you point of view).

73's
Richard Clark, KB7QHC

6331. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 22:56:40 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcdkrc$ds9$1@slb0.atl.mindspring.net>
Source record: 115183

Cecil:

[snip]
> think that if they can make reflections disappear by manipulating
> equations on a piece of paper, then Mother Nature will obey their
> every whim. Hint: Reality doesn't obey math models. Math models
> are *supposed* to represent reality.
:
:
> 73, Cecil, W5DXP
[snip]

What a crock you are promoting! Get real.

You simply don't know whereof you speak!

Steady state analysis, design and synthesis works and works very well.
It is one of the great feats of modern engineering design methodologies!

Math equations from linear systems in the steady state [Incidently based
upon Heaviside's
ingenious "operational calculus" using his "notorious" operator "p" have
been used for
over 100 years to design billions of linear systems for which there is no
discernable
difference between their actual measured performance and the performance
predicted by steady state analytic calculations in either the steady state
or the
transient state!

Heaviside's "p-tranform" a.k.a. the LaPlace Transform used the complex
frequency
"p" instead of "s". In fact, Cambridge educated Mathematicians of the
nineteenth
century disagreed with Heaviside's analytic methods, which always worked!
Heaviside
had quit school at age 16 to begin a career as a telegraph operator. he
invented the "p-transform"
himself. He never heard of LaPlace! Heaviside eventually became a Fellow
of the Royal Society
after he was vindicated. Heaviside was a practical self educated Engineer
and not
a Mathematician like you! He deeply understood the relationship between
steady state analysis
and transient analysis and was the very first to apply this knowledge to the
study and practical

design of transmission lines back in the nineteenth century. Cecil you could do well to
study some of Heavisides original work of over 100 years ago!

Heavisde was the first to recognize that steady state analysis could indeed be used to accurately
analyze, design and predict the transient performance of real physical systems. In fact he knew
way back then that transient responses could be deduced from steady state responses and vice
versa. Anyone who has tested linear systems using pulse techniques knows this. All Engineers
know that the Heaviside p-transform/LaPlace trasform uniquely relates the steady response of
a linear system to the transient state response.

And for more than 100 years Engineers have analyzed, synthesized and designed literally
billions of linear systems using steady state analysis, for the commercial production of;
fixed, variable and adaptive analog and digital linear systems, comprising; filters, group
delay equalizers, modulators, echo cancellers, circulators, transformers, transmission
lines, etc... and everyone of them works as exactly predicted by steady state analysis.

What the hell is your point?

--
Peter K1PO
Indialantic By-the-Sea, FL.

6332. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 23:25:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <r6nkev0532l97obnqnuje7budub8e56km6@4ax.com>
Source record: 115184

On Fri, 13 Jun 2003 18:56:40 -0400, "Peter Brackett"
<ab4bc@ix.netcom.com> wrote:
>What the hell is your point?

Hi Peter,

Why add another order of complexity with this presumption?

73's
Richard Clark, KB7QHC

6333. Re: Ingenuity prevails.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 23:38:00 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306131538.7c2e3c5@posting.google.com>
Source record: 115185

I _KNOW_ why mine keeps getting heavier, projects completed or not.
Generally it does so in smaller and smaller increments these days, as
the parts get smaller. I really should quit accepting donations of
transformers, though. There really isn't any great danger that my
basement floor requires any additional weight to hold it down.

Cheers,
Tom

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bcd2dh$gt3$1@sparta.btinternet.com>...
> A genuine radio amateur picks up his heavy junk box, turns it upside down
> all over the shack floor, pours himself a favourite drink, and asks himself
> "What the heck can I do with this load of rubbish?"
>
> It works every time!
>
> Miraculously, the junk box always weighs heavier after every completed
> project. Terman never produced a satisfactory explanation for such a
> sequence of events.
> ----
> Reg, G4FGQ

6334. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 23:39:33 UTC
From: Mick <lalornospam@bigpond.net.au>
Message-ID: <VgtGa.4446$GU5.60456@news-server.bigpond.net.au>
Source record: 115186
Cross-posted to: aus.radio.broadcast,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

"Matt" <eat.shite@spammers.com> wrote in message
news:PTlGa.754$Ab2.23718@newsfeeds.bigpond.com...
> Nope - Ch3 Canobolas is a UHF CB repeater in Australia - TX freq is
> 476.475 MHz, so yes, the relevancy to most of the NGs posted to is damn
> close to zero.
>
Got me stuffed as to what relavance this would have to all the above
newsgroups except aus.radio.cb !!!!
>
> Matt
>
> > > >
> > > > Mike
> > > >
> > > and this should be interesting to a world wide antenna discussion
> forum in
> > > what way??
> > >
> > >
> > >
> >
> >
>
>

6335. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 23:42:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEA6155.2020600@ieee.org>
Source record: 115187

Peter Brackett wrote:
> Steady state analysis, design and synthesis works and works very well.

I didn't say it didn't work very well, Peter. I said it doesn't dictate
reality. You wanna argue with my actual statement?

> What the hell is your point?

Math models, no matter how well they work, do not dictate reality.
1000 years from now, *all* of our present math models will be obsolete
in one way or another. Reality will still be here, going strong.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6336. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-13 23:43:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEA61A7.3090800@ieee.org>
Source record: 115188

Richard Clark wrote:
> "Peter Brackett" <ab4bc@ix.netcom.com> wrote:
>>What the hell is your point?
>
> Why add another order of complexity with this presumption?

Are you another person who believes in the primacy of
consciousness rather than the primacy of existence?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6337. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 00:29:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <dvqkevsjucmf4q8ktt1vetmrin2331aslv@4ax.com>
Source record: 115189

On Fri, 13 Jun 2003 18:43:35 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Are you another person who believes in the primacy of
>consciousness rather than the primacy of existence?

Why don't you pick up something by Sartre to aid you in your search
for meaning Cecil?

6338. Re: Ingenuity prevails.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 00:31:15 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <e1uGa.10010$0c4.1121173@news20.bellglobal.com>
Source record: 115190

"Reg Edwards"
> "What the heck can I do with this load of rubbish?"

e-bay.

6339. Re: Ingenuity prevails.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 01:14:33 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3eea781a_3@news1.prserv.net>
Source record: 115191

Well, Reg,

If you have a junk box you can lift, you're a piker.

And, don't take Terman's name in vain. I know several people who studied EE under him at Stanford, and Terman's students have one thing in common, they are almost universally so wealthy they have someone else take care of the junk box. Dearly departed Bill Hewlett and Dave Packard are the most well known examples of this, but there are also a whole lot of the dot-com bunch who qualify. Unfortunately, nether were hams, but there are many others just a few dB poorer who are hams.

--
Crazy George
Remove NO and SPAM from return address
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bcd2dh$gt3$1@sparta.btinternet.com...
> A genuine radio amateur picks up his heavy junk box, turns it upside down
> all over the shack floor, pours himself a favourite drink, and asks
himself
> "What the heck can I do with this load of rubbish?"
>
> It works every time!
>
> Miraculously, the junk box always weighs heavier after every completed
> project. Terman never produced a satisfactory explanation for such a
> sequence of events.
> ----
> Reg, G4FGQ
>
>

6340. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 01:49:29 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcduv9cvp0@208.206.142.69>
Source record: 115192

Mark Keith wrote:

> "Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
> > > I need a yagi or something with gain, because I'm quite some ways from
> > > the marine station.
> >
> > Remember to put the Yagi up vertical on a non-metalic pole.
>
> Why the non-metalic pole? I've used plenty of vertical yagi's on metal
> masts. My present 3 el 2m yagi is on a metal mast. No problems at all.
> Actually, here in lightning country, a non metal mast is kind of
> dangerous. If the reflector is on the same side of the mast as the
> rest of the elements, the mast is fairly "invisible" as far as the
> antenna is concerned. Even if the reflector is on the other side, I
> bet it would still work in many cases, being the mast is not resonant
> and so long. I think the antenna would ignore the mast to a large
> extent. But my reflector is on the director side of the mast, so no
> worries at all. MK

My experience exactly, over many years. I once had an engineer insist to me that using a metal mast with a vertically mounted 2 meter yagi would destroy its parasitic operation. I didn't bother to tell him that many years of experience showed otherwise. Of course there may be some small amount of interaction, though I could never detect it. And for certain I'll never change to wooden masts.

Dick

6341. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 01:52:09 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcdv4canm1@slb2.atl.mindspring.net>
Source record: 115193

Cecil:

[snip]
> Math models, no matter how well they work, do not dictate reality.
> 1000 years from now, *all* of our present math models will be obsolete
> in one way or another. Reality will still be here, going strong.
> --
> 73, Cecil http://www.qsl.net/w5dxp
[snip]

Math is a very precise language which in Engineering and Science can be used to articulate ideas and concepts of "reality" with great clarity and precision.

English and most other human languages are quite deficient in their ability to describe physical reality and never come as close as that "best" language known as "Mathematics".

Cecil you would do well to "honor" the language of Mathematics and depend less on the superficiality and ambiguity of English nouns, adjectives and expressions.

The mathematics which describes real practical transmission line and linear system
dynamics has been refined and polished to such an extent that no other language,
verbal or written, can even begin to approach it's accuracy, precision and lucidity. As you pointed out in your previous post, Math does not dictate reality,
everyone knows that! Math has never dictated reality, but it can and does describe
reality more closely, more concisely and with less ambiguity than any language using
nouns and adjectives.

Unfortunately, those who chose to ignore Mathematics or who fail to fully develop
their mathematical skills will always fail to understand physical reality to any
reasonable depth and are thus doomed to an intellectual fog about transmission
lines and linear systems.

That is until they recognize their childish limitations and vow to rectify the situation by
improving their math skills.

Your point is?

--
Peter K1PO
Indialantic By-the-Sea, FL.

6342. F=MA was:Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 02:04:35 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vel0mq9a6e3f50@corp.supernews.com>
Source record: 115194

Peter
I have no clue what Cecil's point is; Certainly not the most compact
description.
But a thousand years from now F will still equal M times A.
And we will all be dead.
H.

"Peter Brackett" <ab4bc@ix.netcom.com> wrote in message
news:bcdv4canm1@slb2.atl.mindspring.net...
> Cecil:
>
> [snip]
> > Math models, no matter how well they work, do not dictate reality.
> > 1000 years from now, *all* of our present math models will be obsolete
> > in one way or another. Reality will still be here, going strong.
> > --
> > 73, Cecil http://www.qsl.net/w5dxp
> [snip]
>
> Math is a very precise language which in Engineering and Science can be
used
> to articulate ideas and concepts of "reality" with great clarity and
> precision.
>
> English and most other human languages are quite deficient in their
ability
> to describe physical reality and never come as close as that "best"
language
> known as "Mathematics".
>
> Cecil you would do well to "honor" the language of Mathematics and depend
> less on the superficiality and ambiguity of English nouns, adjectives and
> expressions.
>
> The mathematics which describes real practical transmission line and
linear
> system
> dynamics has been refined and polished to such an extent that no other
> language,
> verbal or written, can even begin to approach it's accuracy, precision and
> lucidity. As you pointed out in your previous post, Math does not dictate
> reality,
> everyone knows that! Math has never dictated reality, but it can and does
> describe

> reality more closely, more concisely and with less ambiguity than any
> language using
> nouns and adjectives.
>
> Unfortunately, those who chose to ignore Mathematics or who fail to fully
> develop
> their mathematical skills will always fail to understand physical reality
to
> any
> reasonable depth and are thus doomed to an intellectual fog about
> transmission
> lines and linear systems.
>
> That is until they recognize their childish limitations and vow to rectify
> the situation by
> improving their math skills.
>
> Your point is?
>
> --
> Peter K1PO
> Indialantic By-the-Sea, FL.
>
>

6343. Re: Basic antenna theory questions for the more experienced

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 03:39:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEA98D8.1010200@ieee.org>
Source record: 115195

Peter Brackett wrote:
> Your point is?

My point is there are gaping holes in your no-reflections math model. It simply does not match reality. We know there are standing waves during steady-state because we can measure them. Now please tell us again for the first time how standing waves are possible in a single source, single feedline, single load system without the existence of reflections.

If there are no reflections, the system is flat and there are no standing waves. Therefore, if there are no reflections during steady-state, there are also no standing waves during steady-state. Ergo, a contradiction exists in your math model.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6344. WTB: 220 mhz yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 03:51:38 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030613235138.04578.00000876@mb-m11.aol.com>
Source record: 115196

I am looking for a small 220 mhz yagi. If anyone has one for sale, please email me.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6345. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 05:04:34 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EEAACE2.C8FD85B4@cwis.net>
Source record: 115197

Or an "STP" sticker?
'Doc

6346. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 05:17:29 UTC
From: Harold Burton <hwburton@cableone.net>
Message-ID: <vemm5im6id5uf0@corp.supernews.com>
Source record: 115204

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bcfh80$e1c$0@208.207.71.130...
>
>
> Yuri Blanarovich wrote:
>
> > If she is free for taking, I could use some help around the house,
garden and
> > antenna work.
>
> Hey, she even cooks and might be able to redecorate the place...
>

And ain't totally bad lookin', considering her age. The wifes been talking
about getting some help around the house.

6347. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 09:02:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bceob7gcj1@titan.btinternet.com>
Source record: 115198
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

"BJ" wrote
> She is a crook and screwed many investors. Give her 20 years.
==========

She may also be a loving and caring mother. It is cruel to deprive children
of their mother's love.

6348. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 09:42:41 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EEAEE11.5070409@mwci-news>
Source record: 115199

Reg Edwards wrote:
> Having just cleared everything out of the newsgroups, to start another
> thread -
>
> When assessing the pro's and con's of fitting a tuner somewhere between an
> antenna and the transmitter, in comparison with the performance already
> available without a tuner, would it be more useful to think in
> unconventional terms of "Insertion Gain" of a tuner?
>
> But how can a circuit consisting only of L's and C's have power gain when
> it's plugged in.
> ---
> Reg, G4FGQ
>
>

The concept of "gain" in a passive network is well
known in microwave circuit design. If a generator
with resistance Rg is connected to a load with
resistance Rl not equal to Rg, the power delivered
to Rl can be increased with a matching network.
The increase in power to Rl that is due to the
matching network is referred to as the "power
gain" of the network.

Nothing wrong with this idea, as long as the loss
in the matching network is considered.

Bill W0IYH

6349. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 10:26:28 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <oLCGa.2046$Hw.1725269@news2.news.adelphia.net>
Source record: 115200
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bceob7gcj1@titan.btinternet.com...
> "BJ" wrote
> > She is a crook and screwed many investors. Give her 20 years.
> ==========
>
> She may also be a loving and caring mother. It is cruel to deprive
children
> of their mother's love.
>
>

So, you believe it is ok for here to screw other mothers out of something they had set aside for their children. Her actions show her as she is, a mean greedy person, thinking only of herself. What about those who bought the stock she sold only to find out the next day it's value had dropped. Should they eat the losses that the incurred when Martha sold them stock which she knew was bad?
Give her some time in jail, give her time to reflect on her actions.

Jim Simmons

Jim

6350. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 13:18:18 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030614091818.23654.00000713@mb-m27.aol.com>
Source record: 115201

If she is free for taking, I could use some help around the house, garden and antenna work.

Bada BUm

6351. Re: 220 mhz yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 14:55:06 UTC
From: ray gaschk <rgaschk@ca.astound.net>
Message-ID: <bcfd46ncb1@news.astound.net>
Source record: 115202

Andy,

We make a small log periodic antenna, six elements, 24 inch boom. Look at
our site:
elkantennas.com
or reply: rgaschk@astound.net

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030613235138.04578.00000876@mb-m11.aol.com...
> I am looking for a small 220 mhz yagi. If anyone has one for sale, please
email
> me.
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.489 / Virus Database: 288 - Release Date: 6/10/03

6352. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 16:07:28 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcfh80$e1c$0@208.207.71.130>
Source record: 115203

Yuri Blanarovich wrote:

> If she is free for taking, I could use some help around the house, garden and
> antenna work.

Hey, she even cooks and might be able to redecorate the place...

6353. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 17:41:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u5nmevsulcktf2fr96ducf8mqu9r6a21qd@4ax.com>
Source record: 115205

On Thu, 05 Jun 2003 14:27:09 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>I have
>satisfied myself on this subject, and I do not
>want to get into that bottomless pit once again.
>
>Sorry, but I am going to drop out at this point.
>
>Bill W0IYH

On Sat, 14 Jun 2003 04:42:41 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>The concept of "gain" in a passive network is well
>known in microwave circuit design. If a generator
>with resistance Rg is connected to a load with
>resistance Rl not equal to Rg, the power delivered
>to Rl can be increased with a matching network.
>The increase in power to Rl that is due to the
>matching network is referred to as the "power
>gain" of the network.
>
>Nothing wrong with this idea, as long as the loss
>in the matching network is considered.
>
>Bill W0IYH

Hi Bill,

You certainly like to visit the edge of the pit often enough. Does it
have the attraction of the Grand Canyon? Are you just a tourist?

Well, you've offered you will not re-visit certain topics (too
heated?), but with the introduction of new ones I wonder just what
difference there is in Microwave vs. HF that is so meaningful that it
can only be observed at the one example but not at the other.

73's
Richard Clark, KB7QHC

6354. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 19:39:38 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EEB79FA.3090407@mwci-news>
Source record: 115206

Richard Clark wrote:
>
>
>
>>The concept of "gain" in a passive network is well
>>known in microwave circuit design. If a generator
>>with resistance Rg is connected to a load with
>>resistance Rl not equal to Rg, the power delivered
>>to Rl can be increased with a matching network.
>>The increase in power to Rl that is due to the
>>matching network is referred to as the "power
>>gain" of the network.
>>
>>Nothing wrong with this idea, as long as the loss
>>in the matching network is considered.
>>
>>Bill W0IYH
>
>

I have seen this topic mentioned in microwave literature, especially in G. Gonzales "Microwave Transistor Amplifiers", first and second editions, in the discussions of gain circles on Smith charts. Equations are given for calculating these gain factors in terms of S parameters.

I have not seen this subject mentioned in HF literature, but there is no reason why it could not. The problem is that the output impedance of RF power amplifiers is often not known exactly. But there are many situations in low-level circuit design where it would be a neat idea.

Basically, passive networks contribute to overall amplifier performance. Gain circles of passive networks help out with this exercise.

Bill W0IYH

6355. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 19:49:09 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3EEB7C35.6010900@mwci-news>
Source record: 115207

William E. Sabin wrote:
> Richard Clark wrote:
>
>>
>>
>>
>>> The concept of "gain" in a passive network is well known in microwave
>>> circuit design. If a generator with resistance Rg is connected to a
>>> load with resistance Rl not equal to Rg, the power delivered to Rl
>>> can be increased with a matching network. The increase in power to Rl
>>> that is due to the matching network is referred to as the "power
>>> gain" of the network.
>>>
>>> Nothing wrong with this idea, as long as the loss in the matching
>>> network is considered.
>>>
>>> Bill W0IYH
>>
>>
>>
>
> I have seen this topic mentioned in microwave literature, especially in
> G. Gonzales "Microwave Transistor Amplifiers", first and second
> editions, in the discussions of gain circles on Smith charts. Equations
> are given for calculating these gain factors in terms of S parameters.
>
> I have not seen this subject mentioned in HF literature, but there is no
> reason why it could not. The problem is that the output impedance of RF
> power amplifiers is often not known exactly. But there are many
> situations in low-level circuit design where it would be a neat idea.
>
> Basically, passive networks contribute to overall amplifier performance.
> Gain circles of passive networks help out with this exercise.
>
> Bill W0IYH
>

See also QEX for Set/Oct 1998 and Nov/Dec 1998

Bill W0IYH

6356. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 20:03:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3pvmevgr0u2a6np6upnt42nfa77du3nk39@4ax.com>
Source record: 115208

On Sat, 14 Jun 2003 14:39:38 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>Richard Clark wrote:
>>
>>
>>
>>>The concept of "gain" in a passive network is well
>>>known in microwave circuit design. If a generator
>>>with resistance Rg is connected to a load with
>>>resistance Rl not equal to Rg, the power delivered
>>>to Rl can be increased with a matching network.
>>>The increase in power to Rl that is due to the
>>>matching network is referred to as the "power
>>>gain" of the network.
>>>
>>>Nothing wrong with this idea, as long as the loss
>>>in the matching network is considered.
>>>
>>>Bill W0IYH
>>
>>
>
>I have seen this topic mentioned in microwave
>literature, especially in G. Gonzales "Microwave
>Transistor Amplifiers", first and second editions,
>in the discussions of gain circles on Smith
>charts. Equations are given for calculating these
>gain factors in terms of S parameters.
>
>I have not seen this subject mentioned in HF
>literature, but there is no reason why it could
>not. The problem is that the output impedance of
>RF power amplifiers is often not known exactly.
>But there are many situations in low-level circuit
>design where it would be a neat idea.
>
>Basically, passive networks contribute to overall
>amplifier performance. Gain circles of passive
>networks help out with this exercise.
>
>Bill W0IYH

Hi Bill,

Thanx for the reference, I appreciate that (and the others mentioned in QEX).

73's
Richard Clark, KB7QHC

6357. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 20:17:27 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030614161727.11559.00000473@mb-m13.aol.com>
Source record: 115209

>
> Hey, she even cooks and might be able to redecorate the place...
>

Just don't touch the shack! That would be worstest crime than screwing people off their savings. If she comes with free beer, I will take it!

Yuri

6358. Re: Ingenuity prevails.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 20:40:55 UTC
From: nx7u@arrl.net
Message-ID: <3eeb8840.25875768@news.west.cox.net>
Source record: 115210

Broon fer me please.
And you got that right Reg! hehe

On Fri, 13 Jun 2003 17:42:09 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>A genuine radio amateur picks up his heavy junk box, turns it upside down
>all over the shack floor, pours himself a favourite drink, and asks himself
>"What the heck can I do with this load of rubbish?"
>
>It works every time!
>
>Miraculously, the junk box always weighs heavier after every completed
>project. Terman never produced a satisfactory explanation for such a
>sequence of events.
>----
>Reg, G4FGQ
>
>

6359. Searching assembly guide Mosley TA-33-JRN WARC

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 21:40:05 UTC
From: Thierry <lombrytNOSPAM@hotmail.com>
Message-ID: <3eeb9633$1_1@news.vo.lu>
Source record: 115211

Hi,

Prior buying the Mosley TA-33-JRN WARC beam I would like, as there is to
Butternut and others, read the assembly guide of this antenna.
I do not find it on Mosley website or its dealers.

Can someone send me this manual in PDF file by email (plus the installation
of the 40m and 12/17m kits) if they are available for free ?

Thanks in advance

Thierry
ON1SKY
http://www.astrosurf.com/lombry

6360. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 21:50:46 UTC
From: Boris <BorisNatasha@hotmail.com>
Message-ID: <0f46ddaaef17957459688731f38dec7c@news.meganetnews.com>
Source record: 115212

I just wanna know how you make those groovy upside down question marks!

Boris

> I'm building a remote controller where I've a transmitter and a receiver. My
> question is ¿can I use the same antenna for both? I'm not interested in
> receiving while I'm transmitting. And something else, ¿Does anybody know any
> page about building PCB antennas? Thanks.

6361. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 22:20:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEB9FC8.3070502@ieee.org>
Source record: 115213

Boris wrote:
> I just wanna know how you make those groovy upside down
> question marks!

ï¿½ï¿½ï¿½ï¿½ï¿½ Alt-0191
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6362. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 22:49:38 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <6ENGa.7653$JN6.1260683@news20.bellglobal.com>
Source record: 115214

Boris wrote:
> I just wanna know how you make those groovy
> upside down question marks!

"W5DXP"
> ????? Alt-0191

?h? ??m???? l?St ?f ?LT ?h????t?rs:

http://members.aol.com/MonT714/tutorial/ALTchrc.html

(Not all will be 'reliable' with all newsgroup readers.)

6363. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-14 23:23:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcgaqdis1@sparta.btinternet.com>
Source record: 115215

"Reg Edwards" wrote, slightly abbreviated -
> When assessing the pro's and con's of fitting a tuner somewhere
> between an antenna and the transmitter, to compare with the
> performance already available without a tuner would it be useful
> to think in terms of "Insertion Gain".

==========

When I wrote the above I had in mind writing a program to assist with decision making. Example: what benefits, if any, would follow from inserting a tuner somewhere in a G5RV ? This must be a common sort of decision.

I was looking for ideas on the subject. I was genuinely surprised to learn hardly anybody has heard of the term. Yet looking at communication systems as a whole the term "Insertion Gain" must occur just as frequently as "Insertion Loss" at all frequencies from audio upwards. It occurs in such diverse subjects as hearing aids for the deaf. Presumably Terman never mentions it. But surely a definition occurs in the IEEE dictionary. Or do a Google on "insertion gain" "insertion loss".

It then occurred to me a program which could be understood by all could be written without mention of it. Simply change the sign in front of dB.

But now CALAMITY !!!!!

Neither insertion gain or loss can be calulated without knowledge of the internal resistance of the generator.

Shades of the congugate match.

So my good intention has now been junked. Pity!

Reg, G4FGQ

6364. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 00:05:20 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcgd80$8b1$1@titan.btinternet.com>
Source record: 115216

"Dave Shrader" wrote .> Reg Edwards wrote:
> >>Does the black box have MFJ written on it? :-)
> >
> > ======================
> >
> > What's MFJ ?
> >
> Reg, since you asked THAT QUESTION we can all conclude
> that your ham radio career has been truly protected from
> corrupting influences. :-)
>
========================

Over here we have laws, "Trading Descriptions Acts".

But they don't seem to be applied to some US imports. ;o)

Reg., G4FGQ

6365. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 00:31:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t9cnev8u12ngnrncka0u37rffchjlt1cs5@4ax.com>
Source record: 115217

On Sat, 14 Jun 2003 14:39:38 -0500, "William E. Sabin"
<sabinw@mwci-news> wrote:

>
>I have not seen this subject mentioned in HF
>literature, but there is no reason why it could
>not. The problem is that the output impedance of
>RF power amplifiers is often not known exactly.
>But there are many situations in low-level circuit
>design where it would be a neat idea.
>

Hi Bill,

When I picked up my Drake TR7 I went out an got a copy of Motorola's
RF Device Data Vol. 1 (copyrights 1990/1991) and looked up the drivers
and finals:

MRF421 @ 30 MHz @ 12.5V @100Wpep:
Total Power Dissipation = 290W
Collector efficiency = 40%
Gain = 10-12 dB
Series Zin = 0.7-j0.5 Ohms
Series Zout = 1-j1.33 Ohms

MRF433 @ 30 MHz @ 12.5V @12.5Wpep:
Total Power Dissipation = 20W
Collector efficiency = 45-50%
Gain = 20 dB
Series Zin = 2.5-j2.2 Ohms
Series Zout = 4.8-j3 Ohms

MRF454 @ 30 MHz @ 12.5V @80Wpep:
Total Power Dissipation = 250W
Collector efficiency = 50%
Gain = 12 dB
Series Zin = 0.94-j0.34 Ohms
Series Zout = 1.2-j0.2 Ohms

The Finals transistors (2xMRF421) operate push-pull into a 1:5 winding
transformer. Output resistance across all HF falls between 1.9 Ohms
at the low end and 0.9 Ohm at the high end. Output capacitance
wanders over a greater range of 18,500pF (Low HF) to 3,500pF (Hi HF).

All measurements that I have performed reveal the output Z (of the
TR7) conforms to 35 - 70 Ohms Z (across all bands) at rated power
which is consistent with the characteristics offered against

frequency, topology, band filtering, and accumulated errors. The TR7 exhibited less than optimum performance (efficiency < 40%) for those frequencies that exhibited the outlier values of Z.

73's
Richard Clark, KB7QHC

6366. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 00:32:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcger0$5oj$1@sparta.btinternet.com>
Source record: 115218

"Yuri Blanarovich" wrote
> If she is free for taking, I could use some help around the house, garden
and
> antenna work.
==========

You are clearly a kind and considerate person.

How many children does she have?

Reg

6367. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 00:51:37 UTC
From: sideband <AINO8SPAMW@cac.net>
Message-ID: <3EEBC31C.5080009@cac.net>
Source record: 115119

hold down the ALT key and type 168 on the numeric keypad on the right
of your keyboard... ï¿½Si?

de AI8W, Chris

Boris wrote:
> I just wanna know how you make those groovy upside down
> question marks!
>
> Boris
>
>
>>I'm building a remote controller where I've a transmitter and a receiver.
>
> My
>
>>question is ï¿½can I use the same antenna for both? I'm not interested in
>>receiving while I'm transmitting. And something else, ï¿½Does anybody know
>
> any
>
>>page about building PCB antennas? Thanks.
>
>
>

6368. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:21:00 UTC
From: tdonaly@aol.com
Message-ID: <20030614212100.08122.00000827@mb-m16.aol.com>
Source record: 115120

Reg wrote,
>
>
>"Yuri Blanarovich" wrote
>> If she is free for taking, I could use some help around the house, garden
>and
>> antenna work.
>==========
>
>You are clearly a kind and considerate person.
>
>How many children does she have?
>---
>Reg
>

Are you considering selling them?
73,
Tom Donaly, KA6RUH

6369. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:41:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEBCEE2.5000209@ieee.org>
Source record: 115121

Reg Edwards wrote:
> Neither insertion gain or loss can be calulated without knowledge of the
> internal resistance of the generator.
>
> Shades of the congugate match.
>
> So my good intention has now been junked. Pity!

Reg, you could still write the software assuming a signal generator
equipped with a circulator and 50 ohm load resistor. The load
resistor dissipates all of the reflected power that reaches the
source. The tuner keeps the reflected power from reaching the
circulator resistor.
--
73, Cecil http://www.qsl.net/w5dxp

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6370. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:44:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEBCF74.1080604@ieee.org>
Source record: 115123

Reg Edwards wrote:
> How many children does she have?

And how old are they? Martha ain't no spring chicken.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6371. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:44:48 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EEBCFC3.5000206@adelphia.net>
Source record: 115122

Reg Edwards wrote:
> "Yuri Blanarovich" wrote
>
>>If she is free for taking, I could use some help around the house, garden
>
> and
>
>>antenna work.
>
> ==========
>
> You are clearly a kind and considerate person.
>
> How many children does she have?

One, a daughter.

Don't worry about her going to jail, Reg, that's not too likely.
Probably a fine, that's all.

The big problem is that she tried to cover the wrongdoing up.

The reason some people are so gleeful about the whole sorry mess is
that she is somewhat of an abrasive personality, with a superior
attitude, and it's a matter of "the bigger they are, the harder they fall".

- Mike KB3EIA -

6372. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:49:20 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcgjb0fgv1@titan.btinternet.com>
Source record: 115124

Peter, perhaps the most important thing you have confirmed is that a single ground rod is little better than useless. At RF it equates to a single shallow-buried radial of the same length and diameter.

Reg.

6373. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 01:56:05 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcgjnl$h84$0@208.206.142.89>
Source record: 115125

Harold Burton wrote:

> "Dick Carroll;" <dixie@townsqr.com> wrote in message
> news:bcfh80$e1c$0@208.207.71.130...
> >
> >
> > Yuri Blanarovich wrote:
> >
> > > If she is free for taking, I could use some help around the house,
> garden and
> > > antenna work.
> >
> > Hey, she even cooks and might be able to redecorate the place...
> >
>
> And ain't totally bad lookin', considering her age. The wifes been talking
> about getting some help around the house.

I dunno, I read she once had a husband but she said he "left". She was a
member of the NY Stock Exchange when her lil' fiasco happened, and earlier
in her career she was a stockbroker.

I thought when the story first broke that she could easily put the whole
thing behind her by calling a news conference and saying into the TV news
camera something like "I see my actions have been criticized, so I'm giving
the whole $200G to charity". That would have ended it and given her a tidy tax
deduction (not that she likely pays any taxes) all at fell swoop.
That amount would have meant about as much to her as a $20 bill probably
would to most of us. But instead, her company's stock has lost her $40 million
by some reports, more by others. Plus the specter of jail time.
Go figure.

6374. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 02:13:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcgknj$gs8$1@titan.btinternet.com>
Source record: 115126

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EEBCEE2.5000209@ieee.org...
> Reg Edwards wrote:
> > Neither insertion gain or loss can be calulated without knowledge of the
> > internal resistance of the generator.
> >
> > Shades of the congugate match.
> >
> > So my good intention has now been junked. Pity!
>
> Reg, you could still write the software assuming a signal generator
> equipped with a circulator and 50 ohm load resistor. The load
> resistor dissipates all of the reflected power that reaches the
> source. The tuner keeps the reflected power from reaching the
> circulator resistor.
> --
==========

What you suggest is precisely the same as assuming the generator to have an internal resistance of 50 ohms - which it isn't. So you'd get the wrong answers.

I might prefer to use my own circulator plus 100-ohm resistor. Just as good. Just as legitimate. But then I'd get a different wrong answer.

If there's something you don't know and you can't measure it then that's the end of it ! Forget it ! Sorry !

If my first sentence is wrong then my third is still correct and I'm just as sorry.

Reg, G4FGQ

6375. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 02:15:18 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EEBD6EA.1030605@adelphia.net>
Source record: 115127

Dick Carroll; wrote:
>
> Harold Burton wrote:
>
>
>>"Dick Carroll;" <dixie@townsqr.com> wrote in message
>>news:bcfh80$e1c$0@208.207.71.130...
>>
>>>
>>>Yuri Blanarovich wrote:
>>>
>>>
>>>>If she is free for taking, I could use some help around the house,
>>>
>>garden and
>>
>>>>antenna work.
>>>
>>> Hey, she even cooks and might be able to redecorate the place...
>>>
>>
>>And ain't totally bad lookin', considering her age. The wifes been talking
>>about getting some help around the house.
>
>
> I dunno, I read she once had a husband but she said he "left". She was a
> member of the NY Stock Exchange when her lil' fiasco happened, and earlier
> in her career she was a stockbroker.
>
> I thought when the story first broke that she could easily put the whole
> thing behind her by calling a news conference and saying into the TV news
> camera something like "I see my actions have been criticized, so I'm giving
> the whole $200G to charity". That would have ended it and given her a tidy tax
> deduction (not that she likely pays any taxes) all at fell swoop.
> That amount would have meant about as much to her as a $20 bill probably
> would to most of us. But instead, her company's stock has lost her $40 million
> by some reports, more by others. Plus the specter of jail time.
> Go figure.

Those who have the ego and drive to aspire to great wealth can get
greedy enough that they don't see the forest for the trees. And in her
case, there were symptoms before this. One time her gardener had to sue
her for owed wages.

- Mike KB3EIA -

6376. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 02:31:47 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <oUQGa.17326$Gm4.1557483@news20.bellglobal.com>
Source record: 115128

> But instead, her company's stock has lost her $40 million
> by some reports, more by others. Plus the specter of jail time.

All the Martha brand stuff at a local Zellers department store is up to 90% off today.

(Dragging the thread kicking and screaming back 'on topic'...) While I was in the mall, I grabbed a couple of 102" fibreglass whips from Radio Shack for Cdn$5 each. The ball mounts are $5, stud mounts $3. They've had plenty of such "CB" antenna hardware on clearance sale recently. Obviously good for 10m with a slight trim.

Now I just need to get a pick-up truck. Maybe if I see one for $5...

6377. WTB: Manual for the Heathkit HW 16 CW Transcieve

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 03:15:41 UTC
From: Redbone <redbone1@swbell.net>
Message-ID: <xxRGa.2476$tz4.904@newssvr32.news.prodigy.com>
Source record: 115129

I would like to buy an assembly manual for the Heath Kit HW 16 Novice CW Transciever. I would be willing to settle for a Xerox or photocopy as long as it clear and readable. Please include shipping to zip code 77701 with your asking price.

Thanks.....Pat Green.... KC5WCC

6378. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 04:02:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEBEFEA.60007@ieee.org>
Source record: 115130

Reg Edwards wrote:
> What you suggest is precisely the same as assuming the generator to have an
> internal resistance of 50 ohms - which it isn't. So you'd get the wrong
> answers.

Wrong answers to what?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6379. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 04:05:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEBF073.4050105@ieee.org>
Source record: 115131

J. Harvey wrote:
> (Dragging the thread kicking and screaming back 'on topic'...) While I was
> in the mall, I grabbed a couple of 102" fibreglass whips from Radio Shack
> for Cdn$5 each.

Those whips are designed for five watts. I've often wondered how
much power they would take. How big is the conductor?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6380. Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 05:50:29 UTC
From: loopfan <brian@greertech.com>
Message-ID: <FOTGa.49020$lo.4579397@newsread2.prod.itd.earthlink.net>
Source record: 115132

Greetings!

I built some small shielded HF loops mainly to null out local EMI / RFI, and they worked so well that I put up a site dedicated to the project. I thought I'd put something back into the hobby dedicated to the help I've gained from others over the years.

I was also looking for a fast and easy way to construct them, about as easy as making a dipole, and I think I've found the solution. You only need 20 feet or less of coax, some wire strippers, and a tuner. No real junk-box parts needed!

I initially made them for 80 - 40 meters and they worked so well that I've made them from 160 to 10 meters with great success. Full HF coverage like this requires about 4 loops since the loops have about a 2:1 frequency ratio coverage.

If you are interested, check out:

http://www.greertech.com/hfloop/mymagloop.html

You'll find construction details, analysis, and theory. Your thoughts, comments, corrections, etc are appreciated!

73 and good looping!

6381. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 06:29:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <oe4oev4qe0vhkpi8qcc3vfl7793m3q0be7@4ax.com>
Source record: 115133

On Sat, 14 Jun 2003 23:02:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Reg Edwards wrote:
>> What you suggest is precisely the same as assuming the generator to have an
>> internal resistance of 50 ohms - which it isn't. So you'd get the wrong
>> answers.
>
>Wrong answers to what?

Tweedledum and tweedledummer coming to you this summer at your
theater.

6382. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 11:20:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <lEYGa.119$0P5.6874@news20.bellglobal.com>
Source record: 115134

> 102" fibreglass whips from Radio Shack

"W5DXP"
> Those whips are designed for five watts.

;-) You mean that they're designed for CB (which is supposed to be 5w, but is occasionally much more). I'll bet that it wouldn't be practical to design an antenna "for five watts" without 'accidentally' including any power up to several hundred watts. I'm being pedantic... ;-)

> I've often wondered how much power they would take. How big is the conductor?

Well, the conductor is about 102" long, but as for the other dimensions - you'll have to wait until I get around to trimming one of them. I'd guess probably about 18 gauge - but I'm guessing.

Power won't be an issue for my little 10m rig - the little one from Radio Shack. I think it's 25 watts PEP. My 'big rig' (TenTec Argosy II) is 50 watts.

I've also got a couple of stainless steel 102" whips from a previous purchase.

RS also has their shorter, loaded fibreglass CB antenna on sale.

And that's a good thing.

6383. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 12:12:38 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bchnrmsjs1@hercules.btinternet.com>
Source record: 115135

```
-- "Mike Coslo" wrote
>
> Don't worry about her going to jail, Reg, that's not too likely.
> Probably a fine, that's all.
>
> The big problem is that she tried to cover the wrongdoing up.
>
> The reason some people are so gleeful about the whole sorry mess is
> that she is somewhat of an abrasive personality, with a superior
> attitude, and it's a matter of "the bigger they are, the harder they
fall".
====================================

It seems she's a woman of considerable talents. Prison would be terrible
waste. Praps she could find employment helping Bush sort out his Middle East
problems.
---
Reg
```

6384. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 12:17:29 UTC
From: carkenord@juno.com
Message-ID: <4346b55e.0306150417.fe306d6@posting.google.com>
Source record: 115136

>>"Peter Brackett"> I have used tuned counterpoises with the antenna
system I >>was discussing in
> two different QTH's

> Each counterpoise was "tuned" to length by adjusting for maximum current in
> the countepoise for that band.

Peter......

Could you please describe in detail exactly how you 'adjusted for max
current'.........? Please be very specific, I can't seem to grasp
what would need to be done to achieve your results.

What test equipment would be required? Where and how would test
equipment be connected?

Thank you.... Lee Carkenord KA0FPJ

6385. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 12:26:06 UTC
From: Joe Strain <jstrain1@cfl.rr.com>
Message-ID: <yBZGa.90768$4y6.1346017@twister.tampabay.rr.com>
Source record: 115137
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

There IS no "technic" button to push..no attempts to reveal cited features
works
On TWO browsers

Yodar
"carlos Mendoza" <no@spam.com> wrote in message
news:3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> I received nice antenna information from VE7BQH.
> It is the comparisation of 115 antenna's:
>
> cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft, many
> more....
>
> I made a nice chart (table) so you can easy compare!
>
> http://www.qsl.net/pd0rkc (click on the technic button).
>
> 73's Cor
>
>
> In my other mail (in the news-group) people complain that they
> could not see my menu bar on the left (netscape users, and others?).
> I used shockwave flash buttons, I asume that was the problem.
> I have now the buttons in gif pictures.
> I hope it work now for those who does not use the microsoft-
> browser (let me know!!!!).
>
>
>

6386. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 13:25:41 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EEC7377.8030003@attbi.com>
Source record: 115138

In between a couple of quick posts I have been thinking a bit about the possibilities Hmmm ... ?

I have a 1 Vrms source driving a 1 Ohm load and measure 100 Vrms in the circuit.

Do I have a +40 dB gain circuit??

PS: I can build this circuit!!

Deacon Dave, W1MCE

+ + +

Reg Edwards wrote:
> Having just cleared everything out of the newsgroups, to start another
> thread -
>
> When assessing the pro's and con's of fitting a tuner somewhere between an
> antenna and the transmitter, in comparison with the performance already
> available without a tuner, would it be more useful to think in
> unconventional terms of "Insertion Gain" of a tuner?
>
> But how can a circuit consisting only of L's and C's have power gain when
> it's plugged in.
> ---
> Reg, G4FGQ
>
>

6387. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 13:52:33 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bchtn1id2@208.206.142.93>
Source record: 115139

W5DXP wrote:

> J. Harvey wrote:
> > (Dragging the thread kicking and screaming back 'on topic'...) While I was
> > in the mall, I grabbed a couple of 102" fibreglass whips from Radio Shack
> > for Cdn$5 each.
>
> Those whips are designed for five watts.

Now, Cecil, where did you ever see a CBer who wanted to be limited to 5 watts?

> I've often wondered how
> much power they would take. How big is the conductor?

The whips I bought like that have wire that appears to be 18 or 20 guage.

Dick

6388. Magnetic properties of SS antenna-was Free Martha

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:04:26 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bchuda$2dg$0@208.206.142.93>
Source record: 115140

"J. Harvey" wrote:

>
> I've also got a couple of stainless steel 102" whips from a previous
> purchase.

Remembering the thread here some time ago on the negative aspects of magnetic properties of stainless steel used as antenna material, I tested all the stainless steel antennas stored in my shop the other day with a magnet to see how much magnetic attraction each had, figuring that the more one attracted the magnet the higher percentage of ferrous steel it had, thus the poorer RF radiator it would probably be.

ALL the couple-dozen various antenna whips- Hustlers, Hamsticks, Pro Am Valor sticks, CB whips, various 2 meter anternna, -all had fairly strong magnetic attraction, except one sole -very old- 102 inch CB whip, which had no attraction at all. Some were more magnetic than others, but with that single exception all did attract the magnet.

Evidently the negative effects of ferrous "magnetic" steel are not considered by manufactureres to be all that detrimental. Or maybe it's just that the buyin public doesn't know?

Dick

6389. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:06:28 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bchuh4$2dg$1@208.206.142.93>
Source record: 115141

Reg Edwards wrote:

. Praps she could find employment helping Bush sort out his Middle East

> problems.

Hey Reg- Doncha know those are YOUR problems too, as well as mine.

6390. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:18:36 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939B4A5D85297pookster@129.250.170.85>
Source record: 115144

Dave Shrader <david.shrader@attbi.com> wrote in news:3EEC7377.8030003
@attbi.com:

> I have a 1 Vrms source driving a 1 Ohm load and measure 100 Vrms in the
> circuit.
>
> Do I have a +40 dB gain circuit??
>
> PS: I can build this circuit!!
>

No you don't and no you can't.

You have fallen into a trap common in Electronics 101. db's are a measure
of power, not voltage.

You will sometimes see a voltage gain or loss expressed in db's, but it is
only valid if the impedances are the same. Even then, it's sloppy
engineering. It's best to express voltages as a ratio and power as db's.

--
Bill, W7TI

6391. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:23:53 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939B4B423B44Apookster@129.250.170.85>
Source record: 115145

"loopfan" <brian@greertech.com> wrote in
news:FOTGa.49020$Io.4579397@newsread2.prod.itd.earthlink.net:

> I built some small shielded HF loops mainly to null out local EMI /
> RFI, and they worked so well that I put up a site dedicated to the
> project. I thought I'd put something back into the hobby dedicated to
> the help I've gained from others over the years.
>

Very clever, Brian. I'll have to give it a try.

Thanks.

--
Bill, W7TI

6392. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:27:38 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bchvoq$4mg$0@208.206.142.93>
Source record: 115142

Thank You! That work is very interesting.
If the Utility Broadband scheme comes to fruition we all may need them to try to null out the Internet so we can work HF.
Also useful to listen when storms keep one off the big outside wires.

73, Dick

loopfan wrote:

> Greetings!
>
> I built some small shielded HF loops mainly to null out local EMI / RFI, and
> they worked so well that I put up a site dedicated to the project. I
> thought I'd put something back into the hobby dedicated to the help I've
> gained from others over the years.
>
> I was also looking for a fast and easy way to construct them, about as easy
> as making a dipole, and I think I've found the solution. You only need 20
> feet or less of coax, some wire strippers, and a tuner. No real junk-box
> parts needed!
>
> I initially made them for 80 - 40 meters and they worked so well that I've
> made them from 160 to 10 meters with great success. Full HF coverage like
> this requires about 4 loops since the loops have about a 2:1 frequency ratio
> coverage.
>
> If you are interested, check out:
>
> http://www.greertech.com/hfloop/mymagloop.html
>
> You'll find construction details, analysis, and theory. Your thoughts,
> comments, corrections, etc are appreciated!
>
> 73 and good looping!

6393. homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 14:30:45 UTC
From: anandsaha@rediffmail.com
Message-ID: <bchvul$1tr$1@xuxa.iecc.com>
Source record: 115143
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

hi,

i want to check the output power of an fm transmitter, and i don't have a wattmeter. most of the wattmeters available in market here have a range of
0-50watt or 0-100 watt.
i want to design one, with a range of 0-2 watt approx, using the components available with me - digital multimeter(V,A,ohm), diodes, transistors, resistors and capacitors. someone please suggest me a design or point me to a schematic.

i am very much interested in designing a low power fm transmitter, yet all that i hit upon while searching the net are readymade schematics, which ofcourse work, yet i do not get the real idea of how it was designed. is there any good document about how to design an fm transmitter from scratch, given that "i need to transmitt an fm signal at 90Mhz with an output power of 2 watt". i would like to know how to design circuits for oscillators, pll, power booster, amplifier etc. and how to tweak them for getting the desired output.

please don't worry about the output power(2 watt as i mentioned). i know it's illegal, and i am not going to cause any damage. i just want to learn how to design. let me mention that i am very new to this subject.

thanks.
anand saha.

6394. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 15:01:06 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vep2hmksgnet0e@corp.supernews.com>
Source record: 115146

What effect does the size of the gap have, is bigger or smaller better or is there an optimum size for a particular freq? What effect does the gap's location have, ie not centered but offset?
Would larger hardline with a lower per foot capacitance be easier to tune?
tnx
hank wd5jfr

"loopfan" <brian@greertech.com> wrote in message news:FOTGa.49020$Io.4579397@newsread2.prod.itd.earthlink.net...
> Greetings!
>
> I built some small shielded HF loops mainly to null out local EMI / RFI, and
> they worked so well that I put up a site dedicated to the project. I
> thought I'd put something back into the hobby dedicated to the help I've
> gained from others over the years.
>
> I was also looking for a fast and easy way to construct them, about as easy
> as making a dipole, and I think I've found the solution. You only need 20
> feet or less of coax, some wire strippers, and a tuner. No real junk-box
> parts needed!
>
> I initially made them for 80 - 40 meters and they worked so well that I've
> made them from 160 to 10 meters with great success. Full HF coverage like
> this requires about 4 loops since the loops have about a 2:1 frequency ratio
> coverage.
>
> If you are interested, check out:
>
> http://www.greertech.com/hfloop/mymagloop.html
>
> You'll find construction details, analysis, and theory. Your thoughts,
> comments, corrections, etc are appreciated!
>
> 73 and good looping!
>
>
>
>

6395. Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 15:22:40 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <ik3pev8jc2d5fpol26miv1qol95g4ka2rd@4ax.com>
Source record: 115147

I'm building a couple of 20M verticals to be phased. How critical are the lengths of the radials? Is 16'6" ok or do they need to be tuned like the radiator whip.

Russ

6396. Re: NEC-2 file.out error

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 15:59:45 UTC
From: mcolasono@earthlink.net
Message-ID: <e079e35e.0306150759.79c71b29@posting.google.com>
Source record: 115148

"Alexander Schewelew" <dl1pbd@gmx.net> wrote in message
news:<bcc8kl$hs2au$1@ID-34767.news.dfncis.de>...
> >the example was for copper wire
>
> Conductivity of copper is ~ 5.8* 10E7 mhos/m and the loading card for
> copper wire is:
>
> LD 5 0 0 0 5.8E7
>
> 73!
> Alex

oh, sorry. i must have left it at perfect conductor on that run and
you thought i meant 0 Ohms/m since 0 mhos/m is an infinite resistance.
i better be careful,

tnx,
mike c

6397. Re: Manual for the Heathkit HW 16 CW Transcieve

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 16:05:49 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <yP0Ha.56240$Pc5.19945@fed1read01>
Source record: 115149

W7FG has it -- URL:
http://www.w7fg.com/manual.txt

More manual vendors at URL:
http://ac6v.com/manuals.htm

"Redbone" <redbone1@swbell.net> wrote in message
news:xxRGa.2476$tz4.904@newssvr32.news.prodigy.com...
>
>
> I would like to buy an assembly manual for the Heath Kit HW 16 Novice CW
> Transciever. I would be willing to settle for a Xerox or photocopy as
long
> as it clear and readable. Please include shipping to zip code 77701 with
> your asking price.
>
> Thanks.....Pat Green.... KC5WCC
>
>

6398. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 16:46:40 UTC
From: Steve <yzf1000r1_99@yahoo.com>
Message-ID: <Qq1Ha.4121$LP.2449@newsfep4-winn.server.ntli.net>
Source record: 115150

Hi Russ,

If you verticals are elevated then the radials need to be tuned (trimmed fairly accurately), if they are ground mounted then leave them longer.

If you have an antenna analyser (or a mate with one) it is worth spending the time experimenting - I have one and it saved me hours !!

Steve G4KIV / ZC4BS

homepage: http://www.stevebb.com
Email: yzf1000r1_99@yahoo.com

6399. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 16:50:17 UTC
From: Robert McCown <bmccown@cox.net>
Message-ID: <dt1Ha.429598$vU3.402029@news1.central.cox.net>
Source record: 115151

What would be REALLY interesting is antenna that works with a Negative
number or even better, Imaginary!
"Danny" <dannycyc@aol.com> wrote in message

6400. End-fed Zepp feedline length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 17:11:41 UTC
From: joelong@tds.net
Message-ID: <4c96572e.0306150911.1e13143b@posting.google.com>
Source record: 115152

I plan to use an end-fed Zepp for multi-band QRP operation. I will be using 450 Ohm ladder line as the feedline. I assume that the halfwave length of the antenna should be calculated by the L=468/F formula, so that it would be 133.7 ft. at 3.5 MHz. But, how do I calculate the quarterwave length of the feedline? Do I use the same formula, which would work out to 66.86 ft., or should I multiply that by a velocity factor of .85, which would give 56.8 ft.?

More generally, would this antenna arrangement be more desirable that a simple halfwave wire (at lowest operating frequency) attached directly to the antenna tuner) with appropriate counterpoises?

Thanks,

Joe

6401. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 17:22:01 UTC
From: funkbastler <funkbastler@yahoo.com>
Message-ID: <dbapevksv9r9n3iffj8g5ckif55vl0b9p3@4ax.com>
Source record: 115153

On Sun, 15 Jun 2003 17:46:40 +0100, "Steve" <yzf1000r1_99@yahoo.com>
wrote:

>Hi Russ,
>
>If you verticals are elevated then the radials need to be tuned (trimmed
>fairly accurately), if they are ground mounted then leave them longer.
>

Devil's advocate here.....

What difference does it make if it's elevated or not?

Vertical antenna is unbalanced... if the radiator is
resonant, what difference does the radial length make
(elevated or not), as long as they're longer than 1/4
wavelength?

Put another way, if I stick a 1/4 wave vertical element
in the middle of a metal disk that's larger than 1/4 wave
in radius, is it going to work better sitting on the ground
than sitting multiple wavelengths up in the air?

-fb-

6402. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 17:27:05 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcia9cpov1@slb0.atl.mindspring.net>
Source record: 115154

Lee:

First you need to beg, borrow, steal, buy or build an "RF ammeter".

A homemade low power RF ammeter is easily constructed from a split ferrite core with a few turns of wire, a Ge diode a capaicitor and a metal film resistor. There are plans for such homemade RF ammeters in several of the amateur radio antenna books.

Then you just place the RF ammeter to read the current in the counterpoise very near to the antenna feed point. [As close to the end of the counterpoise
attached to the feedline where the antenn feedline is attached] I used my ham transmitter [on low power ~ 10Watts] antenna tuner/wattmeter to generate the signal and simply read the current from my homebrew RF ammeter. And then pruned the counterpoise for maximum current. Being careful at each "pruning" to recalibrate the transmitter output to the same level when necessary after pruning for purposes of making good comparisons.

Simple, but effective.

--
Peter K1PO

"Lee Carkenord" <carkenord@juno.com> wrote in message
news:4346b55e.0306150417.fe306d6@posting.google.com...
> >>"Peter Brackett"> I have used tuned counterpoises with the antenna
> system I >>was discussing in
> > two different QTH's
>
> > Each counterpoise was "tuned" to length by adjusting for maximum current
in
> > the countepoise for that band.
>
>
>
> Peter......
>
> Could you please describe in detail exactly how you 'adjusted for max
> current'.....? Please be very specific, I can't seem to grasp
> what would need to be done to achieve your results.
>
> What test equipment would be required? Where and how would test
> equipment be connected?
>
> Thank you.... Lee Carkenord KA0FPJ

6403. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 17:49:12 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bciblmlfh1@slb5.atl.mindspring.net>
Source record: 115155

Reg:

[snip]
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bcgjb0fgv1@titan.btinternet.com...
> Peter, perhaps the most important thing you have confirmed is that a
single
> ground rod is little better than useless. At RF it equates to a single
> shallow-buried radial of the same length and diameter.
> ---
> Reg.
[snip]

Agreed!

But I figure while I'm at it, why not do it scientifically to get the "best"
I could out of the counterpoises?

I must confess I did not develop this counterpoise tuning technique myself.

I learned this technique many years ago when, as a student intern, I worked
one summer on a DECCA HiFix portable navigation transmitter system crew. If
I recall, the HiFix system operated on or about 60kHz and ran about 1kW from
a bank of parallel 807's. This HiFix system was used for accurate
radiolocation of offshore oil survey vessels and it had to be moved from
location to location up and down the coast as the shipborne survey moved
along.

As we moved the portable HiFix transmitters from site to site we would
temporarily set up the transmitter, tower, and counterpoises at each
location. [Acutally we used a "chain" of three portable HiFix transmitters
and we "leapfrogged" them up and down the coast, since the HiFix system used
a "Loran-like" hyberbolic triangulation radio location methodology.]

During that period, we only stayed at any one location for at most a month
and then moved on up the coast. The portable towers were erected by our
small crew on site and were guyed and about 120 feet tall. The number,
location and distribution of the counterpoises for those 1kW ~60kHz
transmitter were determined by the site conditions. We had to acquire and
pay for temporary permission to use the sites from landowners, farmers,
fisherman, etc... for the temporary use of the sites. And so... the ground
conditions and territory available for the counterpoises/radials were
definitely not ideal. We were just a two man crew and we just "made do" as
well as we could. We accomplished this with the counterpoise layouts by
tuning the counterpoises for maximum current until we could "put down" the
required field strength 50 miles from the site and then quit!

It worked well then and still does. Tune those counterpoises for maximum current!

Back then, they used three converted sealing vessels for the offshore survey ships. One, affectionately called "the shot boat" was loaded with dynamite and they other two each towed an array of "geophones/hydrophones" to record the echos of the "shots". They all got accurate radio-location and time information from the portable shore based DECCA HiFix chain. An exciting event for us during that period was a fire aboard the "shot boat" which caused the crew to abandon ship. The "shot boat" was allowed to drift for several days before "the explosion". Heh, heh... expensive fire! These days you cannot use "dynamite" at sea for Geophysical Exploration "shots"m instead they now use phneumatic "explosions" and of course they now use GPS for accurate location and time dissemination, but back then LF radio was the only way.

Incidently "they" located a lot of gas and oil there off the coasts of Nova Scotia and Newfoundland, and are only now, some 35 years later beginning to exploit it.

--
Peter K1PO
Indialantic By-the-Sea, FL.

6404. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:11:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <43dpev0q6p6k6mehpiomus7ctkv0vqi8i9@4ax.com>
Source record: 115156
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

On Sun, 15 Jun 2003 15:11:45 GMT, Rational_Transportation@dawze.or.us
wrote:

>Noting good can come from this new personal transpiration device. It will only serve
>to make Americans FATTER than they already are, by reducing exercise.
>Just what this critically obese society needs now, right?
>
>In addition, it will create hazards and annoyances on our sidewalks. Even if we
>restrict it to streets (assuming such rules could be enforced), it will slow traffic
>and cause hazards there as well.
>
>Let's take this singular opportunity to head this quality-of-life disaster off at the
pass!
>Contact your elected representatives and tell them to restrict this useless, indulgent
>device to PRIVATE PROPERTY ONLY.
>
>Thanks!

self-indulgent tripe snipped (fat juvenile american weight loss
method that actually works! Pass this along to 10 friends or bad luck
will happen to you within 3 years)

Such paranoia. This sideways bike makes perfect sense for getting
on/off the moving sidewalks that carry us to our nuclear powered,
steam-driven aeromobiles.

you are not welcome! Keep moving please....

6405. Re: End-fed Zepp feedline length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:18:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EECB863.5070206@ieee.org>
Source record: 115157

Joe Long wrote:
> I plan to use an end-fed Zepp for multi-band QRP operation. I will be
> using 450 Ohm ladder line as the feedline. I assume that the halfwave
> length of the antenna should be calculated by the L=468/F formula, so
> that it would be 133.7 ft. at 3.5 MHz. But, how do I calculate the
> quarterwave length of the feedline? Do I use the same formula, which
> would work out to 66.86 ft., or should I multiply that by a velocity
> factor of .85, which would give 56.8 ft.?

My 450 ohm line has a VF of about 0.9. In any case, VF needs to be
taken into account. But don't expect an end-fed Zepp cut for 3.5 MHz
to be anywhere near a low impedance on the other HF bands except
maybe 30m and parts of 10m.

Let's forget band variation for the moment. 1/2WL top section and
1/4WL feedline section on 3.5 MHz turns into close to a 1WL top
section and 1/2WL feedline section on 7.0 MHz. The impedance at
the source end of the feedline will be sky high. Neglecting band
variations, the same will be true for 14.0 MHz and 28.0 MHz.
However, you can get a decent match on most HF bands by varying
the length of the ladder-line and feeding it at a current maximum.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6406. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:20:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EECB8D5.3010701@ieee.org>
Source record: 115158

funkbastler wrote:
> What difference does it make if it's elevated or not?

Ground mounted radials are detuned by the ground. If they
are elevated to 1/2WL, the detuning is greatly reduced.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6407. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:40:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mkepev0m0jao1qj07giobn45mdtt1po6dh@4ax.com>
Source record: 115159

On Sun, 15 Jun 2003 12:22:01 -0500, funkbastler
<funkbastler@yahoo.com> wrote:
>Devil's advocate here.....
>
>What difference does it make if it's elevated or not?
>
>Vertical antenna is unbalanced... if the radiator is
>resonant, what difference does the radial length make
>(elevated or not), as long as they're longer than 1/4
>wavelength?
>
>Put another way, if I stick a 1/4 wave vertical element
>in the middle of a metal disk that's larger than 1/4 wave
>in radius, is it going to work better sitting on the ground
>than sitting multiple wavelengths up in the air?
>
>-fb-

Better is a state of mind. Better for match? Better for radiation?
Better for cost? Better for materials?

Any radiator that is close to a loading influence becomes broad banded
through the lowered Q. Loss makes critical tuning less critical.
Height, on the third hand, brings the geometry of launch angles into
the game - some heights are better than others for a particular
purpose (not all heights are best for all purposes).

If you had a perfectly conducting disk of even up to 1 wavelength at
ground level, it may still suffer in comparison to the simple ground
plane located higher up (if we are talking DX in the HF). If you can
hike the ground plane that high, you may find that a dipole could have
done just as well.

Better is a cost/benefit analysis across many variables. Frequently
the effort does not justify the benefit, even if the paper answer says
better.

73's
Richard Clark, KB7QHC

6408. How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:45:05 UTC
From: henrikolofsson@yahoo.se
Message-ID: <7030d3aa.0306151045.bdf4f29@posting.google.com>
Source record: 115160

Hi, I have a dipole antenna for 79Mhz that I want to modify to use on my 1 watt FM transmitter. The dipole is an Allgon block with some kind of glass fibre elements. How much do I need to cut them?

Thanks in advance!

Regards,
Henrik

6409. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:45:56 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EECBE85.5090101@attbi.com>
Source record: 115161

Bill there is no error [trap] here.

dB = 10 * log [[100]^2/R1]/[[1^2]/R1]]. The R1s cancel.

dB = 10 * log [100^2/1^2] = 20 * log [100] = 40 dB!

The math is correct. The circuit can be built! 100 volts can be measured
from a 1 Vrms source driving a 1 ohm load!

The circuit is described:

1 Vrms, 1 Ohm resistor, +j100 inductor, -j100 capacitor. I have 100 Vrms
across either the capacitor or inductor!!

Now, I can take this 100 Vrms into a differential mode amplifier set to
unity gain [0 dB] and voila! The passive circuit, the only source of
gain [Vout/Vin], now produces 100 Vrms referenced by the unity gain
amplifier to the original return.

The question is: do I describe this passive circuit as having 'insertion
gain'? [1 Vrms in yields 100 Vrms out].

Deacon Dave, W1MCE

Bill Turner wrote:
> Dave Shrader <david.shrader@attbi.com> wrote in news:3EEC7377.8030003
> @attbi.com:
>
>
>>I have a 1 Vrms source driving a 1 Ohm load and measure 100 Vrms in the
>>circuit.
>>
>>Do I have a +40 dB gain circuit??
>>
>>PS: I can build this circuit!!
>>
>
> --
>
> No you don't and no you can't.
>
> You have fallen into a trap common in Electronics 101. db's are a measure
> of power, not voltage.
>
> You will sometimes see a voltage gain or loss expressed in db's, but it is
> only valid if the impedances are the same. Even then, it's sloppy
> engineering. It's best to express voltages as a ratio and power as db's.

>

6410. Re: How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:53:32 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3eecc0ae$0$48909$edfadb0f@dtext02.news.tele.dk>
Source record: 115162

Hello Henrik

> Hi, I have a dipole antenna for 79Mhz that I want to modify to use on
> my 1 watt FM transmitter. The dipole is an Allgon block with some kind
> of glass fibre elements. How much do I need to cut them?

http://www.qsl.net/w4hn/antennaCalc.htm

Regards Max

6411. Re: End-fed Zepp feedline length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:53:37 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vcfpevcrec7a6m5n1fmnmtsbggsnph70r7@4ax.com>
Source record: 115164

On 15 Jun 2003 10:11:41 -0700, joelong@tds.net (Joe Long) wrote:

>I plan to use an end-fed Zepp for multi-band QRP operation. I will be
>using 450 Ohm ladder line as the feedline. I assume that the halfwave
>length of the antenna should be calculated by the L=468/F formula, so
>that it would be 133.7 ft. at 3.5 MHz. But, how do I calculate the
>quarterwave length of the feedline? Do I use the same formula, which
>would work out to 66.86 ft., or should I multiply that by a velocity
>factor of .85, which would give 56.8 ft.?
>
>More generally, would this antenna arrangement be more desirable that
>a simple halfwave wire (at lowest operating frequency) attached
>directly to the antenna tuner) with appropriate counterpoises?
>
>Thanks,
>
>Joe

Hi Joe,

You have to make up your mind. Multi-band or Zepp?

For a Zepp, your approximations should give you ballpark. The transmission line should use velocity factor, but given local variations of terrain, trees, homes, sheds, ground, and the like within a halfwave - no formula is exact (but is useful for the first try of several). Horizontals and 160M do not make very useful combinations unless you simply want to talk across town. Instead, use the horizontal as top-load to a vertical made of the shorted transmission line (make sure to add some ground). In this sense it is more like an inverted L from the configuration you anticipate, study its characteristics.

Other, Multi-band operations become an academic study of frustration or glory. You get to discover which as they occur.

73's
Richard Clark, KB7QHC

6412. Re: End-fed Zepp feedline length?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 18:53:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <p4gpevk3lp98vm40vlsuf6ha3eic1j7jaa@4ax.com>
Source record: 115163

On 15 Jun 2003 10:11:41 -0700, joelong@tds.net (Joe Long) wrote:

>I plan to use an end-fed Zepp for multi-band QRP operation. I will be
>using 450 Ohm ladder line as the feedline. I assume that the halfwave
>length of the antenna should be calculated by the L=468/F formula, so
>that it would be 133.7 ft. at 3.5 MHz. But, how do I calculate the
>quarterwave length of the feedline? Do I use the same formula, which
>would work out to 66.86 ft., or should I multiply that by a velocity
>factor of .85, which would give 56.8 ft.?
>
>More generally, would this antenna arrangement be more desirable that
>a simple halfwave wire (at lowest operating frequency) attached
>directly to the antenna tuner) with appropriate counterpoises?
>
>Thanks,
>
>Joe

Hi Joe,

You have to make up your mind. Multi-band or Zepp?

For a Zepp, your approximations should give you ballpark. The
transmission line should use velocity factor, but given local
variations of terrain, trees, homes, sheds, ground, and the like
within a halfwave - no formula is exact (but is useful for the first
try of several). Horizontals and 160M do not make very useful
combinations unless you simply want to talk across town. Instead, use
the horizontal as top-load to a vertical made of the shorted
transmission line (make sure to add some ground). In this sense it is
more like an inverted L from the configuration you anticipate, study
its characteristics.

Other, Multi-band operations become an academic study of frustration
or glory. You get to discover which as they occur.

73's
Richard Clark, KB7QHC

6413. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 19:06:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cbgpevodtj72mnv8jfi7hnv9le0ld071bm@4ax.com>
Source record: 115165

On Sun, 15 Jun 2003 18:45:56 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>
>The question is: do I describe this passive circuit as having 'insertion
>gain'? [1 Vrms in yields 100 Vrms out].
>
>Deacon Dave, W1MCE

Bill is/was right. Your 100 Vrms is not across the 1 Ohm resistor and
your measuring instrument is more likely 1000 Ohms load to support any
measured value offered.

73's
Richard Clark, KB7QHC

6414. Re: How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 19:12:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <otgpev0nej6t1clc026tk9i2tade6orcjd@4ax.com>
Source record: 115166

On 15 Jun 2003 11:45:05 -0700, henrikolofsson@yahoo.se (Henrik) wrote:

>Hi, I have a dipole antenna for 79Mhz that I want to modify to use on
>my 1 watt FM transmitter. The dipole is an Allgon block with some kind
>of glass fibre elements. How much do I need to cut them?
>
>Thanks in advance!
>
>Regards,
>Henrik

Hi Henrik,

One half inch (1 cM) at a time until resonance.

OR overall length (as %) cut to:

79 / FM Frequency
both in MHz

73's
Richard Clark, KB7QHC

6415. Re: How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 19:12:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <08hpevcrcd1gjedae6oavgqmvk9rb2qs6h@4ax.com>
Source record: 115167

On 15 Jun 2003 11:45:05 -0700, henrikolofsson@yahoo.se (Henrik) wrote:

>Hi, I have a dipole antenna for 79Mhz that I want to modify to use on
>my 1 watt FM transmitter. The dipole is an Allgon block with some kind
>of glass fibre elements. How much do I need to cut them?
>
>Thanks in advance!
>
>Regards,
>Henrik

Hi Henrik,

One half inch (1 cM) at a time until resonance.

OR overall length (as %) cut to:

79 / FM Frequency
both in MHz

73's
Richard Clark, KB7QHC

6416. Re: How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 19:21:18 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vephqolcus3b38@corp.supernews.com>
Source record: 115168

Hi Henrik
Your antenna description besides the word "dipole" is unrecognizable to me.
The length of a dipole is inversely proportional to it's resonant frequency.
So yours must be L~1/79. Measure L.
You wish to change the length to the range L'~1/88 - L"~1/108, I presume.
L'/L = 79/88 and L"/L = 79/108.
So to cut it for 88 MHz L' = (79/88)L, for 108 MHz L" = (79/108)L.
I'd do the 88 end first and see how it works, you can always make it
shorter. ;^)
73
H.
NQ5H

"Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3eecc0ae$0$48909$edfadb0f@dtext02.news.tele.dk...
> Hello Henrik
>
> > Hi, I have a dipole antenna for 79Mhz that I want to modify to use on
> > my 1 watt FM transmitter. The dipole is an Allgon block with some kind
> > of glass fibre elements. How much do I need to cut them?
>
> http://www.qsl.net/w4hn/antennaCalc.htm
>
> Regards Max
>
>

6417. Re: What length counterpoise?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 20:52:35 UTC
From: carkenord@juno.com
Message-ID: <4346b55e.0306151252.2256ef1@posting.google.com>
Source record: 115069

"> Lee:
>
> First you need to beg, borrow, steal, buy or build an "RF ammeter".

Got it! Thank you Peter. Good instructions.

Lee KA0FPJ

6418. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 20:53:23 UTC
From: dennis <dennis@ptcnh.net>
Message-ID: <j15Ha.11$Rk4.1191@eagle.america.net>
Source record: 115070
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

Another old fart heard from.

<Rational_Transportation@dawze.or.us> wrote in message
news:4ow1os$3ty$6@news.so-net.com.hk...
> Noting good can come from this new personal transpiration device. It will
only serve
> to make Americans FATTER than they already are, by reducing exercise.
> Just what this critically obese society needs now, right?
>
> In addition, it will create hazards and annoyances on our sidewalks. Even
if we
> restrict it to streets (assuming such rules could be enforced), it will
slow traffic
> and cause hazards there as well.
>
> Let's take this singular opportunity to head this quality-of-life disaster
off at the pass!
> Contact your elected representatives and tell them to restrict this
useless, indulgent
> device to PRIVATE PROPERTY ONLY.
>
> Thanks!
> -
> -
> -
> -
> -
> -
> -
> -
> -
> -
> -
>
> It arrived, you jumped, yet Marian never quietly cared towards the
> swamp.
>
> I am partly long, so I live you. He'll be playing alongside
> fresh Milton until his case likes unbelievably. Don't try to
> burn the tags locally, look them grudgingly. Some films attempt,
> reject, and attack. Others totally lift. Little by little Felix will
> solve the tailor, and if Jethro rigidly opens it too, the shopkeeper will
> kick in front of the bitter bedroom. The inner carpenter rarely

> walks Woody, it grasps Taysseer instead. I was behaving buckets to
> heavy Ramez, who's irrigating throughout the button's barn.
> It might tease annually if Zack's bowl isn't filthy. Do not
> judge a desk! Let's excuse on the blunt canyons, but don't order the
> rural boats. Try tasting the lake's noisy ticket and Ayman will
> help you! Gavin! You'll mould onions. Well, I'll explain the
> card. What did Ayub sow to all the pears? We can't measure
> jackets unless Ratana will happily clean afterwards. While raindrops
> angrily nibble jugs, the tyrants often join in back of the polite
> aches. Other smart difficult clouds will expect frantically
> to papers.
>
> Plenty of barbers subtly move the clean arena. Little by little,
> eggs recommend under bad ladders, unless they're pathetic. What will we
> fear after Alice scolds the closed planet's enigma? Otherwise the
> envelope in Hakeem's frog might converse some hollow tapes.
> A lot of solid sick goldsmiths eerily answer as the dry walnuts
> seek.
>
> Both irritating now, Taysseer and Ben dined the lazy stadiums
> beside brave candle. Her cap was hot, stupid, and climbs beside the
> cafe. They are improving in the bathroom now, won't cover dryers later.
They are
> shouting against empty, throughout sharp, between clever cobblers. Will
you
> believe to the hair, if Rashid wrongly fills the hen? My stale
> cup won't comb before I dream it. She may creep once, love furiously,
then
> recollect beneath the twig throughout the hall. Shelly, behind
> sauces tired and healthy, talks with it, learning dully. Fucking don't
> wander fully while you're wasting alongside a young pin.
>
>
>

6419. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 20:53:53 UTC
From: lower@slobovvia.com
Message-ID: <lower-105070.15535315062003@hermes-ge0.rdc-kc.rr.com>
Source record: 115071
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

In article <43dpev0q6p6k6mehpiomus7ctkv0vqi8i9@4ax.com>,
Richard Clark <kb7qhc@attbi.com> wrote:

> On Sun, 15 Jun 2003 15:11:45 GMT, Rational_Transportation@dawze.or.us
> wrote:
>
> >Noting good can come from this new personal transpiration device. It will
> >only serve
> >to make Americans FATTER than they already are, by reducing exercise.
> >Just what this critically obese society needs now, right?
> >
> >In addition, it will create hazards and annoyances on our sidewalks. Even
> >if we
> >restrict it to streets (assuming such rules could be enforced), it will slow
> >traffic
> >and cause hazards there as well.
> >
> >Let's take this singular opportunity to head this quality-of-life disaster
> >off at the pass!
> >Contact your elected representatives and tell them to restrict this useless,
> >indulgent
> >device to PRIVATE PROPERTY ONLY.
> >
> >Thanks!
>
> self-indulgent tripe snipped (fat juvenile american weight loss
> method that actually works! Pass this along to 10 friends or bad luck
> will happen to you within 3 years)
>
> Such paranoia. This sideways bike makes perfect sense for getting
> on/off the moving sidewalks that carry us to our nuclear powered,
> steam-driven aeromobiles.
>
> you are not welcome! Keep moving please....

perhaps this is a alquida coded message. just a guess.

6420. 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:10:11 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030615171011.16033.00000726@mb-m03.aol.com>
Source record: 115072

Woohoo, I passed my tech test. Not hard as long as you study! Going back in September to complete code and Am. Extra. Anyways, I bought an htx 10 10m mobile radio from radio shack as a base station for the house. Can only listen until I get upgrade in Sept, but would like to get it hooked up. I have to put the antenna in the attic with the existing discone I have for scanning up there. Does anyone know any good sites showing what materials to use for a 10m vertical? It just seems easier than a dipole and since I am going with one band, I figured a vertical will do the job.

Thanks
G Doughty
awaiting call sign.
(Can't wait to put it down here though!)
remove nojunk to email

6421. FS: GAP Titan DX - $100.00

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:32:13 UTC
From: Batman <kg0wx@yahoo.com>
Message-ID: <xB5Ha.279839$3n5.144485@news2.central.cox.net>
Source record: 115073

That's right - a hundred bucks for a $350.00 antenna. Nope,
there's nothing wrong with it - I'll even throw in the coax, mast
brackets and guy lines.

What's the catch? Simple - you take it down and haul it away.

Why am I selling? Simple - I'm moving to Denver and my new
apartment does not allow antennas.

I'm also selling the following:

Commercial 6 el 450mhz yagi - $25

HyGain 14 el 2 meter yagi - $40

Comet 4 el 6 meter yagi - $50

3 - 50' lengths of rg213 w/pl259's - $50

CDE AR-45 (I think) rotor w/75' belden
8 conductor heavy duty cable and 1 extra
control box - $50 for all of it.

$250 for the whole station!

Come and get it! I'm in Wichita, KS EM17iq
at my call book address. Email is:

kg0wx@yahoo.com or kg0wx@cox.net

73/72's de Ken KG0WX

6422. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:07 UTC
From: "L." <Tech@DP.NET>
Message-ID: <bcipq7qhf1@xuxa.iecc.com>
Source record: 115079
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

"anand" <anandsaha@rediffmail.com> wrote in message
news:bchvul$1tr$1@xuxa.iecc.com...
> hi,
>
> i want to check the output power of an fm transmitter, and i don't
> have a wattmeter. most of the wattmeters available in market here have
> a range of
> 0-50watt or 0-100 watt.
> i want to design one, with a range of 0-2 watt approx, using the
> components available with me - digital multimeter(V,A,ohm), diodes,
> transistors, resistors and capacitors. someone please suggest me a
> design or point me to a schematic.
>
> i am very much interested in designing a low power fm transmitter, yet
> all that i hit upon while searching the net are readymade schematics,
> which ofcourse work, yet i do not get the real idea of how it was
> designed. is there any good document about how to design an fm
> transmitter from scratch, given that "i need to transmitt an fm signal
> at 90Mhz with an output power of 2 watt". i would like to know how to
> design circuits for oscillators, pll, power booster, amplifier etc.
> and how to tweak them for getting the desired output.
>
> please don't worry about the output power(2 watt as i mentioned). i
> know it's illegal, and i am not going to cause any damage. i just want
> to learn how to design. let me mention that i am very new to this
> subject.
>
> thanks.
> anand saha.
>

Do you have any schematics for an RF probe? There are schematics out there for an RF probe which you can use on a VOM. You read the RF voltage on the output and use the formula P=E - squared / R (which should (in most cases) be 50 ohms - a standard dummy load). It will give you a ball park idea. Accuracy? Well, I've found it close enough for my uses and experiments with Wattmeters also have shown a close proximity.

Start out with a higher scale, say 40-50 VDC so as not to overload the meter. Can work down a level or two depending on voltage measured. I have an RF probe in my tool box to use on my VOM just in case I need to measure the RF voltage to get an idea of output, should I not have a wattmeter or dummy load with me. Even checking with the existing antenna, will give you an idea

of output.

An RF probe utilizes a diode, a cap or so and resistance. It may be frequency limited, so you have to watch that. The schematic will usually give the range limit, usually to 500 MHz. I've made a few with RG 58 cable, perf board cut to size, and a piece of aluminum tubing cut to size and drilled as needed. About $7 in parts and 1/2 hours work. Most of the parts may be in your junk box or found at Radio Shack.

L.

6423. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:08 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <bcipq8qhr1@xuxa.iecc.com>
Source record: 115076
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 15 Jun 2003 14:30:45 GMT, anandsaha@rediffmail.com (anand) wrote:

|please don't worry about the output power(2 watt as i mentioned). i
|know it's illegal, and i am not going to cause any damage. i just want
|to learn how to design. let me mention that i am very new to this
|subject.

Right, this is just a "design experiment." Except that you have a
particular frequency and power in mind, and you know it's illegal.

Why didn't you make the subject line, "Help me build an illegal
transmitter"?

I hope no one else aids and abets this activity, I sure won't.

6424. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bcipq8qhk1@xuxa.iecc.com>
Source record: 115077
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 15 Jun 2003 14:30:45 GMT, anandsaha@rediffmail.com (anand) wrote:

>hi,
>
>i want to check the output power of an fm transmitter, and i don't
>have a wattmeter. most of the wattmeters available in market here have
>a range of
>0-50watt or 0-100 watt.
>i want to design one, with a range of 0-2 watt approx, using the
>components available with me - digital multimeter(V,A,ohm), diodes,
>transistors, resistors and capacitors. someone please suggest me a
>design or point me to a schematic.
>
>i am very much interested in designing a low power fm transmitter, yet
>all that i hit upon while searching the net are readymade schematics,
>which ofcourse work, yet i do not get the real idea of how it was
>designed. is there any good document about how to design an fm
>transmitter from scratch, given that "i need to transmitt an fm signal
>at 90Mhz with an output power of 2 watt". i would like to know how to
>design circuits for oscillators, pll, power booster, amplifier etc.
>and how to tweak them for getting the desired output.
>
>please don't worry about the output power(2 watt as i mentioned). i
>know it's illegal, and i am not going to cause any damage. i just want
>to learn how to design. let me mention that i am very new to this
>subject.
>
>thanks.
>anand saha.

Hi Anand,

Your first problem is one of available voltage. Available from the transmitter, across the load, for the diode to then rectify and present to a meter for display. At 2W into 50Ohms you can at best develop:
P = E² / R
2 = E² / 50
E² = 2 * 50
E = 10V
This is far and away more than enough voltage to make the diode sing, as long as you use this meter AS the load. Trying to design a Wattmeter like an Amateur SWR meter (which is more versatile) would

lead to a design that attempts to use as little power going to the load as possible. You don't ask for that, so the Meter, AS load is appropriate, but then you need to ask yourself how much your real load appears to be like your Meter AS load (frequently not much at all).

Very few antennas offer a load of 50Ohms, which is simply the conventional value engineered into a system (your simple transmitter barely qualifies, and yet at some point it does have an output impedance and is driving a load of some input impedance - a system).

You should then build your Meter AS load with a value you can trust to be close to the actual value. For a ground plane style antenna this varies between 35 Ohms (with a flat radial design with around four spokes at 90° to the radiator, or 0° to the horizontal) and 50 Ohms (those same four spokes drooping at roughly 45° to the horizontal); or 70 Ohms for a dipole (vertical or horizontal) as long as they have been tuned to resonance (and now we return to the flexibility of the SWR meter which would allow you to determine this, but would be starved for power with only 2W available). Simple formulas for frequency and wire required to design these variations abound and you probably could trust them to be close enough. Download the free version of EZNEC and you will find them all and certainly within the means of the limitations imposed (for being free software) to determine those lengths for your self, to the materials at hand.

As for the detection portion of this we start with a 35/50/70 Ohm resistor. Connect this across the output of the transmitter (its antenna output connection and the chassis/ground or power supply common which is frequently the negative pole of the battery or lead of the supply).

Some cheap transmitters expect you to simply connect a whip to it and ignore that this point is also hot with supply voltage. As a precaution, insert a capacitor (one of the small disk types with a value of 0.001µF to 0.1µF) between that connector and the resistor. This capacitor will be invisible to the transmitter and the load (it won't matter).

I presume your meter is a solid state model from Radio Shack, but it could as easily be one with a needle that moves with input (probably found in a receding glacier). Either way, connect the negative lead to the common/chassis/ground described above.

Parallel connect an 1000 Ohm resistor (not critical - could be 620 or 2200) and another disk capacitor (not critical - like the one already described above) across the resistor. One side of this combination should go to the common/chassis/ground described above. The other side should go to the meter's free lead (the positive one).

You now have a lot of connections to common/chassis/ground and you have the 35/50/70 Ohm resistor being fed through a cap on one side (make sure the resistor can take 2W) and the meter with its circuitry

(specifically the +lead) isolated from it. Add a diode between these two points and you are complete: Resistor Load - Diode - +lead.

Apply power, measure voltage, apply Ohm's Law.

73's
Richard Clark, KB7QHC

6425. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:09 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bcipq9$qi2$1@xuxa.iecc.com>
Source record: 115078
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

"anand" <anandsaha@rediffmail.com> wrote in message
news:bchvul$1tr$1@xuxa.iecc.com...
> hi,
>
> i want to check the output power of an fm transmitter, and i don't
> have a wattmeter. most of the wattmeters available in market here have
> a range of
> 0-50watt or 0-100 watt.
> i want to design one, with a range of 0-2 watt approx, using the
> components available with me - digital multimeter(V,A,ohm), diodes,
> transistors, resistors and capacitors. someone please suggest me a
> design or point me to a schematic.
>
> i am very much interested in designing a low power fm transmitter, yet
> all that i hit upon while searching the net are readymade schematics,
> which ofcourse work, yet i do not get the real idea of how it was
> designed. is there any good document about how to design an fm
> transmitter from scratch, given that "i need to transmitt an fm signal
> at 90Mhz with an output power of 2 watt". i would like to know how to
> design circuits for oscillators, pll, power booster, amplifier etc.
> and how to tweak them for getting the desired output.
>
> please don't worry about the output power(2 watt as i mentioned). i
> know it's illegal, and i am not going to cause any damage. i just want
> to learn how to design. let me mention that i am very new to this
> subject.

Let's see, now, he wants to learn how to design an illegal transmitter, and
the existing readymade designs are no good to him. He wants a fairly
sophisticated design (pll). He wants us not to worry about his power level.

He's posting from a free account.

Anyone else hearing alarm bells ringing?

6426. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:11 UTC
From: John Fields <jfields@austininstruments.com>
Message-ID: <bcipqbqip1@xuxa.iecc.com>
Source record: 115074
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 15 Jun 2003 14:30:45 GMT, anandsaha@rediffmail.com (anand) wrote:

>hi,
>
>i want to check the output power of an fm transmitter, and i don't
>have a wattmeter. most of the wattmeters available in market here have
>a range of
>0-50watt or 0-100 watt.
>i want to design one, with a range of 0-2 watt approx, using the
>components available with me - digital multimeter(V,A,ohm), diodes,
>transistors, resistors and capacitors. someone please suggest me a
>design or point me to a schematic.
>
>i am very much interested in designing a low power fm transmitter, yet
>all that i hit upon while searching the net are readymade schematics,
>which ofcourse work, yet i do not get the real idea of how it was
>designed. is there any good document about how to design an fm
>transmitter from scratch, given that "i need to transmitt an fm signal
>at 90Mhz with an output power of 2 watt". i would like to know how to
>design circuits for oscillators, pll, power booster, amplifier etc.
>and how to tweak them for getting the desired output.
>
>please don't worry about the output power(2 watt as i mentioned). i
>know it's illegal, and i am not going to cause any damage. i just want
>to learn how to design. let me mention that i am very new to this
>subject.
---
http://www.arrl.org/catalog/?item=1921

--
John Fields
Professional circuit designer
http://austininstruments.com

6427. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:14 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <bcipqe$qk5$1@xuxa.iecc.com>
Source record: 115080
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 15 Jun 2003 14:30:45 GMT, anandsaha@rediffmail.com (anand) wrote:

[...]

You have a *hell* of a lot to learn. Start with getting a grip of the
fundamentals, then get yourself this book: 'RF Circuit Design' by
Chris Bowick (Newnes). It's about as close as you can get to a
complete but concise manual on the subject.

6428. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 21:52:16 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcipqgqkm1@xuxa.iecc.com>
Source record: 115075
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

Assuming you know the value of the transmitter load resistance.

With the diode (preferably germanium or other low-forward-voltage diode) rectify the RF voltage across the load, bypass the RF component of the DC volts down to transmitter ground with a 10,000 pF capacitor. Connect a 2M-ohm 1/4-watt resistor across the capacitor.

With the high resistance digital voltmeter measure the DC volts across the capacitor. The measured DC voltage + diode forward volts will be equal to the PEAK RF voltage across the load.

Transmitter power output in watts = Squared(Peak RF Volts)/2/Load resistance.

The above circuit will work up to a measured DC voltage not more than the rated reverse voltage of the diode.

Reg, G4FGQ

6429. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:04:26 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bciqha$r3n$0@208.206.142.112>
Source record: 115081

Russ wrote:

> I'm building a couple of 20M verticals to be phased. How critical are
> the lengths of the radials? Is 16'6" ok or do they need to be tuned
> like the radiator whip.
>
> Russ

Russ you evidently missed this thread from a few days ago. Her is the meat of it repated.....

Dick

Subject:
Re: What length counterpoise?
Date:
Wed, 11 Jun 2003 21:32:12 -0400
From:
"Peter Brackett" <ab4bc@ix.netcom.com>
Organization:
MindSpring Enterprises
Newsgroups:
rec.radio.amateur.antenna
References:
1 , 2 , 3 , 4 , 5 , 6

Folks:

I have used tuned counterpoises with the antenna system I was discussing in
two different QTH's both were in deed restricted neighbourhoods where antennas were forbidden. The antenna was an inverted L antenna made from quite fine and flexible Radio Shack SWL antenna wire with shirt button style
insulators, in both cases it was strung up the side of a big southern yellow
pine tree and then across to another such tree. About 2/3 of the antenna was vertical, and about 2-3 inches from the trunk of the 1-1/2 foot diameter
pine tree trunk, the remaining 1/3 was horizontal at about 35 - 40 feet. Dimensions were never known exactly and the antenna was erected at dusk using a sling shot and lead fishing weights so the neighbours would not notice. At first I fed this stealth inverted L antenna against a single 8

foot copper ground rod, and I got lousy signal reports. Only some hams a few miles away could hear me.

Then I decided to try to improve things by "messing" with my ground
system,
that's when I discovered that "tuning"counterpoises was a great thing.

Just to be clear, I didn't "bury" the counterpoises rather they were laid
out on the ground/grass
and only pressed into the grass far enough so as not to engage the blade
of
my lawn mower.

They were not "radials" they were individual counterpoises, i.e. they were

not all of equal length spread out at equal angles as for a single band
monopole or MF broadcast antenna, rather they were "one of" counterpoises,

one per band and each was of a different length, the longest for 160m, the

next shorter for 80m, the next for 40m, etc... and were used together as
the counterpoise to an inverted L antenna which was operated against those

counterpoises as an all-band antenna fed by a "tuner".

Each counterpoise was "tuned" to length by adjusting for maximum current
in
the countepoise for that band.

Previously that inverted L "stealth" antenna had been worked against a
single 8 foot ground rod, and it didn't work
worth a damm.

With the "tuned" counterpoises the antenna was a real winner and I worked
over 100 countries and countless CW net and traffic QSO's using that
antenna
with it's tuned counterpoises.

Worked for me.

FWIW...

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:veeu0cclcjvkf7@corp.supernews.com...
> Reg is right that when radials are buried, moderate length changes make
> very little difference.
>
> But I discovered something interesting many years ago. When I laid
> radial wires on the ground, I found very definite and surprisingly large

> sensitivity to their length. Relatively small changes in length
> noticeably changed the antenna input impedance, as if the radials were
> elevated. The ground surface was a bit lumpy, and the soil very dry.
> (Yes, the ground does dry out here for a couple of months in the
> summer.) And the wire wasn't particularly straight, so there were a lot

> of air gaps under the wires. Out of curiosity, I made up some "staples"
> out of short pieces of galvanized steel electric fence wire, and
> "stapled" the wires firmly down to conform with the ground surface. Lo
> and behold, the length sensitivity just about disappeared.
>
> So I don't doubt that Peter has seen the effects he mentions. But I also

> believe that the effort is a waste of time if the radials are to be
> buried after the exercise.
>
> Roy Lewallen, W7EL
>
> Reg Edwards wrote:
> >>Peter Brackett wrote:
> >>
> >>>Then go out in the lawn/garden with wire cutters and cut some of the

> >
> > end
> >
> >>>off the radial, then go
> >>>back and look at the meter. Repeat the process until you find the
> >
> > maximum

6430. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:04:42 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bciqhq$r3u$0@208.206.142.112>
Source record: 115082

Russ wrote:

> I'm building a couple of 20M verticals to be phased. How critical are
> the lengths of the radials? Is 16'6" ok or do they need to be tuned
> like the radiator whip.
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> Russ

Russ you evidently missed this thread from a few days ago. Here is the
meat of it repeated.....

Dick

Subject:
Re: What length counterpoise?
Date:
Wed, 11 Jun 2003 21:32:12 -0400
From:
"Peter Brackett" <ab4bc@ix.netcom.com>
Organization:
MindSpring Enterprises
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quite fine and flexible Radio Shack SWL antenna wire with shirt button
style
insulators, in both cases it was strung up the side of a big southern
yellow
pine tree and then across to another such tree. About 2/3 of the antenna
was vertical, and about 2-3 inches from the trunk of the 1-1/2 foot
diameter
pine tree trunk, the remaining 1/3 was horizontal at about 35 - 40 feet.
Dimensions were never known exactly and the antenna was erected at dusk
using a sling shot and lead fishing weights so the neighbours would not
notice. At first I fed this stealth inverted L antenna against a single 8

foot copper ground rod, and I got lousy signal reports. Only some hams a
few miles away could hear me.

Then I decided to try to improve things by "messing" with my ground
system,
that's when I discovered that "tuning"counterpoises was a great thing.

Just to be clear, I didn't "bury" the counterpoises rather they were laid
out on the ground/grass
and only pressed into the grass far enough so as not to engage the blade
of
my lawn mower.

They were not "radials" they were individual counterpoises, i.e. they were

not all of equal length spread out at equal angles as for a single band
monopole or MF broadcast antenna, rather they were "one of" counterpoises,

one per band and each was of a different length, the longest for 160m, the

next shorter for 80m, the next for 40m, etc... and were used together as
the counterpoise to an inverted L antenna which was operated against those

counterpoises as an all-band antenna fed by a "tuner".

Each counterpoise was "tuned" to length by adjusting for maximum current
in
the countepoise for that band.

Previously that inverted L "stealth" antenna had been worked against a
single 8 foot ground rod, and it didn't work
worth a damm.

With the "tuned" counterpoises the antenna was a real winner and I worked
over 100 countries and countless CW net and traffic QSO's using that
antenna
with it's tuned counterpoises.

Worked for me.

FWIW...

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:veeu0cclcjvkf7@corp.supernews.com...
> Reg is right that when radials are buried, moderate length changes make
> very little difference.
>
> But I discovered something interesting many years ago. When I laid
> radial wires on the ground, I found very definite and surprisingly large

> sensitivity to their length. Relatively small changes in length
> noticeably changed the antenna input impedance, as if the radials were
> elevated. The ground surface was a bit lumpy, and the soil very dry.
> (Yes, the ground does dry out here for a couple of months in the
> summer.) And the wire wasn't particularly straight, so there were a lot

> of air gaps under the wires. Out of curiosity, I made up some "staples"
> out of short pieces of galvanized steel electric fence wire, and
> "stapled" the wires firmly down to conform with the ground surface. Lo
> and behold, the length sensitivity just about disappeared.
>
> So I don't doubt that Peter has seen the effects he mentions. But I also

> believe that the effort is a waste of time if the radials are to be
> buried after the exercise.
>
> Roy Lewallen, W7EL
>
> Reg Edwards wrote:
> >>Peter Brackett wrote:
> >>
> >>>Then go out in the lawn/garden with wire cutters and cut some of the

> > >
> > > end
> > >
> >>>off the radial, then go
> >>>back and look at the meter. Repeat the process until you find the
> > >
> > > maximum

6431. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:16:25 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcir5f$ot3$1@slb9.atl.mindspring.net>
Source record: 115083

A dipole will be easier actually. 468/28.350. Then adjust for swr as Im sure you will have some considering it being inside.

Dan/W4NTI

"G. Doughty" <nightowls627@aol.comnojunk> wrote in message news:20030615171011.16033.00000726@mb-m03.aol.com...
> Woohoo, I passed my tech test. Not hard as long as you study! Going back in
> September to complete code and Am. Extra. Anyways, I bought an htx 10 10m
> mobile radio from radio shack as a base station for the house. Can only listen
> until I get upgrade in Sept, but would like to get it hooked up. I have to put
> the antenna in the attic with the existing discone I have for scanning up
> there. Does anyone know any good sites showing what materials to use for a 10m
> vertical? It just seems easier than a dipole and since I am going with one
> band, I figured a vertical will do the job.
>
> Thanks
> G Doughty
> awaiting call sign.
> (Can't wait to put it down here though!)
> remove nojunk to email

6432. land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:20:04 UTC
From: toolowd@aol.com
Message-ID: <20030615182004.13727.00000591@mb-m25.aol.com>
Source record: 115084

Sorry to sound so ignorant here, but I have some questions.

I have bought (not yet arrived) an Icom SSB transiever and automatic tuner. I want to set it up at my house and use it. The boat is in Fla and we are in Indiana. I would like to get weatherfaxes and listen to marine weather broadcasts before our next trip in the fall on the boat.

What do I need to do? I need some sort of antenna and a way to power the radio.

Any suggestions from you experience folks is welcome.

BTW, It is also Ham enabled. I would like to start listening to that as well. (I know I can't broadcast until I get my ticket)! I am going to take the Tech test soon also.

Rich Morpurgo
toolowd@aol.com

6433. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:27:38 UTC
From: Jim Simmons <jimsim@adelphia.net>
Message-ID: <up6Ha.2306$Hw.2090942@news2.news.adelphia.net>
Source record: 115085

What's the roof made of?

Go with a dipole. If you go with a vertical, what is going to be your ground plain, you got'a have one!

Jim, kf4tun

"G. Doughty" <nightowls627@aol.comnojunk> wrote in message news:20030615171011.16033.00000726@mb-m03.aol.com...
> Woohoo, I passed my tech test. Not hard as long as you study! Going back in
> September to complete code and Am. Extra. Anyways, I bought an htx 10 10m
> mobile radio from radio shack as a base station for the house. Can only listen
> until I get upgrade in Sept, but would like to get it hooked up. I have to put
> the antenna in the attic with the existing discone I have for scanning up
> there. Does anyone know any good sites showing what materials to use for a 10m
> vertical? It just seems easier than a dipole and since I am going with one
> band, I figured a vertical will do the job.
>
> Thanks
> G Doughty
> awaiting call sign.
> (Can't wait to put it down here though!)
> remove nojunk to email

6434. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 22:40:14 UTC
From: Micro-Flight <robert931@sympatico.ca>
Message-ID: <cB6Ha.2244$9y3.88708@news20.bellglobal.com>
Source record: 115086
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

Maybe they should keep you off the sidewalks you kook!
<Rational_Transportation@dawze.or.us> wrote in message
news:4ow1os$3ty$6@news.so-net.com.hk...
> Noting good can come from this new personal transpiration device. It will
only serve
> to make Americans FATTER than they already are, by reducing exercise.
> Just what this critically obese society needs now, right?
>
> In addition, it will create hazards and annoyances on our sidewalks. Even
if we
> restrict it to streets (assuming such rules could be enforced), it will
slow traffic
> and cause hazards there as well.
>
> Let's take this singular opportunity to head this quality-of-life disaster
off at the pass!
> Contact your elected representatives and tell them to restrict this
useless, indulgent
> device to PRIVATE PROPERTY ONLY.
>
> Thanks!
> -
> -
> -
> -
> -
> -
> -
> -
> -
> -
> -
>
> It arrived, you jumped, yet Marian never quietly cared towards the
> swamp.
>
> I am partly long, so I live you. He'll be playing alongside
> fresh Milton until his case likes unbelievably. Don't try to
> burn the tags locally, look them grudgingly. Some films attempt,
> reject, and attack. Others totally lift. Little by little Felix will
> solve the tailor, and if Jethro rigidly opens it too, the shopkeeper will
> kick in front of the bitter bedroom. The inner carpenter rarely
> walks Woody, it grasps Taysseer instead. I was behaving buckets to

> heavy Ramez, who's irrigating throughout the button's barn.
> It might tease annually if Zack's bowl isn't filthy. Do not
> judge a desk! Let's excuse on the blunt canyons, but don't order the
> rural boats. Try tasting the lake's noisy ticket and Ayman will
> help you! Gavin! You'll mould onions. Well, I'll explain the
> card. What did Ayub sow to all the pears? We can't measure
> jackets unless Ratana will happily clean afterwards. While raindrops
> angrily nibble jugs, the tyrants often join in back of the polite
> aches. Other smart difficult clouds will expect frantically
> to papers.
>
> Plenty of barbers subtly move the clean arena. Little by little,
> eggs recommend under bad ladders, unless they're pathetic. What will we
> fear after Alice scolds the closed planet's enigma? Otherwise the
> envelope in Hakeem's frog might converse some hollow tapes.
> A lot of solid sick goldsmiths eerily answer as the dry walnuts
> seek.
>
> Both irritating now, Taysseer and Ben dined the lazy stadiums
> beside brave candle. Her cap was hot, stupid, and climbs beside the
> cafe. They are improving in the bathroom now, won't cover dryers later.
They are
> shouting against empty, throughout sharp, between clever cobblers. Will
you
> believe to the hair, if Rashid wrongly fills the hen? My stale
> cup won't comb before I dream it. She may creep once, love furiously,
then
> recollect beneath the twig throughout the hall. Shelly, behind
> sauces tired and healthy, talks with it, learning dully. Fucking don't
> wander fully while you're wasting alongside a young pin.
>
>
>

6435. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 23:00:15 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <hcupev0ijbt6pbknbkiie8gv15c6305n0p@4ax.com>
Source record: 115087

On 15 Jun 2003 21:10:11 GMT, nightowls627@aol.comnojunk (G. Doughty)
wrote:

>Woohoo, I passed my tech test. Not hard as long as you study! Going back in
>September to complete code and Am. Extra. Anyways, I bought an htx 10 10m
>mobile radio from radio shack as a base station for the house. Can only listen
>until I get upgrade in Sept, but would like to get it hooked up. I have to put
>the antenna in the attic with the existing discone I have for scanning up
>there. Does anyone know any good sites showing what materials to use for a 10m
>vertical?

Yes, Mr. Cebik has a whole page of articles on easy-to-build 10-meter
antennas, both horizontal and vertical. Go to
http://www.cebik.com/a10/anta.html

You might start with a dipole, tho', fed with coax. Should fit in your
attic easily and will require no ground of any sort.

Bob
k5qwg

> It just seems easier than a dipole and since I am going with one
>band, I figured a vertical will do the job.
>
>Thanks
>G Doughty
>awaiting call sign.
>(Can't wait to put it down here though!)
>remove nojunk to email

6436. Re: land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 23:15:42 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bciuklflj1@slb4.atl.mindspring.net>
Source record: 115088

Check your book and see what the power supply requirements are. Probably 13.8volts DC (direct current). And Amps depending on if you transmit or not. If you receive only...then probably a very low amp supply will be needed. Again check ur book.

Antenna is simple. For rx only just a random wire could do the trick. Or cut a simple dipole and feed in center with coax.

I.E. 468 / Frequency in MHZ = length in feet.

Dan/W4NTI

"Toolowd" <toolowd@aol.com> wrote in message
news:20030615182004.13727.00000591@mb-m25.aol.com...
> Sorry to sound so ignorant here, but I have some questions.
>
> I have bought (not yet arrived) an Icom SSB transiever and automatic
tuner. I
> want to set it up at my house and use it. The boat is in Fla and we are
in
> Indiana. I would like to get weatherfaxes and listen to marine weather
> broadcasts before our next trip in the fall on the boat.
>
> What do I need to do? I need some sort of antenna and a way to power the
> radio.
>
> Any suggestions from you experience folks is welcome.
>
> BTW, It is also Ham enabled. I would like to start listening to that as
well.
> (I know I can't broadcast until I get my ticket)! I am going to take the
Tech
> test soon also.
>
> Rich Morpurgo
> toolowd@aol.com

6437. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 23:42:06 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcj08g$8kj$1@slb1.atl.mindspring.net>
Source record: 115089

Jack:

Has anybody ever tried any of the Windows antenna modeling software on
Unix/Linux under *WINE*.

WINE is a "Windows Emulator* that runs on various 'nixs.

Might ask Roy Lewallen if he has ever seen EZNEC run under WINE.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Jack Twilley" <jmt+usenet@twilley.org> wrote in message
news:86u1axoa04.fsf@duchess.twilley.org...
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I'm interested in modeling some antennas, but all the software I see
is designed to run on Microsoft Windows. I prefer to use FreeBSD,
which can also run Linux binaries in compatibility mode if necessary.

Any suggestions? The software doesn't have to generate graphical
output directly -- building a Postscript file for printing or a JPEG
file for viewing would be okay.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE+5lhiGPFSfAB/ezgRAsZiAJ9ghqmihQOr4EpuuZjPgepsVuHONwCgnguV
a/sp+IP353Yx6PSttbjK3og=
=q2lV
-----END PGP SIGNATURE-----

6438. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 23:46:06 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bcj0g1$hh4$1@slb9.atl.mindspring.net>
Source record: 115090

Reg:

[snip]
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bcaqjaetq1@hercules.btinternet.com...
> Are there programs which make Unix and other machines think they are DOS
> machines?
[snip]

Yes, one that I know of and have used is *WINE*.

Wine is a well known Windows emulator that runs under at least some
distributions of Linux and maybe other versions of Unix. I have used Wine
with several programs on my home machines running under Red Hat Linux, but
have never tried it with antenna modelling programs.

Since I no longer run Linux at home I stopped using Wine. "hic"...

--
Peter K1PO
Indialantic By-the-Sea, FL.

6439. FA: MFJ-971 Antenna Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-15 23:55:16 UTC
From: aokd5fxt@aol.com
Message-ID: <20030615195516.00447.00000785@mb-m12.aol.com>
Source record: 115091

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3030835521

6440. Re: land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 01:12:55 UTC
From: toolowd@aol.com
Message-ID: <20030615211255.22672.00000746@mb-m21.aol.com>
Source record: 115092

>>>I.E. 468 / Frequency in MHZ = length in feet.

surely one doesn't need a different antenna for each band?

6441. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 01:48:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <veq8f7n74umua7@corp.supernews.com>
Source record: 115093

Peter Brackett wrote:
> Jack:
>
> Has anybody ever tried any of the Windows antenna modeling software on
> Unix/Linux under *WINE*.
>
> WINE is a "Windows Emulator* that runs on various 'nixs.
>
> Might ask Roy Lewallen if he has ever seen EZNEC run under WINE.

I don't recall anyone mentioning that he'd run EZNEC under WINE or otherwise on a Linux system. I do know of several people having run EZNEC under emulators on Macs. I'd be interested in hearing from anyone who has tried running EZNEC on a Linux Windows emulator.

I'd like to clarify once more that I'm not at all a Microsoft or Windows proponent, and have hopes that Linux or some other OS will eventually unseat Windows from the monopolistic position it holds. The reason for not developing Linux or Mac versions of EZNEC is simply an economic one -- at present, the market is much too small to make the development effort worthwhile.

Roy Lewallen, W7EL

6442. Re: land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 01:58:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0f8qevs1j78rso4vk03fk82nj90jiuqojd@4ax.com>
Source record: 115094

On 15 Jun 2003 22:20:04 GMT, toolowd@aol.com (Toolowd) wrote:

>Sorry to sound so ignorant here, but I have some questions.
>
>I have bought (not yet arrived) an Icom SSB transiever and automatic tuner. I
>want to set it up at my house and use it. The boat is in Fla and we are in
>Indiana. I would like to get weatherfaxes and listen to marine weather
>broadcasts before our next trip in the fall on the boat.
>
>What do I need to do? I need some sort of antenna and a way to power the
>radio.
>
>Any suggestions from you experience folks is welcome.
>
>BTW, It is also Ham enabled. I would like to start listening to that as well.
>(I know I can't broadcast until I get my ticket)! I am going to take the Tech
>test soon also.
>
>Rich Morpurgo
>toolowd@aol.com

Hi OM,

If by SSB you mean an HF set, then what you would be getting into is
WEFAX. You will need a computer to act as the load of the demodulator
(a simple but perhaps not too cheap device; the one I bought was about
$70). An antenna aboard any ship is complicated by the need for
height (actually, an universal complication, but if you are not on a
sailboat even more limited). A simple whip for the marine band
(whatever they have at the store that is 10' tall or more) will serve
and your tuner might handle the rest of the job (however, such a tuner
needs you to hit the transmit to do it right, a present no-no and more
so for the WEFAX frequencies).

Take the test early, practice makes perfect (it doesn't cost that much
and you might find help) and you might even get in the game faster
than you thought. Listening always helps and you might want to try
Shortwave to learn the ropes about propagation and how it varies
through the day and season.

73's
Richard Clark, KB7QHC

6443. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 02:18:41 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EED27FD.74D4BC8B@gte.net>
Source record: 115095

loopfan wrote:

> Greetings!
>
> I built some small shielded HF loops mainly to null out local EMI / RFI, and
> they worked so well that I put up a site dedicated to the project. I
> thought I'd put something back into the hobby dedicated to the help I've
> gained from others over the years.
>
> I was also looking for a fast and easy way to construct them, about as easy
> as making a dipole, and I think I've found the solution. You only need 20
> feet or less of coax, some wire strippers, and a tuner. No real junk-box
> parts needed!
>
> I initially made them for 80 - 40 meters and they worked so well that I've
> made them from 160 to 10 meters with great success. Full HF coverage like
> this requires about 4 loops since the loops have about a 2:1 frequency ratio
> coverage.

Hi Brian,
I think we corresponded earlier last week regarding shielded loops.\To perhaps repeat, I pretty much duplicated the Wellbrook shielded loop- 1 meter in diameter and feeding a J310/2N3904 untuned broad band preamp- about 30dB gain from 100KHz to nearly 30 MHz.
The advantage here is that no tuning is required- leaving the operator free to only be concerned about rotating the loop to either null out a possible noise source or a station- perhaps revealing another station on the same freq.
2 weekends back I finally got my loop mounted on the tower/rotator and have now had many hours to observe it compared to a 45' end fed wire (with 9:1 transformer) and a homebrew active whip (1.2M long). Most comparisons were made on AM broadcast and LW- 26 NDB's were copied on th shielded loop while ony 3 were copied on the whip. The biggest difference here was AC noise that predominated on the whip- and the total lack of any man made noise on the loop.
W4SC was here this weekend, we played with a Lowe HF250, SPR-4 and a Lowe HF-150. He went home determined to build a shielded loop!
The advantage of not havig to tune the loop is obvious. The only downside may be that in an RF congested environment, the preamp may overload- not a problem here in the NC mountains. On the other hand, because the loop has a very low driving Z, conventional filters could be placed in the front end to alleviate the IM problem. This is not readily an option on an active whip bacuse of its extremely hi input Z.
Now, cannot wait for the quiet of winter- and maybe substitue a 2M loop for the 1M. This is a simple task as the 5/8" hardline in my loop attaches to the preamp box with standard CATV connectors.

Dale W4OP

6444. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 03:15:11 UTC
From: ve1ahm <ve1ahm@nbnet.nb.ca>
Message-ID: <3EED3632.9030307@nbnet.nb.ca>
Source record: 115096
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Is for me. Seventh button down the left side and the second line on the
next page that comes up. (In two browsers)

Joe Strain wrote:
> There IS no "technic" button to push..no attempts to reveal cited features
> works
> On TWO browsers
>
> Yodar
> "carlos Mendoza" <no@spam.com> wrote in message
> news:3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl...
>
>>Hello All,
>>
>>I received nice antenna information from VE7BQH.
>>It is the comparisation of 115 antenna's:
>>
>>cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft, many
>>more....
>>
>>I made a nice chart (table) so you can easy compare!
>>
>>http://www.qsl.net/pd0rkc (click on the technic button).
>>
>>73's Cor
>>
>>
>>In my other mail (in the news-group) people complain that they
>>could not see my menu bar on the left (netscape users, and others?).
>>I used shockwave flash buttons, I asume that was the problem.
>>I have now the buttons in gif pictures.
>>I hope it work now for those who does not use the microsoft-
>>browser (let me know!!!!).
>>
>>
>>
>
>

6445. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 03:42:32 UTC
From: Steve KA4TMB <steven.heyde@comcast.net>
Message-ID: <uMCdnTr3zuY1oXCjXTWJhA@comcast.com>
Source record: 115097
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

On the left side, third button from the bottom, OR try this:
http://www.qsl.net/pd0rkc/technical.html

I tested the link. I will work.

Steve KA4TMB

"Joe Strain" <jstrain1@cfl.rr.com> wrote in message
news:yBZGa.90768$4y6.1346017@twister.tampabay.rr.com...
> There IS no "technic" button to push..no attempts to reveal cited
features
> works
> On TWO browsers
>
> Yodar
> "carlos Mendoza" <no@spam.com> wrote in message
> news:3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl...
> > Hello All,
> >
> > I received nice antenna information from VE7BQH.
> > It is the comparisation of 115 antenna's:
> >
> > cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft,
many
> > more....
> >
> > I made a nice chart (table) so you can easy compare!
> >
> > http://www.qsl.net/pd0rkc (click on the technic button).
> >
> > 73's Cor
> >
> >
> > In my other mail (in the news-group) people complain that they
> > could not see my menu bar on the left (netscape users, and others?).
> > I used shockwave flash buttons, I asume that was the problem.
> > I have now the buttons in gif pictures.
> > I hope it work now for those who does not use the microsoft-
> > browser (let me know!!!!).
> >
> >
> >
>

6446. Re: How to calculate a dipole antenna for 88-108Mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 04:12:55 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <6LScnbUjJ-Rb3nCjXTWJhQ@comcast.com>
Source record: 115098

Instead of messing around, why not just make a folded dipole for the favorite part of the FM band. If you want to feed it with coax, use a TV 300:75 ohm transformer and RG6 coax.

Tam/WB2TT
"Henrik" <henrikolofsson@yahoo.se> wrote in message news:7030d3aa.0306151045.bdf4f29@posting.google.com...
> Hi, I have a dipole antenna for 79Mhz that I want to modify to use on
> my 1 watt FM transmitter. The dipole is an Allgon block with some kind
> of glass fibre elements. How much do I need to cut them?
>
> Thanks in advance!
>
> Regards,
> Henrik

6447. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 04:15:06 UTC
From: Bob Nielsen <nielsen@remove_this.oz.net>
Message-ID: <bcjg8a$3rj$0@216.39.144.81>
Source record: 115099

EZNEC runs just fine in Win4Lin.

Bob, N7XY

On Sun, 15 Jun 2003 18:48:22 -0700, Roy Lewallen wrote:
> Peter Brackett wrote:
>> Jack:
>>
>> Has anybody ever tried any of the Windows antenna modeling software on
>> Unix/Linux under *WINE*.
>>
>> WINE is a "Windows Emulator* that runs on various 'nixs.
>>
>> Might ask Roy Lewallen if he has ever seen EZNEC run under WINE.
>
> I don't recall anyone mentioning that he'd run EZNEC under WINE or
> otherwise on a Linux system. I do know of several people having run
> EZNEC under emulators on Macs. I'd be interested in hearing from anyone
> who has tried running EZNEC on a Linux Windows emulator.
>
> I'd like to clarify once more that I'm not at all a Microsoft or Windows
> proponent, and have hopes that Linux or some other OS will eventually
> unseat Windows from the monopolistic position it holds. The reason for
> not developing Linux or Mac versions of EZNEC is simply an economic one
> -- at present, the market is much too small to make the development
> effort worthwhile.
>
> Roy Lewallen, W7EL
>

6448. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 05:41:24 UTC
From: Roger Halstead <rdhalste@tm.net>
Message-ID: <aolqevojea2j7sv1kq881e26tdlfsgsh41@4ax.com>
Source record: 115100

On Sun, 15 Jun 2003 12:12:38 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>
>-- "Mike Coslo" wrote
>>
>> Don't worry about her going to jail, Reg, that's not too likely.
>> Probably a fine, that's all.
She screwed the pooch. Got dumb and did something dumb and should pay
the price...

Now as tot he CB whips....The antennas should be good for any Ham
transceiver with up to a 100 or 200 watts PEP output with the
exception of possibly any matching setup built into the base.

If they don't have a matching section built into the base (like the
old 108 inch whips) they'll handle virtually anything that can be
pushed through that little coax.

Many of those old 108 inch whips only had the mount with the ground on
one side and the whip connected tot he center connector. You could
put in a variable capacitor across the conductor to ground and get a
better match. A little pruning and they worked great on 10.

>>
>> The big problem is that she tried to cover the wrongdoing up.
>>
>> The reason some people are so gleeful about the whole sorry mess is
>> that she is somewhat of an abrasive personality, with a superior
>> attitude, and it's a matter of "the bigger they are, the harder they
>fall".

Never met her and I've never seen her on TV so from there I have no
opinion...She should pay the same price any of the rest of us
"mortals" would get stuck with.

>===================================
>
>It seems she's a woman of considerable talents. Prison would be terrible
>waste. Praps she could find employment helping Bush sort out his Middle East
>problems.

She might be a good example for what it's like to screw up. Too bad
they didn't do it with the Enron Execs.

Only now are they squeezing the big investors who misused the market.
There'l be lots others.

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2).

>---
>Reg
>

6449. Re: Radial Length

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 06:24:08 UTC
From: Steve <yzf1000r1_99@yahoo.com>
Message-ID: <dpdHa.4520$LP.236@newsfep4-winn.server.ntli.net>
Source record: 115101

>Devil's advocate here.....

>What difference does it make if it's elevated or not?

Hi Funk,

If the vertical is elevated the radials MUST be tuned or else you will not get a correct match - very easy to check the imbalance with an MFJ 259 meter. It also helps if you have several books confirming the same details lol

I tried it with my own Hustler 5BTV antenna and once I made the radials resonant and elevated the antenna it works a treat.

Try some searching on the internet for a better explanation - I'm only giving the punchline which is:

Elevated antenna = tuned radials
Ground mounted = untuned (but as long as possible).

Steve

homepage: http://www.stevebb.com
Email: yzf1000r1_99@yahoo.com

6450. Re: Comparisation of 115 antenna's (144Mhz) in a collourd chart!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 06:45:05 UTC
From: ryeburn@sfu.caz
Message-ID: <ryeburn-1506032345050001@bni030qny8kc.bc.hsia.telus.net>
Source record: 115102
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

In article <yBZGa.90768$4y6.1346017@twister.tampabay.rr.com>, "Joe Strain"
<jstrain1@cfl.rr.com> wrote:

> There IS no "technic" button to push..no attempts to reveal cited features
> works
> On TWO browsers
>
> Yodar
> "carlos Mendoza" <no@spam.com> wrote in message
> news:3ee4f30e$0$76746$1b62eedf@news.wanadoo.nl...
> > Hello All,
> >
> > I received nice antenna information from VE7BQH.
> > It is the comparisation of 115 antenna's:
> >
> > cue-dee, flexa, m2, dj9bv, f9ft, hygain, flexa, vargarda, cushcraft, many
> > more....
> >
> > I made a nice chart (table) so you can easy compare!
> >
> > http://www.qsl.net/pd0rkc (click on the technic button).

Works fine for me using three out of four browsers -- iCab 2.9.5b158 (beta
version; 2.9.1 is latest full release version), Mozilla 1.2.1 (much nicer
than Netscape 7.x), and Opera 5.0. Doesn't work with Netscape 4.8 (which I
keep around since there are some websites which do things wrong in ways
that Netscape 4.8 tolerates, but standards-compliant browsers don't
tolerate). All this is on a Digital Audio G4 Macintosh (about two years
old).

Before he made the changes, it didn't work with any of the four browsers
-- presumably he was then using a Micro$loth corruption of JavaScript
intended only to work with IE on Windows machines, rather than the real
thing which works fine at all my bank sites.

David, ex W8EZE

--
David or Jo Anne Ryeburn
ryeburn@sfu.caz
To send e-mail, remove the letter "z" from this address.

6451. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 07:00:55 UTC
From: Harold Burton <hwburton@cableone.net>
Message-ID: <ves4vcakgram61@corp.supernews.com>
Source record: 115027

"Tdonaly" <tdonaly@aol.com> wrote in message
news:20030616131440.08487.00001220@mb-m24.aol.com...
> Richard Clark wrote,
> (snip)
> >
> Bush ii could fall off anything.
> Does anyone know how to soup up a
> Segway? Has anyone ever gone Segway
> mobile? What's the penalty for Segwaying
> while intoxicated? Are Republicans allowed
> to drive them?
> 73,
> Tom Donaly, KA6RUH

Don't know the answer to any of your questions, but, it has occured to me that the Segway could be a lightweight solution to the problem of building an operating replica (perhaps childsized) of Smokey Stovers foomobile. (A side by side two wheeled vehicle, looked sorta' like a single axle Ford roadster) If you are too young to remember Smokey, he was a fairly popular comic character (a fireman) of the depression era.

6452. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 07:04:31 UTC
From: Jim Richardson <warlock@eskimo.com>
Message-ID: <vo60s-ao5.ln1@grendel.myth>
Source record: 115104

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

On Sun, 15 Jun 2003 18:48:22 -0700,
Roy Lewallen <w7el@eznec.com> wrote:
> Peter Brackett wrote:
>> Jack:
>>
>> Has anybody ever tried any of the Windows antenna modeling software on
>> Unix/Linux under *WINE*.
>>
>> WINE is a "Windows Emulator* that runs on various 'nixs.
>>
>> Might ask Roy Lewallen if he has ever seen EZNEC run under WINE.
>
> I don't recall anyone mentioning that he'd run EZNEC under WINE or
> otherwise on a Linux system. I do know of several people having run
> EZNEC under emulators on Macs. I'd be interested in hearing from anyone
> who has tried running EZNEC on a Linux Windows emulator.
>
> I'd like to clarify once more that I'm not at all a Microsoft or Windows
> proponent, and have hopes that Linux or some other OS will eventually
> unseat Windows from the monopolistic position it holds. The reason for
> not developing Linux or Mac versions of EZNEC is simply an economic one
> -- at present, the market is much too small to make the development
> effort worthwhile.
>
> Roy Lewallen, W7EL
>

I can't speak for others, but the market would include me, for a Linux
version, it doesn't include me for a Microsoft Windows version :)

-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (GNU/Linux)

iD8DBQE+7Wv/d90bcYOAWPYRAkd9AJ9YUdtgP9KAYNfyQMqByzG9rML48QCgi1KB
sWW0Fy2HL8enk2c+qsHltAA=
=Wlr7
-----END PGP SIGNATURE-----

--
Jim Richardson http://www.eskimo.com/~warlock

Linux, because eventually, you grow up enough to be trusted with a fork()
```

6453. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 07:05:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306152305.78aace0d@posting.google.com>
Source record: 115103
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<43dpev0q6p6k6mehpiomus7ctkv0vqi8i9@4ax.com>...

>
> self-indulgent tripe snipped (fat juvenile american weight loss
> method that actually works! Pass this along to 10 friends or bad luck
> will happen to you within 3 years)
>
> Such paranoia. This sideways bike makes perfect sense for getting
> on/off the moving sidewalks that carry us to our nuclear powered,
> steam-driven aeromobiles.
>
> you are not welcome! Keep moving please....

You all talking about that two wheeled thingy that has gyro's or
whatever in it to keep from tipping? I actually saw one of those going
down the street the other day. And he was on a major boulevard
also...Not a backstreet. Looked pretty neat to me. I had seen them on
TV when they first came out, but wasn't aware of the name. MK

6454. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 09:22:02 UTC
From: loopfan <brian@greertech.com>
Message-ID: <__fHa.50498$Io.4755328@newsread2.prod.itd.earthlink.net>
Source record: 115105

Hi Henry,

> What effect does the size of the gap have, is bigger or smaller better or
is
> there an optimum size for a particular freq?

Gap size is not critical. Its mainly there just to prevent a shorted turn
of shielding. So 1 inch or less is ok. If you make the gap too small, you
just might mechanically short it out if you bend the loop, as in having the
gap at the top of a diamond. I just stick to about an inch-gap on all my
loops.

>What effect does the gap's
> location have, ie not centered but offset?

You definitely want it centered. The key to the loop's undistorted
directionality is electrical balance. Therefore the more accurate you make
the cuts, the better the loop performs. The flatter the plane you keep it
in the better it works.

> Would larger hardline with a lower per foot capacitance be easier to tune?

I've never tried hardline, but that is on my wish list. Less capacitance
will narrow up the 2:1 frequency tuning ratio, but will most likely allow
you to make much larger loops and/or feeder-sections (prior to the tuner)
work easily within the range of most tuners out there.

Remember that these are receive-only loops.

73
Brian
http://www.greertech.com/hfloop/mymagloop.html

6455. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 09:30:34 UTC
From: loopfan <brian@greertech.com>
Message-ID: <_6gHa.50499$lo.4757385@newsread2.prod.itd.earthlink.net>
Source record: 115106

Dale,

Since I only get about 10dB of gain back when I use the tuner, I suspect
that a low-noise 30dB amp would do wonders, and allow one not to use a
tuner.

Your loop sounds great, and being so small, easy to use. I'm itching to try
hardline now. It's easy to understand our enthusiasm - once you've peaked
or nulled out a signal on the low bands, there's no going back to
fixed-position wires!

73
Brian
http://www.greertech.com/hfloop/mymagloop.html

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3EED27FD.74D4BC8B@gte.net...
>
>
> loopfan wrote:
>
> > Greetings!
> >
> > I built some small shielded HF loops mainly to null out local EMI / RFI,
and
> > they worked so well that I put up a site dedicated to the project. I
> > thought I'd put something back into the hobby dedicated to the help I've
> > gained from others over the years.
> >
> > I was also looking for a fast and easy way to construct them, about as
easy
> > as making a dipole, and I think I've found the solution. You only need
20
> > feet or less of coax, some wire strippers, and a tuner. No real
junk-box
> > parts needed!
> >
> > I initially made them for 80 - 40 meters and they worked so well that
I've
> > made them from 160 to 10 meters with great success. Full HF coverage
like
> > this requires about 4 loops since the loops have about a 2:1 frequency
ratio
> > coverage.
>

> Hi Brian,
> I think we corresponded earlier last week regarding shielded loops.\To
perhaps
> repeat, I pretty much duplicated the Wellbrook shielded loop- 1 meter in
> diameter and feeding a J310/2N3904 untuned broad band preamp- about 30dB
gain
> from 100KHz to nearly 30 MHz.
> The advantage here is that no tuning is required- leaving the operator
free to
> only be concerned about rotating the loop to either null out a possible
noise
> source or a station- perhaps revealing another station on the same freq.
> 2 weekends back I finally got my loop mounted on the tower/rotator and
have now
> had many hours to observe it compared to a 45' end fed wire (with 9:1
> transformer) and a homebrew active whip (1.2M long). Most comparisons were
made
> on AM broadcast and LW- 26 NDB's were copied on th shielded loop while ony
3
> were copied on the whip. The biggest difference here was AC noise that
> predominated on the whip- and the total lack of any man made noise on the
loop.
> W4SC was here this weekend, we played with a Lowe HF250, SPR-4 and a Lowe
> HF-150. He went home determined to build a shielded loop!
> The advantage of not havig to tune the loop is obvious. The only downside
may be
> that in an RF congested environment, the preamp may overload- not a
problem here
> in the NC mountains. On the other hand, because the loop has a very low
driving
> Z, conventional filters could be placed in the front end to alleviate the
IM
> problem. This is not readily an option on an active whip bacuse of its
extremely
> hi input Z.
> Now, cannot wait for the quiet of winter- and maybe substitue a 2M loop
for the
> 1M. This is a simple task as the 5/8" hardline in my loop attaches to the
preamp
> box with standard CATV connectors.
>
> Dale W4OP
>
>

6456. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 10:33:03 UTC
From: Richard Jary <jary@ozemail.com.au>
Message-ID: <3EED9CDF.9A6CCE1@ozemail.com.au>
Source record: 115107
Cross-posted to: aus.radio.broadcast,aus.radio.cb,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

David Robbins wrote:
> and this should be interesting to a world wide antenna discussion forum in
> what way??

Worldwide? Well yes, though it is an aus group.

And since when were we only allowed to discuss antennas in here?

Richard

6457. Re: Antenna modeling software for Unix?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 10:37:03 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bck6kg$df5$1@slb9.atl.mindspring.net>
Source record: 115108

Bob:

[snip]
"Bob Nielsen" <nielsen@remove_this.oz.net> wrote in message
news:bcjg8a$3rj$0@216.39.144.81...
> EZNEC runs just fine in Win4Lin.
>
> Bob, N7XY
[snip]

There you go!

--
Peter K1PO

6458. Re: land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 11:28:21 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306160328.62b699b3@posting.google.com>
Source record: 115109

toolowd@aol.com (Toolowd) wrote in message
news:<20030615182004.13727.00000591@mb-m25.aol.com>...
> Sorry to sound so ignorant here, but I have some questions.

The dumbest questions are those you *don't* ask.

> I have bought (not yet arrived) an Icom SSB transiever and automatic tuner. I
> want to set it up at my house and use it. The boat is in Fla and we are in
> Indiana. I would like to get weatherfaxes and listen to marine weather
> broadcasts before our next trip in the fall on the boat.
>
> What do I need to do? I need some sort of antenna and a way to power the
> radio.
>
> Any suggestions from you experience folks is welcome.

It's difficult to answer your questions in any detail without knowing
which of the several Icom xcvrs you've bought.
IC-??? Which?

And what WEFAX frequencies do you plan to use?

> BTW, It is also Ham enabled. I would like to start listening to that as well.
> (I know I can't broadcast until I get my ticket)! I am going to take the Tech
> test soon also.
>
> Rich Morpurgo
> toolowd@aol.com

w3rv

6459. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 12:14:25 UTC
From: Gerry MacDonald <gerry.macdonald@globaltv.ca>
Message-ID: <bckcb1$nv6$1@xuxa.iecc.com>
Source record: 115111
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

Alarm bells OMG

Do you really think if he was going to design something really illegal he
would be looking in here for help.

Come on guys give your head a shake.
The illegal stuff is available online, already built and tested for pocket
change....

Gerry

VE6QLT

"John R. Strohm" <strohm@airmail.net> wrote in message
news:bcipq9$qi2$1@xuxa.iecc.com...
> "anand" <anandsaha@rediffmail.com> wrote in message
> news:bchvul$1tr$1@xuxa.iecc.com...
> > hi,
> >
> > i want to check the output power of an fm transmitter, and i don't
> > have a wattmeter. most of the wattmeters available in market here have
> > a range of
> > 0-50watt or 0-100 watt.
> > i want to design one, with a range of 0-2 watt approx, using the
> > components available with me - digital multimeter(V,A,ohm), diodes,
> > transistors, resistors and capacitors. someone please suggest me a
> > design or point me to a schematic.
> >
> > i am very much interested in designing a low power fm transmitter, yet
> > all that i hit upon while searching the net are readymade schematics,
> > which ofcourse work, yet i do not get the real idea of how it was
> > designed. is there any good document about how to design an fm
> > transmitter from scratch, given that "i need to transmitt an fm signal
> > at 90Mhz with an output power of 2 watt". i would like to know how to
> > design circuits for oscillators, pll, power booster, amplifier etc.
> > and how to tweak them for getting the desired output.
> >
> > please don't worry about the output power(2 watt as i mentioned). i
> > know it's illegal, and i am not going to cause any damage. i just want
> > to learn how to design. let me mention that i am very new to this
> > subject.
>
> Let's see, now, he wants to learn how to design an illegal transmitter,
> and

> the existing readymade designs are no good to him. He wants a fairly
> sophisticated design (pll). He wants us not to worry about his power
level.
>
> He's posting from a free account.
>
> Anyone else hearing alarm bells ringing?
>
>
>

6460. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 12:14:31 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <bckcb8$o2e$1@xuxa.iecc.com>
Source record: 115113
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 15 Jun 2003 21:52:09 GMT, "John R. Strohm" <strohm@airmail.net>
wrote:

>Let's see, now, he wants to learn how to design an illegal transmitter, and
>the existing readymade designs are no good to him. He wants a fairly
>sophisticated design (pll). He wants us not to worry about his power level.
>
>He's posting from a free account.
>
>Anyone else hearing alarm bells ringing?

Not sure about alarm bells at 2W., although I concede there's still a
possibility for mischieve-making at that low power. What's actually on
90Mhz? Might give us a clue...

6461. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 12:14:32 UTC
From: Gerry MacDonald <gerry.macdonald@globaltv.ca>
Message-ID: <bckcb8$o39$1@xuxa.iecc.com>
Source record: 115112
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

Wes

Lighten up a little, have you never had a class assignment in your life.
Lets at least cut the guy a little slack.
With a little help in the subject this novice may go on to become a great
engineer, at least he's interested at this point.
Why are you so afaid that someone might give him information that is readily
available online??

There are worse things he could be doing with his time !!!

Gerry
VE6QLT

"Wes Stewart" <n7ws@!#!arrl.net> wrote in message
news:bcipq8qhr1@xuxa.iecc.com...
> On 15 Jun 2003 14:30:45 GMT, anandsaha@rediffmail.com (anand) wrote:
>
>
> |please don't worry about the output power(2 watt as i mentioned). i
> |know it's illegal, and i am not going to cause any damage. i just want
> |to learn how to design. let me mention that i am very new to this
> |subject.
>
>
> Right, this is just a "design experiment." Except that you have a
> particular frequency and power in mind, and you know it's illegal.
>
> Why didn't you make the subject line, "Help me build an illegal
> transmitter"?
>
> I hope no one else aids and abets this activity, I sure won't.
>

6462. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 12:20:09 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030616082009.04044.00002060@mb-m16.aol.com>
Source record: 115110

In case you decide you'd rather buy an antenna instead of building one, the Imax 2000 is an excellent 5/8 vertical and it does not require a ground plane. With my MFJ antenna tuner and antenna analyzer, I was able to tune mine on both 10m and 12m. They cost around $80 from Copper Electronics.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6463. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 12:38:51 UTC
From: Robert Grizzard <grizzarv@mindspring.com>
Message-ID: <rodkcb.c28.ln@news.kg7yy.net>
Source record: 115055
Cross-posted to: aus.radio.broadcast,aus.radio.cb,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

In rec.radio.amateur.equipment Richard Jary <jary@ozemail.com.au> wrote:

> David Robbins wrote:
>> and this should be interesting to a world wide antenna discussion forum in
>> what way??

> Worldwide? Well yes, though it is an aus group.

Which group of the ten it is crossposted to would that be?
aus.radio.broadcast? aus.radio.cb? aus.radio.scanner? One of the
other seven?

> And since when were we only allowed to discuss antennas in here?

I would bet David was reading it in rec.radio.amateur.antenna -- also in
the crosspost list.

Look at the attribution above to learn where I read it.
--
The appearance of my E-mail address in any venue does not in and of itself
constitute a solicitation of bulk or commercial E-mail.

I don't want unsolicited commercial E-mail.

6464. Re: Ch3 Canobolas has been timed out by MR Whippy Music for 2 days now ..LOL

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 13:50:20 UTC
From: Matthew Cook <mattax@yahoo.com>
Message-ID: <bcki51$jrl5q$1@ID-182032.news.dfncis.de>
Source record: 115114
Cross-posted to: aus.radio.broadcast,aus.radio.cb,aus.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,uk.rec.radio.cb

Richard Jary wrote:
> David Robbins wrote:
>> and this should be interesting to a world wide antenna discussion
>> forum in what way??
>
> Worldwide? Well yes, though it is an aus group.
>
> And since when were we only allowed to discuss antennas in here?

Take a look at the world of groups this has been crossposted to.

6465. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 13:55:06 UTC
From: wa8ulx@aol.com
Message-ID: <20030616095506.04369.00001432@mb-m15.aol.com>
Source record: 115115

>Imax 2000 is an excellent 5/8 vertical and it does not require a ground
>plane.
>With my MFJ antenna tuner and antenna analyzer, I was able to tune mine on
>both
>10m and 12m. They cost around $80 from Copper Electronics.
>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
So Andy how much Bootlegging have you been doing on 10 and 12 meters. And of course it works GREAT on 11 Meters, right ANDY

6466. Re: land ssb antenna advice for newbie

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 15:56:05 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bckp8e$e5r$1@slb3.atl.mindspring.net>
Source record: 115116

No, you don't have to. Especially for receiving only. But a antenna
designed for a specific frequency band is generally better for both receive
and transmit.

Dan/W4NTI

"Toolowd" <toolowd@aol.com> wrote in message
news:20030615211255.22672.00000746@mb-m21.aol.com...
> >>>I.E. 468 / Frequency in MHZ = length in feet.
>
> surely one doesn't need a different antenna for each band?
>
>

6467. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:05:17 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <bckprt$s44$1@xuxa.iecc.com>
Source record: 115117
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 16 Jun 2003 12:14:31 GMT, Paul Burridge
<redscar@waitrose.notformail.com> wrote:
| What's actually on
|90Mhz? Might give us a clue...

Can you say "FM broadcast band"?

6468. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:05:19 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bckprv$s4i$1@xuxa.iecc.com>
Source record: 115019
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:bckcb8$o2e$1@xuxa.iecc.com...
> On 15 Jun 2003 21:52:09 GMT, "John R. Strohm" <strohm@airmail.net>
> wrote:
>
>
> >Let's see, now, he wants to learn how to design an illegal transmitter,
and
> >the existing readymade designs are no good to him. He wants a fairly
> >sophisticated design (pll). He wants us not to worry about his power
level.
> >
> >He's posting from a free account.
> >
> >Anyone else hearing alarm bells ringing?
>
> Not sure about alarm bells at 2W., although I concede there's still a
> possibility for mischieve-making at that low power. What's actually on
> 90Mhz? Might give us a clue...

Paul, 88-108 MHz is the U.S. FM broadcast band.

HOWEVER, he also said he wanted a PLL design. You don't use a PLL design
for a single-channel transmitter. You use a PLL design for a synthesized
transmitter, that can go ANYWHERE in the band.

I can think of a few interesting things I could do with a 2W synthesized
transmitter. Running a pirate radio station is only one of them.

6469. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:05:20 UTC
From: John Fields <jfields@austininstruments.com>
Message-ID: <bckps0$s52$1@xuxa.iecc.com>
Source record: 115118
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 16 Jun 2003 12:14:31 GMT, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>Not sure about alarm bells at 2W., although I concede there's still a
>possibility for mischieve-making at that low power. What's actually on
>90Mhz? Might give us a clue...

The space between 89.9MHz and 90.1MHz on the commercial FM broadcast
band.

http://w4zt.com/freqs/

--
John Fields
Professional circuit designer
http://austininstruments.com

6470. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:05:21 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <bckps1$s5b$1@xuxa.iecc.com>
Source record: 115020
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 16 Jun 2003 12:14:32 GMT, "Gerry MacDonald"
<gerry.macdonald@globaltv.ca> wrote:

|Wes
|
|Lighten up a little, have you never had a class assignment in your life.

Yes. But I did the work myself and didn't do my "research" by asking
questions on the Internet. I actually read books, looked at data
sheet and performed calculations and experiments.

|Lets (sic) at least cut the guy a little slack.

You cut him slack, leave me out of it.

|With a little help in the subject this novice may go on to become a great
|engineer, at least he's interested at this point.

Could be. If he would do the work himself, he would be even better.

|Why are you so afaid that someone might give him information that is readily
|available online??

If it's already available, let him look for it, _I'm_ not giving it to
him.

6471. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:15:20 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b8prevcha5ompefpebqea4n9p1stqqi4sk@4ax.com>
Source record: 115021
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

On 16 Jun 2003 00:05:06 -0700, nm5k@wt.net (Mark Keith) wrote:

>Richard Clark <kb7qhc@attbi.com> wrote in message
news:<43dpev0q6p6k6mehpiomus7ctkv0vqi8i9@4ax.com>...
>
>>
>> self-indulgent tripe snipped (fat juvenile american weight loss
>> method that actually works! Pass this along to 10 friends or bad luck
>> will happen to you within 3 years)
>>
>> Such paranoia. This sideways bike makes perfect sense for getting
>> on/off the moving sidewalks that carry us to our nuclear powered,
>> steam-driven aeromobiles.
>>
>> you are not welcome! Keep moving please....
>
>You all talking about that two wheeled thingy that has gyro's or
>whatever in it to keep from tipping? I actually saw one of those going
>down the street the other day. And he was on a major boulevard
>also...Not a backstreet. Looked pretty neat to me. I had seen them on
>TV when they first came out, but wasn't aware of the name. MK

Hi Mark,

One and the same. $4950 (and chump change tax). I've seen several.
It's bad enough to fight bike traffic on the sidewalk (probably a
worse collision possibility). And then there are the jogger's lanes,
walker's lanes....

The law is not settled out. Is it a motor vehicle? No, too small a
motor so sidewalk is OK in some places; in other places any motor puts
it in the street. Does it need proof of insurance? No in some places
(not a motor vehicle), and yes in other places (clouded reasons,
often). Can you park it on the sidewalk where they ban bikes? Can
they operate on a bike path? Who has right of way? When they come to
a curb, do they use the wheelchair breakout? If none exists, can they
demand one be built? What is the ethic of using it indoors?

All of this exposes the outline of the need for an alternative
transportation grid that carries very light weight vehicles in the
same patterns of existing traffic without mixing them with 18 wheelers
and soccer moms in SUV's or teenage kamikazes. Here in Seattle we
have had to fight tooth and nail against the politicians to move the
Monorail out of the city center and into general use (not necessarily
lighter, but certainly grade separated). The politicians (both sides

of the aisle) wanted "light" rail - whatever that means. They decided that connecting the city center to the airport was too expensive, so they put in a design for an end-of-the-line rail station one mile away and use (yeah, you guessed it) busses. Can you say full body security Xrays at each transfer?

Last week's papers had the option of showing the bushes on their complimentary Segways or showing bush ii falling off his. Note that mother Barbara walked the distance, literally. Anyone thinking of the next cavalry charge into Tehran? Noble 600.

73's
Richard Clark, KB7QHC

6472. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 16:43:58 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EEDF2D2.91B4F6B7@gte.net>
Source record: 115022

VHFRadioBuff wrote:

> In case you decide you'd rather buy an antenna instead of building one, the
> Imax 2000 is an excellent 5/8 vertical and it does not require a ground plane.
> With my MFJ antenna tuner and antenna analyzer, I was able to tune mine on both
> 10m and 12m. They cost around $80 from Copper Electronics.

Something is amiss here- EVERY 5/8 wavelength antenna requires a ground plane or counterpoise. My suspicion is that this is typical exaggeration- longer is better- and that the antenna is actually 1/2 wave radiator.

Dale W4OP

6473. ARRL Stealth Antenna Book

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 17:07:42 UTC
From: Myron <msteir@charter.net>
Message-ID: <veruaumkolu612@corp.supernews.com>
Source record: 115023

I'm looking to build an antenna indoors and wonder why the ARRL's Stealth Antenna Handbook disappeared from their publication list. Did the book "bomb" because it was poorly written or was there just too little interest?

If it was a decent publication, I'll try hunting around for a used copy. If not, does anyone have any good suggestions for reference material? I've done the usual Google search, but came up with just a few leads and LOT'S of dead links.

What about running a loop antenna around the top of my large and very tall two car garage? Or will that make my garage door openers do a dance?

Myron, W2EDY

6474. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 17:14:40 UTC
From: tdonaly@aol.com
Message-ID: <20030616131440.08487.00001220@mb-m24.aol.com>
Source record: 115024

Richard Clark wrote,
(snip)
>
>Last week's papers had the option of showing the bushes on their
>complimentary Segways or showing bush ii falling off his. Note that
>mother Barbara walked the distance, literally. Anyone thinking of the
>next cavalry charge into Tehran? Noble 600.
>
>73's
>Richard Clark, KB7QHC
>
>

Bush ii could fall off anything.
Does anyone know how to soup up a
Segway? Has anyone ever gone Segway
mobile? What's the penalty for Segwaying
while intoxicated? Are Republicans allowed
to drive them?
73,
Tom Donaly, KA6RUH

6475. Re: ARRL Stealth Antenna Book

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 17:17:13 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <tYmHa.57995$Pc5.53602@fed1read01>
Source record: 115025

Try URL:
http://ac6v.com/antprojects.htm#STANT

--
"Myron" <msteir@charter.net> wrote in message
news:veruaumkolu612@corp.supernews.com...
> I'm looking to build an antenna indoors and wonder why the ARRL's Stealth
> Antenna Handbook disappeared from their publication list. Did the book
> "bomb" because it was poorly written or was there just too little
interest?
>
> If it was a decent publication, I'll try hunting around for a used copy.
If
> not, does anyone have any good suggestions for reference material? I've
> done the usual Google search, but came up with just a few leads and LOT'S
of
> dead links.
>
> What about running a loop antenna around the top of my large and very tall
> two car garage? Or will that make my garage door openers do a dance?
>
> Myron, W2EDY
>
>

6476. Re: ARRL Stealth Antenna Book

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 18:37:58 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <eb3sevovllosd54e3duka2a8a4jtmgbcvd@4ax.com>
Source record: 115026

On Mon, 16 Jun 2003 13:07:42 -0400, "Myron" <msteir@charter.net>
wrote:

>I'm looking to build an antenna indoors and wonder why the ARRL's Stealth
>Antenna Handbook disappeared from their publication list. Did the book
>"bomb" because it was poorly written or was there just too little interest?
>
>If it was a decent publication, I'll try hunting around for a used copy. If
>not, does anyone have any good suggestions for reference material? I've
>done the usual Google search, but came up with just a few leads and LOT'S of
>dead links.
>
>What about running a loop antenna around the top of my large and very tall
>two car garage? Or will that make my garage door openers do a dance?
>
>Myron, W2EDY
>

It may or may not be the same exact book, but they still sell:

Stealth Amateur Radio
-- Operate From Anywhere
by Kirk A. Kleinschmidt, NT0Z.

At the ARRL.org web site, look under products/catalog, and check under
the "portable/mobile" section.

Bob
k5qwg

6477. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 19:32:17 UTC
From: wa8ulx@aol.com
Message-ID: <20030616153217.13727.00000648@mb-m25.aol.com>
Source record: 115028

>Something is amiss here- EVERY 5/8 wavelength antenna requires a ground plane
>or
>counterpoise. My suspicion is that this is typical exaggeration- longer is
>better-
>and that the antenna is actually 1/2 wave radiator.
>
>Dale W4OP

Dale the problem is simple, your dealing with a No-Code who doesnt have a clue.

6478. Re: Will painting change the SWR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 19:58:49 UTC
From: Jim Weir <jim@rst-engr.com>
Message-ID: <ua8sevs1pjvegt68iq0lrke0qbqe855fa3@4ax.com>
Source record: 115029

Why?

Jim

Craig Morrison <craigmorrison1@hotmail.com>
shared these priceless pearls of wisdom:

->
->I made a 4:1 balun for it

Jim Weir, VP Eng. RST Eng. WX6RST
A&P, CFI, and other good alphabet soup

6479. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 20:37:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE2A71.1439E184@uci.edu>
Source record: 115030

W5DXP wrote:
> If the impedance is the *result* of a V/I ratio, it
> is virtual. If the impedance is the *cause* of the V/I ratio, it is
> not virtual.

Pretty much the same thing can be said about 'power' and the product of
V and I.

ac6xg

6480. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:00:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE2FD6.936E63F0@uci.edu>
Source record: 115031

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>If you don't accept the wave reflection model, just say so, Jim, and
> >>our arguments will cease. Every aspect of my argument is based on the
> >>boundary conditions dictated by the wave reflection model. I suspect
> >>you are trying to insert quantum physics into a field and waves discussion.
> >>If so, please do it on another thread where your model can be well defined.
> >
> > I showed you your math blunder.
>
> Nope, you didn't. You just showed that a wave must be smart enough to know,
> a priori, whether it should carry energy or not.

You can't plug just any old values into the equation, neglect phase, and
claim to have made a valid calculation. Your calculation is bogus
because you've misused the equation.

> > When the net field in the direction of propagation is
> > zero, no energy is transferred by the waves.
>
> Obviously, no energy is transferred by the waves in the original direction
> but the energy cannot be destroyed so it can do nothing except change > direction.

You should think about how ludicrous that statement is, Cecil. If no
energy is transferred in the first direction, then there is nothing to
be destroyed OR TO CHANGE DIRECTION!

> > Energy may be stored by
> > the individual wave components, but it is necessarily transferred from
> > one place to another by them.

> RF energy *cannot* stand still and I agree that it is therefore necessarily
> transferred from one place to another by them.

Energy ISN'T necessarily transferred from one place to another by a
transmission line.

> > I suggest you do a Poynting vector analysis.

> The Poynting vector deals with net energy delivered to the load. We
> already know that to be forward power minus reflected power. We are not
> discussing net power so the Poynting vector tells us absolutely nothing
> about the subject being discussed. We are discussing the power in the

> forward wave and reflected wave. We know that energy is there because
> it causes additional I^2*R losses in the transmission line.

Energy causes "additional I^2*R losses"? That doesn't even make sense,
Cecil.

> If the forward power is 200 watts and the reflected power is 100 watts,
> it means the load is accepting 100 watts and rejecting 100 watts. The
> Poynting vector yields the power delivered to the load, not the forward
> and reflected power.

The Poynting vector tells us how energy is moving in the transmission
line.
Period. Power doesn't move.

73, ac6xg

6481. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:07:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE31A7.435DF97F@uci.edu>
Source record: 115036

W5DXP wrote:
> All waves with the voltage and current in phase or 180 degrees out of
> phase transfer energy because V*I*cos(a) is watts. The forward wave has
> its voltage and current in phase and thus transfers energy. The reflected
> wave has its voltage and current 180 degrees out of phase and thus
> transfers energy.

If there are two reflected waves and their voltages are 180 degrees out
of phase, and their currents are 180 degrees out of phase, then no
energy is transferred by those waves.

> In the examples we have been discussing, the assumptions *are* correct.

Your assumptions are mostly correct.

> > The steady state description is an accurate representation of
> > the actual flow of energy after the transient period.

> It is a *shortcut* description of the net energy flow.

Perhaps as far as a wave analysis is concerned, but not as far as the
flow of energy is concerned.

6482. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:08:36 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bclbij$f7e$1@slb4.atl.mindspring.net>
Source record: 115032

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3EEDF2D2.91B4F6B7@gte.net...
>
>
> VHFRadioBuff wrote:
>
> > In case you decide you'd rather buy an antenna instead of building one,
the
> > Imax 2000 is an excellent 5/8 vertical and it does not require a ground
plane.
> > With my MFJ antenna tuner and antenna analyzer, I was able to tune mine
on both
> > 10m and 12m. They cost around $80 from Copper Electronics.
>
> Something is amiss here- EVERY 5/8 wavelength antenna requires a ground
plane or
> counterpoise. My suspicion is that this is typical exaggeration- longer is
better-
> and that the antenna is actually 1/2 wave radiator.
>
> Dale W4OP
>

Don't worry about it Dale. This goof Andy 'VHF Radio dummy' comes off like
he knows something. Just confuses the issue. Basically the thing to do is
ignore him and hope everyone else does too.

Dan/W4NTI

6483. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:09:18 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bclbjk$72c$1@slb9.atl.mindspring.net>
Source record: 115033

"WA8ULX" <wa8ulx@aol.com> wrote in message
news:20030616153217.13727.00000648@mb-m25.aol.com...
> >Something is amiss here- EVERY 5/8 wavelength antenna requires a ground
plane
> >or
> >counterpoise. My suspicion is that this is typical exaggeration- longer
is
> >better-
> >and that the antenna is actually 1/2 wave radiator.
> >
> >Dale W4OP
>
> Dale the problem is simple, your dealing with a No-Code who doesnt have a
clue.

BINGO!

Dan/W4NTI

6484. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:09:48 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306161309.222aeb94@posting.google.com>
Source record: 115034
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<b8prevcha5ompefpebqea4n9p1stqqi4sk@4ax.com>...
> On 16 Jun 2003 00:05:06 -0700, nm5k@wt.net (Mark Keith) wrote:

>
> Hi Mark,
>
> One and the same. $4950 (and chump change tax). I've seen several.
> It's bad enough to fight bike traffic on the sidewalk (probably a
> worse collision possibility). And then there are the jogger's lanes,
> walker's lanes....
>
> The law is not settled out. Is it a motor vehicle? No, too small a
> motor so sidewalk is OK in some places; in other places any motor puts
> it in the street. Does it need proof of insurance? No in some places
> (not a motor vehicle), and yes in other places (clouded reasons,
> often). Can you park it on the sidewalk where they ban bikes? Can
> they operate on a bike path? Who has right of way? When they come to
> a curb, do they use the wheelchair breakout? If none exists, can they
> demand one be built? What is the ethic of using it indoors?

I don't know how fast they can go, but couldn't be too fast. I bet a
bicycle could outrun one easy. So I think they should be considered
along the same lines as a bicycle, and adhear to the same appx laws.
If they come to a curb, too bad. Time to portage. About the same as
when I'm kayaking down a river. If I come to a logjam, or dry spot, I
can't demand the landowners build me a canal through the bad
spot...Here in Texas, on many rivers, the landowners own the river
halfway out, where it butts against the opposite landowners half of
the river. As far as the segways on city streets, they better stay out
of my way, same as a bike, or whatever. My f-250 will make a mess out
of them if they dart in my path. MK

6485. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:11:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE326E.56862E88@uci.edu>
Source record: 115035

W5DXP wrote:
>
> Dave Shrader wrote:
> > In the study of Thermodynamics the term 'U' stands for the Energy in a
> > system. The time rate of change of Energy, dU/dt, is by definition Power.
> >
> > Cecil, I would have expected you to know that since we both graduated at
> > about the same time.
>
> I know the time rate of change of Energy is Power. I just didn't
> know the definition of 'U' and Jim refused to provide it. So,
> thank you, Dave, for providing it.

Anyone who has had more than a week of calculus knows that dU/dt is the time rate of change U. Given that dU/dt was defined as the time rate of change of energy, any moron would know that U is energy.

6486. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:18:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE3418.6050005@ieee.org>
Source record: 115037

Jim Kelley wrote:
>
> W5DXP wrote:
>>If the impedance is the *result* of a V/I ratio, it
>>is virtual. If the impedance is the *cause* of the V/I ratio, it is
>>not virtual.
>
> Pretty much the same thing can be said about 'power' and the product of
> V and I.

According to the IEEE, the transfer of energy is defined as power.
Since the voltage and current are in phase in the forward wave,
the power in the forward wave is V*I, by definition. Since the
voltage and current are 180 degrees out of phase in the reflected
wave, the power in the reflected wave is |V*I|, by definition.

Have you thought of a way to cause standing waves in a single source,
single feedline, single load system without reflected waves? Every time
I ask that question, the silence is deafening.
--
73, Cecil, W5DXP

6487. Ringo Ranger Diagram/Dimension?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:28:00 UTC
From: Marvin Rosen <puns@att.net>
Message-ID: <ADqHa.8527$3o3.666446@bgtnsc05-news.ops.worldnet.att.net>
Source record: 115038

Requesting a diagram/dimensions for a
cushcraft ringo ranger crx-150 2 mtr
vertical.

6488. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:45:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE3A7F.2010501@ieee.org>
Source record: 115039

Jim Kelley wrote:
> If no
> energy is transferred in the first direction, then there is nothing to
> be destroyed OR TO CHANGE DIRECTION!

And if the moon had been made out of green cheese, the astronauts
would not have brought back any moon rocks.

You have NOT proven that a wave can exist without energy. After
months of your violations of the conservation of energy principle,
we are still waiting for one iota of proof.

All waves within a transmission line are forced by the resistive Z0
to have their voltage and current in phase (or 180 degrees out of
phase). How do you get around that pesky cosine term always equal
to |1| which makes the units = joules/sec = watts?

> Energy ISN'T necessarily transferred from one place to another by a
> transmission line.

If an RF voltage exists, RF energy *IS* necessarily transferred from
one place to another by a transmission line. The standing waves that
you say carry no energy are caused by forward and reflected traveling
waves that *do* carry energy. Again, here's a challenge to prove that
you are correct. Please describe exactly how standing waves can exist
in a single source, single feedline, single load system without a
forward traveling wave and a reflected traveling wave.

> Energy causes "additional I^2*R losses"? That doesn't even make sense,
> Cecil.

Virtually every ham knows that the higher the SWR at HF, the higher
the I^2*R losses in the feedline. Why don't you know that? The losses
are higher in a feedline with a high SWR because that feedline contains
more energy than does a flat feedline for the same source power. Hint:
the superposition of the forward traveling wave and the reflected traveling
wave causes high-current I^2*R hot spots.

> The Poynting vector tells us how energy is moving in the transmission
> line. Period. Power doesn't move.

Forward energy moves. Forward energy passing a point is forward power.
Reflected energy moves. Reflected energy passing a point is reflected
power. The Poynting vector deals only with net energy. Net energy is
a no-brainer. I am not discussing net energy nor do I want to. If you
want to discuss net energy, feel free to start a boring net energy
thread.

--
73, Cecil, W5DXP

6489. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 21:55:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE3CC1.2030309@ieee.org>
Source record: 115040

Jim Kelley wrote:
> If there are two reflected waves and their voltages are 180 degrees out
> of phase, and their currents are 180 degrees out of phase, then no
> energy is transferred by those waves.

You keep making that ridiculous statement, Jim. *All* primary waves in a transmission line are traveling waves. Traveling waves in a resistive Z0 transmission line *always* transfer energy. The two waves that cancel were carrying energy before they canceled. That energy cannot cancel and must go somewhere. The Melles-Griot web page tells us exactly where the "lost" energy goes. It reverses direction and joins the forward wave.

For the Nth time, you can prove your point by proving that standing waves can exist in a single source, single feedline, single load system without the existence of a forward traveling wave and a reflected traveling wave. Until you can give us an example of such, you are just presenting smoke and mirrors caused by your seduction by the steady-state model.
--
73, Cecil, W5DXP

6490. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 22:01:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE3E42.3000201@ieee.org>
Source record: 115041

Jim Kelley wrote:
> Anyone who has had more than a week of calculus knows that dU/dt is the
> time rate of change U. Given that dU/dt was defined as the time rate of
> change of energy, any moron would know that U is energy.

What was your ulterior motive in refusing to tell me that 'U' was energy?
--
73, Cecil, W5DXP

6491. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 22:09:17 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306161409.add05ff@posting.google.com>
Source record: 115042

"loopfan" <brian@greertech.com> wrote in message
news:<__fHa.50498$Io.4755328@newsread2.prod.itd.earthlink.net>...
...
> >What effect does the gap's
> > location have, ie not centered but offset?
>
> You definitely want it centered. The key to the loop's undistorted
> directionality is electrical balance. Therefore the more accurate you make
> the cuts, the better the loop performs. The flatter the plane you keep it
> in the better it works.

Further to that (and in absolute agreement that you want the gap centered), the idea really is to make a very symmetric antenna. It's the outside of the coax outer conductor that is the actual antenna, and the gap is the feedpoint. The center conductor couples to the feedpoint voltage across the gap, and the coax conducts that away. You can make things very broadband if you put a broadband differential-input preamp right at the gap, but if the loop is small compared with a wavelength, the short piece of line going to the preamp shouldn't be an issue. (About broadband: the best local-voltage-noise-rejection is obtained when the loop diameter is kept small.)

If the goal is a null that can be put on one incoming station (as opposed to [voltage] noise rejection), it can be useful to add together the loop response and the response from a short vertical whip, which can yield a cardiod pattern with a null in only one direction if the proportions are correct. That's commonly done with RDF loops to get rid of the ambiguity of the two nulls of a dipole pattern.

Note that with a preamp right at the gap, there's no longer a need for the coax, except to lead away from the preamp, and if the preamp (and loop feedpoint) is put at the bottom instead of the top, the loop itself doesn't need to be coax. But symmetry in the vicinity of the antenna is critical. See Johnson & Jasik and/or Ronold W. P. King (and probably some others) for more detailed understanding.

Cheers,
Tom

6492. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 22:25:36 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <ztrHa.3223$ca4.280319@news20.bellglobal.com>
Source record: 115043

"W5DXP"
> Have you thought of a way to cause standing waves
> in a single source, single feedline, single load system
> without reflected waves?

Form the "single feedline" into a circle (he he he <evil laugh...>). Insert the "single source" at a point of your choosing. Attached the "single load" in parallel with the source. The source can have a source impedance matching one-half the characteristic impedance of the feedline in parallel with the load. Standing waves. No reflections. Ta da...

> Every time I ask that question, the silence is deafening.

Not true. This is my second attempt. Last time you ruled out power dividers. You'll probably find some reason to complain about this one as well... ;-)

6493. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 22:52:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE4A22.4ED29469@uci.edu>
Source record: 115044

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>If the impedance is the *result* of a V/I ratio, it
> >>is virtual. If the impedance is the *cause* of the V/I ratio, it is
> >>not virtual.
> >
> > Pretty much the same thing can be said about 'power' and the product of
> > V and I.
>
> According to the IEEE, the transfer of energy is defined as power.

Note the requirement for a transfer of energy.

> Since the voltage and current are in phase in the forward wave,
> the power in the forward wave is V*I, by definition. Since the
> voltage and current are 180 degrees out of phase in the reflected
> wave, the power in the reflected wave is |V*I|, by definition.

As if the nature of Z in V^2/Z and I^2*Z is irrelevant.

> Have you thought of a way to cause standing waves in a single source,
> single feedline, single load system without reflected waves? Every time
> I ask that question, the silence is deafening.

Have you stopped beating your neice? More importantly, neither of us
can think of a way for waves to reflect by any means other than by a
reflective surface. That's the problem with your model.

73, Jim AC6XG

6494. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 23:02:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE4C9B.C743E6C7@uci.edu>
Source record: 115045

W5DXP wrote:
>
> Jim Kelley wrote:
> > If there are two reflected waves and their voltages are 180 degrees out
> > of phase, and their currents are 180 degrees out of phase, then no
> > energy is transferred by those waves.
>
> You keep making that ridiculous statement, Jim.

The fact that you don't like it doesn't make it any less true.

> *All* primary waves in a
> transmission line are traveling waves. Traveling waves in a resistive Z0
> transmission line *always* transfer energy. The two waves that cancel were
> carrying energy before they canceled.

They always cancel after the transient period, and they don't transfer
energy. You're mistaken.

> That energy cannot cancel and must
> go somewhere. The Melles-Griot web page tells us exactly where the "lost"
> energy goes. It reverses direction and joins the forward wave.

Please describe the exact mechanism by which a wave can change direction
by a means other than by reflection from a physical discontinuity.

> For the Nth time, you can prove your point by proving that standing waves
> can exist in a single source, single feedline, single load system without
> the existence of a forward traveling wave and a reflected traveling wave.

You haven't proven YOUR point, Cecil. You can't! There is no way to
describe the mechanism for a reversal in the direction of energy by
means other than reflection. My point has already been substantiated in
the literature.

73, Jim AC6XG

6495. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 23:10:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE4E78.881B20A1@uci.edu>
Source record: 115046

W5DXP wrote:
>
> Jim Kelley wrote:
> > If no
> > energy is transferred in the first direction, then there is nothing to
> > be destroyed OR TO CHANGE DIRECTION!
>
> And if the moon had been made out of green cheese, the astronauts
> would not have brought back any moon rocks.
>
> You have NOT proven that a wave can exist without energy.

A wave can indeed exist without a TRANSFER of energy from one point to another. Transmission lines can indeed store RF energy.

> The Poynting vector deals only with net energy. Net energy is
> a no-brainer. I am not discussing net energy nor do I want to. If you
> want to discuss net energy, feel free to start a boring net energy
> thread.

'Net' energy is the only energy that is transferred from one place to another - by definition. When you finally begin to understand that, we will begin to have a more productive discussion.

73, Jim AC6XG

6496. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 23:48:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE573D.D3808504@uci.edu>
Source record: 115047

W5DXP wrote:
>
> Jim Kelley wrote:
> > Anyone who has had more than a week of calculus knows that dU/dt is the
> > time rate of change U. Given that dU/dt was defined as the time rate of
> > change of energy, any moron would know that U is energy.
>
> What was your ulterior motive in refusing to tell me that 'U' was energy?

I was unmotivated by my lack of obligation to comply with your every
whim.

6497. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 23:50:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE57D9.8060307@ieee.org>
Source record: 115048

J. Harvey wrote:
> "W5DXP"
>>Every time I ask that question, the silence is deafening.
>
> Not true. This is my second attempt. Last time you ruled out power
> dividers. You'll probably find some reason to complain about this one as
> well... ;-)

Would it be too much to ask to get real? :-)
--
73, Cecil, W5DXP

6498. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-16 23:56:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE5919.4010602@ieee.org>
Source record: 115049

Jim Kelley wrote:
> Note the requirement for a transfer of energy.

V and I in phase (or 180 degrees out of phase) in a traveling wave.
That is true for forward traveling waves and reflected traveling
waves.

> As if the nature of Z in V^2/Z and I^2*Z is irrelevant.

I've stated at least two times that Z0 is assumed to be resistive.

> More importantly, neither of us
> can think of a way for waves to reflect by any means other than by a
> reflective surface. That's the problem with your model.

Reflective *surfaces* in a transmission line? Shirley, you jest.
What's the problem with the wave reflection model?
--
73, Cecil, W5DXP

--

6499. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 00:07:40 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <8tmsevgc8gujhb2m0veq60ooc10am1237f@4ax.com>
Source record: 115050

On Mon, 16 Jun 2003 02:00:55 -0500, "Harold Burton"
<hwburton@cableone.net> wrote:

>
>"Tdonaly" <tdonaly@aol.com> wrote in message
>news:20030616131440.08487.00001220@mb-m24.aol.com...
>> Richard Clark wrote,
>> (snip)
>> >
>> Bush ii could fall off anything.
>> Does anyone know how to soup up a
>> Segway? Has anyone ever gone Segway
>> mobile? What's the penalty for Segwaying
>> while intoxicated? Are Republicans allowed
>> to drive them?
>> 73,
>> Tom Donaly, KA6RUH
>
>Don't know the answer to any of your questions, but, it has occured to me
>that the Segway could be a lightweight solution to the problem of building
>an operating replica (perhaps childsized) of Smokey Stovers foomobile. (A
>side by side two wheeled vehicle, looked sorta' like a single axle Ford
>roadster) If you are too young to remember Smokey, he was a fairly popular
>comic character (a fireman) of the depression era.
>

NOTARY SOJACK!!!

Russ

6500. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 00:21:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEE5F1E.78C6A77@uci.edu>
Source record: 115051

W5DXP wrote:
>
> Jim Kelley wrote:
> > Note the requirement for a transfer of energy.
>
> V and I in phase (or 180 degrees out of phase) in a traveling wave.
> That is true for forward traveling waves and reflected traveling
> waves.
>
> > As if the nature of Z in V^2/Z and I^2*Z is irrelevant.
>
> I've stated at least two times that Z0 is assumed to be resistive.

The discussion was about whether the 'resistance' was "virtual" or not.
You're claiming we can have "real power" in a circuit with a "virtual
resistance"?

> > More importantly, neither of us
> > can think of a way for waves to reflect by any means other than by a
> > reflective surface. That's the problem with your model.

> Reflective *surfaces* in a transmission line? Shirley, you jest.

You're not modeling a transmission line, and the argument isn't about a
transmission line.

> What's the problem with the wave reflection model?

Nothing that I'm aware of. Do you really think anyone believes
that you're simply reciting the wave reflection model?

73 de ac6xg

6501. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 00:33:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE61CC.2090502@ieee.org>
Source record: 115052

Jim Kelley wrote:
> They always cancel after the transient period, and they don't transfer
> energy.

Phantom waves containing no energy. Where have I heard that one before?

Consider the following experiment driven by a signal generator equipped
with a perfect circulator+load resistor.

100W SGCL----50 ohm lossless feedline-------291.5 ohm resistor

We know the circulator load resistor will dissipate 50 watts. If there
is no energy in reflected waves, where does the 50 watts come from?

> Please describe the exact mechanism by which a wave can change direction
> by a means other than by reflection from a physical discontinuity.

The conservation of energy principle requires that the energy "lost" in
the wave cancellation process join the forward wave. That requires a
reversal of direction of the energy flow. It's a good thing, too,
because otherwise the constructive interference could not happen. So
says Hecht in _Optics_.

> You haven't proven YOUR point, Cecil. You can't! There is no way to
> describe the mechanism for a reversal in the direction of energy by
> means other than reflection. My point has already been substantiated in
> the literature.

In a transmission line, wave cancellation causes a direction reversal of
the flow of energy components in the waves that cancel. The energy is flowing
in one direction and its flow in that direction is blocked by wave cancellation.
There is only one other direction available. If the energy doesn't flow in one
direction, it has to flow in the only other direction available. The conservation
of energy principle will not allow anything else to happen. This ain't rocket
science. Wave cancellation is destructive interference. The energy involved
in the rearward-traveling destructive interference joins the forward wave as
forward-traveling constructive interference. The destructive interference energy
and the constructive interference energy *MUST* balance.
--
73, Cecil, W5DXP

6502. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 00:47:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE6519.9090607@ieee.org>
Source record: 115053

Jim Kelley wrote:
> A wave can indeed exist without a TRANSFER of energy from one point to
> another. Transmission lines can indeed store RF energy.

Transmission lines cannot store RF energy in static form. That's
reserved for DC. The energy in transmission lines is always on
the move and as it moves past a point, it is measured as power.
Since the energy only changes direction at an impedance discontinuity,
the energy reflected from the load flows back to the match point where
it is re-reflected. There is no such thing as a forward traveling
wave or a reflected traveling wave that carries no energy.

> 'Net' energy is the only energy that is transferred from one place to
> another - by definition.

60Hz energy can be transferred from Texas to California and back to
Texas at considerable overhead cost. You are saying energy that made a
round trip to Ca and back did not make a round trip to CA and back. You
are insulting our intelligence.
--
73, Cecil, W5DXP

6503. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 00:58:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE6798.8000905@ieee.org>
Source record: 115054

Jim Kelley wrote:
> The discussion was about whether the 'resistance' was "virtual" or not.
> You're claiming we can have "real power" in a circuit with a "virtual
> resistance"?

(Vfor+Vref)/(Ifor+Iref) can be a virtual resistance.
Vfor*Ifor = forward power, Vref*Iref = reflected power.
Vfor and Ifor are in phase. Vref and I ref are 180 deg out of phase.
In both cases, cosine theta equals |1|, ergo real power.

> You're not modeling a transmission line, and the argument isn't about a
> transmission line.

Huhhhhh?????? What is the argument about if not transmission lines?

>>What's the problem with the wave reflection model?
>
> Nothing that I'm aware of. Do you really think anyone believes
> that you're simply reciting the wave reflection model?

That is exactly what I am doing. You, OTOH, are polluting the
wave reflection model with your phantom waves and virtual photons.
--
73, Cecil, W5DXP

6504. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 01:12:13 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <NVtHa.34287$Id7.14411@news2.east.cox.net>
Source record: 115056

This is an emergency communications band, and CW is not
permitted? Only LSB?? Weird.

"Scott" <acepilot@bloomer.net> wrote in message
news:3EE70983.A164A0CD@bloomer.net...
> I've got a couple questions about the new band coming in July...
>
> Why did the FCC specify the five channels by "center frequency"?
> Wouldn't it have been easier to specify the supressed carrier frequency
> and the bandwidth limit of 2.6 KHz?
>
> Why did they set the power limit using ERP? Now we have to calculate
> feedline loss and "guess" at antenna gain (rather difficult with
> homebrew antennas) when determining ERP?
>
> All in all, I'm still looking forward to that first QSO on 60M...
>
> --
>
> Scott N0EDV
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

6505. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 01:18:13 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <p%tHa.4706$a7.1713821@newssvr28.news.prodigy.com>
Source record: 115057

" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message
news:NVtHa.34287$Id7.14411@news2.east.cox.net...
> This is an emergency communications band, and CW is not
> permitted? Only LSB?? Weird.
>

Only USB not LSB. Check the info at www.arrl.org

Dee D. Flint, N8UZE

6506. Re: Ringo Ranger Diagram/Dimension?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 02:06:26 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <CIuHa.966567$OV.1071075@rwcrnsc54>
Source record: 115058

Marvin -

The Cushcraft CRX-150 is the commercial radio version of the popular Amateur
Ringo Ranger ARX-2

Here is the Cushcraft web site (commercial radio section) for 129 - 174 MHz
antennas
http://www.cushcraft.com/thumbs.asp?id=26

CRX-150
http://www.cushcraft.com/details.asp?style_id=6&catid=142&group_id=26

Here is the Instruction Manual for the ARX-2 antenna (Amateur)
http://www.cushcraft.com/support/pdf/951289.pdf

Now, the CRX-150 may work okay as a 144-148 MHz 2 meter antenna.

It really depends IF you have enough length in the CRX-150 aluminum tubing
to "lengthen"
the required dimensions (as shown in Chart 1 -- ARX-2 assembly manual)

The commercial radio Ringos I have used have worked very well for my
applications.

Good luck !

G. Beat
w9gb

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Marvin Rosen" <puns@att.net> wrote in message
news:ADqHa.8527$3o3.666446@bgtnsc05-news.ops.worldnet.att.net...
> Requesting a diagram/dimensions for a
> cushcraft ringo ranger crx-150 2 mtr
> vertical.
>
>

6507. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 02:28:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE7CB7.4070207@ieee.org>
Source record: 115059

Jim Kelley wrote:
> A wave can indeed exist without a TRANSFER of energy from one point to
> another.

We need to concentrate on our exact point of disagreement. Here's an
example for you:

Source-------50 ohm feedline----------291.5 ohm resistor

Here's a simple yes/no question for you. Is there any energy in
the reflected wave?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6508. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 03:04:06 UTC
From: richardharrison@webtv.net
Message-ID: <4309-3EEE8526-126@storefull-2316.public.lawson.webtv.net>
Source record: 115060

Jim, AC6XG wrote:
"As if the nature of Z in V^2/Z and I^2*Z is irrelevant."

1955 Terman, page 88:
"At radio frequencies it is nearly always permissable to assume that omega L >> R, and omega C >> G.----It will be noted that at radio frequencies that the characteristic impedance is a resistance that is independent of frequency."

To the extent the above is true, and we can specify that it is in the choices we make for an example, Zo forces current to be in-phase or 180-degrees out-of-phase with the voltage produced on the line by the wave traveling in either direction on the transmission line.

This is the fact which makes the Bird wattmeter work like gangbusters. The nature of Zo is a resistance. Zo is a strict enforcer.

Best regards, Richard Harrison, KB5WZI

6509. Re: Ringo Ranger Diagram/Dimension?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 03:23:40 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306161923.360384f6@posting.google.com>
Source record: 115061

"Marvin Rosen" <puns@att.net> wrote in message
news:<ADqHa.8527$3o3.666446@bgtnsc05-news.ops.worldnet.att.net>...
> Requesting a diagram/dimensions for a
> cushcraft ringo ranger crx-150 2 mtr
> vertical.

You can download the manuals on their website. They are PDF files, so
you need adobe acrobat. MK

6510. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 03:44:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEE8EBA.8080004@ieee.org>
Source record: 115062

Richard Harrison wrote:
> To the extent the above is true, and we can specify that it is in the
> choices we make for an example, Zo forces current to be in-phase or
> 180-degrees out-of-phase with the voltage produced on the line by the
> wave traveling in either direction on the transmission line.

That pesky |cos(theta)|=1 just keeps on telling us that the forward power
is in watts and reflected power is in watts.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6511. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 04:06:55 UTC
From: Ramilacaponi <acuadrad@puc.cl>
Message-ID: <3eee94ad@omega.ifxnw.cl>
Source record: 115063

Sorry, the thing is that I speak spanish and sometimes get confused.
Anyway always is good to learn something new.

"Boris" <BorisNatasha@hotmail.com> wrote in message
news:0f46ddaaef17957459688731f38dec7c@news.meganetnews.com...
> I just wanna know how you make those groovy upside down
> question marks!
>
> Boris
>
> > I'm building a remote controller where I've a transmitter and a
receiver.
> My
> > question is ¿can I use the same antenna for both? I'm not interested in
> > receiving while I'm transmitting. And something else, ¿Does anybody know
> any
> > page about building PCB antennas? Thanks.
>
>

6512. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 04:21:30 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <j7ecnTVa4aTbCnOjXTWJgQ@comcast.com>
Source record: 115064

How high is your attic? Even a 1/4 wave is more than 8 feet tall.

Tam/WB2TT
"G. Doughty" <nightowls627@aol.comnojunk> wrote in message
news:20030615171011.16033.00000726@mb-m03.aol.com...
> Woohoo, I passed my tech test. Not hard as long as you study! Going back
in
> September to complete code and Am. Extra. Anyways, I bought an htx 10 10m
> mobile radio from radio shack as a base station for the house. Can only
listen
> until I get upgrade in Sept, but would like to get it hooked up. I have
to put
> the antenna in the attic with the existing discone I have for scanning up
> there. Does anyone know any good sites showing what materials to use for
a 10m
> vertical? It just seems easier than a dipole and since I am going with
one
> band, I figured a vertical will do the job.
>
> Thanks
> G Doughty
> awaiting call sign.
> (Can't wait to put it down here though!)
> remove nojunk to email

6513. Re: *** !!! FREE MARTHA !!! *** |--------- idyck

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 04:22:47 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306162022.2ea717bb@posting.google.com>
Source record: 115065

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bchnrmsjs1@hercules.btinternet.com>...
> -- "Mike Coslo" wrote
> >
> > Don't worry about her going to jail, Reg, that's not too likely.
> > Probably a fine, that's all.
> >
> > The big problem is that she tried to cover the wrongdoing up.
> >
> > The reason some people are so gleeful about the whole sorry mess is
> > that she is somewhat of an abrasive personality, with a superior
> > attitude, and it's a matter of "the bigger they are, the harder they
> fall".
> ==========
>
> It seems she's a woman of considerable talents. Prison would be terrible
> waste.

Every once in awhile we have to "do in" one nasty broad or another.
Ref: Leona Helmsley, Imelda Marcos, etc. It's just Martha's turn in
the dock, that's all. No biggie.

> Praps she could find employment helping Bush sort out his Middle East
> problems.

What problems?

> ---
> Reg

w3rv

6514. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 04:54:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ii7tevsvfibnhv1hma66fmgkv5ngk35elg@4ax.com>
Source record: 115066

On Mon, 16 Jun 2003 17:47:21 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Transmission lines cannot store RF energy in static form.
They cannot store them in antic form;
They cannot store them in a boot;
They cannot store them worth a hoot;
Transmission lines are not a piggy bank;
Won't someone give these clowns a spank?

6515. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 11:43:03 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <99DHa.3139$9y3.370793@news20.bellglobal.com>
Source record: 115067

"Jim Kelley"
> ...after the transient period...
> they don't transfer energy.

^---- The exact point upon which they actually do agree, if only they took
the time to understand each other's position.

6516. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 11:48:03 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <SdDHa.3140$9y3.371091@news20.bellglobal.com>
Source record: 115068

J. Harvey wrote:
> You'll probably find some reason to complain
> about this one [circular feedline] as well... ;-)

"W5DXP"
> Would it be too much to ask to get real? :-)

No, that would be the feedline moving or spinning at relativistic speeds.
I'm saving that approach for next week's "Cecil's Challenge".

6517. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:19:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEF075E.1040805@ieee.org>
Source record: 114969

J. Harvey wrote:
> "Jim Kelley"
>>...after the transient period...they don't transfer energy.
>
> ^---- The exact point upon which they actually do agree, if only they took
> the time to understand each other's position.

Let's use the s-parameters to see where Jim's type of logic leads.

HP's AN 95-1 is available at: http://www.sss-mag.com/pdf/hpan95-1.pdf

b1=s11*a1+s12*a2 b2=s21*a1+s22*a2

Jim's premise: If b1=0, then s11*a1 contains zero energy and s12*a2
contains zero energy.

Assume that s11 is a non-zero reflection coefficient and s12 is a
non-zero transmission coefficient.

If b1=0 then a1^2=0 and a2^2=0 so a1=0 and a2=0

If a1=0 and a2=0 then b2=0 i.e. there can be no forward voltage
or forward power toward the load.

We have arrived at a logical contradiction. Therefore, a1^2 and
a2^2 are not zero. Therefore, there exists energy in those two
waves before they cancel and that energy must obey the conservation
of energy principle.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6518. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:21:47 UTC
From: "L." <Tech@DP.NET>
Message-ID: <bcn14rsfd1@xuxa.iecc.com>
Source record: 114970
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

Oh yeah, I forgot, IF he is using a dummy load or an antenna short of required length such as for a low power "Carrier Current" type Radio station of an FM variety, he would be completely legal. He didn't really specify his end result other than learning. For all we know, he could end up on a frequency where no license is needed anyhow.. And if so, what is the big deal? Two watts max FM, isn't going to do a hell of a lot. L.

"Gerry MacDonald" <gerry.macdonald@globaltv.ca> wrote in message
news:bckcb1$nv6$1@xuxa.iecc.com...
> Alarm bells OMG
>
> Do you really think if he was going to design something really illegal he
> would be looking in here for help.
>
> Come on guys give your head a shake.
> The illegal stuff is available online, already built and tested for
pocket
> change....
>
>
> Gerry
>
> VE6QLT
>
> "John R. Strohm" <strohm@airmail.net> wrote in message
> news:bcipq9$qi2$1@xuxa.iecc.com...
> > "anand" <anandsaha@rediffmail.com> wrote in message
> > news:bchvul$1tr$1@xuxa.iecc.com...
> > > hi,
> > >
> > > i want to check the output power of an fm transmitter, and i don't
> > > have a wattmeter. most of the wattmeters available in market here have
> > > a range of
> > > 0-50watt or 0-100 watt.
> > > i want to design one, with a range of 0-2 watt approx, using the
> > > components available with me - digital multimeter(V,A,ohm), diodes,
> > > transistors, resistors and capacitors. someone please suggest me a
> > > design or point me to a schematic.
> > >
> > > i am very much interested in designing a low power fm transmitter, yet
> > > all that i hit upon while searching the net are readymade schematics,
> > > which ofcourse work, yet i do not get the real idea of how it was
> > > designed. is there any good document about how to design an fm

> > > transmitter from scratch, given that "i need to transmitt an fm signal
> > > at 90Mhz with an output power of 2 watt". i would like to know how to
> > > design circuits for oscillators, pll, power booster, amplifier etc.
> > > and how to tweak them for getting the desired output.
> > >
> > > please don't worry about the output power(2 watt as i mentioned). i
> > > know it's illegal, and i am not going to cause any damage. i just want
> > > to learn how to design. let me mention that i am very new to this
> > > subject.
> >
> > Let's see, now, he wants to learn how to design an illegal transmitter,
> and
> > the existing readymade designs are no good to him. He wants a fairly
> > sophisticated design (pll). He wants us not to worry about his power
> level.
> >
> > He's posting from a free account.
> >
> > Anyone else hearing alarm bells ringing?
> >
> >
> >
>
>

6519. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:21:54 UTC
From: "L." <Tech@DP.NET>
Message-ID: <bcn152shn1@xuxa.iecc.com>
Source record: 114972
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

You can say that again! The flood gates have been opened long before this guy happened by. At least he admits to his actions and seems to understand any consequences. If he is using it to learn as he says, and isn't planning to cause RF interference, more power to him. At least he is honest about it.

L.

"Gerry MacDonald" <gerry.macdonald@globaltv.ca> wrote in message news:bckcb1$nv6$1@xuxa.iecc.com...
> Alarm bells OMG
>
> Do you really think if he was going to design something really illegal he
> would be looking in here for help.
>
> Come on guys give your head a shake.
> The illegal stuff is available online, already built and tested for pocket
> change....
>
>
> Gerry
>
> VE6QLT
>
> "John R. Strohm" <strohm@airmail.net> wrote in message
> news:bcipq9$qi2$1@xuxa.iecc.com...
> > "anand" <anandsaha@rediffmail.com> wrote in message
> > news:bchvul$1tr$1@xuxa.iecc.com...
> > > hi,
> > >
> > > i want to check the output power of an fm transmitter, and i don't
> > > have a wattmeter. most of the wattmeters available in market here have
> > > a range of
> > > 0-50watt or 0-100 watt.
> > > i want to design one, with a range of 0-2 watt approx, using the
> > > components available with me - digital multimeter(V,A,ohm), diodes,
> > > transistors, resistors and capacitors. someone please suggest me a
> > > design or point me to a schematic.
> > >
> > > i am very much interested in designing a low power fm transmitter, yet
> > > all that i hit upon while searching the net are readymade schematics,
> > > which ofcourse work, yet i do not get the real idea of how it was
> > > designed. is there any good document about how to design an fm

> > > transmitter from scratch, given that "i need to transmitt an fm signal
> > > at 90Mhz with an output power of 2 watt". i would like to know how to
> > > design circuits for oscillators, pll, power booster, amplifier etc.
> > > and how to tweak them for getting the desired output.
> > >
> > > please don't worry about the output power(2 watt as i mentioned). i
> > > know it's illegal, and i am not going to cause any damage. i just want
> > > to learn how to design. let me mention that i am very new to this
> > > subject.
> >
> > Let's see, now, he wants to learn how to design an illegal transmitter,
> and
> > the existing readymade designs are no good to him. He wants a fairly
> > sophisticated design (pll). He wants us not to worry about his power
> level.
> >
> > He's posting from a free account.
> >
> > Anyone else hearing alarm bells ringing?
> >
> >
> >
>
>

6520. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:21:55 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <bcn153$si2$1@xuxa.iecc.com>
Source record: 114971
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 16 Jun 2003 16:05:19 GMT, "John R. Strohm" <strohm@airmail.net>
wrote:

>
>Paul, 88-108 MHz is the U.S. FM broadcast band.

D'oh!
I can't believe I didn't clock that. It's the same here in europe. All
the major broadcast stations. Sheesh!
:-(

6521. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:21:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bcn155sim1@xuxa.iecc.com>
Source record: 114973
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

On 16 Jun 2003 12:14:31 GMT, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On 15 Jun 2003 21:52:09 GMT, "John R. Strohm" <strohm@airmail.net>
>wrote:
>
>
>>Let's see, now, he wants to learn how to design an illegal transmitter, and
>>the existing readymade designs are no good to him. He wants a fairly
>>sophisticated design (pll). He wants us not to worry about his power level.
>>
>>He's posting from a free account.
>>
>>Anyone else hearing alarm bells ringing?
>
>Not sure about alarm bells at 2W., although I concede there's still a
>possibility for mischieve-making at that low power. What's actually on
>90Mhz? Might give us a clue...

This end of the FM band is traditionally set aside for Schools. The
FCC explicitly describes some transmission modes as being dormitory
oriented (although not at 2W). I am a longtime listener of KEXP/KCMU
90.3MHz. The KEXP is a vanity call linking it to Paul Allen's EMP
music pavilion (more than a shrine to Jimmy Hendrix). KEXP is one of
the leading internet broadcasters with community volunteer DJ's and
nearly 30% of their operating revenues covered through internet
pledges. In fact, the Seattle area consistently shows in the top 10
of popular internet broadcasters (3. KING classical, 6. KPLU jazz).

73's
Richard Clark, KB7QHC

6522. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:24:55 UTC
From: richardharrison@webtv.net
Message-ID: <12105-3EEF0897-155@storefull-2313.public.lawson.webtv.net>
Source record: 114975

The "Cat in the Hat" wrote:
"They cannot store them in antic form;"

Energy flows into a transmission line for a while before any comes out of the far end. Energy continues to emerge from the far end for a while after its feed into the line is interrupted.

Energy emerging from the line after flow into the line stops, obviously is stored energy..

Best regards, Richard Harrison, KB5WZI

6523. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:41:09 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030617084109.07937.00000526@mb-m25.aol.com>
Source record: 114974

Well, I have changed my mind. I am going with a 1/2 wave dipole. Easy construction and space. The overall length will be 16.6 feet. I think I am going to use teflon blocks as insulators as I can find no commercial ones available. I will mount it as high to the peak of the roof as possible in the attic. I have crossmembers the entire length so it should be pretty easy. Thanks for all the suggestions.

G Doughty
remove nojunk to email

6524. Re: 1/20 wavelength is an effective antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 12:47:54 UTC
From: Bernhard Rhondin <bernhard_rhondin@hotmail.com>
Message-ID: <3EEF0DFA.AA98A54B@hotmail.com>
Source record: 114976

There IS a collection of formulae that are quite nice!

However, You might not be able to identify some of the parameters
"in real life".

Ref:
"Fundametal limitations of small antennas", H.A. Wheeler, Proc. IEE, Dec.
1947, 35#12, pages 1479-1484

B.

Tom Bruhns wrote:

> There really isn't an exact formula, but as the antenna becomes
> smaller two things will happen, both of which cause you trouble. One
> is that the radiation resistance as measured at the feedpoint will
> drop to such a low value that the resistance of the antenna conductors
> themselves (reflected to the feedpoint) will become a significant
> fraction of the total feedpoint resistance, and that means you'll be
> wasting a significant fraction of your power heating the antenna. The
> other is that the feedpoint resistance will become small enough, AND
> the feedpoint reactance will become large enough, that you won't be
> able to build an efficient matching network to match your transmitter
> (or receiver...or feedline) to the antenna. Associated with that will
> be a very narrow bandwidth (when you include the matching network),
> especially on lower frequencies. Some configurations will work better
> than others, but any configuration will have those problems as you
> shrink its size for a given frequency of operation. The limit depends
> on the losses you can tolerate and the bandwidth you require. Extreme
> examples often occur with folk trying to operate mobile on 1.8MHz or
> 3.5MHz...a mobile antenna for 80 meters is commonly shorter than
> 1/20th wavelength (4 meters).
>
> Cheers,
> Tom
>
> dannycyc@aol.com (Danny) wrote in message
news:<7e46f862.0306120616.678df719@posting.google.com>...
> > I was told that any conductor like a cable that is more than 1/20 of
> > a wavelength is an effective antenna for that wavelength.
> >
> > (Of course, at one fourth of a wavelength or longer,
> > cables become efficient antennas.)
> >
> > Well, for any wavelength, there must be a relationship between
> > the radiation strength and the length of an antenna.

> > (The length could be ANY positive number.)
> >
> > What is that formula exactly?
> >
> > -- Danny

6525. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 13:04:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcn3l7lcv1@hercules.btinternet.com>
Source record: 114977

There is a 50-ohm line which is charged up DC-wise to 100 volts.

What is the voltage versus time across a discharging resistor of 100-ohms
which is suddenly connected to one end of the line ?

Reg.

6526. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 14:01:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEF1F24.7050606@ieee.org>
Source record: 114978

Richard Harrison wrote:
> The "Cat in the Hat" wrote:
> "They cannot store them in antic form;"
>
> Energy flows into a transmission line for a while before any comes out
> of the far end. Energy continues to emerge from the far end for a while
> after its feed into the line is interrupted.
>
> Energy emerging from the line after flow into the line stops, obviously
> is stored energy..

One important point about RF energy storage is that it is stored
dynamically, not statically. That means that stored RF energy is
always moving thus meeting the IEEE definition of power.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6527. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 14:17:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bcn7ergja1@news.service.uci.edu>
Source record: 114979

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EEE7CB7.4070207@ieee.org...
> Jim Kelley wrote:
> > A wave can indeed exist without a TRANSFER of energy from one point to
> > another.
>
> We need to concentrate on our exact point of disagreement. Here's an
> example for you:
>
> Source-------50 ohm feedline----------291.5 ohm resistor
>
> Here's a simple yes/no question for you. Is there any energy in
> the reflected wave?

Is the reflected wave being cancelled by another wave of equal amplitude and opposite phase traveling in the same direction? If so, then the answer is no. Waves which cancel in the direction of propagation are prevented from transfering energy. I suspect that in your example, only a portion of the energy available from the source is transferred to the load.

73, ac6xg

6528. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 14:33:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <bcn8ce$h3a$1@news.service.uci.edu>
Source record: 114980

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EEE6519.9090607@ieee.org...
> Jim Kelley wrote:
> > A wave can indeed exist without a TRANSFER of energy from one point to
> > another. Transmission lines can indeed store RF energy.
>
> Transmission lines cannot store RF energy in static form.

I'm unfamiliar with the concept of "statie" RF energy. I doubt that such a thing actually exists.

> > 'Net' energy is the only energy that is transferred from one place to
> > another - by definition.
>
> 60Hz energy can be transferred from Texas to California and back to
> Texas at considerable overhead cost. You are saying energy that made a
> round trip to Ca and back did not make a round trip to CA and back.

I never said anything of the kind.

If no energy is utilized in CA, then no energy is transferred to CA. If there are losses, then energy is transferred from Texas to those losses. Power doesn't move around looking for somewhere to go losing parts as it goes. You really have a very limited understanding of this subject Cecil. Maybe you should try basketweaving? ;-)

73, ac6xg

6529. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 15:01:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <aEydnff0gf7dsHKjXTWJjQ@comcast.com>
Source record: 114981

Excellent idea. You don't really need teflon, unless you have it. You could use pieces of plastic water pipe. Either saw off donuts, or use a longer piece with a hole drilled all the way through on each end.

Tam/WB2TT
"G. Doughty" <nightowls627@aol.comnojunk> wrote in message news:20030617084109.07937.00000526@mb-m25.aol.com...
> Well, I have changed my mind. I am going with a 1/2 wave dipole. Easy
> construction and space. The overall length will be 16.6 feet. I think I am
> going to use teflon blocks as insulators as I can find no commercial ones
> available. I will mount it as high to the peak of the roof as possible in the
> attic. I have crossmembers the entire length so it should be pretty easy.
> Thanks for all the suggestions.
>
> G Doughty
> remove nojunk to email

6530. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 15:26:48 UTC
From: richardharrison@webtv.net
Message-ID: <15828-3EEF3338-194@storefull-2314.public.lawson.webtv.net>
Source record: 114983

Reg wrote:
"There is a 50-ohm line which is charged up DC-wise to 100 volts. What is the voltage versus time across a discharging resistor of 100-ohms which is suddenly connected to one end of the line?'

Current starts from zero to rise to a value of E/R, but instantly it can`t. Inductance induces a counter-emf opposing instant current flow. Current increases exponentially. In a lumped inductance, the time constant is L/R. That`s the number of seconds it takes the current to reach 63% of its final Ohm`s law value.

The transmission line has distributed inductance and a charge on the distributed line capacitance is the source for energy to the discharging resistor. This is a dwindling resource.

Voltage across the discharging resistor exactly mimics the current through the resistor.

Because of the distributed capacitance and inductance of the transmission line, there is a delay in charge arrival at the discharging resistance from more distant sections of the transmission line. This delay is proportional to the square root of LC.

In Reg`s example, the terminating (discharging) resistance is greater than the line Zo. So, several incident and reflected waves will occur before the line is completely discharged. It takes more time to discharge the line than a 50-ohm resistor would require to discharge the line, due to the added discharge cycles caused by the mismatch.

In a matched line charged to a d-c voltage, half the voltage is instantly dropped across the source (the transmission line) and half is dropped across the discharging resistor when it is instantly connected. In the case of 100-ohms across a 50-ohm line, the fraction is 100/150 or 2/3 the 100 volts reg specified. That`s the initial voltage the decay cycles start from.

The voltage versus time across a discharging resistor, is a stairstep down from the initial pulse.

Best regards, Richard Harrison, KB5WZI

6531. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 15:30:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <alcuevckpphs7aluj93utgag2p1mnpbmog@4ax.com>
Source record: 114982

On Tue, 17 Jun 2003 09:01:08 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>One important point about RF energy storage is that it is stored
>dynamically, not statically.
Another important point about RF energy storage is that it is stored
clockwise or counter-clockwise;
Another important point about RF energy storage is that it is stored
interest free;
Another important point about RF energy storage is that it is stored
in dry containers;
Another important point about RF energy storage is that it is stored
outdoors or indoors;
Another important point about RF energy storage is that it is stored
mostly above ground and never behind the moon ....

All the things left unsaid that merit attention equal to the original
- sigh -

6532. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 16:00:15 UTC
From: olllllllo@sbcglobal.net
Message-ID: <jWGHa.1008$cJ7.387973281@newssvr11.news.prodigy.com>
Source record: 114984
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

"Mark Keith" <nm5k@wt.net> wrote in message
news:25eb70d7.0306161309.222aeb94@posting.google.com...
> I don't know how fast they can go, but couldn't be too fast. I bet a
> bicycle could outrun one easy. So I think they should be considered
> along the same lines as a bicycle, and adhear to the same appx laws.
> If they come to a curb, too bad. Time to portage. About the same as
> when I'm kayaking down a river. If I come to a logjam, or dry spot, I
> can't demand the landowners build me a canal through the bad
> spot...Here in Texas, on many rivers, the landowners own the river
> halfway out, where it butts against the opposite landowners half of
> the river. As far as the segways on city streets, they better stay out
> of my way, same as a bike, or whatever. My f-250 will make a mess out
> of them if they dart in my path. MK

So it only goes to follow that my F-350
crew will make a mess of your F-250.

Let the games begin. :-)

6533. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 17:03:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF49CA.2A5F9065@uci.edu>
Source record: 114986

Richard Harrison wrote:
>
> The "Cat in the Hat" wrote:
> "They cannot store them in antic form;"
>
> Energy flows into a transmission line for a while before any comes out
> of the far end. Energy continues to emerge from the far end for a while
> after its feed into the line is interrupted.
>
> Energy emerging from the line after flow into the line stops, obviously
> is stored energy..

And if there is no point from which that energy may emerge, no additional energy would enter the transmission line. Fields generated by the source or reflected from a boundary would however also continue to cause fields within the transmission line to continue to alternate - without necessarily transfering additional energy to the transmission line.

73, Jim AC6XG

6534. 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 17:07:29 UTC
From: Ramilacaponi <acuadrad@puc.cl>
Message-ID: <3eef4b9d@omega.ifxnw.cl>
Source record: 114985

I need to make a 433 MHz printed antenna, where can I get a diagram for
that?
Thanks.

6535. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 17:26:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF4F32.85F08391@uci.edu>
Source record: 114987

W5DXP wrote:
>
> Jim Kelley wrote:
> > They always cancel after the transient period, and they don't transfer
> > energy.
>
> Phantom waves containing no energy. Where have I heard that one before?

You said it before. I haven't.

> Consider the following experiment driven by a signal generator equipped
> with a perfect circulator+load resistor.
>
> 100W SGCL----50 ohm lossless feedline-------291.5 ohm resistor
>
> We know the circulator load resistor will dissipate 50 watts. If there
> is no energy in reflected waves, where does the 50 watts come from?

Energy in the reflected wave is indeed TRANSFERRED to the load
resistor. I have never claimed that energy cannot be transferred in
such a manner. You seem to be implying that this circuit is analogous
or equivalent to the one described in your paper - the one under
discussion. It is not, and therefore as one should expect, it does not
behave in the same way.

> > Please describe the exact mechanism by which a wave can change direction
> > by a means other than by reflection from a physical discontinuity.

> The conservation of energy principle requires that the energy "lost" in
> the wave cancellation process join the forward wave. That requires a
> reversal of direction of the energy flow.

No it doesn't. The energy is not reflected, and therefore does NOT have
to change direction. You're wrong about this.

> It's a good thing, too,
> because otherwise the constructive interference could not happen.

Not true. Constructive interference "happens" despite what you say
about it. The same two waves cannot simultaneously be involved in both
destructive AND constructive interference. The same two waves cannot
simultaneously carry the same energy in two different directions. It's
an absurd notion. The waves involved in contructive interference are
algebraic compliments of the waves involved in destructive
interference. And of course, the relative phase is different for the
two sets of waves.

> In a transmission line, wave cancellation causes a direction reversal of
> the flow of energy components in the waves that cancel.

There is no valid scientific or mathematical support for the notion of a
reversal in direction due to anything but reflection. Your model
depends on an undisclosed mechanism for such a reversal.

> The energy is flowing
> in one direction and its flow in that direction is blocked by wave cancellation.

Energy does not flow when its flow is "blocked by wave cancellation".
How could it? This isn't rocket science.

73, Jim AC6XG

6536. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 17:49:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF548D.47A25506@uci.edu>
Source record: 114988

W5DXP wrote:
>
> Jim Kelley wrote:
> > The discussion was about whether the 'resistance' was "virtual" or not.
> > You're claiming we can have "real power" in a circuit with a "virtual
> > resistance"?
>
> (Vfor+Vref)/(Ifor+Iref) can be a virtual resistance.
> Vfor*Ifor = forward power, Vref*Iref = reflected power.
> Vfor and Ifor are in phase. Vref and I ref are 180 deg out of phase.
> In both cases, cosine theta equals |1|, ergo real power.

The only thing missing is the proof! :-)

> You, OTOH, are polluting the
> wave reflection model with your phantom waves and virtual photons.

Please either give an example, or retract your statement.

73, Jim AC6XG

6537. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 18:14:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2vluev0hip9hi1n3orffeg5rsa3gftl6bi@4ax.com>
Source record: 114989

On Mon, 16 Jun 2003 17:58:00 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>You, OTOH, are polluting the
>wave reflection model with your phantom waves and virtual photons.
>--
>73, Cecil, W5DXP

more of Cecil's "he sez"

in fact, Cecil, you are the only one to have introduced the terms
above and they only appear in Jim's quotes of your same content.

phantom waves: first used by you on 9 May of this year.

virtual photons: first used by you on 7 June (twice), 9 June, & 10
June and not even quoted by Jim.

Examples of your poor reporting (much less the rejection of your own
authority, viz. virtual photons, as a polluter) continue without
pause.

73's
Richard Clark, KB7QHC

6538. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 18:35:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF5F77.855E4B2B@uci.edu>
Source record: 114990

Jim Kelley wrote:
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EEE6519.9090607@ieee.org...
> > Jim Kelley wrote:
> > > A wave can indeed exist without a TRANSFER of energy from one point to
> > > another. Transmission lines can indeed store RF energy.
> >
> > Transmission lines cannot store RF energy in static form.
>
> I'm unfamiliar with the concept of "statie" RF energy. I doubt that such a
> thing actually exists.

Sorry, I meant "static".

I must have had my middle finger extended when I typed it. :-)

73 de ac6xg

6539. Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 18:40:49 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306171040.26e7f230@posting.google.com>
Source record: 114991

Reg in most of the antenna books over here
there is a graph that shows diminishing returns (gain)
per increase in boom length. Presumably this is
because of added phase angles of elements other than
the driven element (Right or wrong?.)
When using coupled radiators
one can remove the phase angle variance such that
the phase lines always align along the 0-180 line.
Thus to my question. Since adding coupled circuits
in series also create a narrowing of bandwidth
but with increasing amplitude I am assuming that
array length could probably be totally ruled out of
the picture. Got any thoughts about that or could
we do the same by link coupling of yagi elements?
Not a trick question, just a means to get back to
more intelligent discussion on the news group.
Art

6540. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 19:40:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcnqs9$5om$1@hercules.btinternet.com>
Source record: 114993

"Art Unwin KB9MZ" wrote -
> Reg in most of the antenna books over here
> there is a graph that shows diminishing returns (gain)
> per increase in boom length. Presumably this is
> because of added phase angles of elements other than
> the driven element (Right or wrong?.)
> When using coupled radiators
> one can remove the phase angle variance such that
> the phase lines always align along the 0-180 line.
> Thus to my question. Since adding coupled circuits
> in series also create a narrowing of bandwidth
> but with increasing amplitude I am assuming that
> array length could probably be totally ruled out of
> the picture. Got any thoughts about that or could
> we do the same by link coupling of yagi elements?
> Not a trick question, just a means to get back to
> more intelligent discussion on the news group.
> Art
==========

Just from lookung at an antenna the number of elements increases in
proportion to boom length.
Diminishing returns are due an increase in the number of elements rather
than boom length.

Suppose, ideally, all elements each radiate the same power.

Two elements will radiate a field 3 dB stronger than one.
Three elements will radiate a field 1.76 dB stronger than two.
Four elements will radiate a field 1.25 dB stronger than three.
----
21 elements will radiate a field 0.21 dB stronger than 20 elements. The
return per element is clearly diminishing.

And in fact, to increase field strength by 3 dB it is necessary to at least
double the number of elements.

The same sort of figures apply to broadside arrays and indeed all sorts of
arays of N elements provided an antenna is always adjusted for maximum
directivity in the direction of where field strength is measured.

The rate of return diminishes a little faster than above because overall
efficiency of an antenna decreases with increasing N.

More than the foregoing I don't think there's anything to be gained by
trying to wrap one's skull around phase angles. Let Eznec or something

worry about that.

Reg.

6541. Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 19:41:30 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bcnqog$le031$1@ID-150848.news.dfncis.de>
Source record: 114992

I downloaded YagiCam and hoped someone had designed with this program a
5 or 6 element VHF Yagi for maximum gain, so I could simply obtain the
file,
rescale and save myself some time.

No response.

Okay, what about YagiMax or some other freebie antennna design program.
Anyone designed a 5 or 6 element VHF yagi maximised for gain on YagiMax
or whatever?

Thanks.

Rich.

6542. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 19:50:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF711E.1EB39427@uci.edu>
Source record: 114994

W5DXP wrote:
> Let's use the s-parameters to see where Jim's type of logic leads.
>
> HP's AN 95-1 is available at: http://www.sss-mag.com/pdf/hpan95-1.pdf
>
> b1=s11*a1+s12*a2 b2=s21*a1+s22*a2

These equations apply when ZL = Z0. In our case, ZL <> Z0.

> Jim's premise: If b1=0, then s11*a1 contains zero energy and s12*a2
> contains zero energy.

b1 equals zero when V1 - I1*Z0 = 0 or when s11 equals zero.

> Assume that s11 is a non-zero reflection coefficient and s12 is a
> non-zero transmission coefficient.

> If b1=0 then a1^2=0 and a2^2=0 so a1=0 and a2=0

If b1 = 0 then s11 must equal zero - a1 can still be a non-zero number.

> If a1=0 and a2=0 then b2=0 i.e. there can be no forward voltage
> or forward power toward the load.

> We have arrived at a logical contradiction.

You have arrived at a logical contradiction by making invalid
assumptions.

ac6xg

6543. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 20:03:22 UTC
From: "L." <Tech@DP.NET>
Message-ID: <bcns6a$q5$1@xuxa.iecc.com>
Source record: 114996
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.broadcasting,sci.electronics.design

In my haste, I improperly stated a thought. It should have read "or a short antenna (required length or less) such as for a low power "Carrier Current" type radio station......."

Any one familiar with CC stations should know the antenna has to be kept a certain maximum length to limit radiation of the signal. IF that requirement is met, then they are in compliance - with no license needed. If memory serves me correct, I believe it to be 10' maximum. Seems to me too, that the figure also included the feed line.

One more thing, what is the big deal if he was posting from a "free account". Big deal! Sorry, but that party said or appears to have done - nothing - to warrant a federal case or spark a major concern. As Gerry pointed out, illegal amps and radios are a dime a dozen. You can find them most anywhere - hamfest, internet, you name it. This person's research is peanuts compared to the real situation.

L.

"L." <Tech@DP.NET> wrote in message news:bcn14rsfd1@xuxa.iecc.com...
> Oh yeah, I forgot, IF he is using a dummy load or an antenna short of
> required length such as for a low power "Carrier Current" type Radio
station
> of an FM variety, he would be completely legal. He didn't really specify
his
> end result other than learning. For all we know, he could end up on a
> frequency where no license is needed anyhow.. And if so, what is the big
> deal? Two watts max FM, isn't going to do a hell of a lot. L.
>
> "Gerry MacDonald" <gerry.macdonald@globaltv.ca> wrote in message
> news:bckcb1$nv6$1@xuxa.iecc.com...
> > Alarm bells OMG
> >
> > Do you really think if he was going to design something really illegal
he
> > would be looking in here for help.
> >
> > Come on guys give your head a shake.
> > The illegal stuff is available online, already built and tested for
> pocket
> > change....
> >
> >
> > Gerry

> >
> > VE6QLT
> >
> > "John R. Strohm" <strohm@airmail.net> wrote in message
> > news:bcipq9$qi2$1@xuxa.iecc.com...
> > > "anand" <anandsaha@rediffmail.com> wrote in message
> > > news:bchvul$1tr$1@xuxa.iecc.com...
> > > > hi,
> > > >
> > > > i want to check the output power of an fm transmitter, and i don't
> > > > have a wattmeter. most of the wattmeters available in market here
have
> > > > a range of
> > > > 0-50watt or 0-100 watt.
> > > > i want to design one, with a range of 0-2 watt approx, using the
> > > > components available with me - digital multimeter(V,A,ohm), diodes,
> > > > transistors, resistors and capacitors. someone please suggest me a
> > > > design or point me to a schematic.
> > > >
> > > > i am very much interested in designing a low power fm transmitter,
yet
> > > > all that i hit upon while searching the net are readymade
schematics,
> > > > which ofcourse work, yet i do not get the real idea of how it was
> > > > designed. is there any good document about how to design an fm
> > > > transmitter from scratch, given that "i need to transmitt an fm
signal
> > > > at 90Mhz with an output power of 2 watt". i would like to know how
to
> > > > design circuits for oscillators, pll, power booster, amplifier etc.
> > > > and how to tweak them for getting the desired output.
> > > >
> > > > please don't worry about the output power(2 watt as i mentioned). i
> > > > know it's illegal, and i am not going to cause any damage. i just
want
> > > > to learn how to design. let me mention that i am very new to this
> > > > subject.
> > >
> > > Let's see, now, he wants to learn how to design an illegal
transmitter,
> > and
> > > the existing readymade designs are no good to him. He wants a fairly
> > > sophisticated design (pll). He wants us not to worry about his power
> > level.
> > >
> > > He's posting from a free account.
> > >
> > > Anyone else hearing alarm bells ringing?
> > >

6544. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 20:07:50 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EEF74B3.8070501@attbi.com>
Source record: 114995

Hmmm ... sounds like some USAF test equipment I built back in the 85-85
time period.

A critical piece of information is missing. Is the line long or short?

If the line is short; 100 volts is the answer. [PERIOD] I used a short
line for a 15KV 10 nanosecond pulse into 22 ohms.

If the line is long; 100 volts peak decaying to 67 volts then remaining
at 67 volts for the propagation delay of the line. Followed by a
negative transient and the re-reflected wave from the charging end for
the propagation delay of the line. Followed by a positive transient for
the propagation delay of the line followed by ... ad infinitum.

DD, W1MCE

Reg Edwards wrote:
> There is a 50-ohm line which is charged up DC-wise to 100 volts.
>
> What is the voltage versus time across a discharging resistor of 100-ohms
> which is suddenly connected to one end of the line ?
> ---
> Reg.
>
>

6545. Re: Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 20:38:08 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bcnu2r$l6so0$1@ID-150848.news.dfncis.de>
Source record: 114997

Richard wrote:
> I downloaded YagiCam and hoped someone had designed with this program
> a 5 or 6 element VHF Yagi for maximum gain, so I could simply obtain
> the file,
> rescale and save myself some time.
>
> No response.
>
> Okay, what about YagiMax or some other freebie antennna design
> program. Anyone designed a 5 or 6 element VHF yagi maximised for gain
> on YagiMax or whatever?
>
> Thanks.
>
> Rich.

Although a voice in my head says, "Numbskull, go for a co-linear".

6546. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 20:50:38 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030617165038.03203.00000709@mb-m03.aol.com>
Source record: 114998

how about wood for center conductor?

G Doughty
remove nojunk to email

6547. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 20:56:56 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <i10vev0qrk4to86713bgoeui084cv5f991@4ax.com>
Source record: 114999

On Tue, 17 Jun 2003 19:40:57 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

[snip]

|And in fact, to increase field strength by 3 dB it is necessary to at least
|double the number of elements.

Bunk!

6548. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 21:14:05 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939D90CDE3AD5pookster@129.250.170.84>
Source record: 115002

Dave Shrader <david.shrader@attbi.com> wrote in news:3EECBE85.5090101
@attbi.com:

> The math is correct. The circuit can be built! 100 volts can be measured
> from a 1 Vrms source driving a 1 ohm load!
>

You're missing the point, Dave. Your original post claimed a 40 db "gain".
I pointed out that db is a measurement of power, not voltage. You may
indeed have a voltage gain of 40 times but that is not power gain.

A simple transformer can give you a voltage gain, but not a power gain. In
any circuit of only passive elements, if you increase the available voltage
by X amount, you also divide the available current by X amount, or more.
Even if you try pulsing the circuit in some manner, the overall long-term
power remains no more than what you put into it.

No free lunch. :-(

--
Bill, W7TI

6549. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 21:17:41 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bco0hp$l5qg8$1@ID-134747.news.dfncis.de>
Source record: 115000

What is a "printed antenna"?

--
73 es cul

wb3fup
a Salty Bear

"Ramilacaponi" <acuadrad@puc.cl> wrote in message
news:3eef4b9d@omega.ifxnw.cl...
> I need to make a 433 MHz printed antenna, where
can I get a diagram for
> that?
> Thanks.
>
>

6550. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 21:18:17 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939D9184BD09Epookster@129.250.170.84>
Source record: 115001

" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in news:NVtHa.34287
$Id7.14411@news2.east.cox.net:

> This is an emergency communications band, and CW is not
> permitted? Only LSB?? Weird.
>

It's USB Peter, and voice is far more efficient than CW for emergency
traffic.

Flamebait of course, but true none the less.

--
Bill, W7TI

6551. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 21:37:30 UTC
From: Helmut Wabnig <hXwabnig@aXon.at>
Message-ID: <dr1vev468q6lv7f3ac8rbfmi6t16tt2oou@4ax.com>
Source record: 115004

On Tue, 17 Jun 2003 13:07:29 -0400, "Ramilacaponi" <acuadrad@puc.cl>
wrote:

>I need to make a 433 MHz printed antenna, where can I get a diagram for
>that?
>Thanks.
>
Hmm.

You are designer of some plastic toys for kids?

What is the application.

Why I am asking, is the fact that any antenna has a certain
radiation characteristic, it bundles the "waves" into a certain
direction, or into directions, so to say, front to back ratio may
be important, or rather omnidirectional radiation may be preferred.

Transmitter and receiver should be aligned both vertical or
horizontal for best performance, else do we need to make
circular polarizing antennas for targeting the receiver
from arbitrary positions?
Image a model-helicopter hovering above you,
and then rotate it 360 degrees.

And so on. Too many unknowns.

w.

6552. Re: Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 21:38:49 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <d72vevkemsnm71mi575dkcjh08n7h12cmk@4ax.com>
Source record: 115003

On Tue, 17 Jun 2003 21:38:08 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

|Richard wrote:
|> I downloaded YagiCam and hoped someone had designed with this program
|> a 5 or 6 element VHF Yagi for maximum gain, so I could simply obtain
|> the file,
|> rescale and save myself some time.
|>
|> No response.
|>
|> Okay, what about YagiMax or some other freebie antennna design
|> program. Anyone designed a 5 or 6 element VHF yagi maximised for gain
|> on YagiMax or whatever?
|>
|> Thanks.
|>
|> Rich.
|
|Although a voice in my head says, "Numbskull, go for a co-linear".

Worrying about "max gain" in a short Yagi is hardly worth the effort.
There are any number of "canned" designs that will suffice.

Look at:

http://www.cebik.com/2mowa1.html

and:

http://www.cebik.com/32m.html

6553. Re: Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 22:06:41 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bco38v$l2k7i$1@ID-150848.news.dfncis.de>
Source record: 115005

Wes Stewart wrote:
> On Tue, 17 Jun 2003 21:38:08 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
>|Richard wrote:
>|> I downloaded YagiCam and hoped someone had designed with this
>|> program a 5 or 6 element VHF Yagi for maximum gain, so I could
>|> simply obtain the file,
>|> rescale and save myself some time.
>|>
>|> No response.
>|>
>|> Okay, what about YagiMax or some other freebie antennna design
>|> program. Anyone designed a 5 or 6 element VHF yagi maximised for
>|> gain on YagiMax or whatever?
>|>
>|> Thanks.
>|>
>|> Rich.
>|
>|Although a voice in my head says, "Numbskull, go for a co-linear".
>
> Worrying about "max gain" in a short Yagi is hardly worth the effort.
> There are any number of "canned" designs that will suffice.
>
> Look at:
>
> http://www.cebik.com/2mowa1.html
>
> and:
>
> http://www.cebik.com/32m.html

Cheers.

This information should be okay. I can just resize. Probably put the
dimensions into a program and mess about.

Rich.

6554. need help urgently!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 22:35:22 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0306171435.7f788e49@posting.google.com>
Source record: 115006

Hi guys,
I am measuring the gain of the microstrip practically. I
have a yagi as a transmitting antenna at 1GHz and a standard
dipole(0.45lamda). First i made a 360 degrees rotation with dipole and
plotted the radiation pattern, next i took the dipole and fixed my
patch and again made 360degrees rotation. I found out that my patch is
8dB down from the dipole in the radiation pattern. Does that mean my
antenna is giving loss or am i wrong in interpretation. Kindly help!!

Thanks in advance

6555. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 22:46:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEF9A44.66B11164@uci.edu>
Source record: 115008

W5DXP wrote:

> I may be trying to say something that has never
> been said before.

I think we should call this "The Copernican Effect". ;-)

> What word(s) can be used to distinguish the resistance of a load resistor
> from the resistance one wavelength back along the transmission line
> toward the source?

H-P calls it the reflected resistance (or impedance) in application note
95-1.

> They certainly are not the same thing. Please give me
> your words if you were trying to differentiate between those two different
> types of resistances. One gets hot and the other doesn't.

But either way, according to you, there is real power involved since cos
theta = 1.

73 de ac6xg

6556. Re: need help urgently!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 22:47:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vev6kqci7qniac@corp.supernews.com>
Source record: 115007

You didn't say what axis you're doing the rotation on. If at some point in your test the patch was oriented so that the direction of maximum response was toward the transmitting antenna *AND* it was rotated so that the polarization was the same as the transmitting antenna, then it seems that the only explanation is patch antenna loss.

Roy Lewallen, W7EL

anand wrote:
> Hi guys,
> I am measuring the gain of the microstrip practically. I
> have a yagi as a transmitting antenna at 1GHz and a standard
> dipole(0.45lamda). First i made a 360 degrees rotation with dipole and
> plotted the radiation pattern, next i took the dipole and fixed my
> patch and again made 360degrees rotation. I found out that my patch is
> 8dB down from the dipole in the radiation pattern. Does that mean my
> antenna is giving loss or am i wrong in interpretation. Kindly help!!
>
> Thanks in advance

6557. Re: need help urgently!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 22:59:31 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <j3NHa.4319$ca4.465460@news20.bellglobal.com>
Source record: 115010

"anand"
> ...again made 360degrees rotation.

Perhaps you're orbiting around the main lobe. Do you need to search along another axis ?

6558. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:04:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vev7jnsqgt5p72@corp.supernews.com>
Source record: 115009

The 3 dB rule applies only in the absence of mutual coupling, and if the elements are spaced and phased such that there's some direction in which the fields totally reinforce. In Yagis, the elements are strongly coupled -- otherwise, the parasitic elements wouldn't function. Mutual coupling can increase or decrease the amount of gain you get by doubling the number of elements, but it can never exceed 6 dB.

For example, a 2 element Yagi typically has 4 - 5 dB gain over a dipole.

In _Yagi Antenna Design_, Lawson gives the gain of a number of Yagis with different numbers of elements and boom lengths. Comparing 6 and 3 element Yagis with a 2:1 boom length ratio (Table 2.4), I see only about 0.5 dB gain difference between a 3 element 0.1 wavelength boom and 6 element 0.2 wavelength boom Yagi, but about 4 dB between a 3 element 0.7 wavelength Yagi and a 6 element 1.4 wavelength Yagi. And these numbers can vary a great deal depending on what compromises were made in the design of the various antennas.

So the 3 dB - per - doubled number of elements isn't a valid rule, and is even a very poor rule of thumb, for Yagis. Or for quite a number of other antennas.

Roy Lewallen, W7EL

Wes Stewart wrote:
> On Tue, 17 Jun 2003 19:40:57 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
> [snip]
>
> |And in fact, to increase field strength by 3 dB it is necessary to at least
> |double the number of elements.
>
> Bunk!
>
>

6559. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:13:39 UTC
From: richardharrison@webtv.net
Message-ID: <26921-3EEFA0A3-215@storefull-2318.public.lawson.webtv.net>
Source record: 115014

Reg, G4FGQ wrote:
"Two elements will radiate a field 3 dB stronger than one."

Actually, volts per meter can be almost doubled by using two elements as compared with one. That is a gain of 6 dB.

According to Arnold B. Bailey in "TV and Other Receiving Antennas" (reciprocity rules!) here are gains of typical 2-element antennas as compared with a single-element dipole:

5 dbd, 1/2 WL with a reflecting sheet
4 dbd, 1/2 WL with driven 1/2 WL reflector
5.5 dbd, 1/2 WL with parasitic director
5 dbd 1/2 WL with parasitic reflector

As more directors are added to a 1/2 WL with a reflector, the gain per added element drops. Bill Orr gives a chart in "Beam Antenna Handbook":
Reflector only, about 5 dbd
(1) director added, about 8 dbd
(2) directors, 10 dbd
(3) directors, 11 dbd
(4) directors, 12 dbd
(5) directors, 12.5 dbd
(6) directors, 13 dbd
(7) directors, 13.5 dbd
(8) directors, under 14 dbd
The point of diminishing returns has been reached, but Orr`s chart goes on to 11 directors which gives just a little more than 15 dbd gain.

Orr notes:
"Additional parasitic directors increase gain of array. Doubling number of directors boosts gain figure approximately 3 db." This makes sense. Think of the receiving case. Doubling the number of rods in the air could be expected to capture twice as much energy. That is 3 db. Reciprocity says the same thing will prevail on transmit, 3 db gain.

Reflectors rarely increase gain significantly beyond a single reflector. The single reflector so reduces rearward energy that there is nearly no energy remaining to be re-directed.

Best regards, Richard Harrison, KB5WZI

6560. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:26:06 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <058vevktgq71ebbcn4rc13k8nv7bli1rqj@4ax.com>
Source record: 115012

On 17 Jun 2003 20:50:38 GMT, nightowls627@aol.comnojunk (G. Doughty)
wrote:

>how about wood for center conductor?
>
>G Doughty
>remove nojunk to email

It might be okay for low power, but it could catch fire, and by the
time you knew it, your whole roof would be going up.

A short length of pvc would be better.

Or, see if your local Radio Shack has any insulators for wire
antennas. They usually do.

A farm supply house that sells electric fence wire should have the
plastic egg insulators -- they're pretty cheap.

Or do a web search for The Wireman and mail order a few insulators
from his antenna supplies.

Bob
k5qwg

6561. Re: Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:26:50 UTC
From: Phil <philip.bradway@verizon.net>
Message-ID: <_sNHa.185$LZ4.101@nwrdny02.gnilink.net>
Source record: 115011

For relatively short Yagis, where forward gain is the only criterion, you can't go wrong with the old NBS designs. Some of the older ARRL Handbooks had the charts.I've built NBS 6 el 440, 6 el 2 meter and 5 el 6 meter antennas and they PLAY! The secret is don't make any changes to the design. Build them by the book. For long Yagis, try the DL6WU or K1FO designs. There are MS-DOS basic programs to help design them. You will have to dig up a copy of GWBASIC, though. It'll run on an XP machine in command mode.

Phil, KB2HQ

"Richard" <nearlynews_email@ntlworld.com> wrote in message news:bcnqog$le031$1@ID-150848.news.dfncis.de...
> I downloaded YagiCam and hoped someone had designed with this program a
> 5 or 6 element VHF Yagi for maximum gain, so I could simply obtain the
> file,
> rescale and save myself some time.
>
> No response.
>
> Okay, what about YagiMax or some other freebie antennna design program.
> Anyone designed a 5 or 6 element VHF yagi maximised for gain on YagiMax
> or whatever?
>
> Thanks.
>
> Rich.
>

6562. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:42:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFA753.4050905@ieee.org>
Source record: 115013

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EEE7CB7.4070207@ieee.org...
>
>>Jim Kelley wrote:
>>
>>>A wave can indeed exist without a TRANSFER of energy from one point to
>>>another.
>>
>>We need to concentrate on our exact point of disagreement. Here's an
>>example for you:
>>
>>Source-------50 ohm feedline----------291.5 ohm resistor
>>
>>Here's a simple yes/no question for you. Is there any energy in
>>the reflected wave?
>
> Is the reflected wave being cancelled by another wave of equal amplitude and
> opposite phase traveling in the same direction? If so, then the answer is
> no. Waves which cancel in the direction of propagation are prevented from
> transfering energy. I suspect that in your example, only a portion of the
> energy available from the source is transferred to the load.

Actually, there are two sources and we can switch between them at will.
Source#1 is a 100 watt signal generator with a circulator+load resistor.
Source#2 is a 50 watt transmitter with an antenna tuner tuned for a match.
The two sources are phase-locked and have a sophisticated switching system
which allows seamless switching.

The two sources are switched at random. The forward wave and reflected wave
are identical in both cases. Does the reflected wave carry any energy?

Using source#1, 50 watts of reflected power is dissipated in the circulator
resistor. That power is carried back from the load by the reflected wave.

Using source#2, that 50 watts of reflected power from the load is not
dissipated at the source. According to you, it suddenly switches from carrying
energy to not carrying energy. What does it do with that "lost" energy?

Same old question for you: How does the reflected wave know whether to carry
any energy back from the load or not since it doesn't know which source is
driving the system at any instant of time?
--
73, Cecil http://www.qsl.net/w5dxp

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6563. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:52:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFA9AA.5010901@ieee.org>
Source record: 115015

Jim Kelley wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>>Transmission lines cannot store RF energy in static form.
>
> I'm unfamiliar with the concept of "static" RF energy. I doubt that such a
> thing actually exists.

That's exactly what I said. Thanks for agreeing with me.

> If no energy is utilized in CA, then no energy is transferred to CA.

:-) :-) :-) On which planet is that?

Let's make it simple enough for you to understand. I run a transmission line from my house to my neighbor's house and back for the purpose of making some experimental measurements. My source and my load are side by side. You are saying there is no energy flowing in the transmission line over at my neighbor's house even though he is measuring it on a wattmeter. Please stop insulting my intelligence.
--
73, Cecil http://www.qsl.net/w5dxp

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6564. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:57:57 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bco9rptfs1@slb4.atl.mindspring.net>
Source record: 115016

Only because so many of the new so - called hams are too sorry to learn cw.

Dan/W4NTI

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns939D9184BD09Epookster@129.250.170.84...
> " Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in news:NVtHa.34287
> $Id7.14411@news2.east.cox.net:
>
> > This is an emergency communications band, and CW is not
> > permitted? Only LSB?? Weird.
> >
> ----------
>
> It's USB Peter, and voice is far more efficient than CW for emergency
> traffic.
>
> Flamebait of course, but true none the less.
>
> --
> Bill, W7TI

6565. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-17 23:59:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFAB49.9040802@ieee.org>
Source record: 115017

Jim Kelley wrote:
> And if there is no point from which that energy may emerge, no
> additional energy would enter the transmission line. Fields generated
> by the source or reflected from a boundary would however also continue
> to cause fields within the transmission line to continue to alternate -
> without necessarily transfering additional energy to the transmission
> line.

Jim, here's a question that you, so far, have refused to answer. Given
the following thought experiment:

100W source----one second long lossless 300 ohm feedline-----51.47 ohm resistor

After steady-state has been reached, there are 300 joules of energy stored
in the transmission line. Those joules cannot stand still. Where are those
300 joules/sec?
--
73, Cecil http://www.qsl.net/w5dxp

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6566. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:08:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFAD94.5358C183@uci.edu>
Source record: 115018

Dave Shrader wrote:
>
> Hmmm ... sounds like some USAF test equipment I built back in the 85-85
> time period.
>
> A critical piece of information is missing. Is the line long or short?

Right. But the question could instead be answered in general form:

v(t) = V*e^-(t/RC), where V is 100 volts, R is 100 ohms, and C is the capacitance of the line. At t=0, v(t) = 100 volts, and decays exponentially vs time. v(t) = .367*V when t/RC = 1.

I think that's what Reg was asking.

73, Jim AC6XG

> Reg Edwards wrote:
> > There is a 50-ohm line which is charged up DC-wise to 100 volts.
> >
> > What is the voltage versus time across a discharging resistor of 100-ohms
> > which is suddenly connected to one end of the line ?
> > ---
> > Reg.
> >
> >

6567. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:17:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFAF97.9080205@ieee.org>
Source record: 114919

Jim Kelley wrote:
>
> W5DXP wrote:
>>Phantom waves containing no energy. Where have I heard that one before?
>
> You said it before. I haven't.

Exactly how can an RF wave possess voltage and current but no energy?

> Energy in the reflected wave is indeed TRANSFERRED to the load
> resistor. I have never claimed that energy cannot be transferred in
> such a manner.

Yes, you have and just don't realize it which is one of your contradictions.
See the two source example in another thread.

> No it doesn't. The energy is not reflected, and therefore does NOT have
> to change direction.

The energy is reflected from the mis-matched load and is traveling rearward.
Otherwise, it could not heat up the circulator load resistor.

> Not true. Constructive interference "happens" despite what you say
> about it. The same two waves cannot simultaneously be involved in both
> destructive AND constructive interference.

The two waves involved in the destructive interference cancel and disappear.
The energy contained in the canceled waves cannot disappear. It can only
go the only other direction available.

> The same two waves cannot
> simultaneously carry the same energy in two different directions. It's
> an absurd notion.

I agree and that is *YOUR* notion, not mine. I have *NEVER* said they were the
same two waves. The first two waves disappear in a wave cancellation process.
****
What is it about "disappear" and "wave cancellation" that you do not understand?
****
The energy in those two waves cannot disappear and that energy joins the
forward wave. In order to do that, it must change direction away from the
direction of destructive interference toward the direction of constructive
interference.

> There is no valid scientific or mathematical support for the notion of a
> reversal in direction due to anything but reflection. Your model
> depends on an undisclosed mechanism for such a reversal.

Nope, it doesn't. The reversal in direction of the energy "lost" in the
two rearward-traveling canceled waves is perfectly documented on the
Melles-Griot web page. You really should try to understand that web page.

> Energy does not flow when its flow is "blocked by wave cancellation".
> How could it?

It flows until it is blocked by something and therefore reverses direction.
It happens all the time, e.g. in every stub. A short, an open, a pure
reactance, and wave cancellation can all cause 100% reflection.
--
73, Cecil http://www.qsl.net/w5dxp

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6568. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:18:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFAFD4.C90F6526@uci.edu>
Source record: 114923

W5DXP wrote:
> Let's make it simple enough for you to understand. I run a transmission line
> from my house to my neighbor's house and back for the purpose of making some
> experimental measurements. My source and my load are side by side. You are
> saying there is no energy flowing in the transmission line over at my neighbor's
> house even though he is measuring it on a wattmeter. Please stop insulting my
> intelligence.

When the shoe fits, Cecil. Please consider the "load" in your Tx to Ca
scenario when no energy is being utilized at the Ca end of the line.
The two scenarios are not at all equivalent.

73, Jim AC6XG

6569. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:20:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFB055.1000200@ieee.org>
Source record: 114921

Jim Kelley wrote:
>
> W5DXP wrote:
>>(Vfor+Vref)/(Ifor+Iref) can be a virtual resistance.
>>Vfor*Ifor = forward power, Vref*Iref = reflected power.
>>Vfor and Ifor are in phase. Vref and I ref are 180 deg out of phase.
>>In both cases, cosine theta equals |1|, ergo real power.
>
> The only thing missing is the proof! :-)

The proof is the wave reflection model. Too bad you have rejected it.

>>You, OTOH, are polluting the
>>wave reflection model with your phantom waves and virtual photons.
>
> Please either give an example, or retract your statement.

Your entire argument is based on waves that carry voltage and current
in phase but carry zero energy. I would call that a phantom wave. If
you try to prove it is there, you cannot measure it because it contains
no energy.
--
73, Cecil http://www.qsl.net/w5dxp

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6570. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:21:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vevc4kf7jjmq94@corp.supernews.com>
Source record: 114920

W5DXP wrote:
> . . .
> After steady-state has been reached, there are 300 joules of energy stored
> in the transmission line. Those joules cannot stand still. Where are those
> 300 joules/sec?

Why can't they stand still? They stand still in a capacitor and in an inductor. And a transmission line can reasonably be viewed as a combination of distributed capacitors and inductors.

Actually, if you'll ever bother to write the equations which give the energy as a function of time and location along the line, you'll undoubtedly be surprised at where those joules are and where they go. I'm sure that a capable engineer such as you could do that in a tiny fraction of the time you've taken seemingly fruitlessly posting on this thread.

Hint: Don't forget the constant term when you integrate P(t) to get energy.

Roy Lewallen, W7EL

6571. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:24:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFB14C.7000907@ieee.org>
Source record: 114922

Richard Clark wrote:
> phantom waves: first used by you on 9 May of this year.

Nope, first used by me a couple of years ago to describe Dr. Best's
waves that exist in reality but carry no energy - just like Jim's of today.

> virtual photons: first used by you on 7 June (twice), 9 June, & 10
> June and not even quoted by Jim.

Sorry, I cannot take credit. Virtual photons were discussed long before
I was born. They are also discussed in _Optics_, by Hecht. Jim's
argument depends upon virtual photons but he apparently doesn't realize
it yet.
--
73, Cecil http://www.qsl.net/w5dxp

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6572. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:34:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFB39C.2010806@ieee.org>
Source record: 114925

Jim Kelley wrote:
> W5DXP wrote:
>>b1=s11*a1+s12*a2 b2=s21*a1+s22*a2
>
> These equations apply when ZL = Z0. In our case, ZL <> Z0.

Jim, please come back when you know what you are talking about.
ZL=Z0 merely sets a2 to zero so s11 can be measured. The s-parameter
equations certainly apply when ZL<>Z0. It wouldn't be useful otherwise.

> If b1 = 0 then s11 must equal zero - a1 can still be a non-zero number.

Nope, s11 is a reflection coefficient which, for our purposes, is
NOT equal to zero. Sorry, you lose.

> You have arrived at a logical contradiction by making invalid
> assumptions.

The s-parameter equations are invalid assumptions? Shirley, you jest.
Your ignorance keeps you from seeing your contradiction which is:

If b1=0, then s11*a1 contains no energy and s12*a2 contains no energy.

I have proven that concept of yours to be incorrect since it requires
all voltages (and currents) to be zero.
--
73, Cecil http://www.qsl.net/w5dxp

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6573. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:36:03 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcoc5j$aq3$1@titan.btinternet.com>
Source record: 114924

"Roy Lewallen" wrote
> For example, a 2 element Yagi typically has 4 - 5 dB gain over a dipole.
>
========================

Good heavens Roy! The difference between an Eznec prediction of a 2-element yagi and the crude 3db 'rule', as YOU call it, is only 1/4 of an S-unit. That's completely undetectable at 7 or 14 MHz even on only a 1-hop transmission path under the very best conditions.

And it can be expected the inevitable discrepancy between an Eznec prediction on 14 MHz and the true gain of a dipole with one director, in the usual unknown back yard environment and ground to be of the order of 1.5 dB anyway.

Let's just say the 3-dB rule about wide-spaced elements is interesting rather than bunk. In the absence of any other information it could be very useful

We should not allow ourselves to become obsessed with the number of significant figures in stated antenna gains.

Any comments about the Law of Diminishing Returns which was the main part of my message? How worth while would it be to add one more director to a 6-element beam if you havn't a computer. Typical Improvement = 10*Log(7/6) = <0.7 dB which hardly anybody would consider.

Reg, G4FGQ

6574. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:39:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFB4B1.50105@ieee.org>
Source record: 114926

Jim Kelley wrote:
> But either way, according to you, there is real power involved since cos
> theta = 1.

V*I*cos(theta) is real power, by definition. Do you have a different
definition of "real power"?
--
73, Cecil http://www.qsl.net/w5dxp

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6575. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:42:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFB574.C2AED5B6@uci.edu>
Source record: 114928

W5DXP wrote:
> Actually, there are two sources and we can switch between them at will.
> Source#1 is a 100 watt signal generator with a circulator+load resistor.
> Source#2 is a 50 watt transmitter with an antenna tuner tuned for a match.
> The two sources are phase-locked and have a sophisticated switching system
> which allows seamless switching.
> The two sources are switched at random. The forward wave and reflected wave
> are identical in both cases. Does the reflected wave carry any energy?
>
> Using source#1, 50 watts of reflected power is dissipated in the circulator
> resistor. That power is carried back from the load by the reflected wave.

> Using source#2, that 50 watts of reflected power from the load is not
> dissipated at the source. According to you, it suddenly switches from carrying
> energy to not carrying energy. What does it do with that "lost" energy?

You really don't understand what I've said to you, do you. Astounding.
Until now, I had thought that you were a pretty smart guy.

> Same old question for you: How does the reflected wave know whether to carry
> any energy back from the load or not since it doesn't know which source is
> driving the system at any instant of time?

The answer is still the same, Cecil. If that wave is cancelled by
another wave travelling in the same direction, no energy would be
transferred to the circulator resistor. If some portion of the wave is
cancelled in that direction, then only an amount of energy corresponding
to the uncancelled portion is transferred to it. If none of the wave is
cancelled, then all of the reflected energy is transferred to it. It
doesn't matter which source you have switched in. Since you don't
appear to have an impedance matching network between the circulator and
load and there's nothing there to cancel the reflection, the energy
transferred from source to to load is equal to the source energy minus
the energy absorbed by the circulator resistor. Note that a real source
wouldn't deliver its maximum power to such a circuit.

73, AC6XG

6576. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:45:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFB619.38D49B2E@uci.edu>
Source record: 114927

W5DXP wrote:
> 100W source----one second long lossless 300 ohm feedline-----51.47 ohm resistor
>
> After steady-state has been reached, there are 300 joules of energy stored
> in the transmission line. Those joules cannot stand still. Where are those
> 300 joules/sec?

Since you say that 300 Joules are stored in the transmission line, then
I assume it's stored in the transmission line. Where do you think
"they" are?

73 de ac6xg

6577. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:50:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFB73B.30704@ieee.org>
Source record: 114929

Jim Kelley wrote:
>
> W5DXP wrote:
>>Let's make it simple enough for you to understand. I run a transmission line
>>from my house to my neighbor's house and back for the purpose of making some
>>experimental measurements. My source and my load are side by side. You are
>>saying there is no energy flowing in the transmission line over at my neighbor's
>>house even though he is measuring it on a wattmeter. Please stop insulting my
>>intelligence.
>
> When the shoe fits, Cecil. Please consider the "load" in your Tx to Ca
> scenario when no energy is being utilized at the Ca end of the line.
> The two scenarios are not at all equivalent.

They are *EXACTLY* equivalent, Jim. Instead of running the feedline over
to my neighbor's house and back, I ran it to California and back. The
only difference is the length of the line.
--
73, Cecil http://www.qsl.net/w5dxp

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6578. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:50:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFB761.4B37EF86@uci.edu>
Source record: 114931

W5DXP wrote:
> Exactly how can an RF wave possess voltage and current but no energy?

Don't know. Never said it. You need to learn and understand what
transfer of energy means.

> > Energy in the reflected wave is indeed TRANSFERRED to the load
> > resistor. I have never claimed that energy cannot be transferred in
> > such a manner.

> Yes, you have and just don't realize it which is one of your contradictions.

The 'realization' error is on your end, OM.

> > Energy does not flow when its flow is "blocked by wave cancellation".
> > How could it?

> It flows until it is blocked by something and therefore reverses direction.

Pure nonsense.

ac6xg

6579. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 00:56:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EEFB8DA.763543BB@uci.edu>
Source record: 114930

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>(Vfor+Vref)/(Ifor+Iref) can be a virtual resistance.
> >>Vfor*Ifor = forward power, Vref*Iref = reflected power.
> >>Vfor and Ifor are in phase. Vref and I ref are 180 deg out of phase.
> >>In both cases, cosine theta equals |1|, ergo real power.
> >
> > The only thing missing is the proof! :-)
>
> The proof is the wave reflection model. Too bad you have rejected it.

Not sure what wave reflection model you're referring to, but you have not proved your assertion, nor have you shown how anything else proves it.

> Your entire argument is based on waves that carry voltage and current
> in phase but carry zero energy.

As far as you know, apparently. My argument, and your description of it bear very little resemblance to one another.

ac6xg

6580. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:02:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <egevevsf4t2ttctoa24h7685bf95ntv7du@4ax.com>
Source record: 114932

On Tue, 17 Jun 2003 19:24:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Sorry, I cannot take credit. Virtual photons were discussed long before
>I was born.
Born last night?

Moral relativism at its best.

6581. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:03:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFBA5E.6010005@ieee.org>
Source record: 114933

Roy Lewallen wrote:
> W5DXP wrote:
>> Those joules cannot stand still.
>
> Why can't they stand still? They stand still in a capacitor and in an
> inductor.

:-) RF stands still in a capacitor and in an inductor?????? I always thought the energy *flowed* back and forth between the cap and coil at the RF frequency. What does an RF voltage look like when it "stands still"? :-)

Nobody has come up with a way to obtain standing waves without a forward traveling wave and a reflected traveling wave (in a typical single source, single feedline, single load system). Traveling waves carry energy. Can you furnish a model of a transmission line with standing waves without any energy in the reflected traveling waves? The wave reflection model says that the power in a reflected wave is Vref(-Iref)(-1) in watts (joules/sec).

> Actually, if you'll ever bother to write the equations which give the
> energy as a function of time and location along the line, you'll
> undoubtedly be surprised at where those joules are and where they go.

Oh, I've done that, Roy, but those equations are *net* energy equations. One cannot track energy *components* using *net* energy equations. I am *NOT* interested in net energy. Net energy is a no-brainer. If all you are interested in is net energy, then feel free to start a (boring) net energy thread. It only gets interesting when the energy superposition components are considered.
--
73, Cecil http://www.qsl.net/w5dxp

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6582. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:06:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <okevevcb9f0kvgp4bd153u63vq40ae1okg@4ax.com>
Source record: 114934

On Wed, 18 Jun 2003 00:36:03 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Any comments about the Law of Diminishing Returns which was the main part of
>my message? How worth while would it be to add one more director to a
>6-element beam if you havn't a computer. Typical Improvement = 10*Log(7/6)
>= <0.7 dB which hardly anybody would consider.

Hi Art,

How about it?

73's
Richard Clark, KB7QHC

6583. Re: ARRL Stealth Antenna Book

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:10:16 UTC
From: Karl <k0tbt@mn.rr.com>
Message-ID: <YZOHa.92223$Xl.1557674@twister.rdc-kc.rr.com>
Source record: 114935

I doubt there is little interest, in light of the many restrictions a lot of hams face. Poorly written? Not in my opinion! Kirk writes a very informative and funny book. His style is very informative and humorous.

Hope you get your hands on a copy soon.

73,
Karl K0TBT

"Myron" <msteir@charter.net> wrote in message
news:veruaumkolu612@corp.supernews.com...
> I'm looking to build an antenna indoors and wonder why the ARRL's Stealth
> Antenna Handbook disappeared from their publication list. Did the book
> "bomb" because it was poorly written or was there just too little
interest?
>
> If it was a decent publication, I'll try hunting around for a used copy.
If
> not, does anyone have any good suggestions for reference material? I've
> done the usual Google search, but came up with just a few leads and LOT'S
of
> dead links.
>
> What about running a loop antenna around the top of my large and very tall
> two car garage? Or will that make my garage door openers do a dance?
>
> Myron, W2EDY
>
>

6584. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:16:20 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <B3PHa.68$%91.18452@news20.bellglobal.com>
Source record: 114941

W5DXP wrote:
> Yes, you have and just don't realize it...
<snip, snip>

"Jim Kelley"
> Pure nonsense.

You two need to strive to produce the most clear and concise description of exactly what it is that you're disagreeing on. That's the one thing that you should be able to agree on. If you can't achieve this, then....I dunno...

6585. Re: Okay, I'll try another program: Yagi maximised for gain.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:17:19 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bcoeet$knq7m$1@ID-150848.news.dfncis.de>
Source record: 114936

Phil wrote:
> For relatively short Yagis, where forward gain is the only criterion,
> you can't go wrong with the old NBS designs. Some of the older ARRL
> Handbooks had the charts.I've built NBS 6 el 440, 6 el 2 meter and 5
> el 6 meter antennas and they PLAY! The secret is don't make any
> changes to the design. Build them by the book. For long Yagis, try
> the DL6WU or K1FO designs. There are MS-DOS basic programs to help
> design them. You will have to dig up a copy of GWBASIC, though. It'll
> run on an XP machine in command mode.
>
> Phil, KB2HQ

http://www.latorilla.com/vhf/b-mult-1.htm

http://www.latorilla.com/vhf/b-c-list.htm

http://www.uksmg.org/yagi.htm

http://www.sdxf.org/swedx/Antenna%20Tutorial.pdf

6586. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:18:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFBDCA.8000409@ieee.org>
Source record: 114937

Jim Kelley wrote:
>
> W5DXP wrote:
>>Actually, there are two sources and we can switch between them at will.
>>Source#1 is a 100 watt signal generator with a circulator+load resistor.
>>Source#2 is a 50 watt transmitter with an antenna tuner tuned for a match.
>>The two sources are phase-locked and have a sophisticated switching system
>>which allows seamless switching.
>>The two sources are switched at random. The forward wave and reflected wave
>>are identical in both cases. Does the reflected wave carry any energy?
>>
>>Using source#1, 50 watts of reflected power is dissipated in the circulator
>>resistor. That power is carried back from the load by the reflected wave.
>
>>Using source#2, that 50 watts of reflected power from the load is not
>>dissipated at the source. According to you, it suddenly switches from carrying
>>energy to not carrying energy. What does it do with that "lost" energy?
>
>>Same old question for you: How does the reflected wave know whether to carry
>>any energy back from the load or not since it doesn't know which source is
>>driving the system at any instant of time?
>
> The answer is still the same, Cecil.

You haven't answered it yet, Jim. How does the reflected wave know whether to
possess energy or not if it doesn't know which of the above two sources is switched in?

The directional wattmeter reads exactly the same in both cases.
Hint: The reflected wave contains the same amount of energy in both cases.
Using source#1, the reflected wave delivers its energy to the circulator resistor.
Using source#2, the reflected wave energy is re-reflected by the tuner match. Since
the reflected wave is always carrying energy, it doesn't have to know which source
is in use. This ain't rocket science.

Your assertion that the reflected wave energy only exists when source#1 is being
used is a contradiction because that energy is reflected from the load and would
have to know, a priori, which source was going to be in use when it arrives back
at the source after the feedline delay.
--
73, Cecil http://www.qsl.net/w5dxp

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6587. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:21:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFBE96.7090309@ieee.org>
Source record: 114939

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>100W source----one second long lossless 300 ohm feedline-----51.47 ohm resistor
>>
>>After steady-state has been reached, there are 300 joules of energy stored
>>in the transmission line. Those joules cannot stand still. Where are those
>>300 joules/sec?
>
> Since you say that 300 Joules are stored in the transmission line, then
> I assume it's stored in the transmission line. Where do you think
> "they" are?

It ain't rocket science, Jim. There's 200 joules in the forward wave and
100 joules in the reflected wave. Since there are no impedance discontinuities
except at the ends of the feedline, there are no reflections up and down the
feedline except at the ends. A directional wattmeter anywhere along the line
will verify the 200 watts of forward power and the 100 watts of reflected power.
--
73, Cecil http://www.qsl.net/w5dxp

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6588. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:21:46 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306171721.44da7a98@posting.google.com>
Source record: 114938

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bcnqs9$5om$1@hercules.btinternet.com>...
> "Art Unwin KB9MZ" wrote -
> > Reg in most of the antenna books over here
> > there is a graph that shows diminishing returns (gain)
> > per increase in boom length. Presumably this is
> > because of added phase angles of elements other than
> > the driven element (Right or wrong?.)
>snip more intelligent discussion on the news group.
> > Art
> ============================
>
> Just from lookung at an antenna the number of elements increases in
> proportion to boom length.
> Diminishing returns are due an increase in the number of elements rather
> than boom length.

Sorry Reg,don't really understand the specifics of what you say since
gainfor each group of elements have a specific max gain at a
particular boom length with less gain at either side of that point.
Did put 13 elements once on a wavelength boom and it apeared that no
more gaig was to be had!
>
> Suppose, ideally, all elements each radiate the same power.

And in the same directionas in zero phase.!!!
>
> Two elements will radiate a field 3 dB stronger than one.
> Three elements will radiate a field 1.76 dB stronger than two.
> Four elements will radiate a field 1.25 dB stronger than three.
> ----
> 21 elements will radiate a field 0.21 dB stronger than 20 elements. The
> return per element is clearly diminishing.

Reg these db figures are interesting, where do they come from? I
assume
(cos phi) equals one for each element otherwise we are going to get a
polygon plus vector shape to measure the resultant gain vector.

>
> And in fact, to increase field strength by 3 dB it is necessary to at least
> double the number of elements.
>
> The same sort of figures apply to broadside arrays and indeed all sorts of
> arays of N elements provided an antenna is always adjusted for maximum

> directivity in the direction of where field strength is measured.
>
> The rate of return diminishes a little faster than above because overall
> efficiency of an antenna decreases with increasing N.
>
> More than the foregoing I don't think there's anything to be gained by
> trying to wrap one's skull around phase angles. Let Eznec or something
> worry about that.
> ---
> Reg.

Regards
Art

6589. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:23:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFBF10.7060102@ieee.org>
Source record: 114940

Jim Kelley wrote:
>>It (energy) flows until it is blocked by something and therefore reverses direction.
>
> Pure nonsense.

You don't believe in reflected waves from the end of an open feedline?
--
73, Cecil http://www.qsl.net/w5dxp

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6590. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:34:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFC1B7.9020201@ieee.org>
Source record: 114942

Jim Kelley wrote:
>
> W5DXP wrote:
>>Your entire argument is based on waves that carry voltage and current
>>in phase but carry zero energy.
>
> As far as you know, apparently. My argument, and your description of it
> bear very little resemblance to one another.

You haven't presented an argument, Jim. All you have presented is a bunch
of unproved premises. You don't even recognize your logical contradictions,
e.g.

If b1=0, then s11*a1 contains zero energy and s12*a2 contains zero energy.

I have proven your assertion is only true when a1=0 and a2=0, a completely
useless trivial case unrelated to the average impedance discontinuity in
a transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

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6591. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:49:28 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306171749.3a806939@posting.google.com>
Source record: 114943

" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message
news:<NVtHa.34287$Id7.14411@news2.east.cox.net>...
> This is an emergency communications band, and CW is not
> permitted? Only LSB?? Weird.

The freqs are shared with other users, specifically various federal
gummint agency operators who can't copy CW and need to be able to
identify the hams on those freqs. There also might be times when those
ops and hams work together in emergency situations so everybody has to
be able to copy everybody. It's basically a case of hams being
required to meet the same standards as the rest of the users on those
freqs. It's a first in ham radio but it'll work out OK.

> > Scott N0EDV

w3rv

6592. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 01:49:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EEFC537.6080508@ieee.org>
Source record: 114944

Brian Kelly wrote:
> The freqs are shared with other users, specifically various federal
> gummint agency operators who can't copy CW and need to be able to
> identify the hams on those freqs.

My, how times have changed. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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6593. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 02:06:34 UTC
From: richardharrison@webtv.net
Message-ID: <12105-3EEFC92A-218@storefull-2313.public.lawson.webtv.net>
Source record: 114945

Roy, W7EL wrote:
"Why can`t they stand still?
They stand still in a capacitor and in an inductor."

Static magnetic and electric fields store static magnetic and electric energy. An EM wave consists of varying magnetic and electric energies. No variations, no waves.

A standing wave is not really a stationary wave. It is an interference pattern made by two waves traveling in opposite directions.

A wave rises and falls or it advances and retreats. It is not still.

Cecil wrote:
"Those joules (in the wave) cannot stand still. Where are those 300 joules/ sec?"

A joule is a work unit. It is one newton of force applied through a distance of one meter. It is also defined as the energy needed to transport one coulomb of charge between points with a difference of potential of one volt.

A watt is a rate of doing work equal to one joule per second.

So, when Cecil says:
"Where are those 300 joules per second?" They can`t stand still. They are a rate of doing work, and this is kinetic energy, or energy a system has by virtue of its motion.

Best regards, Richard Harrison, KB5WZI

6594. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 03:37:20 UTC
From: Mike <km6ab@pacbell.net>
Message-ID: <3EEFDE6F.5020400@pacbell.net>
Source record: 114946

It would be the text of a "spoken antenna".

WB3FUP (Mike Hall) wrote:
> What is a "printed antenna"?
>

6595. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 04:00:32 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcoo50$l2t$0@208.206.142.96>
Source record: 114947

Bill Turner wrote:

> " Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in news:NVtHa.34287
> $Id7.14411@news2.east.cox.net:
>
> > This is an emergency communications band, and CW is not
> > permitted? Only LSB?? Weird.
> >
> ----------
>
> It's USB Peter, and voice is far more efficient than CW for emergency
> traffic.
>
> Flamebait of course, but true none the less.

Bill you surely know that generalizations in general are generally
wrong.:-)
As always, it depends entirely on the situation. For real time operations,
where no hard copy is needed and verbal exchange is all that is required,
voice is always best, assuming of course that radio conditions agree. But
for passing message traffic, voice is limited by transcription speed as well
as quicker deterioration of copy quality as atmospherics and propagation
fall out of useable range. A good CW op can be going strong still, under
conditions where voice has deteriorated below usefulness..
To me the disappointing part of the new 60meter band was the lack of any
authority to use digital data modes, even in emergencies.
And of course CW as the base line 'last resort' mode.
What we got was the vary barest minimum necessary to conduct *any*
emergency operations.

Dick

6596. Bill Owens RV Antenna (Circa - 70s)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 04:14:51 UTC
From: Oh Yeah! <maps75@plateautel.net>
Message-ID: <vevq30i7rtntba@corp.supernews.com>
Source record: 114948

Gentlemen:

This is a dedicated 11 mtr SSB op speaking as if
you didn't already
summarize by the subject line! Yes, I know I need
to get a ticket so I
can bolster the amateur ranks by the sum of one.
Here's the question:
During the ' 70s a gentleman named William G.
Owens of Jackson,
Michigan started building the Bill Owens RV
antenna. It was a tubular
aluminum 1/2 wave dipole supported on four nylon
plastic legs 8 3/4"
long and driven at the center point by a square Z
plate and a gamma
match. I owned one of these fine 11 mtr portable
antennas and was
fool enough to sell it, as I had no RV-P/U camper
shell vehicles in my
stable of motor vehicles. So I thought (I know
that some of you are
thinking that a lowly CBer has no brain with which
to think with), that
I now longer needed this antenna. But, now that I
own a full sized
Chevrolet with a large alternator and a decent
radio, I would like to
find someone that knows of Bill Owens or remembers
his roots in
CB, long enough to do some digging in his antenna
manual resource
files and either sell me a photo copy of the
assembly instructions or
again point out the fact that I'm beating a dead
(or is it) horse by staying
on 11 mtrs. Thank you in advance, for the none
flamers; for any help on
this subject. Al - AE360 - Artesia,NM 73s and
good DXing to all,
including the ones that scoff at CB ops, as we
have our thing also!

6597. Re: Keep The SEGWAY Off Our Sidewalks & Streets! ------ #randum

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 04:27:07 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306172027.3c4db306@posting.google.com>
Source record: 114949
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

<olllllllo@sbcglobal.net> wrote in message
>
> So it only goes to follow that my F-350
> crew will make a mess of your F-250.
>
> Let the games begin. :-)

I'm unlikely to dart in your path though. But dunno...It might be closer than you think if you are driving one of these new fangled jobs with thin metal and stamped parts. My f-250 is a 68. Thick metal and forged parts. And it's got a heavy utility bed and shell on it. Just the custom welded double deep "living room couch" rear bumper, which once had a crane mounted on it, will resist the aggressions of most vehicles if they sneak up behind me. Probably weighs about the same as a geo metro with a full tank of gas. But needless to say, I doubt I will want to play. My truck has no dents in it. I'd like to keep it that way. :/ MK

6598. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 05:16:43 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939DE2A0FA895pookster@129.250.170.85>
Source record: 114950

"Dick Carroll;" <dixie@townsqr.com> wrote in
news:bcoo50$l2t$0@208.206.142.96:

> Bill you surely know that generalizations in general are generally
> wrong.:-)
> As always, it depends entirely on the situation. For real time
> operations, where no hard copy is needed and verbal exchange is all
> that is required, voice is always best, assuming of course that radio
> conditions agree. But for passing message traffic, voice is limited by
> transcription speed as well as quicker deterioration of copy quality
> as atmospherics and propagation fall out of useable range. A good CW
> op can be going strong still, under conditions where voice has
> deteriorated below usefulness..
>

The phone/cw emergency debate has gone on for decades and won't be settled
here. Or anywhere else for that matter.

Nearly all emergency communications using HF are relatively short range - a
few hundred to maybe a thousand miles - so extreme DXing isn't necessary.
Signals are normally strong even with relatively low power, and speed is
essential. 60 meters is an excellent choice for emergency voice
communications just for the above reasons.

--
Bill, W7TI

6599. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 05:20:52 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939DE35535953pookster@129.250.170.85>
Source record: 114951

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
news:bco9rptfs1@slb4.atl.mindspring.net:

> Only because so many of the new so - called hams are too sorry to
> learn cw.
>
> Dan/W4NTI
>

If it had perceived value to the new hams, they would learn it.

--
Bill, W7TI

6600. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 06:22:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf0184m3g9388f@corp.supernews.com>
Source record: 114952

Richard Harrison wrote:
> . . .
> Orr notes:
> "Additional parasitic directors increase gain of array. Doubling number
> of directors boosts gain figure approximately 3 db." This makes sense.
> Think of the receiving case. Doubling the number of rods in the air
> could be expected to capture twice as much energy. That is 3 db.
> . . .

I'm afraid this is one of those cases of getting the right answer using the wrong methods. The same reasoning might lead one to believe that a loop would have much more gain than a dipole, since it has more wire in the air, or that doubling the wire diameter would result in the capture of twice as much energy. Since these are both false, the underlying assumption should be viewed with great skepticism.

Roy Lewallen, W7EL

6601. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 06:42:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf02e4p6q2n027@corp.supernews.com>
Source record: 114953

If we simply assume that doubling the number of elements results in *zero* db difference, we're only off by half a Reginald(*). And it's even simpler and easier to understand than the 3 dB rule. Anyone disagreeing with this is simply a nit-picker. And probably an Old Wife, too. Don't listen to those "gurus"! Throw away those beams! It's all a waste of time!

The "diminishing returns" is the result of the logarithmic nature of the decibel, and our ears. Each proportional increase in the number of elements results in roughly the same number of dB increase, just as increasing power by the same proportion results in the same number of dB, regardless of the power level. So adding one element to a 10 element array makes only a small dB improvement, just like increasing power from 10 watts to 11 does. Whether it requires 1 element or 20, it's probably not worthwhile from a gain standpoint to increase the number of elements in an array by less than a factor of 1-1/2 or so.

(*) Since many or most rigs' S-meters have a greatly varying number of dB per S-Unit (and nearly always less than 6), I propose this constant and non-ambiguous unit of measure, one Reginald = 6 dB, for those people who require a unit larger than a decibel yet smaller than a bel. This is not coincidentally the number of dB per S-unit on Reg's calibrated and properly adjusted receiver. Use of this unit will prevent anyone from confusing quoted signal levels with what they actually see on their receiver's meter. Of course, anyone who actually has an S-meter with 6 dB units (very rare) can simply relabel the divisions "Reginalds".

Roy Lewallen, W7EL

Reg Edwards wrote:
> "Roy Lewallen" wrote
>
>>For example, a 2 element Yagi typically has 4 - 5 dB gain over a dipole.
>>
>
> ========================
>
> Good heavens Roy! The difference between an Eznec prediction of a 2-element
> yagi and the crude 3db 'rule', as YOU call it, is only 1/4 of an S-unit.
> That's completely undetectable at 7 or 14 MHz even on only a 1-hop
> transmission path under the very best conditions.
>
> And it can be expected the inevitable discrepancy between an Eznec
> prediction on 14 MHz and the true gain of a dipole with one director, in the
> usual unknown back yard environment and ground to be of the order of 1.5 dB

> anyway.
>
> Let's just say the 3-dB rule about wide-spaced elements is interesting
> rather than bunk. In the absence of any other information it could be very
> useful
>
> We should not allow ourselves to become obsessed with the number of
> significant figures in stated antenna gains.
>
> Any comments about the Law of Diminishing Returns which was the main part of
> my message? How worth while would it be to add one more director to a
> 6-element beam if you havn't a computer. Typical Improvement = 10*Log(7/6)
> = <0.7 dB which hardly anybody would consider.
> ---
> Reg, G4FGQ
>
>
>
>

6602. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 11:38:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcpj0imh1@sparta.btinternet.com>
Source record: 114954

"Roy Lewallen" wrote -
> Richard Harrison wrote:
> > . . .
> > Orr notes:
> > "Additional parasitic directors increase gain of array. Doubling number
> > of directors boosts gain figure approximately 3 db." This makes sense.
> > Think of the receiving case. Doubling the number of rods in the air
> > could be expected to capture twice as much energy. That is 3 db.
> > . . .
>
> I'm afraid this is one of those cases of getting the right answer using
> the wrong methods. The same reasoning might lead one to believe that a
> loop would have much more gain than a dipole, since it has more wire in
> the air, or that doubling the wire diameter would result in the capture
> of twice as much energy. Since these are both false, the underlying
> assumption should be viewed with great skepticism.
>
> Roy Lewallen, W7EL

==========

I've never heard of Orr but it seems he and I agree.

There are two radiating elements and one distant receiving antenna. It is a mistake to think in terms of doubling volts/meter because the relative phase of the two received signals is unknown. There is no alternative but to assume a random, uniformly distributed, phase distribution where the combined received signal volts can be anywhere between zero and twice that of either. So we are concerned with finding a statistical mean value. The mathematical procedure is identical to summing the two powers not the volts. 3 dB not 6 ! Which is intuitively logical.

Reg, G4FGQ

6603. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 12:00:27 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <rvYHa.4503$5d.543449@news20.bellglobal.com>
Source record: 114955

"Reg Edwards"
> ...finding a statistical mean value...

Averaged over the entire sphere, the improvement of an array should
obviously be exactly 0dB gain over a single element (neglecting any losses
in the array's extra hardware).

6604. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 13:27:28 UTC
From: richardharrison@webtv.net
Message-ID: <9536-3EF068C0-10@storefull-2316.public.lawson.webtv.net>
Source record: 114956

Roy, W7EL wrote:
"I`m afraid this is one of those cases of getting the right answer using the wrong methods." (Doubling the number of rods in the air could be expected to capture twice as much energy. That is 3 db.)

There is no guarantee doubling wire in the air will produce 3 db gain. The old maxim: "It ain`t what you do, but the way that you do it!., applies. Example: Erect crossed dipoles to form a near omni antenna, and lose 3 db with respect to a single dipole. Loss of the single dipole`s directive gain is the culprit. Power is divided between two dipoles at right angles to each other and there is no reinforcement between them.

The assumption is that when seeking gain, rods being doubled in number are combined in such a way as to maximize gain.

Then, Roy comes up with this lalapalooza:
"The same reasoning might lead one to believe that a loop would have much more gain than a dipole since it has more wire in the air, or that doubling the wire diameter would result in the capture of twice as much energy."

That is ridiculous speculation, not reasoning.

Two separate, identical, and isolated wires immersed in the same r-f field, and at the same distances and attitudes with respect to the field and the environment, have equal powers induced by the field, given equal terminations. Optimum combination of these powers can result in 3 db gain. The same 3 db gain applies to transmitting or receiving.

Roy for his own purposes responded with false implications, as a diversion, I suppose.

Best regards, Richard Harrison, KB5WZI

6605. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 13:48:37 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bcpqk6$kthmf$1@ID-175933.news.dfncis.de>
Source record: 114957

The gain of an FM broadcast antenna in the horizontal plane is calculated by multiplying its azimuth gain by its elevation gain, or adding those gains if expressed in dBi or dBd.

Peak azimuth gain is the reciprocal of the square of the pattern RMS (pattern RMS is the radius value of a circle having the same area as the azimuth pattern).

Amateurs may use a different approach?

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote
> There are two radiating elements and one distant receiving antenna. It is
a
> mistake to think in terms of doubling volts/meter because the relative
phase
> of the two received signals is unknown. There is no alternative but to
> assume a random, uniformly distributed, phase distribution where the
> combined received signal volts can be anywhere between zero and twice that
> of either. So we are concerned with finding a statistical mean value. The
> mathematical procedure is identical to summing the two powers not the
volts.
> 3 dB not 6 ! Which is intuitively logical.
> ---
> Reg, G4FGQ

6606. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 13:51:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcpqptblf1@sparta.btinternet.com>
Source record: 114958

"Richard Harrison" wrote
> "There is a 50-ohm line which is charged up DC-wise to 100 volts. What
> is the voltage versus time across a discharging resistor of 100-ohms
> which is suddenly connected to one end of the line?'
>
> Current starts from zero to rise to a value of E/R, but instantly it
> can`t. Inductance induces a counter-emf opposing instant current flow.
> Current increases exponentially. In a lumped inductance, the time
> constant is L/R. That`s the number of seconds it takes the current to
> reach 63% of its final Ohm`s law value.
>
> The transmission line has distributed inductance and a charge on the
> distributed line capacitance is the source for energy to the discharging
> resistor. This is a dwindling resource.
>
> Voltage across the discharging resistor exactly mimics the current
> through the resistor.
>
> Because of the distributed capacitance and inductance of the
> transmission line, there is a delay in charge arrival at the discharging
> resistance from more distant sections of the transmission line. This
> delay is proportional to the square root of LC.
>
> In Reg`s example, the terminating (discharging) resistance is greater
> than the line Zo. So, several incident and reflected waves will occur
> before the line is completely discharged. It takes more time to
> discharge the line than a 50-ohm resistor would require to discharge the
> line, due to the added discharge cycles caused by the mismatch.
>
> In a matched line charged to a d-c voltage, half the voltage is
> instantly dropped across the source (the transmission line) and half is
> dropped across the discharging resistor when it is instantly connected.
> In the case of 100-ohms across a 50-ohm line, the fraction is 100/150 or
> 2/3 the 100 volts reg specified. That`s the initial voltage the decay
> cycles start from.
>
> The voltage versus time across a discharging resistor, is a stairstep
> down from the initial pulse.
>
> Best regards, Richard Harrison, KB5WZI

==========

Richard, you are correct.

The down-going waveform is a staircase, the height of each step being 2/3rds of the height of the step which precedes it. The duration of each step is twice the propagation time T of the transmission line. The amplitude of each step therefore decays exponentially with time.

When the discharging resistor is equal to line Zo, the voltage across it just a nice single 50-volts square pulse of duration 2*T.

When the discharging resistor is smaller than line Zo the height of the stair steps oscillates about an exponentially decaying mean value. A sort of damped squarewave oscillation of period 2*T.

Isn't this a far more simple and better way of considering what happens to energy stored in transmission lines while it is being discharged? Think in terms of time, not frequency, like Heaviside does.

Reg, G4FGQ

6607. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 14:00:31 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306180600.3500f3bb@posting.google.com>
Source record: 114959

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EEFC537.6080508@ieee.org>...
> Brian Kelly wrote:
> > The freqs are shared with other users, specifically various federal
> > gummint agency operators who can't copy CW and need to be able to
> > identify the hams on those freqs.
>
> My, how times have changed. :-)

Buncha appliance operator weenies . . dumbing down is EVERYWHERE!

6608. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 14:14:37 UTC
From: richardharrison@webtv.net
Message-ID: <26899-3EF073CD-3@storefull-2315.public.lawson.webtv.net>
Source record: 114960

J. Harvey wrote:
"Averaged over the entire sphere, the improvement of an array should obviously be exactly 0 dB gain over a single element (neglecting any losses in the array`s extra hardware)."

The subject is directive gain of antennas. J. Harvey is correct in sayingt average power through the same spherical enclosure is the same regardless of distribution or concentration in any particular area. Averaging removes distinctions.

That is completely irrelevant to Reg`s point or to mine.

Terman says on page 870 of his 1955 edition:
"The extent of such concentration relative to that of some standard antenna, termed the directive gain, is defined quantitatively as the ratio of power that must be radiated by the comparison antenna to develop a particular field strength in the direction of maximum radiation to the power that must be radiated by the directional antenna system to obtain the same field strength in the same direction."

Terman`s definition gives the simple power gain ratio, in case you read it too rapidly. It is easily converted to db using slide-riule, tables, or logarithms.

Best regards, Richard Harrison, KB5WZI

6609. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 14:21:21 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939E4AD3D9EDBpookster@129.250.170.96>
Source record: 114962

kelly@dvol.com (Brian Kelly) wrote in
news:d22b54c3.0306180600.3500f3bb@posting.google.com:

> Buncha appliance operator weenies . . dumbing down is EVERYWHERE!
>

Abandoning an outdated mode and going on to new things is not dumbing down.
Hanging on to the old obsolete stuff, now *that's* dumb.

You should be pressuring the FCC to legalize spark. That's *real* radio!
:-)

--
Bill, W7TI

6610. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 14:49:21 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306180649.54db03fc@posting.google.com>
Source record: 114961

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EEF1F24.7050606@ieee.org>...
> Richard Harrison wrote:
> > The "Cat in the Hat" wrote:
snip
> >
> > Energy emerging from the line after flow into the line stops, obviously
> > is stored energy..
>
> One important point about RF energy storage is that it is stored
> dynamically, not statically. That means that stored RF energy is
> always moving thus meeting the IEEE definition of power.

Cecil
re 'energy storage' statement above. It would appear that
energy storage is being shown as different as to what I
understand by kinetic energy versus potential energy.
Could you take a moment to explain the essential differences
in a simple way so that even I can understand?
TIA
Best regards
Art

6611. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:09:48 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcpv9hneb1@slb9.atl.mindspring.net>
Source record: 114963

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns939E4AD3D9EDBpookster@129.250.170.96...
> kelly@dvol.com (Brian Kelly) wrote in
> news:d22b54c3.0306180600.3500f3bb@posting.google.com:
>
> > Buncha appliance operator weenies . . dumbing down is EVERYWHERE!
> >
>
> ----------
>
> Abandoning an outdated mode and going on to new things is not dumbing
down.
> Hanging on to the old obsolete stuff, now *that's* dumb.
>
> You should be pressuring the FCC to legalize spark. That's *real* radio!
> :-)
>
> --
> Bill, W7TI

I agree....KING SPARK FOREVER. Now thats a MANS radio. And bug zapper,
and ozone maker, etc.

Dan/W4NTI

6612. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:11:53 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcpvdeoro1@slb6.atl.mindspring.net>
Source record: 114964

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bcoo50$l2t$0@208.206.142.96...
>
>
> Bill Turner wrote:
>
> > " Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in news:NVtHa.34287
> > $Id7.14411@news2.east.cox.net:
> >
> > > This is an emergency communications band, and CW is not
> > > permitted? Only LSB?? Weird.
> > >
> > > ----------
> >
> > It's USB Peter, and voice is far more efficient than CW for emergency
> > traffic.
> >
> > Flamebait of course, but true none the less.
>
> Bill you surely know that generalizations in general are generally
> wrong.:-)
> As always, it depends entirely on the situation. For real time operations,
> where no hard copy is needed and verbal exchange is all that is required,
> voice is always best, assuming of course that radio conditions agree. But
> for passing message traffic, voice is limited by transcription speed as
well
> as quicker deterioration of copy quality as atmospherics and propagation
> fall out of useable range. A good CW op can be going strong still, under
> conditions where voice has deteriorated below usefulness..
> To me the disappointing part of the new 60meter band was the lack of any
> authority to use digital data modes, even in emergencies.
> And of course CW as the base line 'last resort' mode.
> What we got was the vary barest minimum necessary to conduct *any*
> emergency operations.
>
> Dick
>
>
Go read the latest QST editorial page. Perhaps that will tighten up the
reality of this situation.

Dan/W4NTI

6613. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:16:07 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcpvledeu1@slb4.atl.mindspring.net>
Source record: 114965

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns939DE35535953pookster@129.250.170.85...
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
> news:bco9rptfs1@slb4.atl.mindspring.net:
>
> > Only because so many of the new so - called hams are too sorry to
> > learn cw.
> >
> > Dan/W4NTI
> >
> ----------
>
> If it had perceived value to the new hams, they would learn it.
>
> --
> Bill, W7TI

Not true at all Bill and you know it. The basic problem with all the anti-cw whinning is there too dang lazy to actually put out the effort. And thats the facts.

Dan/W4NTI

6614. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:38:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF08774.2010604@ieee.org>
Source record: 114967

Dan/W4NTI wrote:
> The basic problem with all the
> anti-cw whinning is there too dang lazy to actually put out the effort.

Hams like you and I have failed to convince many new hams that
CW is worth the effort. I'll bet they are not too lazy for sex. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6615. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:40:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tp11fvsn5dmmc47mb5rd9cogm2bn6d72l7@4ax.com>
Source record: 114966

On Wed, 18 Jun 2003 10:09:48 -0500, "Dan/W4NTI"
<w4nti@NOSPAMmindspring.com> wrote:

>
>"Bill Turner" <noway@nohow.com> wrote in message
>news:Xns939E4AD3D9EDBpookster@129.250.170.96...
>> kelly@dvol.com (Brian Kelly) wrote in
>> news:d22b54c3.0306180600.3500f3bb@posting.google.com:
>>
>> > Buncha appliance operator weenies . . dumbing down is EVERYWHERE!
>> >
>>
>> ____
>>
>> Abandoning an outdated mode and going on to new things is not dumbing
>down.
>> Hanging on to the old obsolete stuff, now *that's* dumb.
>>
>> You should be pressuring the FCC to legalize spark. That's *real* radio!
>> :-)
>>
>> --
>> Bill, W7TI
>
>I agree....KING SPARK FOREVER. Now thats a MANS radio. And bug zapper,
>and ozone maker, etc.
>
>Dan/W4NTI
>

Hi Dan,

You forgot the KING SPARK source and antenna, the electric fence.

How many here want one around every neighbor's yard?

Voting closes in 5 minutes.

73's
Richard Clark, KB7QHC

6616. Re: Bill Owens RV Antenna (Circa - 70s)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:44:17 UTC
From: derswede@aol.comspam.com
Message-ID: <20030618114417.06973.00001223@mb-m17.aol.com>
Source record: 114968

<< own a full sized
Chevrolet with a large alternator >>

Why would a large alternator make any difference? Legal 4W AM and 12W SSB CB radios can be run off of a 12V 7aH GelCel.

A

6617. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:45:46 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF088CB.4020502@attbi.com>
Source record: 114869

AHHA!!!

CW = SEX

New Math obviously!!

Deacon Dave, W1MCE
+ + +

W5DXP wrote:
> Dan/W4NTI wrote:
>
>> The basic problem with all the
>> anti-cw whinning is there too dang lazy to actually put out the effort.
>
>
> Hams like you and I have failed to convince many new hams that
> CW is worth the effort. I'll bet they are not too lazy for sex. :-)

6618. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:48:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF089E3.3020109@ieee.org>
Source record: 114870

Art Unwin KB9MZ wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>One important point about RF energy storage is that it is stored
>>dynamically, not statically. That means that stored RF energy is
>>always moving thus meeting the IEEE definition of power.
>
> re 'energy storage' statement above. It would appear that
> energy storage is being shown as different as to what I
> understand by kinetic energy versus potential energy.
> Could you take a moment to explain the essential differences
> in a simple way so that even I can understand?

The terms for such are apparently changing with time. As I
remember it, 50 years ago "kinetic" and "potential" were used
with physical objects while "dynamic" and "static" were used
for electrical quantities. In general, "dynamic" applies to
things that are moving and "static" applies to things that
are standing still. Not very scientific, but that's what I
meant by those words. My point was that RF energy in a transmission
line must always be in motion. In a typical ham system, the
forward traveling wave is moving toward the load and the reflected
traveling wave is moving toward the source. Traveling waves
possess a certain amount of energy. That's the only way I know
of to obtain standing waves in a typical ham system.
--
73, Cecil http://www.qsl.net/w5dxp

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6619. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 15:50:30 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF08A46.3090200@ieee.org>
Source record: 114871

Dave Shrader wrote:
> AHHA!!!
>
> CW = SEX

Dan probably thinks that CW is better than sex. ;-)
--
73, Cecil http://www.qsl.net/w5dxp

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6620. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 16:11:02 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vf13otdsllcsc3@corp.supernews.com>
Source record: 114872

Tom
I've never really understood shielded loops and still don't but getting
closer. I've not made one yet but will. If the outer braid of the loop is
coax and is connect to a coax feedline it ends up being grounded at the
receiver. How is the "outer loop" decoupled from the rest of the feedline
and does the outer loop couple to the center conductor at the gap?
tnx
hank wd5jfr
"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0306161409.add05ff@posting.google.com...
> "loopfan" <brian@greertech.com> wrote in message
news:<__fHa.50498$Io.4755328@newsread2.prod.itd.earthlink.net>...
> ...
> > >What effect does the gap's
> > > location have, ie not centered but offset?
> >
> > You definitely want it centered. The key to the loop's undistorted
> > directionality is electrical balance. Therefore the more accurate you
make
> > the cuts, the better the loop performs. The flatter the plane you keep
it
> > in the better it works.
>
> Further to that (and in absolute agreement that you want the gap
> centered), the idea really is to make a very symmetric antenna. It's
> the outside of the coax outer conductor that is the actual antenna,
> and the gap is the feedpoint. The center conductor couples to the
> feedpoint voltage across the gap, and the coax conducts that away.
> You can make things very broadband if you put a broadband
> differential-input preamp right at the gap, but if the loop is small
> compared with a wavelength, the short piece of line going to the
> preamp shouldn't be an issue. (About broadband: the best
> local-voltage-noise-rejection is obtained when the loop diameter is
> kept small.)
>
> If the goal is a null that can be put on one incoming station (as
> opposed to [voltage] noise rejection), it can be useful to add
> together the loop response and the response from a short vertical
> whip, which can yield a cardiod pattern with a null in only one
> direction if the proportions are correct. That's commonly done with
> RDF loops to get rid of the ambiguity of the two nulls of a dipole
> pattern.
>
> Note that with a preamp right at the gap, there's no longer a need for

> the coax, except to lead away from the preamp, and if the preamp (and
> loop feedpoint) is put at the bottom instead of the top, the loop
> itself doesn't need to be coax. But symmetry in the vicinity of the
> antenna is critical. See Johnson & Jasik and/or Ronold W. P. King
> (and probably some others) for more detailed understanding.
>
> Cheers,
> Tom

6621. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 16:27:30 UTC
From: richardharrison@webtv.net
Message-ID: <9535-3EF092F2-47@storefull-2316.public.lawson.webtv.net>
Source record: 114874

Art, KB9MZ wrote:
"It would appear that energy storage is being shown as different as to what I understand by kinetic energy versus potential energy."

Art addressed Cecil, but I`ll offer an answer. Take it or leave it.

Potential energy is defined as due to the position of one body with respect to another. It is static.

Kinetic energy is defined as energy which a system posesses by virtue of its motion.

Waves are in motion. Wave energy is kinetic by definition. Radio waves sweeping a conductor induce energy. No motion, no induction.

Another example: The earth is about 93 million miles from the sun. Light travels at about 186 thousand miles per second. Do the math. The sun could burn out and about 8.3 minutes later we would know. It would become very dark on earth. Obviously, sunlight, an EM wave, is moving and thus it`s kinetic. Light is not frozen in time. All EM waves move with several actions perpendicular to each other. See Terman`s page 1.

Best regards, Richard Harrison, KB5WZI

6622. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 16:41:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <neGcnVIKRLepC22jXTWJig@comcast.com>
Source record: 114873

Richard,

Referring to the Orr data below, what does he assume about the boom length as he adds more elements? Certainly not constant boom length, so he might imply constant spacing. I think at best he has a gross approximation. If you look at real 6 meter beams on ~20 foot booms, you can find 5, 6, or 7 elements. 8 or 10 would not look strange. I doubt there is any difference in the measured gain among the first 3, and a 10 element would probably have less gain due to non optimum spacing and extra I**2xR loss. At least according to urban legend the 4 element HyGain has more gain than the 5 element Cushcraft. Tell me if I am wrong, but I thought the boom length was a better indication of gain than the number of elements; this implies that the number of elements is merely an indirect indicator of boom length.

Tam/WB2TT

"Richard Harrison" <richardharrison@webtv.net> wrote in message news:26921-3EEFA0A3-215@storefull-2318.public.lawson.webtv.net...
> Reg, G4FGQ wrote:
> "Two elements will radiate a field 3 dB stronger than one."
>
> Actually, volts per meter can be almost doubled by using two elements as
> compared with one. That is a gain of 6 dB.
>
> According to Arnold B. Bailey in "TV and Other Receiving Antennas"
> (reciprocity rules!) here are gains of typical 2-element antennas as
> compared with a single-element dipole:
>
> 5 dbd, 1/2 WL with a reflecting sheet
> 4 dbd, 1/2 WL with driven 1/2 WL reflector
> 5.5 dbd, 1/2 WL with parasitic director
> 5 dbd 1/2 WL with parasitic reflector
>
> As more directors are added to a 1/2 WL with a reflector, the gain per
> added element drops. Bill Orr gives a chart in "Beam Antenna Handbook":
> Reflector only, about 5 dbd
> (1) director added, about 8 dbd
> (2) directors, 10 dbd
> (3) directors, 11 dbd
> (4) directors, 12 dbd
> (5) directors, 12.5 dbd
> (6) directors, 13 dbd
> (7) directors, 13.5 dbd
> (8) directors, under 14 dbd
> The point of diminishing returns has been reached, but Orr`s chart goes

> on to 11 directors which gives just a little more than 15 dbd gain.
>
> Orr notes:
> "Additional parasitic directors increase gain of array. Doubling number
> of directors boosts gain figure approximately 3 db." This makes sense.
> Think of the receiving case. Doubling the number of rods in the air
> could be expected to capture twice as much energy. That is 3 db.
> Reciprocity says the same thing will prevail on transmit, 3 db gain.
>
> Reflectors rarely increase gain significantly beyond a single reflector.
> The single reflector so reduces rearward energy that there is nearly no
> energy remaining to be re-directed.
>
> Best regards, Richard Harrison, KB5WZI
>

6623. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 16:42:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF09686.80903067@uci.edu>
Source record: 114875

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>b1=s11*a1+s12*a2 b2=s21*a1+s22*a2
> >
> > These equations apply when ZL = Z0. In our case, ZL <> Z0.
>
> Jim, please come back when you know what you are talking about.

It never seems to stop you from posting here. :-)

ac6xg

6624. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 16:49:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF09806.22191D29@uci.edu>
Source record: 114876

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>Let's make it simple enough for you to understand. I run a transmission line
> >>from my house to my neighbor's house and back for the purpose of making some
> >>experimental measurements. My source and my load are side by side. You are
> >>saying there is no energy flowing in the transmission line over at my neighbor's
> >>house even though he is measuring it on a wattmeter. Please stop insulting my
> >>intelligence.
> >
> > When the shoe fits, Cecil. Please consider the "load" in your Tx to Ca
> > scenario when no energy is being utilized at the Ca end of the line.
> > The two scenarios are not at all equivalent.
>
> They are *EXACTLY* equivalent, Jim. Instead of running the feedline over
> to my neighbor's house and back, I ran it to California and back. The
> only difference is the length of the line.

:-) No, the two are not analogous. A transmission line analogy to the
Tx/Ca scenario would have the transmission line end at your neighbor's
house with no load on it. The analogy to your latest scenario would be
if you plugged in an extension cord in Ca, ran it back to your house in
Tx, and plugged a lamp into it.

ac6xg

6625. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:17:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF09E99.F2D100FE@uci.edu>
Source record: 114877

W5DXP wrote:
> This ain't rocket science.

No. That would give rocket science a bad name. It's more like bad
science.
> Your assertion that the reflected wave energy only exists when source#1 is being
> used is a contradiction because that energy is reflected from the load and would
> have to know, a priori, which source was going to be in use when it arrives back
> at the source after the feedline delay.

The boundary conditions are obviously different in both cases. You
can't fool mother nature. ;-) In both case there are wave
reflections. In one case, energy is reflected back to the source. It
the other, energy is not reflected back to the source (hint: that's the
purpose of the tuner). Your directional wattmeter is obviously not an
energy meter.

ac6xg

6626. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:22:29 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <RTMO7MCV$J8+EAjA@ifwtech.co.uk>
Source record: 114890

Tarmo Tammaru wrote:
>Richard,
>
>Referring to the Orr data below, what does he assume about the boom length
>as he adds more elements? Certainly not constant boom length, so he might
>imply constant spacing. I think at best he has a gross approximation. If you
>look at real 6 meter beams on ~20 foot booms, you can find 5, 6, or 7
>elements. 8 or 10 would not look strange. I doubt there is any difference in
>the measured gain among the first 3, and a 10 element would probably have
>less gain due to non optimum spacing and extra I**2xR loss. At least
>according to urban legend the 4 element HyGain has more gain than the 5
>element Cushcraft. Tell me if I am wrong, but I thought the boom length was
>a better indication of gain than the number of elements; this implies that
>the number of elements is merely an indirect indicator of boom length.

In long yagi designs, director spacings are often closer near the driven element, increasing to a constant value of about 0.4 wavelengths further down the boom. More elements can also be added to increase the bandwidth, but without necessarily increasing the gain.

This means that the number of elements and boom length are not proportional - and boom length is the important parameter.

For boom lengths of 1 wavelength or more, optimized yagi designs will give about 2.5dB increase in gain for each doubling in length. This has been verified out to at least 20 wavelengths. Particularly well optimized designs can beat this trend line by maybe up to 1dB - but poor designs can fall well below it.

For the short yagis typically used on HF (a 30ft boom on 20m is less than a half-wavelength long) the gain increases more steeply with boom length, but curls over to join the long-boom trend line at about 1.0 wl.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6627. patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:35:27 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0306180935.42ad011@posting.google.com>
Source record: 114878

Hi there,
I am measuring the gain of the shorted patch antenna at
0.9GHz. First i have a yagi as a transmitting antenna and a
dipole(with balun) as a receiver antenna. I measured the pattern with
maximum towards yagi i got -4dB(maximum) with a 10dB attenuator. Then
i took the dipole and replaced with patch and got -10dB(max). Does it
mean my antenna has loss.

6628. How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:51:32 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030618135132.22672.00000916@mb-m21.aol.com>
Source record: 114879

I have a dualband mobile antenna on a magmount. I am not sure of the model number (I bought it from Ebay a while ago). It works fine, but on 2m, the center frequency is 144 mhz (SWR around 1:1) with the SWR getting close to 2:1 at 148. I've adjusted the whips with an allen wrench, but it seems to make no difference. Is it wise to start trimming the radiator 1/8" at a time? if I did, would I trim the top element or the bottom element? (The antenna is center loaded)

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6629. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:56:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0A7B1.9060200@ieee.org>
Source record: 114880

Jim Kelley wrote:
> No, the two are not analogous. A transmission line analogy to the
> Tx/Ca scenario would have the transmission line end at your neighbor's
> house with no load on it.

No, you are mistaken. Go back and read it again. I was looping energy
from Texas through California and back to Texas just as I was looping
energy from my house to my neighbor's house and back to my house again.

I apologize if I wasn't clear in my first example. It may be my fault
that you are still confused. Again, please stop making rash assumptions
about what I am thinking. If you don't understand, simply ask.
--
73, Cecil http://www.qsl.net/w5dxp

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6630. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 17:58:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0A828.8785EF35@uci.edu>
Source record: 114881

W5DXP wrote:
>
> Jim Kelley wrote:
> > But either way, according to you, there is real power involved since cos
> > theta = 1.
>
> V*I*cos(theta) is real power, by definition. Do you have a different
> definition of "real power"?

How much "real power" do you get when |theta| = 90? The only real power
is that which is transferred to a real resistor. But when you ignore
that like you have, you can get all sorts of funny ideas about how
things work.

ac6xg

6631. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:03:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0A95C.78CEAC58@uci.edu>
Source record: 114882

W5DXP wrote:

> You don't believe in reflected waves from the end of an open feedline?

You haven't stopped beating your neice yet?

6632. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:04:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0A9B9.9A2FEFDE@uci.edu>
Source record: 114888

W5DXP wrote:
> I apologize if I wasn't clear in my first example. It may be my fault
> that you are still confused. Again, please stop making rash assumptions
> about what I am thinking. If you don't understand, simply ask.

At this point, I'm assuming you're completely full of crap.

Fair enough? :-)

ac6xg

6633. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:04:44 UTC
From: richardharrison@webtv.net
Message-ID: <22840-3EF0A9BC-64@storefull-2314.public.lawson.webtv.net>
Source record: 114886

Tarmo Tamararu wrote:
"Referring to the Orr data below, what does he assume about boom length as he adds more elements?"

Bill Orr, W6SAI wrote:
"It is interesting to note that extra directors require additional boom length for proper operation. If extra directors are added to an array, keeping the boom length constant, the gain figure remains approximately the same as for the boom length holding three elements (driven plus two parasites). In order to increase the power gain by adding extra elements, it is also necessary to add the additional space between the elements, since the space between the elements is a vital factor in operation of the parasitic antenna. (page 75, the "Beam Antenna Handbook)

The book gives formulas and construction details for many beams. I haven`t built antennas from this Orr book, but I`ve built his designs from the Editors and Engineers "Radio Handbook" which he edited. They worked as advertised.

Best regards, Richard Harrison, KB5WZI

6634. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:10:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0AB28.20401@ieee.org>
Source record: 114884

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>
>>>W5DXP wrote:
>>>
>>>>b1=s11*a1+s12*a2 b2=s21*a1+s22*a2
>>>
>>>These equations apply when ZL = Z0. In our case, ZL <> Z0.
>>
>>Jim, please come back when you know what you are talking about.
>
> It never seems to stop you from posting here. :-)

I am quick to admit an error the clues to which lie in the
apparent inconsistencies and contradictions. I don't see any
inconsistencies or contradictions in what I have said. I see
lots of inconsistencies and contradictions in what you have
said.

When are you going to address your inconsistencies and contradictions
involving the s-parameter equations? Here is what you have implied:

If b1=0, then s11*a1 contains zero energy and s12*a2 contains zero energy.

where quoting from HP's Application Note 95-1:

|a1|^2 is the "power incident on the input of the network." (impedance discontinuity)

|a2|^2 is the "power reflected from the load."

We know s11 and s12 are not zero so how do you explain your contradiction?
--
73, Cecil http://www.qsl.net/w5dxp

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6635. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:12:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5pa1fvg58kee36u84ril930p2klmo0vbkc@4ax.com>
Source record: 114883

On 18 Jun 2003 10:35:27 -0700, anandnavaneeth@hotmail.com (anand)
wrote:

>Hi there,
> I am measuring the gain of the shorted patch antenna at
>0.9GHz. First i have a yagi as a transmitting antenna and a
>dipole(with balun) as a receiver antenna. I measured the pattern with
>maximum towards yagi i got -4dB(maximum) with a 10dB attenuator. Then
>i took the dipole and replaced with patch and got -10dB(max). Does it
>mean my antenna has loss.

Hi Anad,

You come here frequently to post questions, but it seems you never
respond to those asked, or comment on advice offered. Is this some
indication of your performance in class as well?

73's
Richard Clark, KB7QHC

6636. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:16:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0AC7C.9070401@ieee.org>
Source record: 114887

Jim Kelley wrote:
> W5DXP wrote:
>
>>This ain't rocket science.
>
>
> No. That would give rocket science a bad name. It's more like bad
> science.
>
>>Your assertion that the reflected wave energy only exists when source#1 is being
>>used is a contradiction because that energy is reflected from the load and would
>>have to know, a priori, which source was going to be in use when it arrives back
>>at the source after the feedline delay.
>
> The boundary conditions are obviously different in both cases. You
> can't fool mother nature. ;-) In both case there are wave
> reflections. In one case, energy is reflected back to the source. It
> the other, energy is not reflected back to the source (hint: that's the
> purpose of the tuner). Your directional wattmeter is obviously not an
> energy meter.

You're still not getting it. The sources are switched in and out *AT RANDOM*.
It takes a certain amount of time to get energy from the load back to the
source. Therefore, if you are right, the reflected wave must know, a priori,
whether to carry energy back to the source or not. That's a pretty smart wave,
Jim. No only is it smart enough to decide whether to carry energy or not, it
is smart enough to look back in time, determine which source is going to be
switched in, and react accordingly. No doubt about it, Jim, your reflected
wave possesses supernatural powers.

My approach doesn't require smart waves at all. The energy is always there. If
it is needed to heat the circulator resistor, it is instantly there for that
purpose. If it is not needed to heat the circulator resistor, it is re-reflected
back toward the load. No smart waves and no supernatural waves - just physics in
action. The reflected energy is always there just as the wave reflection
model says it is. No inconsistencies and no contradictions.

You don't seriously expect anyone to accept your supernatural wave theory,
do you? When are you going to realize that you have been seduced by your
shortcut math model which leaves out a lot of important details? It gives
you the correct net result assuming a certain set of boundary conditions.
If we change those boundary conditions at random, your math model falls
apart at the seams.
--
73, Cecil http://www.qsl.net/w5dxp

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6637. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:18:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <p5b1fv0j08v54aa1i6cb34ig3pnbk63ipq@4ax.com>
Source record: 114885

On 18 Jun 2003 17:51:32 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>I have a dualband mobile antenna on a magmount. I am not sure of the model
>number (I bought it from Ebay a while ago). It works fine, but on 2m, the
>center frequency is 144 mhz (SWR around 1:1) with the SWR getting close to 2:1
>at 148. I've adjusted the whips with an allen wrench, but it seems to make no
>difference. Is it wise to start trimming the radiator 1/8" at a time? if I did,
>would I trim the top element or the bottom element? (The antenna is center
>loaded)
>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

Hi Andy,

Leave it alone.

73's
Richard Clark, KB7QHC

6638. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:44:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0B317.4D15911C@uci.edu>
Source record: 114892

W5DXP wrote:
> You're still not getting it. The sources are switched in and out *AT RANDOM*.

Okay, so you think the transient analysis presents a problem. Well sir, it doesn't. As we've already discussed, a transfer of energy will indeed take
place during the transient period. Hope that helps.

> No doubt about it, Jim, your reflected
> wave possesses supernatural powers.

Things which people don't understand are often attributed to the supernatural.

> My approach doesn't require smart waves at all. The energy is always there.

If it was, it would work out beautifully. The wave reflection stuff is right, but your energy analysis isn't.

> You don't seriously expect anyone to accept your supernatural wave theory,
> do you?

It's not my theory. You on the other hand have the uphill battle to fight.

73, ac6xg

6639. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:51:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0B4AD.8090305@ieee.org>
Source record: 114889

Jim Kelley wrote:
>
> W5DXP wrote:
>>V*I*cos(theta) is real power, by definition. Do you have a different
>>definition of "real power"?
>
> How much "real power" do you get when |theta| = 90?

The phase angle between the voltage and current in a traveling wave is determined by the characteristic impedance of the transmission line. Therefore, theta will never be 90 degrees in a power transmission line. If Z0 is purely resistive, the phase angle between the voltage and current in a traveling wave will always be zero. The forward wave and reflected wave in a transmission line are traveling waves. Standing waves are merely the result of superposition of two traveling waves traveling in opposite directions.

Consider two signal generator sources equipped with circulator load resistors. Put one at each end of a transmission line.

100W SGCL----------50 ohm lossless feedline---------100W SGCL

100 watts is being generated by each source and that 100 watts is dissipated in the other source's circulator load resistor. 200 watts is being converted to heat. A directional wattmeter will read 100 watts forward and 100 watts reflected. Your P(x,t) math model equation tells you that no power is being transferred. Your P(x,t) math model is wrong.

Your P(x,t) model tells you that since equal amounts of energy is being transferred in opposite directions that the net energy flow is zero and no energy is being transferred. But we are heating up two resistors. How can we heat up resistors with no energy being transferred?
--
73, Cecil http://www.qsl.net/w5dxp

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6640. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 18:55:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0B5AA.3070605@ieee.org>
Source record: 114891

Jim Kelley wrote:
>
> W5DXP wrote:
>>You don't believe in reflected waves from the end of an open feedline?
>
> You haven't stopped beating your neice yet?

Actually, my neice beats me up. She is ten years old, plays soccer,
and is as tough as a boot.

But mine wasn't a loaded question. I said energy can change directions
in a transmission line. You said that was nonsense or ridiculous or
something to that effect. Ever watched the pulses using a TDR?
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6641. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:03:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0B79F.3090903@ieee.org>
Source record: 114893

Jim Kelley wrote:
>
> W5DXP wrote:
>>I apologize if I wasn't clear in my first example. It may be my fault
>>that you are still confused. Again, please stop making rash assumptions
>>about what I am thinking. If you don't understand, simply ask.
>
> At this point, I'm assuming you're completely full of crap.

Many people who made that assumption wound up agreeing with me - forward waves and reflected waves flowing into and out of a stub being the example that comes to mind.

I believe that, sooner or later, you will give up on your notion of supernatural waves being smart enough to predict the future even when the future is random.

I repeat: How do your waves know whether to carry energy or not if the boundary conditions are changing at random? Your waves sometimes carry energy and sometimes don't carry any energy depending upon boundary conditions. How can they possibly be smart enough to predict, a priori, a random future change in boundary conditions?

My waves, which carry energy all the time (in accordance with the wave reflection model), don't have the problem that your waves have. Mine are just dumb waves that deliver their energy whenever and wherever is required by the laws of physics.
--
73, Cecil http://www.qsl.net/w5dxp

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6642. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:21:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0BBD6.5070204@ieee.org>
Source record: 114894

Jim Kelley wrote:
> W5DXP wrote:
> Okay, so you think the transient analysis presents a problem. Well sir,
> it doesn't. As we've already discussed, a transfer of energy will
> indeed take place during the transient period. Hope that helps.

But since the switching of the two sources is SEAMLESS and RANDOM, the reflected waves cannot know which source is switched in at any one time. Source#1 requires energy from the reflected wave. Source#2 doesn't require any energy from the reflected wave. Conditions in the line are identical in both cases. There are no transients.

If source#2 is switched in, according to you, the reflected wave carries no energy. When source#1 is switched in, the reflected wave is required to *instantly* give up its energy to the circulator load. Where does that instantaneous burst of energy come from if the reflected wave is carrying zero energy? Reflected energy cannot travel instantaneously from the load, so exactly where does this extra energy come from?

Hint: If energy is required or not at any random time from the reflected wave, it has to already be there. Instantaneous availability at the source of extra energy reflected from the load is simply an impossibility.

> If it was, it would work out beautifully. The wave reflection stuff is
> right, but your energy analysis isn't.

You may be right, but until you resolve your upstream contradictions, we cannot even discuss my energy analysis.

> It's not my theory.

Well, whoever's theory it is needs to realize that math models don't dictate to reality. You need to realize that also and recognize the consequences of using a shortcut.
--
73, Cecil http://www.qsl.net/w5dxp

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6643. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:25:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0BC9E.FFEB3E45@uci.edu>
Source record: 114896

W5DXP wrote:
> Actually, my neice beats me up. She is ten years old, plays soccer,
> and is as tough as a boot.
>
> But mine wasn't a loaded question.

Of course it was. You've been relying very heavlily upon them.

> I said energy can change directions
> in a transmission line.

No. You said when energy is blocked, it reverses direction. The truth
is that when a wave is reflected, it reverses direction.

> You said that was nonsense or ridiculous or
> something to that effect.

Your idea about a reversal in the direction of the flow of energy being
caused by something other than reflection is nonsense.

6644. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:25:46 UTC
From: donut <none@none.com>
Message-ID: <Xns939E7D2AA1715donut@216.102.43.227>
Source record: 114895

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
news:vf13otdsllcsc3@corp.supernews.com:

> Tom
> I've never really understood shielded loops and still don't but
> getting closer. I've not made one yet but will. If the outer braid
> of the loop is coax and is connect to a coax feedline it ends up
> being grounded at the receiver. How is the "outer loop" decoupled
> from the rest of the feedline and does the outer loop couple to the
> center conductor at the gap? tnx
> hank wd5jfr

Henry, from what I've seen and read in this thread, I believe this person is in error. There are a number of shielded loop plans on the Net, and all of them use the inner conductor as the antenna and the coax braid as the sheild. The air gap prevents the shield from being a shorted turn.

Here's a site that describes a longwave loop of exactly the same kind of construction. You'll notice that the loop feeds a balun off the center conductor.

http://technology.fanshawec.on.ca/tele410/leeloop.htm

Sure, using the outer braid will work, but there is no shield. It's just a simple one wire loop in that configuration.

6645. Re: Antenna programs,what you should know

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:50:01 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306181150.297181cb@posting.google.com>
Source record: 114897

Update

Re Optimizer computor programs
I have been using AO version 1.62 by Brian Beezley
(Roy has provided his address)
I understand the latest version is 6.36 but I am not
aware of it's present cost.
Also found out that Brian has a professional version
of this program which is a lot more powerfull which
suggests it has capability for more variables among
other things. Cost of this is $300.00.
If this is what I think it is then I will be a buyer!!
Anybody seen a review of this professional format program?
I noticed a long time ago that the IR antenna was checked
by AO which now makes more sense because of the availability
of the more powerful professional version.
Best Regards
Art

sanaunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0306100728.79270615@posting.google.com>...
> Before you buy a antenna program it is important to think about what
> you require from the use of them. Before Windows and the like
> scientists used their own type of programs such as Fortran not only to
> do the laborious legwork of simple problems but also to have a method
> of doing what humans do. This is by putting a known verified equations
> into use where if the desired result is not obtained they tell it to
> change a dimension by a little bit and do all the calculations over
> again until eventually it migrates to a desired solution.
> For every day use where it is required to give an answer to a problem
> which is the only bound to solve what it is given then just a simple
> everyday program can be devised. NEC is an example of the latter, a
> basic program by present day standards that can tell you by the use of
> a rule how long a member is if that is what you want. An Optimiser
> (AO) follows the approach that an engineer or accountant would use ie.
> Cobal, Fortran or the like or even combine its use with present day
> Windows use as my son did with "Biology Workbench", the "San Diego
> Pipeline" e.t.c.. since in complex configurations even multiple use of
> Quadratic equations cannot solve or choose from the multiple answers
> provided from the use of Quadratics for arriving at a design for a
> requirement such as maximum gain that can be obtained. As can be seen,
> Optimisation programs can do much more than what NEC programs can do
> tho some may have advanced quite a lot from the early days where
> vendors used Goverment supplied information which could be prettied up
> with nice pictures and graghs for the general consumer. So if you what

> to learn or design new antennas think about things before hand if you
> want to delve in areas previously unknown where nearly insurmoutable
> mathematic and time hurdles were the norm which now with the aid of
> computors can now be revealed to all.

6646. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:55:02 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcqg09cjf1@slb9.atl.mindspring.net>
Source record: 114898

Nah...there always ready for that. Only effort required ...well you know.
Whereas actually learning a skill such as Morse Code requires effort.

Dan/W4NTI

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF08774.2010604@ieee.org...
> Dan/W4NTI wrote:
> > The basic problem with all the
> > anti-cw whinning is there too dang lazy to actually put out the effort.
>
> Hams like you and I have failed to convince many new hams that
> CW is worth the effort. I'll bet they are not too lazy for sex. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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6647. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:56:36 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcqg37$l5g$1@slb4.atl.mindspring.net>
Source record: 114899

Nope don't thing CW is better than sex. But I do think CW has a place in communications. And Im basically sick of hearing all the little children whinning that they have to actually put forth some effort.

Guess I was brought up different.

Dan/W4NTI

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EF08A46.3090200@ieee.org...
> Dave Shrader wrote:
> > AHHA!!!
> >
> > CW = SEX
>
> Dan probably thinks that CW is better than sex. ;-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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6648. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 19:57:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0C42D.44326018@uci.edu>
Source record: 114901

W5DXP wrote:
> > It's not my theory.
>
> Well, whoever's theory it is needs to realize that math models don't
> dictate to reality.

They're not just math models. They're physical models which describe the nature of phenomena. The math describes the physical model. You're not the first one to think about this, Cecil. It's already been figured out, and it doesn't work the way you're saying. I've got nothing to gain by any of this except knowlege. Don't you think it would have a hell of a lot easier for me to just go along with what you've said? I've got better things to do than argue with an obstinent old SOB. What I originally thought is that you were also interested in the truth. But that's not the case. Your agenda precludes that. The only thing that matters to you is your idea, and that it must prevail. Well Cecil, I'm sorry to tell you that it is not to be. The Achilles heel is the requirement that energy must inexplicably reverse direction. It can't - there's no physical mechanism for it. And, it doesn't need to in order to conserve energy. Wave cancellation prevents the flow of energy as can be seen by experiment. Constructive interference provides the necessary 'intensity' in the forward direction. There's no extra energy - there's no lost energy. The truth is simply that the energy on the right of the discontinuity equals the energy on the left when reflection is cancelled. The steady state is not a "delusion". It is not "misleading". Your wave analysis is correct, but some of your inferences and conclusions are not. Perhaps your model is useful metaphorically. It may even be consistent with a S parameter analysis i.e. s11=0 s21=1. There's your 100% re-reflection! But I thought your intent was to describe precisely what was actually occurring within the system. You haven't done that.

73, Jim AC6XG

6649. ??? Carolina Windom 160 Radiation Pattern????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 20:02:47 UTC
From: "rick@rickfrazier.com" <rick@rickfrazier.com>
Message-ID: <3EF0C566.A6E3901A@rickfrazier.com>
Source record: 114900

Hello:

Does anyone know where I can find radiation patterns for the Radio Works Carolina Windom 160?
I've got one of these, and though it seems to get out ok at it's current location and height, I'm getting ready to put it up higher and want to know what the patterns look like, particularly at 160, 80, 40 20 and 10 meters.

It will be installed at 46 feet on the short end, and about 40 feet at the long end, and I have a choice of a couple of locations for the long end, which would orient the antenna at slightly different compass headings. It would be nice to have some idea of the actual radiation pattern of this antenna. I've seen the horizontal pattern Jim has on his web site, but can't seem to locate anything that would indicate the azimuth (polar?) pattern.

So far, I've tried searching on the web, looked all over the radioworks web site, tried to send email to jim@radioworks (which bounces because his email quota has been exceeded) and tried to call him at both numbers listed on the web site (busy signal for hours at a time).

Thanks
--Rick AH7H

6650. 10m dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 20:57:05 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030618165705.28924.00000764@mb-m11.aol.com>
Source record: 114902

Well, I got the antenna up and am trying to tune it. I am using an htx-10 as a base station with a 10m dipole. Got the swr on the low end to 2:1. High end is 3:1 and middle of the road is 2.5:1. Been trimming like a mad dog in the hot attic but man I love it. anyways, I've run out of wire. The end insulators are tapped at 8 feet. Are the values ok?

Thanks
G Doughty
remove nojunk to email

6651. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 20:59:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0D2CA.5AFBD2D8@uci.edu>
Source record: 114903

W5DXP wrote:
> I am quick to admit an error the clues to which lie in the
> apparent inconsistencies and contradictions.

You avoid admitting errors as if your life depended on it.

> I don't see any
> inconsistencies or contradictions in what I have said.

Goes without saying.

> I see
> lots of inconsistencies and contradictions in what you have
> said.

You have a very poor handle on what I have said, Cecil. You fail to
even understand it.

> When are you going to address your inconsistencies and contradictions
> involving the s-parameter equations?

I addressed it only yesterday.

> We know s11 and s12 are not zero so how do you explain your contradiction?

Perhaps you wouldn't mind showing "us" your calculations for s11 and
s12. We know rho isn't equal to zero, but you haven't convinced me that
s11 isn't equal to zero.

73 de ac6xg

6652. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 21:24:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0D879.49C6BB1B@uci.edu>
Source record: 114907

Richard Harrison wrote:

> Kinetic energy is defined as energy which a system posesses by virtue of
> its motion.

Typically, a system with mass. KE = 1/2mv^2.

> Waves are in motion. Wave energy is kinetic by definition. Radio waves
> sweeping a conductor induce energy. No motion, no induction.

It isn't necessarily motion that induces current. It's the changing
magnetic field that induces current.

> Another example: The earth is about 93 million miles from the sun. Light
> travels at about 186 thousand miles per second. Do the math. The sun
> could burn out and about 8.3 minutes later we would know. It would
> become very dark on earth. Obviously, sunlight, an EM wave, is moving
> and thus it`s kinetic. Light is not frozen in time.

The energy in a bowling ball is related to it's mass and speed, but the
energy of an electromagnetic wave is related to its frequency.

73, Jim AC6XG

6653. Re: ??? Carolina Windom 160 Radiation Pattern????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 21:26:22 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030618172622.09634.00000724@mb-m21.aol.com>
Source record: 114904

>
>Does anyone know where I can find radiation patterns for the Radio Works
>Carolina Windom 160?

If the length of the horizontal radiator is half wave or less than abt. 260 ft, then it will radiate as a dipole at particular height. So you can assume figure 8 pattern, just like dipole on 160. On 80 it will be 4 lobe cloverleaf, with more lobes on higher bands.
Windom antenna is basically half wave radiator at the lowest frequency and fed at 1/3 from the end, giving it abt 300 ohm impedance on above harmonic bands.

Yuri, K3BU

6654. Is Cecil too much?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 21:33:16 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030618173316.09634.00000726@mb-m21.aol.com>
Source record: 114906

With all due respect, I think this is too much about what?

Personally, I don't worry about reflections, SWR and other "virtual" stuff. We have means of eliminating, tuning out that stuff and I have none of it on my antennas.

Design your antenna for band you want to operate, match it if needed and be happy. Leave the rest to Cecil and his advisors :-)

Too much?
My delete key is getting worn out, YMMW

Yuri

6655. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 21:33:23 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306181333.72df7a57@posting.google.com>
Source record: 114905

Bill Turner <noway@nohow.com> wrote in message
news:<Xns939E4AD3D9EDBpookster@129.250.170.96>...
> kelly@dvol.com (Brian Kelly) wrote in
> news:d22b54c3.0306180600.3500f3bb@posting.google.com:
>
> > Buncha appliance operator weenies . . dumbing down is EVERYWHERE!
> >
>
> ----------
>
> Abandoning an outdated mode and going on to new things is not dumbing down.
> Hanging on to the old obsolete stuff, now *that's* dumb.

So what, exactly, is "new" about ssb Sire?? Hams had ssb on the air in
the early 1930's and the commercials were using it before then. I was
there when the AM phone weenies were brawling with the new wave ssbers
on the ham bands in the 50s. Whatta hoot. Us beepers didn't have a
problem at all with ssb. Hell, we already knew all about narrow
filters, passband tuning and we didn't even have to shut off our BFOs
to copy the stuff.

> You should be pressuring the FCC to legalize spark. That's *real* radio!
> :-)

. . . maybe when they get really high speed DSP running . .

w3rv
SSB DXCC
SSB WAZ
beep

6656. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 21:58:12 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306181358.4b5e5aba@posting.google.com>
Source record: 114908

"J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
news:<rvYHa.4503$5d.543449@news20.bellglobal.com>...
> "Reg Edwards"
> > ...finding a statistical mean value...
>
> Averaged over the entire sphere, the improvement of an array should
> obviously be exactly 0dB gain over a single element (neglecting any losses
> in the array's extra hardware).

Gentlemen, you are all so educated that you make every problem an
exotic one.
I mean no disrespect but let us keep the discussion simple instead of
sidelining the questions with "but...."
Yes the ARRL has a graph which bases gain on boomlength on the
assumption that enough elements are used. Implicite in this graph is
the understanding that losses occur because of the addition of
reactive components. This is not an exciting statement because anytime
you use ohms law and cos phi enters the picture you are introducing
"losses". Said another way, if impedance is I cos phi it can clearly
be shown as a combination of two vectors where only the 'I' vector is
important. And if you have more than one radiator then the next 'I'
vector is the vector that is used preferably in additive form.
Now I know all of you know this, but I am saying it to bring you all
back to basics rather than making it more difficult than it is.
So now we can clearly say that the phase angle of each radiator is
clearly the enemy as far as array gain goes, and what the original
question was that if we use "link" coupling of some sort where phase
angles can be controlled wouldn't it provide for max gain without
resorting to the boom length factor?
Yes, it introduces the 'coupling' word again but try not to go into a
tizzy
which prevents clear thought. Yes, cryogenic means can be used to
remove or reduce resistance but try to not express all of your
knoweledge that is not relevant to the basic simple question. Again no
disrespect intended.
Regards
Art

6657. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:09:23 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030618180923.20118.00001258@mb-m02.aol.com>
Source record: 114909

>
>Hi Andy,
>
>Leave it alone.
>
>73's
>Richard Clark, KB7QHC

What you don't understand is that I'm trying to get a better SWR a little higher in the band while maintaining an acceptable SWR on the 2m band. I'd like a good SWR from around 146 mhz to 155 mhz. I am not sure if this can be achieved with the current antenna.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6658. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:18:10 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939E9BAAD14E5pookster@129.250.170.85>
Source record: 114910

kelly@dvol.com (Brian Kelly) wrote in
news:d22b54c3.0306181333.72df7a57@posting.google.com:

>> Abandoning an outdated mode and going on to new things is not dumbing
>> down. Hanging on to the old obsolete stuff, now *that's* dumb.
>
> So what, exactly, is "new" about ssb Sire?? Hams had ssb on the air in
> the early 1930's and the commercials were using it before then.

Excuse me, did I use the term "SSB" in my post? Here's a hint: No.
If "SSB" and "new" automatically pop into your mind together, things are
worse than I thought. :-)

Get WSJT working with your spark machine and you'll really have something.

--
Bill, W7TI

6659. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:22:42 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939E9C6FC1F81pookster@129.250.170.85>
Source record: 114915

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in news:bcpvledeu1
@slb4.atl.mindspring.net:

> Not true at all Bill and you know it. The basic problem with all the
> anti-cw whinning is there too dang lazy to actually put out the effort.

I stand by my previous post. Today's hams are capable of investing huge
amounts of effort *if* they see a payoff.

For most of them, CW just doesn't do it.

--
Bill, W7TI

6660. Re: 10m dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:26:03 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939E9D012F0D8pookster@129.250.170.85>
Source record: 114916

nightowls627@aol.comnojunk (G. Doughty) wrote in
news:20030618165705.28924.00000764@mb-m11.aol.com:

> Are the values ok?
>

No. Your resonant point is still below the bottom band edge. Trim some more until you get a dip somewhere *in* the band. You should be able to get the SWR below about 1.5:1 unless there is some metal object nearby affecting it. Attics often have sheet metal ducts, etc, so be aware of what's up there and keep the antenna away.

--
Bill, W7TI

6661. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:35:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0E92C.D024AAC@uci.edu>
Source record: 114914

W5DXP wrote:
> 100 watts is being generated by each source and that 100 watts is
> dissipated in the other source's circulator load resistor. 200 watts
> is being converted to heat. A directional wattmeter will read 100 watts
> forward and 100 watts reflected. Your P(x,t) math model equation tells
> you that no power is being transferred.

I predict that even with the two sources 180 out of phase, both resistors will heat up, as there is no destructive interference at the output ports of the circulators due to the fact that the circulators separate the forward and reverse waves. The circulators ensure that power from the other source is dissipated by it's load resistor. That's the purpose of a circulator!

> Your P(x,t) math model is wrong.

If so, you should be able to identify a specific math error.

> Your P(x,t) model tells you that since equal amounts of energy
> is being transferred in opposite directions that the net energy flow
> is zero and no energy is being transferred.

If each of the signal generators is dumping 100 watts into the feedline, my math tells me the net energy flow into the feedline is 200 Joules per second.

> But we are heating up two
> resistors. How can we heat up resistors with no energy being
> transferred?

As I've said before, you're ONLY transferring energy when you can heat up a resistor. Cancelled waves don't heat up resistors. At our discontinuity, the reflected waves cancel. No energy is transferred by those waves to the discontinuity, and there is no energy to reflect back from the discontinutiy - except that which is not cancelled.

ac6xg

6662. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:39:13 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bcqpmu$lccle$1@ID-175933.news.dfncis.de>
Source record: 114911

Pardon me for any offense taken, but no matter what the antenna hardware is ("boom length," physical aperture and geometry, height above ground, frequency, number of driven elements/directors/reflectors, or any other physical attributes both for amateur and commercial antenna arrays), the peak gain of a directional radiation pattern ALWAYS is a function of the peak amplitude of the directional pattern vs that of the radius of a perfect circle having an area equal to that of the pattern being evaluated -- as I described in my post earlier today. This definition is recognized by the FCC in the U.S., virtually every broadcast consulting engineer, and commercial antenna OEMs worldwide.

I am puzzled by the lack of recognition of this reality by the dominant posters to this NG. Can anyone please explain this?

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message news:85ed38d.0306181358.4b5e5aba@posting.google.com...
> "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message news:<rvYHa.4503$5d.543449@news20.bellglobal.com>...
> > "Reg Edwards"
> > > ...finding a statistical mean value...
> >
> > Averaged over the entire sphere, the improvement of an array should
> > obviously be exactly 0dB gain over a single element (neglecting any losses
> > in the array's extra hardware).
>
> Gentlemen, you are all so educated that you make every problem an
> exotic one. (etc)

6663. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:40:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0EA43.C777D7DB@uci.edu>
Source record: 114913

W5DXP wrote:

> There's 200 joules in the forward wave and
> 100 joules in the reflected wave. Since there are no impedance discontinuities
> except at the ends of the feedline, there are no reflections up and down the
> feedline except at the ends. A directional wattmeter anywhere along the line
> will verify the 200 watts of forward power and the 100 watts of reflected power.

Like you said, there are no impedance discontinuities except at the ends
of the feedlines, so what's the argument?

ac6xg

6664. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:43:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf1qoql2uiqd5a@corp.supernews.com>
Source record: 114912

Brian Kelly wrote:
>
> So what, exactly, is "new" about ssb Sire?? Hams had ssb on the air in
> the early 1930's and the commercials were using it before then. I was
> there when the AM phone weenies were brawling with the new wave ssbers
> on the ham bands in the 50s. Whatta hoot. Us beepers didn't have a
> problem at all with ssb. Hell, we already knew all about narrow
> filters, passband tuning and we didn't even have to shut off our BFOs
> to copy the stuff.
> . . .

I remember my first QSO with a SSB station, in the late '50's. It was a VE7 who responded to my CW CQ -- I was close to the bottom of the VE7 phone band. He said he was tired of calling AM stations, who only told him his audio was terribly distorted and they couldn't copy. So he came back to my CW call, figuring that at least I'd have my BFO turned on, allowing me to understand him.

Roy Lewallen, W7EL

6665. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 22:49:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF0EC6F.BEB243B5@uci.edu>
Source record: 114917

W5DXP wrote:
> > At this point, I'm assuming you're completely full of crap.
>
> Many people who made that assumption wound up agreeing with me - forward
> waves and reflected waves flowing into and out of a stub being the example
> that comes to mind.

No luck so far on this argument though.....

> I believe that, sooner or later, you will give up on your notion of
> supernatural waves being smart enough to predict the future even when
> the future is random.

I hope that helps you to sleep well at night.

> I repeat: How do your waves know whether to carry energy or not if
> the boundary conditions are changing at random?

Our waves know as soon as they encounter all of the boundaries. Until
then, it's considered the transient period.

> Your waves sometimes
> carry energy and sometimes don't carry any energy depending upon
> boundary conditions. How can they possibly be smart enough to predict,
> a priori, a random future change in boundary conditions?

You have to be an idiot to even pose such a question.

> My waves, which carry energy all the time (in accordance with the
> wave reflection model), don't have the problem that your waves have.

What do you mean by "carry energy all the time"? There is energy in the
oscillations, but energy is not necessarily transferred by all waves
(according to the physics books).

> Mine are just dumb waves that deliver their energy whenever and
> wherever is required by the laws of physics.

If true, then our waves have that feature in common.

ac6xg

6666. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 23:32:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0F6A0.5080605@ieee.org>
Source record: 114918

Jim Kelley wrote:
> W5DXP wrote:
>>I said energy can change directions
>>in a transmission line.
>
> No. You said when energy is blocked, it reverses direction. The truth
> is that when a wave is reflected, it reverses direction.

A short or open blocks energy flow and the result is a reversal of
direction. Why the obfuscation?
--
73, Cecil http://www.qsl.net/w5dxp

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6667. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-18 23:54:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF0FBC1.5070404@ieee.org>
Source record: 114819

Jim Kelley wrote:
>
> W5DXP wrote:
> They're not just math models. They're physical models which describe
> the nature of phenomena.

It takes energy to create an EM wave. You say it doesn't. You have obviously misinterpreted whatever model you are using. You are implying there is no energy in an EM wave until it is used and just as it is needed for use, the energy magically appears out of nowhere.

What you are saying is that you don't have any money in your pocket until you spend it. Don't you think that is a ridiculous concept?

> I've got better things to do than argue with an obstinent old SOB.

You imply that some EM waves possess energy and some do not. That's an obvious misapplication of whatever math model you are using. EM waves obey a set of physics laws. They do not obey your every whim.

> The Achilles heel is the
> requirement that energy must inexplicably reverse direction.

It's not inexplicable, Jim. It reverses direction just as explained on the Melles-Griot web page and in _Optics_, by Hecht. You really should read and understand the references that I have provided to you.

> Wave cancellation prevents the flow of energy as
> can be seen by experiment. Constructive interference provides the
> necessary 'intensity' in the forward direction.

Wave cancellation *IS* destructive interference. According to Hecht, the energy "lost" in the destructive interference process supplies the energy for the constructive interference. I have quoted all of this directly out of _Optics_, by Hecht. That you refuse to accept Hecht as a reference is not my problem.

Again, from _Optics_, by Hecht. "The principle of conservation of energy makes it clear that if there is constructive interference at one point, the "extra" energy at that location must have come from elsewhere. There MUST therefore be destructive interference somewhere else."

His meaning is crystal clear. The "extra" energy required by the constructive interference comes from destructive interference. At an match point in a transmission line, that means the destructive interference energy changes direction and joins the forward wave.

> It may even be consistent with a S parameter analysis
> i.e. s11=0 s21=1. There's your 100% re-reflection!

Nope, s11 is the *physical* reflection coefficient and is NOT equal
to zero in a system with reflections. You simply do not understand
what you are saying and anyone with knowledge of the s-parameter
equations will easily see that. You've painted yourself into another
corner full of contradictions. Resolving those contradictions will
point you in the right direction.
--
73, Cecil http://www.qsl.net/w5dxp

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6668. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:09:47 UTC
From: Ramilacaponi <acuadrad@puc.cl>
Message-ID: <3ef1000d@omega.ifxnw.cl>
Source record: 114820

Maybe it's not the extact name for this antennas. What I meant where those antennas that you make on the PCB, antennas that are made of "lines" of copper on the PCB. They are really cheap, almost free, and you can made them very small. Any information about this would be very helpful

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:bco0hp$l5qg8$1@ID-134747.news.dfncis.de...
> What is a "printed antenna"?
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "Ramilacaponi" <acuadrad@puc.cl> wrote in message
> news:3eef4b9d@omega.ifxnw.cl...
> > I need to make a 433 MHz printed antenna, where
> can I get a diagram for
> > that?
> > Thanks.
> >
> >
>
>

6669. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:16:53 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF10095.4030507@attbi.com>
Source record: 114821

Hi again Andy.

I received your direct response. But, this post tells me the bandwidth
you are looking for.

A 5.8% frequency spread is pretty severe for a simple vertical. I don't
think you can get that bandwidth in a dual band mobile vertical.

A discone or log periodic would do it but it are unsuitable for mobile
usage.

I recommend two antennas, 146 MHz and 155 MHz, and a coax switch.

I use two antennas and a coax switch in my mobile for 20 and 15 meters.

Deacon Dave, W1MCE

VHFRadioBuff wrote:
>>Hi Andy,
>>
>>Leave it alone.
>>
>>73's
>>Richard Clark, KB7QHC
>
>
> What you don't understand is that I'm trying to get a better SWR a little
> higher in the band while maintaining an acceptable SWR on the 2m band. I'd like
> a good SWR from around 146 mhz to 155 mhz. I am not sure if this can be
> achieved with the current antenna.
> =-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

6670. Re: Is Cecil's Math a Blunder or not?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:20:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF101BA.3030908@ieee.org>
Source record: 114822

Jim Kelley wrote:
> You have a very poor handle on what I have said, Cecil. You fail to
> even understand it.

I rarely understand EM waves that exist without energy.

> Perhaps you wouldn't mind showing "us" your calculations for s11 and
> s12. We know rho isn't equal to zero, but you haven't convinced me that
> s11 isn't equal to zero.

Source--+--50 ohm feedline---+---1/2WL 150 ohm line--+--50 ohm load

s11 is the "Input reflection coefficient with the output port
terminated by a matched load (ZL=Z0 sets a2=0)." Quoted from HP AN 95-1.

So s11 is (150-50)/(150+50) = 0.5 which, to the best of my knowledge
is not zero.

The only way for s11*a1 to be zero is for the source to be turned off.
Do you really want to support a math model that requires the source to
be turned off?

s12 is the "Forward transmission (insertion) gain with the output
port terminated in a matched load." Quoted from HP AN 95-1.

So s12 is (2*150)/(150+50) = 1.5 which, to the best of my knowledge
is not zero.

The only way that s12*a2 can be zero is for a2, the voltage reflected
from the load, to be zero. That's the corner that you have painted
yourself into. According to your math model, the source has to be
turned off and there cannot be any reflections from the mismatched load.
Is that why your waves possess no energy - because the source is turned
off?
--
73, Cecil http://www.qsl.net/w5dxp

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6671. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:24:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF102CA.7090300@ieee.org>
Source record: 114823

Bill Turner wrote:
> If "SSB" and "new" automatically pop into your mind together, things are
> worse than I thought. :-)

You mean those Single-Sidewinders are here to stay? Why would anyone
want to sound like Mickey Mouse? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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6672. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:32:00 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF10480.5030200@ieee.org>
Source record: 114824

Jim Kelley wrote:
>>Your P(x,t) math model is wrong.
>
> If so, you should be able to identify a specific math error.

The math error is obvious. P(x,t) equals zero when 200 watts is
being transferred.

> If each of the signal generators is dumping 100 watts into the feedline,
> my math tells me the net energy flow into the feedline is 200 Joules per
> second.

BS, Jim, your math says there is zero joules per second since there is
100 watts forward and 100 watts reflected and all steady-state waves
are standing waves with no traveling waves. Without viewing the two
ends of the lines, you cannot tell the difference between those two
sources and an unterminated line. You have already said that zero energy
flows in an unterminated line. You just keep digging your hole deeper and
deeper.
--
73, Cecil http://www.qsl.net/w5dxp

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6673. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:35:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF10555.40705@ieee.org>
Source record: 114825

Jim Kelley wrote:
>
> W5DXP wrote:
>
>
>>There's 200 joules in the forward wave and
>>100 joules in the reflected wave. Since there are no impedance discontinuities
>>except at the ends of the feedline, there are no reflections up and down the
>>feedline except at the ends. A directional wattmeter anywhere along the line
>>will verify the 200 watts of forward power and the 100 watts of reflected power.
>
> Like you said, there are no impedance discontinuities except at the ends
> of the feedlines, so what's the argument?

You say there is no energy in the reflected wave. If you are right, where
is that 100 joules stored? You say there is only 100 watts in the forward
wave. If you are right, where is the other 100 joules stored?

Your P(x,t) equation indicates only 100 watts. Where is the other 200 watts?
--
73, Cecil http://www.qsl.net/w5dxp

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6674. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:42:44 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <7j12fvgovsk3appgo911tpvfksaeja5949@4ax.com>
Source record: 114826

Jesus Christ Fellows, I left this thread LAST week and your still beating this dead horse to death.
I am about to climb my tower and jump off it. FUGGETABOUIT already....

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

6675. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:47:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF10830.8090103@ieee.org>
Source record: 114827

Jim Kelley wrote:
>>Your waves sometimes
>>carry energy and sometimes don't carry any energy depending upon
>>boundary conditions. How can they possibly be smart enough to predict,
>>a priori, a random future change in boundary conditions?
>
> You have to be an idiot to even pose such a question.

No, you have to be an idiot to believe in waves with supernatural
powers.

> What do you mean by "carry energy all the time"? There is energy in the
> oscillations, but energy is not necessarily transferred by all waves
> (according to the physics books).

You have implied that sometimes EM waves possess energy and sometimes they
do not possess energy. EM waves always possess energy and they are always
moving. Therefore, they are always moving (transferring) energy. Power
is simply a measure of that moving energy as measured on a directional
wattmeter.

"To transfer" means simply "to move to a different place". If energy is
being moved by EM waves then, by definition, it is being transferred. The
IEEE doesn't even give the word "transfer" a definition associated with
energy transfer. It's all data transfer.
--
73, Cecil http://www.qsl.net/w5dxp

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6676. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 00:55:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF109FA.1090504@ieee.org>
Source record: 114828

Donnie wrote:
> Jesus Christ Fellows, I left this thread LAST week and your still beating this dead horse to death.
> I am about to climb my tower and jump off it. FUGGETABOUIT already....

The issue is not resolved yet, Donnie. Does your newsreader have a
"mark as read" function?
--
73, Cecil http://www.qsl.net/w5dxp

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6677. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 01:13:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf23h4no0415a0@corp.supernews.com>
Source record: 114829

Richard Fry wrote:
> Pardon me for any offense taken, but no matter what the antenna hardware is
> ("boom length," physical aperture and geometry, height above ground,
> frequency, number of driven elements/directors/reflectors, or any other
> physical attributes both for amateur and commercial antenna arrays), the
> peak gain of a directional radiation pattern ALWAYS is a function of the
> peak amplitude of the directional pattern vs that of the radius of a perfect
> circle having an area equal to that of the pattern being evaluated -- as I
> described in my post earlier today. This definition is recognized by the
> FCC in the U.S., virtually every broadcast consulting engineer, and
> commercial antenna OEMs worldwide.
>
> I am puzzled by the lack of recognition of this reality by the dominant
> posters to this NG. Can anyone please explain this?
>
> RF

It didn't seem relevant to the discussion. I'm sure that most people know that assuming good efficiency, and a single lobe as is standard for a Yagi, gain and beamwidth are inseparable. They both arise from the same pheonomenon (of reinforcement/cancellation of fields from multiple elements), and it's that phenomenon that's being discussed here.

Roy Lewallen, W7EL

6678. Re: ??? Carolina Windom 160 Radiation Pattern????

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 01:26:34 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF1114A.A20A44C8@cwis.net>
Source record: 114830

Rick,
I don't know of any internet sites that would have
a radiation pattern for that antenna. You could always
find a program and model it your self though.
I can tell you that at the height that you plan on,
it will have a more or less omnidirectional pattern on
160 meters. A 'sort of' bidirectional pattern on 80 meters
off the sides of the antenna. On 40 meters and up it's
still going to be a 'sort of' bidirectional pattern but
off the ends of the antenna instead of the sides. You
won't have a 'good' impedance match on any band except maybe
40 meters, and not very good even there. All of that is
speculation, which will depend on what's near the antenna.
The 'best' thing you could do would be to get it higher...
'Doc

6679. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 01:30:27 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF11233.421F458B@cwis.net>
Source record: 114831

Andy,
I don't think you're going to be able to get an
acceptible match over 9 Mhz of frequency with that
antenna, or any other common one. Sorry 'bout that.
'Doc

6680. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 01:30:43 UTC
From: richardharrison@webtv.net
Message-ID: <19991-3EF11243-98@storefull-2313.public.lawson.webtv.net>
Source record: 114833

Art, KB9MZ wrote:
"Implicit in this graph is the understanding that losses occur because of the addition of reactive components."

Reactance consumes no power. Resistors eat power.

Parasitic antennas use reactance to adjust current phase in the parasitic elements.

At resonant length, antenna elements have no reactance. The function of a parasitic element, reflector or director, depends on the phase of its current. See page 905 of the 1955 edition of Terman:
"The exact effect on the directional pattern that is produced depends upon the magnitude and phase of the induced current, i.e., upon the spacing of the antennas and upon the tuning of the parasitic antenna. For example, if the driven and parasitic antennas are relatively close together and parallel, then the current induced in the parasitic antenna will be such as to reduce the strength of the radiation in the direction of the parasititic antenna when the latter is resonant at a lower frequency than that being transmitted. If resonant at a higher frequency than is being transmitted, the parasitic antenna acts as a "director" and tends to concentrate the radiated field in its direction. This is shown in Fig. 23-38."

Yuri has already posted this information. Maybe Art will be reassured by hearing it from Terman.

Best regards, Richard Harrison, KB5WZI

6681. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 01:46:10 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <td52fv05s3ildq4nevhaegip2r2dms1thm@4ax.com>
Source record: 114832

On Wed, 18 Jun 2003 19:55:22 -0500, W5DXP <Cecil.A.Moore@ieee.org> wrote:

>Donnie wrote:
>> Jesus Christ Fellows, I left this thread LAST week and your still beating this dead horse to death.
>> I am about to climb my tower and jump off it. FUGGETABOUIT already....
>
>The issue is not resolved yet, Donnie. Does your newsreader have a
>"mark as read" function?

Yes Cecil it does.... but can we resolve this and move on?

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

6682. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 02:03:45 UTC
From: richardharrison@webtv.net
Message-ID: <29732-3EF11A01-152@storefull-2312.public.lawson.webtv.net>
Source record: 114834

Jim, AC6XG wrote:
"It isn`t necessarily motion that induces current."

Terman, 1955 edition, page 2:
"The strength of the wave measured in terms of microvolts per meter of stress in space is also exactly the same voltage that magnetic flux of the wave induces in a conductor 1 m long when sweeping across this conductor with the velocity of light."

Best regards, Richard Harrison, KB5WZI

6683. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 02:29:49 UTC
From: richardharrison@webtv.net
Message-ID: <3418-3EF1201D-27@storefull-2318.public.lawson.webtv.net>
Source record: 114835

Jim, AC6XG wrote:
"The energy in a bowling ball is related to its mass and speed, but the ennergy of an electromagnetic wave is related to its frequency."

Einstein pointed out that the energy in an EM wave is proportional to its frequency. However, that does not make EM waves stands still. They can`t. EM waves must move to exist. It`s a traveling magnetic field that creates a traveling electric displacement field which creates a traveling magnetic field, etc.

Best regards, Richard Harrison, KB5WZI

6684. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 02:54:38 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306181854.767df34a@posting.google.com>
Source record: 114836

Richard
I do not believe that anybody specifically disagrees with
your statement or observation quote.
You have to start somewhere to prove what you say is correct if that
is the requirement, but in this case we are concentrating on
determining the peak amplitude that can be obtained from an array
which is one of the important factors you pointed to. I fully expect
that when that figure is known it can be used succesfully to verify
the observation made by you. However, for the moment we are
determining the theoretical maximum gain that can be obtainable from
an array design where all gains per element are additive and in line.
What you do with that figure i.e. to verify your observation is
entirely up to you but at this point I fail to see the immediate
relevancy.
I would point out that all posters to this thread have college degrees
and are very educated ,that is with the exception of myself who is
painfully lacking in so many areas.
I am sure that no offense has been taken as none of them appear to be
shy.
Best regards
Art
By the way many have stated or refered to the theoretical 3 db
increases
where as real world figures show something less than this, which I
personally attribute irregular phase additions of elements. It will be
interesting to see
if my intuitions are factual and coupling applies an aproach to
achieve theoretical gains which is why I need the thoughts of those
educated in the field.

"Richard Fry" <rfry@adams.net> wrote in message
news:<bcqpmu$lccle$1@ID-175933.news.dfncis.de>...
> Pardon me for any offense taken, but no matter what the antenna hardware is
> ("boom length," physical aperture and geometry, height above ground,
> frequency, number of driven elements/directors/reflectors, or any other
> physical attributes both for amateur and commercial antenna arrays), the
> peak gain of a directional radiation pattern ALWAYS is a function of the
> peak amplitude of the directional pattern vs that of the radius of a perfect
> circle having an area equal to that of the pattern being evaluated -- as I
> described in my post earlier today. This definition is recognized by the
> FCC in the U.S., virtually every broadcast consulting engineer, and
> commercial antenna OEMs worldwide.
>
> I am puzzled by the lack of recognition of this reality by the dominant

> posters to this NG. Can anyone please explain this?
>
> RF
>
> Visit http://rfry.org for FM broadcast RF system papers.
> ----------
>
> "Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message
> news:85ed38d.0306181358.4b5e5aba@posting.google.com...
> > "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca> wrote in message
> news:<rvYHa.4503$5d.543449@news20.bellglobal.com>...
> > > "Reg Edwards"
> > > > ...finding a statistical mean value...
> > >
> > > Averaged over the entire sphere, the improvement of an array should
> > > obviously be exactly 0dB gain over a single element (neglecting any
> losses
> > > in the array's extra hardware).
> >
> > Gentlemen, you are all so educated that you make every problem an
> > exotic one. (etc)

6685. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:01:09 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <RH9Ia.1685$%91.239066@news20.bellglobal.com>
Source record: 114839

"Reg Edwards"
> ...two radiating elements and one distant receiving antenna.
> ... the relative phase of the two received signals is unknown.
> ...the combined received signal volts can be anywhere
> between zero and twice that of either. So we are concerned
> with finding a statistical mean value.

"J. Harvey"
> "Averaged over the entire sphere, the improvement of an
> array should obviously be exactly 0 dB gain over a single
> element (neglecting any losses in the array`s extra hardware)."

"Richard Harrison"
> That is completely irrelevant to Reg`s point...

I must have misunderstood Reg's intended point. It seemed that he was describing two radiating elements (an array) where the relative phase of the two signals was uncontrolled and therefore either cancelled or added at the one distant receiving antenna. The statistical mean value is obviously highly predictable.

And the mention of the possible loss was in case power dividers were used. It seemed to me that Reg was describing a two-element phased array (not a 2-element Yagi).

"Art Unwin KB9MZ"
> Gentlemen, you are all so educated that you make
> every problem an exotic one.

Diametrically opposed to *my* intent - always.

> ...but (1) let us keep the discussion simple instead of
> sidelining the questions with "but...." (2)

:-)

6686. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:01:42 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcr92mlkp0@208.206.142.104>
Source record: 114837

Bill Turner wrote:

> kelly@dvol.com (Brian Kelly) wrote in
> news:d22b54c3.0306180600.3500f3bb@posting.google.com:
>
> > Buncha appliance operator weenies . . dumbing down is EVERYWHERE!
> >
>
> ____
>
> Abandoning an outdated mode and going on to new things is not dumbing down.
> Hanging on to the old obsolete stuff, now *that's* dumb.
>

Things that you may consider obsolete may not be to those who find utility in
them.

> You should be pressuring the FCC to legalize spark. That's *real* radio!
> :-)

Now *that's* dumb! :0)
CW ops know that radiotelegraphy has benefitted from technical advances right
along with other modes. And it still retains it's simplicity. For sure "modern"
modes can't be said to incorporate innate simplicity, particularily wrt
equimpent required.

6687. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:09:44 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcr9homkp0@208.206.142.104>
Source record: 114838

Bill Turner wrote:

> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
> news:bco9rptfs1@slb4.atl.mindspring.net:
>
> > Only because so many of the new so - called hams are too sorry to
> > learn cw.
> >
> > Dan/W4NTI
> >
> ____
>
> If it had perceived value to the new hams, they would learn it.
>

That won't wash, Bill. That says that only that which a newcomer perceives as valuable to him -unlearned as he is- is worth learning.

The proof?

I've known many hams who only learned Morse code because it was a license requirement, who became avid CW operators because of that demand. They would have never "wasted their time" learning the code if they hadn't been required to do it to get the license.

Dick W0EX

6688. Anyone use the Comet CA-2x4SR

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:19:42 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030618231942.21192.00000712@mb-m20.aol.com>
Source record: 114840

I was wondering if anyone uses the Comet CA-2x4SR mobile antenna. I am thinking of picking one up for use with a comercial rig that covers 2m ham and public safety frequencies up to 155 mhz. Any opinions?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6689. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:21:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF12C30.9080909@ieee.org>
Source record: 114841

Richard Harrison wrote:
> Jim, AC6XG wrote:
> "The energy in a bowling ball is related to its mass and speed, but the
> ennergy of an electromagnetic wave is related to its frequency."
>
> Einstein pointed out that the energy in an EM wave is proportional to
> its frequency. However, that does not make EM waves stands still. They
> can`t. EM waves must move to exist. It`s a traveling magnetic field that
> creates a traveling electric displacement field which creates a
> traveling magnetic field, etc.

Apparently there are some people who think standing waves really stand
still so the energy in the standing wave doesn't move. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6690. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 03:44:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <thb2fvs7k6n966fvtelmqg1fvhvm099aoj@4ax.com>
Source record: 114842

On 18 Jun 2003 14:58:12 -0700, aunwin@insightbb.com (Art Unwin KB9MZ) wrote:

>So now we can clearly say that the phase angle of each radiator is
>clearly the enemy as far as array gain goes, and what the original
>question was that if we use "link" coupling of some sort where phase
>angles can be controlled

This is the function of the transmission line construction within the Log Periodic Dipole Array. The addition of "link" coupling is strained to achieve your unstated purpose isn't it? Basics suggest such additions are gilding the lily and painting the rose.

>wouldn't it provide for max gain without
>resorting to the boom length factor?

No.

>Yes, it introduces the 'coupling' word again but try not to go into a
>tizzy

Hi Art,

Hardly.

73's
Richard Clark, KB7QHC

6691. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:07:32 UTC
From: Bob McConnell <rmcconne.NOSPAM@lightlink.com>
Message-ID: <dtb2fv8qcs0m1cc18ujtgjr3c0dlc0n7h1@4ax.com>
Source record: 114843

On Wed, 18 Jun 2003 14:56:36 -0500, "Dan/W4NTI"
<w4nti@NOSPAMmindspring.com> wrote:

>Nope don't thing CW is better than sex. But I do think CW has a place in
>communications. And Im basically sick of hearing all the little children
>whinning that they have to actually put forth some effort.
>
>Guess I was brought up different.
>
>Dan/W4NTI
>

No Dan, you're just as much an elitist snob as all of the ARRL
supporters. If you didn't have some way to prove you are better than
the rest of the world, you probably wouldn't even be a ham.

CW is quite simply a historic curiosity, just like the RTTY equipment
I used to repair. If you can't sell its value to new operators, then
don't complain that they don't consider it worth the effort to learn.
My personal experience was having to copy and send 14 wpm to qualify
for the Navy's Radioman 'A' school back in '70. After three weeks of
that forced feeding I used it exactly once in the remaining seven
years of active duty, and that was during a training exercise. Never
heard it in Vietnam, although it was used with the lights up on the
signal bridge occasionally during radio silence drills. I managed to
get back up to 5 wpm just long enough to pass the Novice exam
(KB2PHN). I can't stand to listen to it now, even after three years of
therapy. It gives me a major headache in just a few minutes.

Bob McConnell
N2SPP
Ex-RM2: NFIT, NLM

6692. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:15:25 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <rpd2fvs4d9utq9e11rc0734in90msulopf@4ax.com>
Source record: 114844

On 18 Jun 2003 17:51:32 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>I have a dualband mobile antenna on a magmount. I am not sure of the model
>number (I bought it from Ebay a while ago). It works fine, but on 2m, the
>center frequency is 144 mhz (SWR around 1:1) with the SWR getting close to 2:1
>at 148. I've adjusted the whips with an allen wrench, but it seems to make no
>difference. Is it wise to start trimming the radiator 1/8" at a time? if I did,
>would I trim the top element or the bottom element? (The antenna is center
>loaded)
>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

On my dual-band center-loaded Larson w/mag mount antenna, I trimmed
from the bottom, maybe an 1/8 inch at a time, till it looked nice
around 147 or 148 Mhz. I took what I could get in the 440 Mhz band --
where the swr was a bit higher. I don't think these antennas are gonna
give you 1:1 on both bands.

If it is a Larson, by the way, go to the hardware store and get a good
file. :-)

Bob
k5qwg

6693. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:15:46 UTC
From: "Ryan, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <bcsnoa$mt9pv$2@ID-189073.news.dfncis.de>
Source record: 114776
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

Gee Cecil.... isn't that more like sounding like the Chipmunks? :)

--
Ryan, KC8PMX
FF1-FF2-MFR-(pending NREMT-B!)
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF102CA.7090300@ieee.org...
> Bill Turner wrote:
> > If "SSB" and "new" automatically pop into your mind together, things are
> > worse than I thought. :-)
>
> You mean those Single-Sidewinders are here to stay? Why would anyone
> want to sound like Mickey Mouse? :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6694. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:17:01 UTC
From: richardharrison@webtv.net
Message-ID: <29732-3EF1393D-171@storefull-2312.public.lawson.webtv.net>
Source record: 114846

Cecil, W5DXP wrote:
"Apparently there are some people who think standing waves really stand still so that the energy in a standing wave doesn`t move."

The energy is moving in both directions. It`s the phase relation between the two waves which is not changing.

Strange that accumulation of energy in a transmission line is so small that it is all gone in a split second after discontinuation of energy feed to the line.

Stranger still is the light still arriving here from the era of the "big bang" of creation. It has never stopped moving.

Best regards, Richard Harrison, KB5WZI

6695. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:21:31 UTC
From: "Ryan, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <bcsnob$mt9pv$3@ID-189073.news.dfncis.de>
Source record: 114777
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

Dick,

I still am curious to find out, if there were any SPECIFIC exclusions to
Part 97.401, 97.403 or 97.405?? I have not been privy to the actual release
issued by the F.C.C. regarding the new band allocations.

Are those parts of Part 97 specifically listed as not applicable or is that
just certain people "reading into it" to serve their own agenda?

Inquiring minds want to know,

--
Ryan, KC8PMX
FF1-FF2-MFR-(pending NREMT-B!)
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...

> As always, it depends entirely on the situation. For real time operations,
> where no hard copy is needed and verbal exchange is all that is required,
> voice is always best, assuming of course that radio conditions agree. But
> for passing message traffic, voice is limited by transcription speed as
well
> as quicker deterioration of copy quality as atmospherics and propagation
> fall out of useable range. A good CW op can be going strong still, under
> conditions where voice has deteriorated below usefulness..
> To me the disappointing part of the new 60meter band was the lack of any
> authority to use digital data modes, even in emergencies.
> And of course CW as the base line 'last resort' mode.
> What we got was the vary barest minimum necessary to conduct *any*
> emergency operations.
>
> Dick
>
>

6696. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:24:31 UTC
From: "Ryan, KC8PMX" <kc8pmx@diamondcs.net>
Message-ID: <bcsnoc$mt9pv$4@ID-189073.news.dfncis.de>
Source record: 114778
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

Sex?? What the hell is that?? It's been so long, I think I forgot how to!
Does it require a partner?? (LOL)

(I heard the "retraining course" is alot of fun though :)

--
Ryan, KC8PMX
FF1-FF2-MFR-(pending NREMT-B!)
--. --- -.. ... .- -. --. . .-.. ... .- .-. . ..-. .. .-. . ..-.
.. --. .... - . .-. ...
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF08774.2010604@ieee.org...
> Dan/W4NTI wrote:
> > The basic problem with all the
> > anti-cw whinning is there too dang lazy to actually put out the effort.
>
> Hams like you and I have failed to convince many new hams that
> CW is worth the effort. I'll bet they are not too lazy for sex. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6697. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:43:09 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619004309.13678.00000867@mb-m25.aol.com>
Source record: 114845

>Larson w/mag mount antenna, I trimmed
>from the bottom, maybe an 1/8 inch at a time, till it looked nice
>around 147 or 148 Mhz. I took what I could get in the 440 Mhz band --
>where the swr was a bit higher. I don't think these antennas are gonna
>give you 1:1 on both bands.

Thanks for the suggestions. I ended up buying a Comet CA-2X4SR antenna. They
advertise it as a wideband antenna with a 1.5 SWR from 140 - 160. We'll see...
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6698. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 04:44:56 UTC
From: richardharrison@webtv.net
Message-ID: <29735-3EF13FC8-8@storefull-2312.public.lawson.webtv.net>
Source record: 114848

Art, KB9MZ wrote:
"---we are concentrating on the peak amplitude that can be obtained---."

Maximum is produced by an in-phase reflection resulting in double the volts of the driven element by itself. 2X the volts is 4X the power or 6db.

Bill Orr and Arnold Bailey, both gave a real world example of 5.5 dbd gain for a driven element with one parasitic element.

That is about as close to perfection as you are likely to get. The most gain per added element comes with the first element added. You get a smaller gain increase with each added element.

Best regards, Richard Harrison, KB5WZI

6699. Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 05:09:17 UTC
From: wess@gtii.com
Message-ID: <vf2has4i4d86eb@corp.supernews.com>
Source record: 114847

Hopefully some one can help my tune my 4 band vertical mobile antenna (uhv-4).

When I put it on initially, I did a quick check on 6m, 2m, 440 and all was under 2:1. Didn't check 10m since I am not licensed for it (yet studying code).

The other day I had time to start getting serious with this and my antenna isn't doing so well. At the time it was mounted to the stake pocket just behind drivers rear window on a home made mount consisting of a so-238 on a chunk of aluminum screwed to one of those rubber expanding stake pocket tie down things. From, the aluminum plate, I have a 10 ga wire jumper screwed to edge of pickup bed.

440 was 3:1 and 6 m was 3:1. 2 meters was 1.5 or so to one and I had an extra class bud key up and 10m as 1.05:1. Wow what is up with that.

Decided to move mount to rear pocket near tailgate. Same numbers. No matter what I do 6m is from 5:1 to 3:1 depending on what part of band. Changing length of stinger makes no difference. Clamping a big piece of steel to homemade mount made no difference. Using a new piece of coax, no difference.

When I get up in morning I am going to finish building a 6m jpole that I am going to use to see if swr meter reads close to calculated just in case my meter has a problem.

Any ideas of what to explore would be welcome. Comet told me to send it back for inspection which I will do monday if not resolved. I'd just like to be sure I didn't miss a detail.

FWIW, yaesu ft8900r FM tx only.

73, wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6700. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 06:33:16 UTC
From: loopfan <brian@greertech.com>
Message-ID: <MOcIa.54700$lo.5171183@newsread2.prod.itd.earthlink.net>
Source record: 114849

Hello Henry,

The best part about the shielded loop antenna is that even if there is disagreement on how it works, the end result is that it *still works*. <grin>

I'm still learning how it works myself, and really appreciate the input that Tom, RHF, and others have made. I have discovered that this topic can generate a considerable amount of debate. While we're debating, don't let that stop you from enjoying some noise-free sessions at the same time.

With my quick-to-build version of the loop, there is NO physical coupling between the shield and the center conductor at the gap, (although others are free to disagree - without disagreement, none of us would experiment!)

http://www.greertech.com/hfloop/mymagloop.html

73
Brian

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vf13otdsllcsc3@corp.supernews.com...
> Tom
> I've never really understood shielded loops and still don't but getting
> closer. I've not made one yet but will. If the outer braid of the loop
is
> coax and is connect to a coax feedline it ends up being grounded at the
> receiver. How is the "outer loop" decoupled from the rest of the feedline
> and does the outer loop couple to the center conductor at the gap?

6701. Re: Marine antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 06:44:32 UTC
From: froggers <not.froggers@nospam.ntlworld.com>
Message-ID: <nWcIa.75$Pc4.100543@newsfep1-gui.server.ntli.net>
Source record: 114850

"Mark Keith" <nm5k@wt.net> wrote in message
news:25eb70d7.0306130125.2391e302@posting.google.com...
> "Max" <Max_Jens@post9.tele.dk.invalid> wrote in message
> > > I need a yagi or something with gain, because I'm quite some ways from
> > > the marine station.
> >
> > Remember to put the Yagi up vertical on a non-metalic pole.
>
> Why the non-metalic pole? I've used plenty of vertical yagi's on metal
> masts. My present 3 el 2m yagi is on a metal mast. No problems at all.
> Actually, here in lightning country, a non metal mast is kind of
> dangerous. If the reflector is on the same side of the mast as the
> rest of the elements, the mast is fairly "invisible" as far as the
> antenna is concerned. Even if the reflector is on the other side, I
> bet it would still work in many cases, being the mast is not resonant
> and so long. I think the antenna would ignore the mast to a large
> extent. But my reflector is on the director side of the mast, so no
> worries at all. MK

Does the vertical mast go up between the vertical elements or is the
aerial offset from the vertical mast by a foot or two of horizontal ?

I'm thinking of putting my 9 ele Tonna on the rotator vertical
as 2M SSB is pretty inactive here in the UK

Nick

6702. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 07:16:46 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <N9OpQ0EeNW8+EASR@ifwtech.co.uk>
Source record: 114854

Art Unwin KB9MZ wrote:

>
>Gentlemen, you are all so educated that you make every problem an
>exotic one.
>I mean no disrespect but let us keep the discussion simple instead of
>sidelining the questions with "but...."
>Yes the ARRL has a graph which bases gain on boomlength on the
>assumption that enough elements are used.

Just to be clear who's saying what, this marks the end of ARRL, and the start of Art's interpretation.

>Implicite in this graph is
>the understanding that losses occur because of the addition of
>reactive components. This is not an exciting statement because anytime
>you use ohms law and cos phi enters the picture you are introducing
>"losses". Said another way, if impedance is I cos phi it can clearly
>be shown as a combination of two vectors where only the 'I' vector is
>important. And if you have more than one radiator then the next 'I'
>vector is the vector that is used preferably in additive form.
>Now I know all of you know this, but I am saying it to bring you all
>back to basics rather than making it more difficult than it is.
>So now we can clearly say that the phase angle of each radiator is
>clearly the enemy as far as array gain goes,

DL6WU speculated on this in the mid-1970s, by drawing a vector diagram of the way the current in each element contributes to forward radiation. This depends on the magnitude and phase of the current in each individual director. In an ideal situation, all the vectors would line up perfectly to give the largest possible resultant vector. This makes the optimum use of the available boom length.

In a real yagi, the string of vectors shows a curl, so there is a shortfall from the maximum idealized gain [but this should never be called a "loss" - that word is already used for something else]. In a poor design, the curl is irregular, and/or it even turns back on itself so that the end directors are reducing the gain. Since DL6WU's design work was BC (Before Computers) he wasn't in a position to explore this idea quantitatively.

At about the same time, W2PV was independently exploring the same ideas, and he did have the facilities to compute the vectors. However, he was only interested in HF yagis with relatively few elements, where the big picture doesn't emerge so clearly as it does with long yagis.

Having cloned the W2PV program in the mid-1980s, and then applied it to VHF/UHF long yagis, I wrote a little program to draw the element currents as pretty strings of colored vectors on-screen. This showed that DL6WU's speculations were entirely correct - the vector diagram is a *very* revealing way to show whether the director string is making optimum use of the boom length.

A good diagram is regular and progressive... just like the physical lengths and placements of the of the directors on the boom. Any directors that aren't contributing in the optimum manner will be very obviously too long or too short, and/or at the wrong angle. You can be very sure such a yagi is not optimized.

Brian Beezley's YO program draws current magnitudes over the graphic of the yagi design. This too is very revealing, but compared with the full vector presentation it's looking at the problem with one eye shut.

All this later computer analysis showed that - thanks to some very clear thinking about basic principles - DL6WU had indeed found a recipe for long yagi design that gives almost the minimum achievable curl in the vector string, so it's capable of being extended almost indefinitely. That's why you'll find "DL6WU DNA" in almost all modern, successful long yagi designs.

There's a lot more could be said about this, but we've been ordered to keep it simple. If we could draw pictures here, you'd see that the current vector idea probably *is* the simplest way of looking at yagis.

Hmmm... wonder if we could interest Dan, AC6LA, in a post-plotting routine for NEC-2 current output? (So many projects, so little time!)

> and what the original
>question was that if we use "link" coupling of some sort where phase
>angles can be controlled wouldn't it provide for max gain without
>resorting to the boom length factor?
>Yes, it introduces the 'coupling' word again but try not to go into a
>tizzy
>which prevents clear thought.

Then give this some clear thought: in a yagi, each element interacts with *all* the others - not just the elements next to it. How do you propose to link-couple each to all? Did somebody mention "simple"? ;-)

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6703. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 07:43:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf2qdsisndm0cd@corp.supernews.com>
Source record: 114851

If elements are spaced far enough apart so that their fields can add in phase in some direction, then the total field in that direction will be twice the field of that from a single element, or 6 dB. However, the power being fed into the array is split between the elements. If there's no mutual coupling between the elements or if the two elements are being fed in phase or 180 degrees out of phase (in which case coupling has the same effect on both elements), each element gets half the total power. The amount each element gets, then, is 3 dB less than a single element would get if it received all the power. This makes the net gain over a single element 3 dB, not 6.

Mutual coupling can raise the feedpoint resistances of the elements, which reduces the current in and therefore the field from each element for a given power input and lowers the array gain below 3 dB for two elements. An example of this is two elements spaced a half wavelength and fed out of phase, which produces a gain of only 2.3 dB relative to a single element. But mutual coupling can also lower the feedpoint resistances of the elements, increasing the currents and therefore the fields, raising the gain above 3 dB. An example of this is two elements spaced a half wavelength and fed in phase, for a gain of 3.8 dB. Other spacings and phasings can be found which raise the gain higher yet, as in the example Richard gives. The trick the 2 element Yagi uses to get the relatively high gain is by achieving an optimal value of mutual coupling. It's not coincidental that the feedpoint resistance of such an array is low -- it's an essential part of the process of achieving the high gain.

You can find out more about this in Chapter 8 of the ARRL Antenna Book.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Art, KB9MZ wrote:
> "---we are concentrating on the peak amplitude that can be obtained---."
>
> Maximum is produced by an in-phase reflection resulting in double the
> volts of the driven element by itself. 2X the volts is 4X the power or
> 6db.
>
> Bill Orr and Arnold Bailey, both gave a real world example of 5.5 dbd
> gain for a driven element with one parasitic element.
>
> That is about as close to perfection as you are likely to get. The most
> gain per added element comes with the first element added. You get a
> smaller gain increase with each added element.

>
> Best regards, Richard Harrison, KB5WZI
>

6704. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 07:54:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf2r2imnugm4b7@corp.supernews.com>
Source record: 114852

There's no disagreement among antenna professionals about how shielded loops work. One of the clearest explanations I've seen is in King, Mimno, and Wing's _Transmission Lines, Antennas, and Waveguides_, originally published in 1945. But you can find similar explanations in other texts. If you'll check in the Google archives for a posting I made on March 21 in the thread "Re: Loop antenna questions", you'll find material from that book and from Johnson's _Antenna Engineering Handbook_, plus additional information.

Roy Lewallen, W7EL

loopfan wrote:
> Hello Henry,
>
> The best part about the shielded loop antenna is that even if there is
> disagreement on how it works, the end result is that it *still works*.
> <grin>
>
> I'm still learning how it works myself, and really appreciate the input that
> Tom, RHF, and others have made. I have discovered that this topic can
> generate a considerable amount of debate. While we're debating, don't let
> that stop you from enjoying some noise-free sessions at the same time.
>
> With my quick-to-build version of the loop, there is NO physical coupling
> between the shield and the center conductor at the gap, (although others are
> free to disagree - without disagreement, none of us would experiment!)
>
> http://www.greertech.com/hfloop/mymagloop.html
>
> 73
> Brian

6705. for sale: FRG 8800 - TM742

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 08:04:48 UTC
From: Fabrice / Aquaterra <fabrice.news.invalid@web2news.net>
Message-ID: <41899N488@web2news.com>
Source record: 114853

Bonjour,

Vend Station:

Yeasu FRG-8800 + docs
Kenwood TM 742 (boite d'origine)
Oscillo: Tektronix 7603 + modules + sondes

Faire offre

fabrice_f@ifrance.com

--
Direct access to this group with http://web2news.com
http://web2news.com/?rec.radio.amateur.antenna

6706. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 08:48:03 UTC
From: samsvl@nlr.nl
Message-ID: <Xns939F6DDF51C37samsvlnlrnl@137.17.128.14>
Source record: 114755

"Ramilacaponi" <acuadrad@puc.cl> wrote in news:3ef1000d@omega.ifxnw.cl:

> Maybe it's not the extact name for this antennas. What I meant where
> those antennas that you make on the PCB, antennas that are made of
> "lines" of copper on the PCB. They are really cheap, almost free, and
> you can made them very small. Any information about this would be very
> helpful

If you are looking for a patch antenna, you can make it from double sided PC board. For FR-4 the dimensions (length and width) will be in the order of 20 cm.

BFN

Sam

6707. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 09:24:26 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF1814A.3D148D8D@cwis.net>
Source record: 114855

G. Doughty,
As long as the wood's moisture content is very low
it should work okay. Another handy (and cheap) insulator
is the plastic 'rings' from a 6-pack of beverage. Double
them a couple of times and they'll be strong enough to
hold a 10 meter dipole just fine. Or how about cutting
the 'necks' off of plastic bottles? Or plastic bottle
caps? Plenty of insulators floating around out there, not
always hi-tech or pretty, but they work just fine...
'Doc

6708. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 10:56:42 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bcs4tf$m5djm$1@ID-134747.news.dfncis.de>
Source record: 114856

Two questions:
1. Was your "quick" check done from the final
mounting place?

2. Did you waterproof the SO238 to aluminum
plate, aluminum plate to #10 wire, and #10 wire to
edge of pickup bed connections? "Coax Seal", sold
at Radio Shack and others, would be my sealer of
choice, but silicone bathtub caulk, "Moretite"
weather strip, or any other waterproof seal would
work just great. (Note absence of electrical
tape, it does not last, and IMHO plastic
electrical tape is not a waterproof as you might
think - over time)

73 es cul

wb3fup
a Salty Bear

<wess@gtii.com> wrote in message
news:vf2has4i4d86eb@corp.supernews.com...
> Hopefully some one can help my tune my 4 band
vertical mobile antenna
> (uhv-4).
>
> When I put it on initially, I did a quick check
on 6m, 2m, 440 and all
> was under 2:1. Didn't check 10m since I am not
licensed for it (yet
> studying code).
>
> The other day I had time to start getting
serious with this and my
> antenna isn't doing so well. At the time it was
mounted to the stake
> pocket just behind drivers rear window on a home
made mount consisting
> of a so-238 on a chunk of aluminum screwed to
one of those rubber
> expanding stake pocket tie down things. From,
the aluminum plate, I
> have a 10 ga wire jumper screwed to edge of
pickup bed.
>

> 440 was 3:1 and 6 m was 3:1. 2 meters was 1.5 or
so to one and I had
> an extra class bud key up and 10m as 1.05:1.
Wow what is up with
> that.
>
> Decided to move mount to rear pocket near
tailgate. Same numbers. No
> matter what I do 6m is from 5:1 to 3:1 depending
on what part of band.
> Changing length of stinger makes no difference.
Clamping a big piece
> of steel to homemade mount made no difference.
Using a new piece of
> coax, no difference.
>
> When I get up in morning I am going to finish
building a 6m jpole that
> I am going to use to see if swr meter reads
close to calculated just
> in case my meter has a problem.
>
> Any ideas of what to explore would be welcome.
Comet told me to send
> it back for inspection which I will do monday if
not resolved. I'd
> just like to be sure I didn't miss a detail.
>
> FWIW, yaesu ft8900r FM tx only.
>
> 73, wes, kc8spr
> --
> Reply to:
> Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE
dot COM
> Lycos address is a spam trap.

6709. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 11:30:49 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306190330.691fd3b1@posting.google.com>
Source record: 114857

Bill Turner <noway@nohow.com> wrote in message
news:<Xns939E9BAAD14E5pookster@129.250.170.85>...
> kelly@dvol.com (Brian Kelly) wrote in
> news:d22b54c3.0306181333.72df7a57@posting.google.com:
>
> >> Abandoning an outdated mode and going on to new things is not dumbing
> >> down. Hanging on to the old obsolete stuff, now *that's* dumb.
> >
> > So what, exactly, is "new" about ssb Sire?? Hams had ssb on the air in
> > the early 1930's and the commercials were using it before then.
> --
>
> Excuse me, did I use the term "SSB" in my post? Here's a hint: No.
> If "SSB" and "new" automatically pop into your mind together, things are
> worse than I thought. :-)
>
> Get WSJT working with your spark machine and you'll really have something.

How many WSJT qso's have you had on 20?

How many with one of the super-whizzy ham multimedia "Internet portals"?

As if.

w3rv

6710. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 11:45:20 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <enhIa.7534$9y3.715653@news20.bellglobal.com>
Source record: 114859

"Richard Harrison"
> Stranger still is the *light* still arriving here from
> the era of the "big bang" of creation.

Excellent word choice: "light".
In the case of COBE:
31, 53, and 90 GHz.

Sorry - drifting off thread.

6711. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 11:48:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306190348.de3cce4@posting.google.com>
Source record: 114858

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<29735-3EF13FC8-8@storefull-2312.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "---we are concentrating on the peak amplitude that can be obtained---."
>
> Maximum is produced by an in-phase reflection resulting in double the
> volts of the driven element by itself. 2X the volts is 4X the power or
> 6db.
>
> Bill Orr and Arnold Bailey, both gave a real world example of 5.5 dbd
> gain for a driven element with one parasitic element.

Richard 5.5db is the real world figure that I spoke of as is the
previous statement on inphase.....
>
> That is about as close to perfection as you are likely to get.

Certainly it is an imperical max but not a scienfic or absolute max.
Looking at it simplistically I am studying what creates the difference
of the .5db so that efforts can be made to recover the difference

To get back on track can you tell me where and why the 0.5db is lost
since it apears you are comfortable with 6 db being an absolute?

The most
> gain per added element comes with the first element added. You get a
> smaller gain increase with each added element.
I suspect that evrybody knows that with respect to yagi arrays.

> Best regards, Richard Harrison, KB5WZI

Regards
Art

6712. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 12:02:17 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF1A5E6.3000500@attbi.com>
Source record: 114860

However, IMHO CW is the best and easiest way to work the rarer
DX-peditions. Smaller piles, easier to hear signals, quicker exchange :
e.g "TU 599 W1MCE"

So, for me the motivation can be tied to DX.

Deacon Dave, W1MCE
+ + +

Bob McConnell wrote:
> On Wed, 18 Jun 2003 14:56:36 -0500, "Dan/W4NTI"
> <w4nti@NOSPAMmindspring.com> wrote:
>
>
>>Nope don't thing CW is better than sex. But I do think CW has a place in
>>communications. And Im basically sick of hearing all the little children
>>whinning that they have to actually put forth some effort.
>>
>>Guess I was brought up different.
>>
>>Dan/W4NTI
>>
>
>
> No Dan, you're just as much an elitist snob as all of the ARRL
> supporters. If you didn't have some way to prove you are better than
> the rest of the world, you probably wouldn't even be a ham.
>
> CW is quite simply a historic curiosity, just like the RTTY equipment
> I used to repair. If you can't sell its value to new operators, then
> don't complain that they don't consider it worth the effort to learn.
> My personal experience was having to copy and send 14 wpm to qualify
> for the Navy's Radioman 'A' school back in '70. After three weeks of
> that forced feeding I used it exactly once in the remaining seven
> years of active duty, and that was during a training exercise. Never
> heard it in Vietnam, although it was used with the lights up on the
> signal bridge occasionally during radio silence drills. I managed to
> get back up to 5 wpm just long enough to pass the Novice exam
> (KB2PHN). I can't stand to listen to it now, even after three years of
> therapy. It gives me a major headache in just a few minutes.
>
> Bob McConnell
> N2SPP
> Ex-RM2: NFIT, NLM
>

6713. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 12:09:36 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306190409.721dd885@posting.google.com>
Source record: 114861

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19991-3EF11243-98@storefull-2313.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "Implicit in this graph is the understanding that losses occur because
> of the addition of reactive components."
>
> Reactance consumes no power. Resistors eat power.

Reactance does 'divert' power to directions that are not desirable
for peak gain so thye exercise is to redirect it to where it is
usefull.
Resistors diverts the energy form since energy cannot be created or
destroyed.
You know that, every body knows that!

> Parasitic antennas use reactance to adjust current phase in the
> parasitic elements.
Is this Antennas 101 that you have digested.
>
> At resonant length, antenna elements have no reactance. The function of
> a parasitic element, reflector or director, depends on the phase of its
> current. See page 905 of the 1955 edition of Terman:
No problem with that.I think that all understand that.

> "The exact effect on the directional pattern that is produced depends
> upon the magnitude and phase of the induced current, i.e., upon the
> spacing of the antennas and upon the tuning of the parasitic antenna.
> For example, if the driven and parasitic antennas are relatively close
> together and parallel, then the current induced in the parasitic antenna
> will be such as to reduce the strength of the radiation in the direction
> of the parasititic antenna when the latter is resonant at a lower
> frequency than that being transmitted. If resonant at a higher frequency
> than is being transmitted, the parasitic antenna acts as a "director"
> and tends to concentrate the radiated field in its direction. This is
> shown in Fig. 23-38."

I am sure that all understand that.

>
> Yuri has already posted this information. Maybe Art will be reassured by
> hearing it from Terman.

Yuri is pointing out that in one of my patents there is an incorrect
statement because of a reversal of terms. This is in the description
portion and is not reflected in the drawings or the claims. Yuri found
an obvious error and wants credit for his observation or is using it

as an instrument of ridicule. I have no problem with you joining him.

>
> Best regards, Richard Harrison, KB5WZI

6714. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 12:22:06 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306190422.306ffa5@posting.google.com>
Source record: 114862

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<thb2fvs7k6n966fvtelmqg1fvhvm099aoj@4ax.com>...
> On 18 Jun 2003 14:58:12 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:
>
> >So now we can clearly say that the phase angle of each radiator is
> >clearly the enemy as far as array gain goes, and what the original
> >question was that if we use "link" coupling of some sort where phase
> >angles can be controlled
>
> This is the function of the transmission line construction within the
> Log Periodic Dipole Array.

Yes that can be seen as a sample where an array elements are phase controlled
to some extent.

The addition of "link" coupling is
> strained to achieve your unstated purpose isn't it?

In this case you have a point

Basics suggest
> such additions are gilding the lily and painting the rose.

I am not a gardener or a painter, see no reason for such
a diverse statement with respect to antennas

>
> >wouldn't it provide for max gain without
> >resorting to the boom length factor?
>
> No.
>
> >Yes, it introduces the 'coupling' word again but try not to go into a
> >tizzy
>
> Hi Art,
>
> Hardly.

Hopefully I am assuming there has been a change in aproach
>
> 73's
> Richard Clark, KB7QHC

Art.

6715. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 12:25:38 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306190425.64275d30@posting.google.com>
Source record: 114863

Bob McConnell <rmcconne.NOSPAM@lightlink.com> wrote in message
news:<dtb2fv8qcs0m1cc18ujtgjr3c0dlc0n7h1@4ax.com>...
> On Wed, 18 Jun 2003 14:56:36 -0500, "Dan/W4NTI"
> <w4nti@NOSPAMmindspring.com> wrote:
>
> >Nope don't thing CW is better than sex. But I do think CW has a place in
> >communications. And Im basically sick of hearing all the little children
> >whinning that they have to actually put forth some effort.
> >
> >Guess I was brought up different.
> >
> >Dan/W4NTI
> >
>
> No Dan, you're just as much an elitist snob as all of the ARRL
> supporters. If you didn't have some way to prove you are better than
> the rest of the world, you probably wouldn't even be a ham.

Some of us put more into the hobby in order to get more out of it.
Which is certainly the case when it comes to learning and using CW.
Whether or not that makes us beepers "snobs" is a matter of
perception, not a matter of fact. One must ask if this "problem" is a
matter of a "superiority complex" on our parts or self-inflicted
"inferiority complexes" on the parts of you CW bashers.

> CW is quite simply a historic curiosity, just like the RTTY equipment
> I used to repair. If you can't sell its value to new operators, then
> don't complain that they don't consider it worth the effort to learn.
> My personal experience was having to copy and send 14 wpm to qualify
> for the Navy's Radioman 'A' school back in '70. After three weeks of
> that forced feeding I used it exactly once in the remaining seven
> years of active duty, and that was during a training exercise. Never
> heard it in Vietnam, although it was used with the lights up on the
> signal bridge occasionally during radio silence drills.

When all else was down it got to beeping eh? What a big surprise.

> I managed to
> get back up to 5 wpm just long enough to pass the Novice exam
> (KB2PHN). I can't stand to listen to it now, even after three years of
> therapy. It gives me a major headache in just a few minutes.

. . . the usual . . .

Try harder to come up with something original.

> Bob McConnell
> N2SPP
> Ex-RM2: NFIT, NLM

w3rv

6716. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 12:38:31 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030619083831.21932.00000707@mb-m19.aol.com>
Source record: 114864

Thank you much.
remove nojunk to email

6717. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 13:10:58 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619091058.01043.00001677@mb-m18.aol.com>
Source record: 114865

Did you follow the tuning instructions included with the antenna? Included are little pieces of metal that are similar to the "whip" portions of the antenna, but made of lighter material. You are supposed to put them in and trim them a little at a time until they are the right length, the trim the actual whips themselves to the same length. I think the instructions also say that 2m and 70cm have to be adjusted first, then, you can adjust 6m and 10m.

When I had one of those antennas, I had to trim quite a bit of the 6m whip to get it to the right length. 2m and 70cm were pretty much perfect out of the box.

You'd be better off borrowing an MFJ antenna analyzer while triming the whips, instead of keying up your radio through an SWR meter, if you can find another local ham with one. The only ground I had was the trunk lip mount to the car and the SWR was fine on all bands.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6718. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 13:19:29 UTC
From: wess@gtii.com
Message-ID: <vf3e2ehsithd0@corp.supernews.com>
Source record: 114866

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote:

>Two questions:
> 1. Was your "quick" check done from the final
>mounting place?

The first mounting place which was going to be final until started
seeing problems.

>
> 2. Did you waterproof the SO238 to aluminum
>plate, aluminum plate to #10 wire, and #10 wire to
>edge of pickup bed connections? "Coax Seal", sold
>at Radio Shack and others, would be my sealer of
>choice, but silicone bathtub caulk, "Moretite"
>weather strip, or any other waterproof seal would
>work just great. (Note absence of electrical
>tape, it does not last, and IMHO plastic
>electrical tape is not a waterproof as you might
>think - over time)

No. I think I'll go out and take everything apart, clean it up and
check again.

73, Wes, kc8spr
>
>73 es cul
>
>wb3fup
>a Salty Bear
>

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6719. Re: Bill Owens RV Antenna (Circa - 70s)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 13:19:57 UTC
From: richardharrison@webtv.net
Message-ID: <3417-3EF1B87D-175@storefull-2318.public.lawson.webtv.net>
Source record: 114867

Maps 75 wrote:
"It was a tubular aluminum 1/2 wave dipole supported on four Nylon plastic legs 8 3/4" long and driven at the center by a square Z plate and a gamma match."

1/2-wave mounted a foot or two above the earth is 4 or 5 feet higher than the clearance of overpasses on the freeways here.

Experience with hundreds of 33 MHz mobile installations using 1/4-wave whips against the vehicle bodies was completely satisfactory. On autos we put a hook on the rain gutter. For parking garage entry, the whip could be arched over and hooked so as to not break out fluorescent tubes.

A 102-inch CB whip is not much longer than was out 33 MHz whip. It should work almost equally well with some allowance for 5 watts versus 50 watts and Am versus Fm. At the reception threshold, AM is about equal to FM.

If you can tolerate a 1/2-wave antenna, a good coaxial antenna from another source should equal your Bill Owens model.

Best regards, Richard Harrison, KB5WZI

6720. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 14:19:48 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <3EF1C684.7040806@core.com>
Source record: 114868

Becarefull about using the plastic retainers from six packs. The plastic
is formulated to self destruct when exposed to ultraviolet from sunlight.

Dave WD9BDZ

'Doc wrote:
>
> G. Doughty,
> As long as the wood's moisture content is very low
> it should work okay. Another handy (and cheap) insulator
> is the plastic 'rings' from a 6-pack of beverage. Double
> them a couple of times and they'll be strong enough to
> hold a 10 meter dipole just fine. Or how about cutting
> the 'necks' off of plastic bottles? Or plastic bottle
> caps? Plenty of insulators floating around out there, not
> always hi-tech or pretty, but they work just fine...
> 'Doc

6721. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 14:24:49 UTC
From: richardharrison@webtv.net
Message-ID: <26898-3EF1C7B1-175@storefull-2315.public.lawson.webtv.net>
Source record: 114770

Art, KB9MZ wrote:
"To get back on track can you tell me where and why the 0.5 db is lost---?"

Ian answered that in his reply. It`s mainly a matter of phase alignment between the forward and reradiated waves in the desired direction.

At the shortwave broadcast plant where I worked for years, we had tuning stubs on our reflectors which we optimized for maximum forward gain in our curtain arrays. Synchronization tends to slip over a band of frequencies.

You can see from the figures in Arnold Bailey`s catalog of antennas that a driven element with one parasitic element, director or reflector, has as good a gain as does an array with both elements driven. With a parasitic element closely coupled with a driven element, parasitic coupling is good enough.

Loss is possible in the coupled elements due to skin effect and dielectric losses. A parasitic dipole rod with no load must reradiate all the energy it intercepts and doesn`t lose. A director needs to reradiate its intercepted energy in-step with the energy sweeping by from the driven element. Close-coupled directors get a lot of energy to reradiate. Those farther away get less to reradiate so they are of less help in adding to the directivity of the array.

Best regards, Richard Harrison, KB5WZI

6722. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 14:32:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1C963.7050704@ieee.org>
Source record: 114769

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Apparently there are some people who think standing waves really stand
> still so that the energy in a standing wave doesn`t move."
>
> The energy is moving in both directions. It`s the phase relation between
> the two waves which is not changing.

Seems to me, some people are confusing what happens to individual electrons with what happens to the individual wave energy components. The waves travel at the speed of light. The electrons don't. Just because an individual electron may not leave its atom at a standing wave node doesn't mean that the forward traveling wave and reflected traveling wave don't exist. The superposition of a forward wave and a reflected wave is the cause of the standing waves which is a total *net* effect. People who consider only the total net effect of standing waves seem to have lost track of the cause of standing waves.

> Strange that accumulation of energy in a transmission line is so small
> that it is all gone in a split second after discontinuation of energy
> feed to the line.

> Stranger still is the light still arriving here from the era of the "big
> bang" of creation. It has never stopped moving.

Funny thing about that. Light cannot travel at less than the speed of light. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6723. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 15:05:45 UTC
From: richardharrison@webtv.net
Message-ID: <26899-3EF1D149-42@storefull-2315.public.lawson.webtv.net>
Source record: 114772

J. Harvey wrote:
"Excellent word choice: "light"

We meassure astronomical distances in "light years". A light year is about 5.87 trillion miles, based on a light speed of 186,262 miles per second.

NASA says it is currently seeing light produced near the time of the "Big Bang", in the Hubble Space Telescope. The Big Bang is considered by many as the origin of the universe some 15 to 20 billion years ago.

Best regards, Richard Harrison, KB5WZI

6724. WTB-ANTENNA SPRING

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 15:15:13 UTC
From: n2ion@aol.com
Message-ID: <20030619111513.16033.00000853@mb-m03.aol.com>
Source record: 114771

I'M LOOKING TO BUY A HEAVY DUTY SPRING FOR MY HUSTLER MOBILE ANTENNA.
EMAIL WITH ANY DETAILS

6725. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 15:20:15 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <Xns939F54D095EB4pookster@129.250.170.83>
Source record: 114774

"Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
208.206.142.104:

> That won't wash, Bill. That says that only that which a newcomer
> perceives as valuable to him -unlearned as he is- is worth learning.
>
> The proof?
>
> I've known many hams who only learned Morse code because it was a
> license requirement, who became avid CW operators because of that
> demand. They would have never "wasted their time" learning the code
> if they hadn't been required to do it to get the license.
>
> Dick W0EX
>
>

Your statement about newbies later becoming avid CW ops is correct, of course. I just don't believe in forcing CW down someone's throat if they really don't like it. I would prefer the new ham to get his license, get on the air, and let his interest take him wherever he wants. Even the rankest newbie is aware that CW exists - if he is at all interested, he will pursue it further.

This is a hobby, after all. Some people take to CW like a duck to water, others like a cat to water. To each his own.

--
Bill, W7TI

6726. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 15:41:49 UTC
From: wess@gtii.com
Message-ID: <vf3mekpojkmp3d@corp.supernews.com>
Source record: 114773

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote:

>Did you follow the tuning instructions included with the antenna? Included are
>little pieces of metal that are similar to the "whip" portions of the antenna,
>but made of lighter material. You are supposed to put them in and trim them a
>little at a time until they are the right length, the trim the actual whips
>themselves to the same length. I think the instructions also say that 2m and
>70cm have to be adjusted first, then, you can adjust 6m and 10m.

Oh, the instructions that came with this antenna are not very good.
They are poor japanese to english translations. It was so poor that
they id'd the top stinger and side stinger as both tuning 6 meters. I
had to contact Comet to find out that the side stinger tuned meters
and the top 10 m.
>
>When I had one of those antennas, I had to trim quite a bit of the 6m whip to
>get it to the right length. 2m and 70cm were pretty much perfect out of the
>box.
>
You sure you are not thinking of the Diamond HV7A? I kinda wish I had
bought that one. Much nicer instructions. Don't have that antenna
but since they look alike I grabbed instructions off of web to see
what they had to say. Those ship with 16 ga wire to use to clip away
until a match is found.

>You'd be better off borrowing an MFJ antenna analyzer while triming the whips,
>instead of keying up your radio through an SWR meter, if you can find another
>local ham with one. The only ground I had was the trunk lip mount to the car
>and the SWR was fine on all bands.

Sure wish I knew someone. I'll ask tonight on local repeater. My swr
meter is a MFJ-864 which I just purchased w/in 3 months. Up to now,
figuring out the 6 meter side wasn't much of an issue since 6m fm is
pretty dead afaik in northern michigan.

I've looked at MFJ a bit and having one of those is on my aquire list.
Antenna building looks interesting. I was seriously impressed on how
I got out on my 2m j-pole on a h/t (first radio).

Well, going to do a bit of searching on net for best deal on the
IC-706, check for corrosion on my home made mount and finish up my 6
meter j-pole to cross check my swr meter. I figure if the j-pole is
way off, I might have a swr meter problem and if not, i've got an
antenna to hook the 706 (when I get it) to in my gar^a^g^e^, shack,
woodshop.

Now I have a few bucks a head and want to get a IC-706MKIIG. 6 meters sideband until I upgrade sounds like it could be a lot of fun.

Which MFJ analyzer would you recommend? I'm likely to just buy one since it looks like a very usefull tool.

thanks much, 73, wes, kc8spr

>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6727. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 15:53:13 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0306190753.e82ccb1@posting.google.com>
Source record: 114775

Hi there,
I am sorry if i didnt reply or comment. I was so lost in
my research that i have no time. Moreover i dont have access to
internet as often. I am sorry if i have done anything wrong.

Bye.

> Hi Anad,
>
> You come here frequently to post questions, but it seems you never
> respond to those asked, or comment on advice offered. Is this some
> indication of your performance in class as well?
>
> 73's
> Richard Clark, KB7QHC

6728. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:23:03 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306190823.3cd2a8eb@posting.google.com>
Source record: 114779

Excellent post Ian, You managed to put the forword in just
one posting where as I, being aware of the attention span of some,
tried to seduce them slowly to the true point of discussion before
they resorted to diversionary tactics. I believe that you and I are in
agreement
as to what is and what thwarts the attainement of the absolute
maximum, we can now investigate possible avenues for resolving the
problem.
As you stated each element reacts to all the other elements which is
really the crux of the matter. What if each element interaction was
applied at a single point? Would this provide control of the resulting
phase angle?
Link coupling does such a thing if we can apply that in a gainfull
manner?
Have you any other aproaches in mind?
By the way I used the term of energy losses as that expended that did
not achieve my initial aims. Somewhat similar to a boxer hitting the
referee instead of hitting his opponent.
Lawson by the way worked here in the Midwest when the company (GE)
moved him out East to work with the latest computors, leaving the rest
of us to continue dealing with punched 'ticker' tape, What a boon for
ham radio.
Hopefully your post is not too late for this thread as some have
already
drifted tangently as the thread got longer.
Regards
Art

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<N9OpQ0EeNW8+EASR@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
>
> >
> > >Gentlemen, you are all so educated that you make every problem an
> > >exotic one.
> > >I mean no disrespect but let us keep the discussion simple instead of
> > >sidelining the questions with "but...."
> > >Yes the ARRL has a graph which bases gain on boomlength on the
> > >assumption that enough elements are used.
>
> Just to be clear who's saying what, this marks the end of ARRL, and the
> start of Art's interpretation.
>
> >Implicite in this graph is

> >the understanding that losses occur because of the addition of
> >reactive components. This is not an exciting statement because anytime
> >you use ohms law and cos phi enters the picture you are introducing
> >"losses". Said another way, if impedance is I cos phi it can clearly
> >be shown as a combination of two vectors where only the 'I' vector is
> >important. And if you have more than one radiator then the next 'I'
> >vector is the vector that is used preferably in additive form.
> >Now I know all of you know this, but I am saying it to bring you all
> >back to basics rather than making it more difficult than it is.
> >So now we can clearly say that the phase angle of each radiator is
> >clearly the enemy as far as array gain goes,
>
> DL6WU speculated on this in the mid-1970s, by drawing a vector diagram
> of the way the current in each element contributes to forward radiation.
> This depends on the magnitude and phase of the current in each
> individual director. In an ideal situation, all the vectors would line
> up perfectly to give the largest possible resultant vector. This makes
> the optimum use of the available boom length.
>
> In a real yagi, the string of vectors shows a curl, so there is a
> shortfall from the maximum idealized gain [but this should never be
> called a "loss" - that word is already used for something else]. In a
> poor design, the curl is irregular, and/or it even turns back on itself
> so that the end directors are reducing the gain. Since DL6WU's design
> work was BC (Before Computers) he wasn't in a position to explore this
> idea quantitatively.
>
> At about the same time, W2PV was independently exploring the same ideas,
> and he did have the facilities to compute the vectors. However, he was
> only interested in HF yagis with relatively few elements, where the big
> picture doesn't emerge so clearly as it does with long yagis.
>
> Having cloned the W2PV program in the mid-1980s, and then applied it to
> VHF/UHF long yagis, I wrote a little program to draw the element
> currents as pretty strings of colored vectors on-screen. This showed
> that DL6WU's speculations were entirely correct - the vector diagram is
> a *very* revealing way to show whether the director string is making
> optimum use of the boom length.
>
> A good diagram is regular and progressive... just like the physical
> lengths and placements of the of the directors on the boom. Any
> directors that aren't contributing in the optimum manner will be very
> obviously too long or too short, and/or at the wrong angle. You can be
> very sure such a yagi is not optimized.
>
> Brian Beezley's YO program draws current magnitudes over the graphic of
> the yagi design. This too is very revealing, but compared with the full
> vector presentation it's looking at the problem with one eye shut.
>
> All this later computer analysis showed that - thanks to some very clear

> thinking about basic principles - DL6WU had indeed found a recipe for
> long yagi design that gives almost the minimum achievable curl in the
> vector string, so it's capable of being extended almost indefinitely.
> That's why you'll find "DL6WU DNA" in almost all modern, successful
> long yagi designs.
>
> There's a lot more could be said about this, but we've been ordered to
> keep it simple. If we could draw pictures here, you'd see that the
> current vector idea probably *is* the simplest way of looking at yagis.
>
> Hmmm... wonder if we could interest Dan, AC6LA, in a post-plotting
> routine for NEC-2 current output? (So many projects, so little time!)
>
>
> > and what the original
> >question was that if we use "link" coupling of some sort where phase
> >angles can be controlled wouldn't it provide for max gain without
> >resorting to the boom length factor?
> >Yes, it introduces the 'coupling' word again but try not to go into a
> >tizzy
> >which prevents clear thought.
>
> Then give this some clear thought: in a yagi, each element interacts
> with *all* the others - not just the elements next to it. How do you
> propose to link-couple each to all? Did somebody mention "simple"? ;-)

6729. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:27:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306190827.29be7af2@posting.google.com>
Source record: 114780

Roy Lewallen <w7el@eznec.com> wrote in message news:<vf2r2imnugm4b7@corp.supernews.com>...
> There's no disagreement among antenna professionals about how shielded
> loops work. One of the clearest explanations I've seen is in King,
> Mimno, and Wing's _Transmission Lines, Antennas, and Waveguides_,
> originally published in 1945. But you can find similar explanations in
> other texts. If you'll check in the Google archives for a posting I made
> on March 21 in the thread "Re: Loop antenna questions", you'll find
> material from that book and from Johnson's _Antenna Engineering
> Handbook_, plus additional information.

I fully agree with Roy on this. In fact, I believe I have a scan of the relevant pages of King, Mimno and Wing at home and could probably email it to interested parties, though as a scan (instead of a text document) it's a fairly large file. King's explanation is very clear, as Roy says, though it's rather qualitative, and I do like the material from Johnson and Jasik as backup to it. Interestingly, the Dover reprint version of King, Mimno and Wing that I have shows exactly the loop diagram on the front cover, even though that's just a small part of the "Antennas" chapter. I've also learned a lot about other antenna configurations from that book. But I also know it's not everyone's cup of tea.

The amazing thing to me is that many amateur pubs have had it (the "shielded loop") configured just flat WRONG with the gap at the wrong place.

Cheers,
Tom

6730. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:27:48 UTC
From: tdonaly@aol.com
Message-ID: <20030619122748.13592.00001503@mb-m25.aol.com>
Source record: 114781

Anand wrote,
>
>Hi there,
> I am sorry if i didnt reply or comment. I was so lost in
>my research that i have no time. Moreover i dont have access to
>internet as often. I am sorry if i have done anything wrong.
>
>Bye.
>
>
>
>> Hi Anad,
>>
>> You come here frequently to post questions, but it seems you never
>> respond to those asked, or comment on advice offered. Is this some
>> indication of your performance in class as well?
>>
>> 73's
>> Richard Clark, KB7QHC
>
>

You didn't do anything wrong, Anand. You just caught Richard
in a sour mood. If anything, you should shake your finger at his
nose for misspelling your name.
73,
Tom Donaly, KA6RUH

6731. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:37:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1E6C1.90372FD8@uci.edu>
Source record: 114782

W5DXP wrote:
> You say there is no energy in the reflected wave.

I have never said there is no energy IN a reflected wave. I don't even understand what that is supposed to mean.

> Your P(x,t) equation indicates only 100 watts. Where is the other 200 watts?

News to me.

Let me know when you become able to have a rational discussion on the topic.
Thanks.

ac6xg

6732. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:47:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1E92B.A3E614D7@uci.edu>
Source record: 114784

W5DXP wrote:
> You have implied that sometimes EM waves possess energy and sometimes they
> do not possess energy.

No need to infer things from what I say, Cecil. Just read it. Thanks.

> "To transfer" means simply "to move to a different place".

Caviat: Moving it from one "place" in a transmission line to another
"place" in a transmission line does NOT constitute a transfer of
energy. Moving it to a transmission line when there is no place for it
to go does not constitute a transfer of energy during the steady state.

> If energy is
> being moved by EM waves then, by definition, it is being transferred.

True, but energy isn't moved by waves which cancel.

> The
> IEEE doesn't even give the word "transfer" a definition associated with
> energy transfer. It's all data transfer.

Right. The physics books are clearer on this point.

73 de ac6xg

6733. Omnidirectional (but vertical) loop?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:47:48 UTC
From: "Albert P. Belle Isle" <belleisl@CerberusSystems.com>
Message-ID: <qmp3fv4bov5bt40n8bfu90v3fndjribst4@4ax.com>
Source record: 114783

On a recent visit to a Coast Guard station, I noticed a strange (to me) member of their antenna farm.

It was mounted atop a 20-25ft un-guyed mast, and appeared to be constructed of three half-loops, each approximately two feet in diameter, and each in a vertical plane 120 degrees from its neighbors, all joined together.

It sort of looked like an egg-beater on a broom handle.

Is anyone familiar with this type of antenna, and am I correct in thinking it to be an MF/LF loop with omnidirectional pattern?

Can anyone point me to some sources of info on this type of antenna?

Good listening,
Al
==========
Location: 42N39, 71W09 (Near Boston, MA)
HF Antennas: 65ft TFD, 45ft T2FD, 28ft vertical, 65ft doublet
HF Receivers: Ten-Tec RX340, RX320, Harris R2368, Cubic R3030A
Decoders: Code300-32, Universal M-8000, PK-232MBX/DSP
==========

6734. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:49:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1E99D.95034A54@uci.edu>
Source record: 114785

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> > They're not just math models. They're physical models which describe
> > the nature of phenomena.
>
> It takes energy to create an EM wave. You say it doesn't.

You've reached the point where you must lie in order to make your every point, Cecil. That should tell you something. I have never said that.

6735. Maldol Yagi (2m / 70cm)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:50:24 UTC
From: Holger Fiala <holger.fiala@a-city.de>
Message-ID: <3EF1E9D0.5020902@a-city.de>
Source record: 114786

Dear all,

I bought a second hand maldol yagi. unfortunately it seems, that the elements were not marked correct during disassembling. So I tried my best and assembled according the picture on maldols Japan homepage. during first test I tried to adjust SWR. Until now I did not get a better SWR, 2m -> 1:3,0 and 70cm -> 1:2.4 I could not belief that this is the best what this antenna can reach. So maybe I did not assemble correct or anything else. know my question, is here a radio ham who has also experience with his antenna. I need some tips to adjust the yagi.

best regards (73)

Holger (DO3HF)

6736. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:50:37 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <xFOmesFdne8+EAWn@ifwtech.co.uk>
Source record: 114790

Art Unwin KB9MZ wrote:

>As you stated each element reacts to all the other elements which is
>really the crux of the matter. What if each element interaction was
>applied at a single point?

You can't switch off the existing electromagnetic interactions between the elements. You can only *modify* them by adding some kind of transmission-line coupling as well.

> Would this provide control of the resulting
>phase angle?

Yes... but it's complicated to feed even two elements with the correct relative current *and* the correct relative phase angle.

>Link coupling does such a thing if we can apply that in a gainfull
>manner?

Good luck with setting it up, for anything more than two elements. Maybe that should read "good luck and long life," because you'll definitely need both!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

6737. Re: Cecil's Math Blunder!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:55:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1EAEA.F50B98A8@uci.edu>
Source record: 114788

W5DXP wrote:
>
> Jim Kelley wrote:
> >>Your P(x,t) math model is wrong.
> > >
> > > If so, you should be able to identify a specific math error.
> >
> The math error is obvious. P(x,t) equals zero when 200 watts is
> being transferred.

Please use a quote from one of my posts. Otherwise, back off.

> > > If each of the signal generators is dumping 100 watts into the feedline,
> > > my math tells me the net energy flow into the feedline is 200 Joules per
> > > second.

> BS, Jim, your math says there is zero joules per second since there is
> 100 watts forward and 100 watts reflected and all steady-state waves
> are standing waves with no traveling waves.

I'll let you be the authority on your math, and I'll be the authority on
my math. Once again, you are forced to create a lie in order to make a
point.
Pitiful.

ac6xg

6738. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 16:58:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1EBBE.A328005B@uci.edu>
Source record: 114789

Richard Harrison wrote:
>
> Jim, AC6XG wrote:
> "The energy in a bowling ball is related to its mass and speed, but the
> ennergy of an electromagnetic wave is related to its frequency."

> Einstein pointed out that the energy in an EM wave is proportional to
> its frequency. However, that does not make EM waves stands still. They
> can`t. EM waves must move to exist. It`s a traveling magnetic field that
> creates a traveling electric displacement field which creates a
> traveling magnetic field, etc.

Don't know if you thought my remarks indicated something to the
contrary. They didn't. Obviously EM waves propagate.

73, Jim AC6XG

6739. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:02:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1ECAA.9003D237@uci.edu>
Source record: 114787

W5DXP wrote:
> The issue is not resolved yet, Donnie.

The issue was resolved long before the thread even started. :-)

ac6xg

6740. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:14:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1EF75.2000002@ieee.org>
Source record: 114791

Tdonaly wrote:
> You didn't do anything wrong, Anand. You just caught Richard
> in a sour mood.

Which is a really easy thing to do. :-)
--
73, Cecil, W5DXP

6741. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:17:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F02F.2000203@ieee.org>
Source record: 114792

Jim Kelley wrote:
>
> W5DXP wrote:
>>You say there is no energy in the reflected wave.
>
> I have never said there is no energy IN a reflected wave. I don't even
> understand what that is supposed to mean.

Jim, you have been saying for weeks that there is no energy
associated with a wave reflected from a mismatched load that
later gets canceled by a complimentary wave. That's what our
entire argument has been all about.
--
73, Cecil, W5DXP

6742. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:21:55 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F133.6070900@ieee.org>
Source record: 114793

Jim Kelley wrote:
> Caviat: Moving it from one "place" in a transmission line to another
> "place" in a transmission line does NOT constitute a transfer of
> energy.

Egads Jim, the definition of "transfer" is to "move". Are you saying
words don't mean what words mean?

> True, but energy isn't moved by waves which cancel.

Which means there is never any energy associated with waves that
cancel. I say there is energy associated with every EM wave.
Please give us an example of an EM wave that contains zero energy.

> Right. The physics books are clearer on this point.

You have been using a word without providing your special
definition of that word. Shame on you. What is your special
definition of "transfer"?
--
73, Cecil, W5DXP

6743. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:25:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F21E.6070406@ieee.org>
Source record: 114794

Jim Kelley wrote:
>
> W5DXP wrote:
>>It takes energy to create an EM wave. You say it doesn't.
>
> You've reached the point where you must lie in order to make your every
> point, Cecil. That should tell you something. I have never said that.

You have asserted many times over many weeks that there is zero energy
in a wave reflected from a mismatched load that later gets canceled by
another complimentary wave. You have even attempted to prove there is
zero energy in waves s11*a1 and s12*a2. So exactly who is lying to try
to save face?
--
73, Cecil, W5DXP

6744. Re: Cecil's Math Blunder!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:29:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F2E8.4060805@ieee.org>
Source record: 114795

Jim Kelley wrote:
> I'll let you be the authority on your math, and I'll be the authority on
> my math. Once again, you are forced to create a lie in order to make a
> point.

Jim, you are the one who brought up P(x,t). I certainly didn't.
P(x,t) is your math and it is wrong about power being transferred
when two sources and loads are involved. Your math model is leading
you down a Primrose Path toward the supernatural.
--
73, Cecil, W5DXP

6745. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:30:55 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F34F.8020206@ieee.org>
Source record: 114796

Jim Kelley wrote:
> Don't know if you thought my remarks indicated something to the
> contrary. They didn't. Obviously EM waves propagate.

How about presenting an example of your EM wave that contains
zero energy? Your abortive attempt to prove the s-parameter
equations wrong didn't work.
--
73, Cecil, W5DXP

6746. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:35:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F458.2050407@ieee.org>
Source record: 114797

Jim Kelley wrote:
>
> W5DXP wrote:
>>The issue is not resolved yet, Donnie.
>
> The issue was resolved long before the thread even started. :-)

Translation: I already know everything there is to know
because all physics issues were resolved by Newton once
and for all time. :-)
--
73, Cecil., W5DXP

6747. Re: Cecil's Math Blunder!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:56:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF1F937.1080007@ieee.org>
Source record: 114798

W5DXP wrote:
> Jim Kelley wrote:
>> I'll let you be the authority on your math, and I'll be the authority on
>> my math. Once again, you are forced to create a lie in order to make a
>> point.
>
> Jim, you are the one who brought up P(x,t). I certainly didn't.

Jim, I owe you a partial apology. It was not you who brought up
P(x,t). It was someone else who brought it up in support of your
argument. But my comments about P(x,t) still apply.
--
73, Cecil, W5DXP

6748. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:59:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF1F9E6.F106B8E8@uci.edu>
Source record: 114801

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>It takes energy to create an EM wave. You say it doesn't.
> >
> > You've reached the point where you must lie in order to make your every
> > point, Cecil. That should tell you something. I have never said that.
>
> You have asserted many times over many weeks that there is zero energy
> in a wave reflected from a mismatched load that later gets canceled by
> another complimentary wave.

I don't know what "zero energy in a wave" is supposed to mean. Perhaps
you could quote one of these "many" examples so we could discuss it
specifically.

> You have even attempted to prove there is
> zero energy in waves s11*a1 and s12*a2.

Also incorrect. I recall specifically saying a1 was non-zero. Don't
you realize that your fabrications are transparent to anyone reading
this?

> So exactly who is lying to try
> to save face?

Since we're discussing your abortive attempt at a magazine article, this
is really all about you.

ac6xg

6749. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 17:59:42 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306190959.71f0ddef@posting.google.com>
Source record: 114800

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<26898-3EF1C7B1-175@storefull-2315.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "To get back on track can you tell me where and why the 0.5 db is
> lost---?"
>
> Ian answered that in his reply. It`s mainly a matter of phase alignment
> between the forward and reradiated waves in the desired direction.
>

Yes he did and so did Roy before him. To me that seems so simple to
understand. But it seems that there are many that use postings to
spout off knoweledge on antennas that are not germain to the subject
at hand. If one disagrees with what Roy or Ian said then yes, spit it
out so all can move on.Stretching out the thread to 200 or more
postings is not going to achieve anything so I assume the subject will
die a natural death as the coffee gets colder or the train of thought
turns a full circuit so that those with low attention spans can enjoy
participating in the thread all over again.
As for me I do not have the stamina that Cecil exhibits to thwart
those that have verbal diarrea.
Art

> At the shortwave broadcast plant where I worked for years, we had tuning
> stubs on our reflectors which we optimized for maximum forward gain in
> our curtain arrays. Synchronization tends to slip over a band of
> frequencies.
>
> You can see from the figures in Arnold Bailey`s catalog of antennas that
> a driven element with one parasitic element, director or reflector, has
> as good a gain as does an array with both elements driven. With a
> parasitic element closely coupled with a driven element, parasitic
> coupling is good enough.
>
> Loss is possible in the coupled elements due to skin effect and
> dielectric losses. A parasitic dipole rod with no load must reradiate
> all the energy it intercepts and doesn`t lose. A director needs to
> reradiate its intercepted energy in-step with the energy sweeping by
> from the driven element. Close-coupled directors get a lot of energy to
> reradiate. Those farther away get less to reradiate so they are of less
> help in adding to the directivity of the array.
>
> Best regards, Richard Harrison, KB5WZI

6750. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:00:06 UTC
From: wess@gtii.com
Message-ID: <vf3ufu84hu73ce@corp.supernews.com>
Source record: 114799

wess@gtii.com wrote:

Replying to my original post. Built the 6 meter jpole centered on 52.525. SWR 1.5:1 or so out of the box. SWR meter must be working. Went down to 51.880 and got into Grand Rapids, MI repeater for the first time. Put the uhv-4 and could not get a carrier response.

So the swr meter is good, radio works. Back to looking at antenna and mount. FWIW, Comet said to send it back for eval. In the morning after I get up, I am going to plug the jpole coax into the mount on truck and check swr. Got to go to sleep before midnight shift.

Will check corrosion as suggested in morning.

73 all, wes, kc8spr.

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6751. J-pole question on grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:01:45 UTC
From: wess@gtii.com
Message-ID: <vf3uj0ju4vqe14@corp.supernews.com>
Source record: 114802

Just built a 6 meter jpole and it rocks. At the moment it is
temporaryly mounted on some pvc. PVC isn't strong enough to mount it
and does not provide grounding. What are my options?

73, kc8spr, wes
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6752. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:05:42 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619140542.12195.00001260@mb-m04.aol.com>
Source record: 114803

>You sure you are not thinking of the Diamond HV7A? I kinda wish I had
>bought that one. Much nicer instructions. Don't have that antenna
>but since they look alike I grabbed instructions off of web to see
>what they had to say. Those ship with 16 ga wire to use to clip away
>until a match is found.

You're right, that's the one I'm thinking of. You would have been better off either buying at triband 6m/2m/70cm antenna or a dualband 2m/70cm antenna and a monoband 6m antenna and used a duplexer.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6753. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:29:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pfu3fvkjvpf8kd6jnff4nvm1h3roj2b6a8@4ax.com>
Source record: 114804

On 19 Jun 2003 08:53:13 -0700, anandnavaneeth@hotmail.com (anand) wrote:

>Hi there,
> I am sorry if i didnt reply or comment. I was so lost in
>my research that i have no time. Moreover i dont have access to
>internet as often. I am sorry if i have done anything wrong.
>
>Bye.
>

Hi Anand,

Sorry about the spelling of your name the first time.

You will note that two other posters ignored your question altogether to follow the issue of manners (they have time to waste, but not on you). Other posters who could help you, have probably noted they would have to ask the same questions again, and have learned that you have "no time" to respond to them, but plenty of time to ask another poor question again. This will be the end of it if you choose to remain silent - a waste of "no time."

Your best shot is to return to those former posts and read, study, and respond faithfully to those questions, asking questions if you have to, and MAKE THE TIME! If you cannot, then you have a difficult road ahead. Successful engineering consists more of dialog than design (or at best, equal amounts).

The single greatest lesson to learn about engineering is that if you take the time to compose the question, then you have your answer; and probably the shortest one in the quickest manner. Your lesson here may be that you need help in composing the question. Good Luck.

73's
Richard Clark, KB7QHC

6754. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:37:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <r904fvobard7rg3vqcdcsfid1o41ipfhhn@4ax.com>
Source record: 114805

On 19 Jun 2003 04:43:09 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>>Larson w/mag mount antenna, I trimmed
>>from the bottom, maybe an 1/8 inch at a time, till it looked nice
>>around 147 or 148 Mhz. I took what I could get in the 440 Mhz band --
>>where the swr was a bit higher. I don't think these antennas are gonna
>>give you 1:1 on both bands.
>
>Thanks for the suggestions. I ended up buying a Comet CA-2X4SR antenna. They
>advertise it as a wideband antenna with a 1.5 SWR from 140 - 160. We'll see...
>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

Hi Andy,

Why are you interested in transmitting out of band? (How far out?)
Further, you have said nothing of UHF and the implications of the
upset there when you shift the dynamics of the VHF coverage. You also
haven't expressed any concern about transmitter fold back for high SWR
(2:1 is hardly monumental) and if you are power challenged with the
small change of reflection, then you have more problems than trimming
a radiator.

Barring those details, I still hold with my original advice: do
nothing.

73's
Richard Clark, KB7QHC

6755. coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:40:45 UTC
From: "Nic. Santean" <nic@csd.uwo.ca>
Message-ID: <3ef20337@shknews01>
Source record: 114807

How can I couple a Z=50Ohms SW antenna to
a 300Ohms receiver input (I have a Grundig S350)?

- sorry if I mistakenly posted this message twice

Nic.

6756. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:41:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF203F6.FE8BAEB9@uci.edu>
Source record: 114806

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>You say there is no energy in the reflected wave.
> >
> > I have never said there is no energy IN a reflected wave. I don't even
> > understand what that is supposed to mean.
>
> Jim, you have been saying for weeks that there is no energy
> associated with a wave reflected from a mismatched load that
> later gets canceled by a complimentary wave. That's what our
> entire argument has been all about.

You apparently don't pay close attention to what appears in the text on your computer screen. There are a variety of possible explanations for the disparity, but I won't digress. There are several dozen megabytes of articles to choose from. I guarantee you that within them, I have never said that energy is not "associated" with waves - cancelled, reflected, or otherwise. Once again, you are forced to create a lie in order to make your point.

ac6xg

6757. Re: Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 18:56:23 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF20757.27580D62@uci.edu>
Source record: 114808

W5DXP wrote:
>
> Jim Kelley wrote:
> > Caviat: Moving it from one "place" in a transmission line to another
> > "place" in a transmission line does NOT constitute a transfer of
> > energy.
>
> Egads Jim, the definition of "transfer" is to "move". Are you saying
> words don't mean what words mean?

Nope. A transfer is also something that allows you to move from bus to bus. The word transfer, as in transfer of energy in the physical sense doesn't necessarily mean what you want it to mean.

> > True, but energy isn't moved by waves which cancel.

> Which means there is never any energy associated with waves that
> cancel.

An architypal Cecilian non-sequitur.

> I say there is energy associated with every EM wave.

Which is not a guarantee that any EM wave will transfer energy from one point to another. It's not just an opinion.

> > Right. The physics books are clearer on this point.

> You have been using a word without providing your special
> definition of that word.

Feel free to take it up with John Wiley & Sons, New York.

ac6xg

6758. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:09:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF20A4D.4030008@ieee.org>
Source record: 114811

Jim Kelley wrote:
> I don't know what "zero energy in a wave" is supposed to mean.

Jim, You have asserted over and over for weeks that there is
zero energy in any wave that cancels. That has been our biggest
point of contention. You have asserted that the energy in canceled
waves cannot change direction because there was zero energy in
those waves to begin with.

W5DXP wrote:
>>You have even attempted to prove there is
>>zero energy in waves s11*a1 and s12*a2.
>
> Also incorrect. I recall specifically saying a1 was non-zero.

You asserted that s11 must be equal to zero, therefore s11*a1 is
equal to zero. Do you want me to re-post that posting of yours?
--
73, Cecil, W5DXP

6759. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:09:36 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <EW-dnWD0C-b7l2-jXTWJgA@comcast.com>
Source record: 114809

You might get close enough with a Radio Shack matching transformer No.
15-1140 for $2.99. It "matches 300-ohm screw terminals on antenna to 75-ohn
coax cable." Connect it backwards and see if receiver matching is like
horseshoes, where close is good enough. A similar item may be available
from other sources.

Tom, N3IJ

"Nic. Santean" <nic@csd.uwo.ca> wrote in message news:3ef20337@shknews01...
> How can I couple a Z=50Ohms SW antenna to
> a 300Ohms receiver input (I have a Grundig S350)?
>
> - sorry if I mistakenly posted this message twice
>
> Nic.
>
>

6760. Re: Omnidirectional (but vertical) loop?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:09:36 UTC
From: "Albert P. Belle Isle" <belleisl@CerberusSystems.com>
Message-ID: <1e24fv83lnjh2b9d0lvionpn7b958adlih@4ax.com>
Source record: 114810

On Thu, 19 Jun 2003 16:47:48 GMT, Albert P. Belle Isle
<belleisl@CerberusSystems.com> wrote:

>On a recent visit to a Coast Guard station, I noticed a strange (to
>me) member of their antenna farm.
>
>It was mounted atop a 20-25ft un-guyed mast, and appeared to be
>constructed of three half-loops, each approximately two feet in
>diameter, and each in a vertical plane 120 degrees from its neighbors,
>all joined together.
>
>It sort of looked like an egg-beater on a broom handle.
>

If further clarification is required, imagine three letter 'C' shapes
of equal size, all joined at their open ends, and standing uniformly
spaced so as to appear from above as a 'Y' shape.

Good listening,
Al
==
Location: 42N39, 71W09 (Near Boston, MA)
HF Antennas: 65ft TFD, 45ft T2FD, 28ft vertical, 65ft doublet
HF Receivers: Ten-Tec RX340, RX320, Harris R2368, Cubic R3030A
Decoders: Code300-32, Universal M-8000, PK-232MBX/DSP
==

6761. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:11:09 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306191111.4b9588f5@posting.google.com>
Source record: 114812

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EF1C963.7050704@ieee.org>...
> Richard Harrison wrote:
> > Cecil, W5DXP wrote:
> > "Apparently there are some people who think standing waves really stand
> > still so that the energy in a standing wave doesn`t move."
> >
> > The energy is moving in both directions. It`s the phase relation between
> > the two waves which is not changing.
>
> Seems to me, some people are confusing what happens to individual electrons
> with what happens to the individual wave energy components. The waves travel
> at the speed of light. The electrons don't. Just because an individual electron
> may not leave its atom at a standing wave node doesn't mean that the forward
> traveling wave and reflected traveling wave don't exist. The superposition of
> a forward wave and a reflected wave is the cause of the standing waves which
> is a total *net* effect. People who consider only the total net effect of
> standing waves seem to have lost track of the cause of standing waves.

Seems like you are doing pretty good Cecil by not giving up an inch
despite being held captive to a carrosel. We all have our ups and downs
but I am enjoying the music from the background.
Best regards
Art

>
> > Strange that accumulation of energy in a transmission line is so small
> > that it is all gone in a split second after discontinuation of energy
> > feed to the line.
>
> > Stranger still is the light still arriving here from the era of the "big
> > bang" of creation. It has never stopped moving.
>
> Funny thing about that. Light cannot travel at less than
> the speed of light. :-)

6762. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:11:31 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619151131.07670.00001164@mb-m07.aol.com>
Source record: 114813

>Why are you interested in transmitting out of band? (How far out?)

The radio is a commercial rig that is programmed for both 2m ham frequencies
and public service frequencies in the 150 - 155 mhz range that I am authorized
to use.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6763. Re: RF detects cancer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:17:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ir14fvota5o3mvv6n3gjbt9q3ajnhr6up8@4ax.com>
Source record: 114814

On 19 Jun 2003 04:55:30 -0700, k4wge@arrl.net (k4wge) wrote:

>k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030612192036.14248.00000830@mb-m29.aol.com>...
>> > This typically gives a resolution of about 7 inches
>> >and we are lead to believe that tumors much smaller, in an organ much
>> >smaller are distinguishable to the effect of 93%?
>> >
>> >I suspect they could have brought in a Gypsy to wave her hands to
>> >similar success.
>> >
>> >73's
>> >Richard Clark, KB7QHC
>>
>> Hard to say if this is in Fractal dream land or there is something to it. I
>> wonder if GDO would detect the tumor, or the SWR method is needed to transmit
>> the frequency and look for detuning.
>
>From http://www.farmaciaflorio.com/atti_del_congresso/the%20_effects.doc
>
> "For quite a long time it seemed almost impossible to have an e.m.
>footprint of the [passive RLC] circuits. It actually proved to be much
>a more difficult task than having a clear evidence of their
>irradiation effects on bi-distilled water samples.
>
>After three years of useless trials, finally dr. Clarbruno Vedruccio
>provided a satisfactory characterization of the circuits by means of a
>spectrum analyzer (Tektronik 492) linked to a tracking generator
>(Tektronik TR 504)."

Hi OM,

More telling is the conclusion:
"The whole procedure was thus quite empirical and powered by pure
curiosity. This is to say that it is quite difficult for me to find a
completely reliable theoretical explanation for these findings.
Nonetheless I feel justified in forwarding some personal
considerations."
Which sort of trails off, literally! into a blank page. What a
hodge-podge of nonsense, especially the "passive oscillator." The
paper is rife with ignorance. Even the photographic evidence appears
doctored (a quarter of the trace is missing through monkeying with the
position AND trace sweep controls). The evidence of a "foot print"
come from an assortment of methods that cook the sample:
"Irradiation time ranged from 4 to 72 hours"

OR:
"also thermal treatment such as boiling after irradiation and others
received mechanical treatment such as vigorous shaking"

Baloney science.

73's
Richard Clark, KB7QHC

6764. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:21:38 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <xcCcnW7IhPnYkG-jXTWJjw@comcast.com>
Source record: 114815

Nic,

I once did a sweep test on 4:1 VHF TV baluns. They work reasonably down to about 5 MHz. But, before you spend any money, just hook up the feedline to the 300 Ohm antenna terminals and see how that works. First touch a screwdriver or put a piece of wire to the two antenna terminals, one at a time, and tune in a strong station. Connect the center conductor of the coax to the terminal that gave you the stronger signal, the shield to the other.

Tam/WB2TT

"Nic. Santean" <nic@csd.uwo.ca> wrote in message news:3ef20337@shknews01...
> How can I couple a Z=50Ohms SW antenna to
> a 300Ohms receiver input (I have a Grundig S350)?
>
> - sorry if I mistakenly posted this message twice
>
> Nic.
>
>

6765. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:25:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF20E38.9040308@ieee.org>
Source record: 114816

Jim Kelley wrote:
> W5DXP wrote:
>
>>Jim Kelley wrote:
>>Jim, you have been saying for weeks that there is no energy
>>associated with a wave reflected from a mismatched load that
>>later gets canceled by a complimentary wave. That's what our
>>entire argument has been all about.
>
> You apparently don't pay close attention to what appears in the text on
> your computer screen.

I believe everything I have said, Jim, based on your postings.
What do you think we have been arguing about all this time?
It's all about your assertion that waves that will someday be
canceled never carried any energy to begin with.
--
73, Cecil, W5DXP

6766. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:35:12 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF2100B.5080601@attbi.com>
Source record: 114817

I suspect that you will find the Comet can be tuned to either 146 or 155
but not both.

Let us know how you make out.

DD, W1MCE
+ + +

6767. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:36:09 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7v34fv4ppbht6pqp7q75vvm40o70h7ts2r@4ax.com>
Source record: 114818

On 19 Jun 2003 19:11:31 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>>Why are you interested in transmitting out of band? (How far out?)
>
>The radio is a commercial rig that is programmed for both 2m ham frequencies
>and public service frequencies in the 150 - 155 mhz range that I am authorized
>to use.
>
Hi Andy,

What about the UHF characterisitics? Are they out the window?

Whose gear are you using? Some manufacturers can tolerate quite a bit
of SWR.

73's
Richard Clark, KB7QHC

6768. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:38:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF2112B.6000904@ieee.org>
Source record: 114719

Jim Kelley wrote:
> Nope. A transfer is also something that allows you to move from bus to
> bus. The word transfer, as in transfer of energy in the physical sense
> doesn't necessarily mean what you want it to mean.

"Transfer" doesn't mean what the dictionary says it means. "Transfer"
means whatever Jim wants it to mean. I fully understand and have
witnessed this problem before. So far, you have refused to define
"transfer". I'm sorry, Jim, but I consider that to be unethical
as was your refusal to define what you meant by 'U'.

>>I say there is energy associated with every EM wave.
>
> Which is not a guarantee that any EM wave will transfer energy from one
> point to another. It's not just an opinion.

Every EM wave is moving. There is energy associated with every
EM wave. Every EM wave is associated with moving energy. This
is what my assertions are based upon. This is what you have been
arguing against for weeks.
--
73, Cecil, W5DXP

6769. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:43:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <db44fvgsifnsnteodrh6rqhigbeh7skh2t@4ax.com>
Source record: 114720

On Thu, 19 Jun 2003 12:25:44 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>I believe everything I have said, Jim, based on your postings.
OK - you sure go to a lot of writing to agree then.
>What do you think we have been arguing about all this time?
Whoops, searching for meaning again?
>It's all about your assertion that waves that will someday be
>canceled never carried any energy to begin with.

So Cecil,

When do you publish? (and in what language? The sentence above reads
like sanskrit.)

73's
Richard Clark, KB7QHC

6770. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:46:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF2131C.327A9852@uci.edu>
Source record: 114721

W5DXP wrote:
>
> Jim Kelley wrote:
> > I don't know what "zero energy in a wave" is supposed to mean.
>
> Jim, You have asserted over and over for weeks that there is
> zero energy in any wave that cancels.

I've never said that. Once again, you resort to a lie in order to make a point. Cancelled waves do not transfer energy. I don't know what you mean when you say there's no energy IN a wave.

ac6xg

6771. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 19:58:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF215F6.EB309B31@uci.edu>
Source record: 114722

W5DXP wrote:
>
> Jim Kelley wrote:
> > Nope. A transfer is also something that allows you to move from bus to
> > bus. The word transfer, as in transfer of energy in the physical sense
> > doesn't necessarily mean what you want it to mean.
>
> "Transfer" doesn't mean what the dictionary says it means. "Transfer"
> means whatever Jim wants it to mean. I fully understand and have
> witnessed this problem before. So far, you have refused to define
> "transfer". I'm sorry, Jim, but I consider that to be unethical
> as was your refusal to define what you meant by 'U'.

You'll say anything to keep from having to pick up a physics book, won't
you. ;-)

> Every EM wave is moving. There is energy associated with every
> EM wave. Every EM wave is associated with moving energy. This
> is what my assertions are based upon. This is what you have been
> arguing against for weeks.

Every EM wave has the potential to transfer energy. Whether the wave
fulfills that potential depends on boundary conditions.

How much energy do you think is transfered by EM waves to an open
circuit?

ac6xg

6772. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:08:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF2182D.467F021@uci.edu>
Source record: 114723

W5DXP wrote:

> What do you think we have been arguing about all this time?

I've spent most of it just defending what it says in physics books. I'm simply trying to get you to apply what you know in accordance with well known physical phenomena.

ac6xg

6773. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:23:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF21BB0.401@ieee.org>
Source record: 114724

Jim Kelley wrote:
> W5DXP wrote:
>>Jim, You have asserted over and over for weeks that there is
>>zero energy in any wave that cancels.
>
> I've never said that.

You have certainly asserted similar words. The question is: Do you now admit that waves that cancel are associated with a certain amount of localized energy that cannot be destroyed by cancellation? If you admit that, we have no argument.
--
73, Cecil, W5DXP

6774. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:29:10 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619162910.18529.00000944@mb-m07.aol.com>
Source record: 114725

>I suspect that you will find the Comet can be tuned to either 146 or 155
>but not both.
>
>Let us know how you make out.

Here's the info from Comet's website:

CA-2x4SR
WIDEBAND TX/RX
140-160MHz 435-465MHz
Gain & Wave:
146MHz 3.8dBi 5/8 wave
446MHz 6.2dBi 5/8 wave x 3
VSWR: 1.5:1 or less 140-160MHz
435-465MHz
Max Power: 150 watts
Length: 40"
Connector: PL-259

It says right there that the SWR is less than 1.5 140-160 mhz. I'd say that
means on the entire range it's 1.5 or better.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6775. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:31:04 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619163104.18529.00000945@mb-m07.aol.com>
Source record: 114726

>What about the UHF characterisitics? Are they out the window?

The UHF part isn't important to me. What I needed was an antenna that would work well on both 2m and 155 mhz. The antenna I bought appears to fit that need. An SWR of 2.0 and above might be acceptable to you, but it isn't acceptable to me. I'd prefer to get it as low as possible to get the best performance out of my antenna.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6776. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:49:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5b84fvgvqpar9b02min0tgu5ca1fn0gdiu@4ax.com>
Source record: 114727

On 19 Jun 2003 20:31:04 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>>What about the UHF characterisitics? Are they out the window?
>
>The UHF part isn't important to me. What I needed was an antenna that would
>work well on both 2m and 155 mhz. The antenna I bought appears to fit that
>need. An SWR of 2.0 and above might be acceptable to you, but it isn't
>acceptable to me. I'd prefer to get it as low as possible to get the best
>performance out of my antenna.
>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Hi Andy,

Then throw away the dual band elements and use a simple brazing rod or
brass stock.

73's
Richard Clark, KB7QHC

6777. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:51:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF22259.8010504@ieee.org>
Source record: 114728

Jim Kelley wrote:
> You'll say anything to keep from having to pick up a physics book, won't
> you. ;-)

No book available to me, including my physics book, says that an
EM wave can exist without energy which is what you have tried
to get us to believe.

> Every EM wave has the potential to transfer energy. Whether the wave
> fulfills that potential depends on boundary conditions.

Every EM wave is moving and therefore is moving energy. A wave that
gets canceled contains energy which cannot be canceled. Your attempt
to distance yourself from your own argument is understandable.

> How much energy do you think is transfered by EM waves to an open
> circuit?

Since you refuse to define what you mean by "transfer", your
question cannot be answered. A directional wattmeter will indicate
how much energy is being moved toward an open circuit and how much
energy is being moved away from an open circuit.
--
73, Cecil, W5DXP

6778. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:53:53 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF222E1.700697C1@uci.edu>
Source record: 114730

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>Jim, You have asserted over and over for weeks that there is
> >>zero energy in any wave that cancels.
> >
> > I've never said that.
>
> You have certainly asserted similar words. The question is: Do you
> now admit that waves that cancel are associated with a certain amount
> of localized energy that cannot be destroyed by cancellation? If
> you admit that, we have no argument.

Since the argument is about your paper, will you admit that energy is not transfered by waves which cancel in their direction of propagation? If you admit THAT, we have no argument (about that). Will you admit that energy doesn't change direction by means other than reflection? If you admit that, we have no argument (about that either). Those things are what the argument has been about.

73, AC6XG

6779. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 20:57:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF223C0.3040905@ieee.org>
Source record: 114729

Jim Kelley wrote:
>
> W5DXP wrote:
>>What do you think we have been arguing about all this time?
>
> I've spent most of it just defending what it says in physics books.

Where in your physics books does it say that EM waves that will
be canceled sometime in the future can exist without energy?
--
73, Cecil, W5DXP

6780. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:09:27 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF22687.B4EB8B74@uci.edu>
Source record: 114732

W5DXP wrote:
>
> Jim Kelley wrote:
> > You'll say anything to keep from having to pick up a physics book, won't
> > you. ;-)
>
> No book available to me, including my physics book, says that an
> EM wave can exist without energy which is what you have tried
> to get us to believe.

It's still a lie, Cecil.

> > Every EM wave has the potential to transfer energy. Whether the wave
> > fulfills that potential depends on boundary conditions.

> Every EM wave is moving and therefore is moving energy. A wave that
> gets canceled contains energy which cannot be canceled. Your attempt
> to distance yourself from your own argument is understandable.

You're attempting to saddle me with a point of view I don't hold, have
never held, and have never conveyed.

> > How much energy do you think is transfered by EM waves to an open
> > circuit?

> Since you refuse to define what you mean by "transfer", your
> question cannot be answered. A directional wattmeter will indicate
> how much energy is being moved toward an open circuit and how much
> energy is being moved away from an open circuit.

Obviously, a wattmeter is not strictly able to indicate the transfer of
energy. It simply indicates the presense of waves, which in this case
transfer no energy from one point to another. No energy is transfered
to an open circuit. Energy is required to launch the waves, but no
energy is conveyed from one place to another by those waves. Were there
a load in the circuit, then energy would be transfered by them. Once
you understand that distinction, we'll be able to converse more
rationally on the subject.

73 de ac6xg

6781. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:11:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF226FA.BB8F6B33@uci.edu>
Source record: 114731

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>What do you think we have been arguing about all this time?
> >
> > I've spent most of it just defending what it says in physics books.

> Where in your physics books does it say that EM waves that will
> be canceled sometime in the future can exist without energy?

That's a Cecilian non-sequitur which exists only.....in the Twilight
Zone.

6782. Re: patch loss!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:14:11 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0306191314.1335094d@posting.google.com>
Source record: 114733

Hi there,
I think richard didnt read the follow up messages i got. If
u are not in a good mood then just take a day off and relax. It seems
u are not even in a mood to accept the apology. So i dont want to
waste time and try to spell the name correctly.

bye.

6783. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:15:37 UTC
From: richardharrison@webtv.net
Message-ID: <20564-3EF227F9-89@storefull-2311.public.lawson.webtv.net>
Source record: 114742

Cecil, W5DXP wrote:
"You have asserted over and over for weeks that there is zero energy in any wave that cancels."

Once upon a time it was my duty to measure field strength at specified monitoring points for a directional broadcast array. These points included some along radial azimuths from the station containing almost complete nulls directed at other stations we were required to protect from interference. They were already on the air when our license was issued.

In my opinion, the various towers in the array were in themselves omnidirectional, but in combination, due to the spacing between towers and the phase and amplitude of the signals feeding the towers, signals from the combination added nearly to zero along the azimuths of the nulls.

My opinion is that the signals from all towers were fleeing the station in all directions but if you happened to erect your receiving antenna in one of the nulls, you got a net signal of very nearly zero because of field cancellation in the null or if the fields don`t cancel, the combined currents induced in the antenna wire offset each other. I believe the radio fields are unaware of each other and merrily propagate along their natural azimuths. There is no energy destroyed. The waves generated by the various towers are just expanding and declining at their usual rates. They merely cancel because they are out-of phase on the null azimuth.

However, there is conservation of energy. Destructive cancellation on the null azimuths requires a pattern of constructive interference along the azimuths where offsetting signal enhancement results from in-phase signal addition.

Do I have it wrong?

Best regards, Richard Harrison, KB5WZI

6784. Re: need help urgently!!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:20:48 UTC
From: anandnavaneeth@hotmail.com
Message-ID: <bc6bd131.0306191320.14aa8eb9@posting.google.com>
Source record: 114734

Thanks guys for helping. I beleive that yagi has different gain compared to dipole. In most cases we will be measuring with two same standard antennas and replace one with the test antenna. In my case i am having yagi and a dipole. So do we have to do some arithmetic.

6785. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:27:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF22AC7.8080305@ieee.org>
Source record: 114736

Jim Kelley wrote:
> Since the argument is about your paper, will you admit that energy is
> not transfered by waves which cancel in their direction of propagation?

Since I didn't use the word "transfer" anywhere in my paper, it
becomes a moot point, doesn't it. You are distancing yourself
from all your arguments except for the definition of "transfer".
So your present argument has absolutely nothing to do with my
paper.

I take it you are ready to admit that EM waves contain intrinsic
energy that cannot be destroyed by wave cancellation.
--
73, Cecil, W5DXP

6786. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:27:36 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bct9qeqts1@slb0.atl.mindspring.net>
Source record: 114735

"Bob McConnell" <rmcconne.NOSPAM@lightlink.com> wrote in message
news:dtb2fv8qcs0m1cc18ujtgjr3c0dlc0n7h1@4ax.com...
> On Wed, 18 Jun 2003 14:56:36 -0500, "Dan/W4NTI"
> <w4nti@NOSPAMmindspring.com> wrote:
>
> >Nope don't thing CW is better than sex. But I do think CW has a place in
> >communications. And Im basically sick of hearing all the little children
> >whinning that they have to actually put forth some effort.
> >
> >Guess I was brought up different.
> >
> >Dan/W4NTI
> >
>
> No Dan, you're just as much an elitist snob as all of the ARRL
> supporters. If you didn't have some way to prove you are better than
> the rest of the world, you probably wouldn't even be a ham.
>

What ARRL is that ? The one that helped create incentive licensing, which
is todays cancer of the service? Creating a elitist group of snobs? I
don't think so me man. I was in FAVOR of this code speed change...until I
started seeing the results. The trash on the bands. The world class
boneheads with Extra tickets. You know the ones that can't even calculate
the length of a antenna without looking it up in a book. etc etc.

> CW is quite simply a historic curiosity, just like the RTTY equipment
> I used to repair. If you can't sell its value to new operators, then
> don't complain that they don't consider it worth the effort to learn.

A historic curiosity? What planet do you live on? CW was THE MAIN MEANS OF
COMMUNICATION via RF on the planet from SPARK in the early 1900s till the
Maritime service dropped it in 1995. And to this day it is STILL heard on
commercial frequencies, not to mention ham radio.

> My personal experience was having to copy and send 14 wpm to qualify
> for the Navy's Radioman 'A' school back in '70. After three weeks of
> that forced feeding I used it exactly once in the remaining seven
> years of active duty, and that was during a training exercise.

No wonder you hate it.

Never
> heard it in Vietnam, although it was used with the lights up on the
> signal bridge occasionally during radio silence drills. I managed to
> get back up to 5 wpm just long enough to pass the Novice exam

> (KB2PHN). I can't stand to listen to it now, even after three years of
> therapy. It gives me a major headache in just a few minutes.

Well me man I heard it lots in Vietnam. But I wasn't on a ships bridge.

Dan/W4NTI

nell
> N2SPP
> Ex-RM2: NFIT, NLM
>

6787. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:32:52 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcta3n$d6o$1@slb6.atl.mindspring.net>
Source record: 114737

So you agree with my basic premis that most new hams are not willing to put out any effort? Certainly you don't think the present give away ticket tests qualify for effort do you?

Dan/W4NTI

"Bill Turner" <noway@nohow.com> wrote in message news:Xns939E9C6FC1F81pookster@129.250.170.85...
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in news:bcpvledeu1
> @slb4.atl.mindspring.net:
>
> > Not true at all Bill and you know it. The basic problem with all the
> > anti-cw whinning is there too dang lazy to actually put out the effort.
> ----------
>
> I stand by my previous post. Today's hams are capable of investing huge
> amounts of effort *if* they see a payoff.
>
> For most of them, CW just doesn't do it.
>
> --
> Bill, W7TI

6788. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:33:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF22C3E.8020008@ieee.org>
Source record: 114739

Jim Kelley wrote:
>
> W5DXP wrote:
> It's still a lie, Cecil.

Anybody who has been following this thread knows that you have
been trying to convince us that a canceled wave never contained
any energy. Your attempt to distance yourself from your past
arguments is a good sign.

> You're attempting to saddle me with a point of view I don't hold, have
> never held, and have never conveyed.

It more than obvious after being nailed to the wall from numerous
directions, you have changed your mind.

> Obviously, a wattmeter is not strictly able to indicate the transfer of
> energy.

Hanging your entire argument on the definition of "transfer" now,
a definition that you refuse to share? Tsk, tsk, Jim.

Obviously, a wattmeter is designed to indicate the movement of energy
past a measurement point.

Do you now agree that every EM wave contains an intrinsic amount
of energy that cannot be destroyed by wave cancellation?
--
73, Cecil, W5DXP

6789. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:35:17 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306191335.5a02f949@posting.google.com>
Source record: 114738

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<xFOmesFdne8+EAWn@ifwtech.co.uk>...
> Art Unwin KB9MZ wrote:
>
> >As you stated each element reacts to all the other elements which is
> >really the crux of the matter. What if each element interaction was
> >applied at a single point?
>
> You can't switch off the existing electromagnetic interactions between
> the elements. You can only *modify* them by adding some kind of
> transmission-line coupling as well.
Now you are talking, that can be easily done with a link style feed.
>
> > Would this provide control of the resulting
> >phase angle?
>
> Yes... but it's complicated to feed even two elements with the correct
> relative current *and* the correct relative phase angle.

If the link coupling inductances was controlled by a motor driven
inductor
and the coupling distance between the feed and antenna designed for
variable spacings it would appear to be quite doable.

>
> >Link coupling does such a thing if we can apply that in a gainfull
> >manner?
>
> Good luck with setting it up, for anything more than two elements. Maybe
> that should read "good luck and long life," because you'll definitely
> need both!

Well I believe I allayed your fears with the above responses. Now we
have computors, optimizer programs and stepper motors all things seem
possible. Where is the hitch? I really don't see any ! Whether the
reclaimable gain is too small for the trouble may well be moot but
inginuety can overcome all
if desire is there. Probably the above can be achieved in a couple of
months
by any capable engineer.But then a better solution may well be
provided.
Regards
Art

6790. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:36:59 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bctabdlng1@slb9.atl.mindspring.net>
Source record: 114740

Then you and all the other cw basher and whinners shut the hell up. It goes
both ways you know.

No...no one should be forced to do CW. I am glad they dont, less qrm. But
all this bitching and moaning about CW is getting really stale. Let it
rest. Let the new comer make up his/her own mind. STOP TRYING TO CONVINCE
THEM to HATE CW before its even tried.

Dan/W4NTI

"Bill Turner" <noway@nohow.com> wrote in message
news:Xns939F54D095EB4pookster@129.250.170.83...
> "Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
> 208.206.142.104:
>
> > That won't wash, Bill. That says that only that which a newcomer
> > perceives as valuable to him -unlearned as he is- is worth learning.
> >
> > The proof?
> >
> > I've known many hams who only learned Morse code because it was a
> > license requirement, who became avid CW operators because of that
> > demand. They would have never "wasted their time" learning the code
> > if they hadn't been required to do it to get the license.
> >
> > Dick W0EX
> >
> >
> ----------
>
> Your statement about newbies later becoming avid CW ops is correct, of
> course. I just don't believe in forcing CW down someone's throat if they
> really don't like it. I would prefer the new ham to get his license, get
> on the air, and let his interest take him wherever he wants. Even the
> rankest newbie is aware that CW exists - if he is at all interested, he
> will pursue it further.
>
> This is a hobby, after all. Some people take to CW like a duck to water,
> others like a cat to water. To each his own.
>
> --
> Bill, W7TI

6791. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:49:41 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306191349.45d89c5f@posting.google.com>
Source record: 114743

Roy Lewallen <w7el@eznec.com> wrote in message news:<vf2qdsisndm0cd@corp.supernews.com>...
> If elements are spaced far enough apart so that their fields can add in
> phase in some direction, then the total field in that direction will be
> twice the field of that from a single element, or 6 dB. However, the
> power being fed into the array is split between the elements. If there's
> no mutual coupling between the elements or if the two elements are being
> fed in phase or 180 degrees out of phase (in which case coupling has the
> same effect on both elements), each element gets half the total power.
> The amount each element gets, then, is 3 dB less than a single element
> would get if it received all the power. This makes the net gain over a
> single element 3 dB, not 6.
>
> Mutual coupling can raise the feedpoint resistances of the elements,
> which reduces the current in and therefore the field from each element
> for a given power input and lowers the array gain below 3 dB for two
> elements. An example of this is two elements spaced a half wavelength
> and fed out of phase, which produces a gain of only 2.3 dB relative to a
> single element. But mutual coupling can also lower the feedpoint
> resistances of the elements, increasing the currents and therefore the
> fields, raising the gain above 3 dB. An example of this is two elements
> spaced a half wavelength and fed in phase, for a gain of 3.8 dB. Other
> spacings and phasings can be found which raise the gain higher yet, as
> in the example Richard gives. The trick the 2 element Yagi uses to get
> the relatively high gain is by achieving an optimal value of mutual
> coupling. It's not coincidental that the feedpoint resistance of such an
> array is low -- it's an essential part of the process of achieving the
> high gain.

Very good Roy,sums things up very well as did Ian's, and all is very
relevant, especially the low feed point resistance. Would not a so
called lossless feed system/transformer resolve that final problem by
using link coupling especially if it was of radiating form where-as
tuners are not? We have the advantage
of totally resistive radiator.

>
> You can find out more about this in Chapter 8 of the ARRL Antenna Book.
>
> Roy Lewallen, W7EL

Regards
Art
>
> Richard Harrison wrote:
> > Art, KB9MZ wrote:

> > "---we are concentrating on the peak amplitude that can be obtained---."
> >
> > Maximum is produced by an in-phase reflection resulting in double the
> > volts of the driven element by itself. 2X the volts is 4X the power or
> > 6db.
> >
> > Bill Orr and Arnold Bailey, both gave a real world example of 5.5 dbd
> > gain for a driven element with one parasitic element.
> >
> > That is about as close to perfection as you are likely to get. The most
> > gain per added element comes with the first element added. You get a
> > smaller gain increase with each added element.
> >
> > Best regards, Richard Harrison, KB5WZI
> >

6792. Re: STOP! Cecil's Math Blunder!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:49:54 UTC
From: JohnDoe <JohnDoe@spam.com>
Message-ID: <6eqla.109274$x67.4656701@twister.socal.rr.com>
Source record: 114741

GOD DAMM IT ALL TO HELL, ENOUGH OF THIS SHIT. WHO GIVES A BIG FUCK! TALK ABOUT SOMETHING IMPORTANT OR AT LEAST INTERESTING FOR CRYING OUT LOUD.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EF1F937.1080007@ieee.org...
> W5DXP wrote:
> > Jim Kelley wrote:
> >> I'll let you be the authority on your math, and I'll be the authority on
> >> my math. Once again, you are forced to create a lie in order to make a
> >> point.
> >
> > Jim, you are the one who brought up P(x,t). I certainly didn't.
>
> Jim, I owe you a partial apology. It was not you who brought up
> P(x,t). It was someone else who brought it up in support of your
> argument. But my comments about P(x,t) still apply.
> --
> 73, Cecil, W5DXP
>

6793. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 21:58:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF23213.1010900@ieee.org>
Source record: 114744

JohnDoe wrote:
> GOD DAMM IT ALL TO HELL, ENOUGH OF THIS SHIT. WHO GIVES A BIG FUCK! TALK
> ABOUT SOMETHING IMPORTANT OR AT LEAST INTERESTING FOR CRYING OUT LOUD.

Is your mommie forcing you to read it? :-)
--
73, Cecil, W5DXP

6794. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:11:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF234F6.3030904@ieee.org>
Source record: 114746

Richard Harrison wrote:
> However, there is conservation of energy. Destructive cancellation on
> the null azimuths requires a pattern of constructive interference along
> the azimuths where offsetting signal enhancement results from in-phase
> signal addition.
>
> Do I have it wrong?

That sounds good to me, Richard. EM waves always carry an intrinsic amount of energy that cannot be destroyed. For two EM waves to cancel, they must engage in destructive interference. Their intrinsic energy components join the constructive interference that necessarily must exist according to _Optics_, by Hecht. I don't understand why people have so much trouble with that simple concept.
--
73, Cecil, W5DXP

6795. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:11:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF23518.AD781725@uci.edu>
Source record: 114745

Richard Harrison wrote:
>
> Cecil, W5DXP wrote:
> "You have asserted over and over for weeks that there is zero energy in
> any wave that cancels."
>
> Once upon a time it was my duty to measure field strength at specified
> monitoring points for a directional broadcast array. These points
> included some along radial azimuths from the station containing almost
> complete nulls directed at other stations we were required to protect
> from interference. They were already on the air when our license was
> issued.
>
> In my opinion, the various towers in the array were in themselves
> omnidirectional, but in combination, due to the spacing between towers
> and the phase and amplitude of the signals feeding the towers, signals
> from the combination added nearly to zero along the azimuths of the
> nulls.
>
> My opinion is that the signals from all towers were fleeing the station
> in all directions but if you happened to erect your receiving antenna in
> one of the nulls, you got a net signal of very nearly zero because of
> field cancellation in the null or if the fields don`t cancel, the
> combined currents induced in the antenna wire offset each other. I
> believe the radio fields are unaware of each other and merrily propagate
> along their natural azimuths. There is no energy destroyed. The waves
> generated by the various towers are just expanding and declining at
> their usual rates. They merely cancel because they are out-of phase on
> the null azimuth.
>
> However, there is conservation of energy. Destructive cancellation on
> the null azimuths requires a pattern of constructive interference along
> the azimuths where offsetting signal enhancement results from in-phase
> signal addition.
>
> Do I have it wrong?

Not as far as I'm concerned.

You obviously noted that no RF energy was transfered to the antennas
located in the null. Cecil believes that in order for that to be true,
the waves must have "contained" no energy. Whatever that means.

73, Jim AC6XG

6796. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:18:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2hd4fv4rhsm65pq9merrb4edhtk8m4mg34@4ax.com>
Source record: 114747

On Thu, 19 Jun 2003 16:15:37 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Cecil, W5DXP wrote:
>"You have asserted over and over for weeks that there is zero energy in
>any wave that cancels."
>
>Once upon a time it was my duty to measure field strength at specified
>monitoring points for a directional broadcast array. These points
>included some along radial azimuths from the station containing almost
>complete nulls directed at other stations we were required to protect
>from interference. They were already on the air when our license was
>issued.
>
>In my opinion, the various towers in the array were in themselves
>omnidirectional, but in combination, due to the spacing between towers
>and the phase and amplitude of the signals feeding the towers, signals
>from the combination added nearly to zero along the azimuths of the
>nulls.
>
>My opinion is that the signals from all towers were fleeing the station
>in all directions but if you happened to erect your receiving antenna in
>one of the nulls, you got a net signal of very nearly zero because of
>field cancellation in the null or if the fields don`t cancel, the
>combined currents induced in the antenna wire offset each other. I
>believe the radio fields are unaware of each other and merrily propagate
>along their natural azimuths. There is no energy destroyed. The waves
>generated by the various towers are just expanding and declining at
>their usual rates. They merely cancel because they are out-of phase on
>the null azimuth.
>
>However, there is conservation of energy. Destructive cancellation on
>the null azimuths requires a pattern of constructive interference along
>the azimuths where offsetting signal enhancement results from in-phase
>signal addition.
>
>Do I have it wrong?
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

You got it right and you've said about as much as could be said on the
subject.

73's
Richard Clark, KB7QHC

6797. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:20:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF2371A.952A2AF8@uci.edu>
Source record: 114748

W5DXP wrote:
> You are distancing yourself
> from all your arguments except for the definition of "transfer".
> So your present argument has absolutely nothing to do with my
> paper.

My argument has remained the same from the beginning.

> I take it you are ready to admit that EM waves contain intrinsic
> energy that cannot be destroyed by wave cancellation.

You're implying that I've argued to the contrary. E has always been equal to h*nu, and the argument has alwasy been about your claims regarding reflected energy in a matched system. Don't try to change the subject.

ac6xg

6798. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:20:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF23723.1060807@ieee.org>
Source record: 114749

Jim Kelley wrote:
> You obviously noted that no RF energy was transfered to the antennas
> located in the null. Cecil believes that in order for that to be true,
> the waves must have "contained" no energy.

Sorry, Jim, that was your argument, not mine, as evidenced by your silly attempt to assert that s11 must be zero in the s-parameter equation. You are the one who said canceled waves carry zero energy therefore s11 must be zero.

Also please note that the waves causing the antenna null are *NOT* canceled waves. Canceled waves are a special case of destructive interference. The energy in canceled waves does not continue on in a straight line as they do in Richard's example. Maybe that's your entire point of confusion.
--
73, Cecil, W5DXP

6799. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:23:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF237E7.50607@ieee.org>
Source record: 114750

Richard Clark wrote:
> You got it right and you've said about as much as could be said on the
> subject.

There is no wave cancellation in Richard's example so it has
little to do with what happens at the match point in a
transmission line.
--
73, Cecil, W5DXP

6800. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:24:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF2381C.931563A8@uci.edu>
Source record: 114752

I agree with John. If it weren't for the fact that you were afraid of
getting your feelings hurt, we could have been discussing this by email
- a MUCH better utilization of the bandwidth. Coward.

ac6xg

W5DXP wrote:
>
> JohnDoe wrote:
> > GOD DAMM IT ALL TO HELL, ENOUGH OF THIS SHIT. WHO GIVES A BIG FUCK! TALK
> > ABOUT SOMETHING IMPORTANT OR AT LEAST INTERESTING FOR CRYING OUT LOUD.
>
> Is your mommie forcing you to read it? :-)
> --
> 73, Cecil, W5DXP

6801. 40m Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:28:02 UTC
From: Karl Almquist <kalmquist2@cox.net>
Message-ID: <tNqIa.96636$MJ5.60284@fed1read03>
Source record: 114751

I live in a flat-roof house with a level eave of sufficient length to accommodate a straight 40m dipole antenna. I plan to install the antenna under the eave which is roughly 10' above ground level. Is this feasible?

6802. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:30:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <98e4fvkkklo7livarmo7jt0f30mijgdgbk@4ax.com>
Source record: 114753

On Thu, 19 Jun 2003 15:23:35 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> You got it right and you've said about as much as could be said on the
>> subject.
>
>There is no wave cancellation in Richard's example so it has
>little to do with what happens at the match point in a
>transmission line.

Hi Cecil,

As I stated, Richard's post was sufficient; yours is merely window
dressing.

73's
Richard Clark, KB7QHC

6803. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:35:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF23AB1.4080309@ieee.org>
Source record: 114754

Jim Kelley wrote:
>
> W5DXP wrote:
>>You are distancing yourself
>>from all your arguments except for the definition of "transfer".
>>So your present argument has absolutely nothing to do with my
>>paper.
>
> My argument has remained the same from the beginning.

Then you must still be asserting that 's11' has to be zero. :-)

>>I take it you are ready to admit that EM waves contain intrinsic
>>energy that cannot be destroyed by wave cancellation.
>
> You're implying that I've argued to the contrary.

Either you can admit that EM waves contain intrinsic energy or you
can continue arguing that canceled EM waves contain no intrinsic
energy. Assuming you have changed your mind, what happens to the
intrinsic energy in waves destroyed by wave cancellation?
--
73, Cecil, W5DXP

6804. Re: 40m Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:42:45 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <RM6dnWVIq8v5oW-jRTvU2Q@crocker.com>
Source record: 114756

"Karl Almquist" <kalmquist2@cox.net> wrote in message
news:tNqIa.96636$MJ5.60284@fed1read03...
> I live in a flat-roof house with a level eave of sufficient length to
> accommodate a straight 40m dipole antenna. I plan to install the antenna
> under the eave which is roughly 10' above ground level. Is this feasible?
>
>
sure, lots worse antennas have been used. getting it further away from the
house would be better as it will interact with all the wireing, plumbing,
metal roofing or flashing, etc, in the house. but if you need to hide it,
put it where ever you can and hope for the best.... any antenna is better
than no antenna!

6805. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 22:50:30 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306191450.1352d75@posting.google.com>
Source record: 114757

Receivers are generally pretty forgiving of antenna impedance mismatches. You can try connecting the antenna directly to the receiver. You can also connect the antenna through a 1:4 impedance transformer. If the receiver's input is a balanced 300 ohms, and if they grounded a center-tap on an input transformer, you can connect the antenna between one side of the 300 ohms and ground; that will be a 75 ohm input (except that the 300 ohms is probably only an approximate figure anyway). If you really want optimal performance, you could consider an antenna tuner (which might also be known as a passive preselector). You can either make one or buy one from a store that specializes in SW receiver equipment. The tuner might help because the antenna is unlikely to be a 50 ohm source over a very wide range of frequencies anyway, and a decent tuner should allow you to achieve a better match than you could with just a fixed-ratio transformer. Also, optimal noise figure is generally not obtained with an impedance match--though for high frequency work, it's unlikely that you'll need to worry about that because of the high atmospheric noise on HF. -- Bottom line: start simple and work up from there if you need to.

Cheers,
Tom

"Nic. Santean" <nic@csd.uwo.ca> wrote in message news:<3ef20337@shknews01>...
> How can I couple a Z=50Ohms SW antenna to
> a 300Ohms receiver input (I have a Grundig S350)?
>
> - sorry if I mistakenly posted this message twice
>
> Nic.

6806. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:05:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF241AD.FC2CE52A@uci.edu>
Source record: 114759

W5DXP wrote:
> Also please note that the waves causing the antenna null are *NOT*
> canceled waves. Canceled waves are a special case of destructive
> interference. The energy in canceled waves does not continue on in
> a straight line as they do in Richard's example. Maybe that's your
> entire point of confusion.

The similarity between Richard's example and the problem being discussed is the absence of a transfer of energy to the point of interest. The difference is in the fact that the waves are not necessarily traveling along the same line and in the same direction. The interference pattern simply has a different spacial profile.

ac6xg

6807. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:06:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4gfietnnur3a@corp.supernews.com>
Source record: 114758

The answer to your question is yes and no.

Consider a W8JK antenna, which has two close spaced elements fed out of phase. Normal to the plane of the array (straight up and down when horizontally mounted), the fields from the two elements completely cancel, just like they did along the null radials of your broadcast station. But there's no direction at all in which the fields from the two elements reinforce -- they cancel to a greater or lesser degree in all directions. Yet in the absence of loss, this antenna has a gain of about 4 dB relative to a single isolated element, even with very close element spacings where the field cancellation is severe. Once again, the trick is mutual coupling. The feedpoint resistance of a close-spaced W8JK is very low, approaching zero as the element distance approaches zero. Element currents are extremely high for a given power input, which results in the gain despite the partial field cancellation.

Kraus (W8JK) explains the operation of this antenna in some detail in _Antennas_.

There's no doubt and no argument that energy is conserved. But the fact that complete cancellation takes place in some directions doesn't guarantee that complete reinforcement will necessarily occur in any direction.

Roy Lewallen, W7EL

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "You have asserted over and over for weeks that there is zero energy in
> any wave that cancels."
>
> Once upon a time it was my duty to measure field strength at specified
> monitoring points for a directional broadcast array. These points
> included some along radial azimuths from the station containing almost
> complete nulls directed at other stations we were required to protect
> from interference. They were already on the air when our license was
> issued.
>
> In my opinion, the various towers in the array were in themselves
> omnidirectional, but in combination, due to the spacing between towers
> and the phase and amplitude of the signals feeding the towers, signals
> from the combination added nearly to zero along the azimuths of the
> nulls.
>
> My opinion is that the signals from all towers were fleeing the station
> in all directions but if you happened to erect your receiving antenna in

> one of the nulls, you got a net signal of very nearly zero because of
> field cancellation in the null or if the fields don`t cancel, the
> combined currents induced in the antenna wire offset each other. I
> believe the radio fields are unaware of each other and merrily propagate
> along their natural azimuths. There is no energy destroyed. The waves
> generated by the various towers are just expanding and declining at
> their usual rates. They merely cancel because they are out-of phase on
> the null azimuth.
>
> However, there is conservation of energy. Destructive cancellation on
> the null azimuths requires a pattern of constructive interference along
> the azimuths where offsetting signal enhancement results from in-phase
> signal addition.
>
> Do I have it wrong?
>
> Best regards, Richard Harrison, KB5WZI
>

6808. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:15:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4h02p519qaab@corp.supernews.com>
Source record: 114760

Sorry, Art, I don't understand your question.

Low feedpoint resistance is a "problem" only because it's difficult to match with low loss, and also that it means that high currents are flowing in the elements. High current in the elements means potential conductor loss. In a given situation, one sort of matching network might be more efficient than another, but there's no firm rule you can apply.

If you make a radiating matching network, it's part of the antenna. Its field interacts with the antenna's field, modifying both the overall pattern and the feedpoint impedance. You've now got a different antenna. Whether its pattern is more or less favorable for a specific purpose depends on the purpose and the design of the added radiating part. There's no reason to believe it would be more or less efficient than a conventional tuner -- the new radiating structure is liable to have substantial circulating currents just like a tuner inductor, and will sustain loss for the same reasons. The loss can easily be greater than for a conventional tuner. And you're still stuck with any losses caused by high currents in the main radiating element.

Roy Lewallen, W7EL

Art Unwin KB9MZ wrote:
>
> Very good Roy,sums things up very well as did Ian's, and all is very
> relevant, especially the low feed point resistance. Would not a so
> called lossless feed system/transformer resolve that final problem by
> using link coupling especially if it was of radiating form where-as
> tuners are not? We have the advantage
> of totally resistive radiator.

6809. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:15:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF2440C.E105FF2E@uci.edu>
Source record: 114761

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> > It's still a lie, Cecil.
>
> Anybody who has been following this thread knows that you have
> been trying to convince us that a canceled wave never contained
> any energy.

:-) Nope.

> > You're attempting to saddle me with a point of view I don't hold, have
> > never held, and have never conveyed.

> It more than obvious after being nailed to the wall from numerous
> directions, you have changed your mind.

:-) Sure thing, Cecil. ;-)

> > Obviously, a wattmeter is not strictly able to indicate the transfer of
> > energy.

> Hanging your entire argument on the definition of "transfer" now,
> a definition that you refuse to share? Tsk, tsk, Jim.

Energy transfer is the definition of power. That's always what we've
been interested in, and I've always been careful to put it in those
terms. I guess you finally began to notice. You've been laboring under
a mistaken assumption.

> Obviously, a wattmeter is designed to indicate the movement of energy
> past a measurement point.

It can't determine whether energy is being transfered from one point to
another. It can only measure the magnitude of the fields. From that we
can infer certain things given certain assumptions.

> Do you now agree that every EM wave contains an intrinsic amount
> of energy that cannot be destroyed by wave cancellation?

Have you stopped beating your neice? E=h*nu, always has. You just
never asked.

ac6xg

6810. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:30:16 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF24788.BD4FB92D@uci.edu>
Source record: 114762

W5DXP wrote:
> Either you can admit that EM waves contain intrinsic energy or you
> can continue arguing that canceled EM waves contain no intrinsic
> energy.

Your paper never discusses E=h*nu. Until today, we weren't discussing
it either.

> Assuming you have changed your mind, what happens to the
> intrinsic energy in waves destroyed by wave cancellation?

What do you mean "what happens to it"? Why don't you plug in some
values and see how much energy you're actually talking about here,
Cecil?

ac6xg

6811. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:43:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF24A9D.60409@ieee.org>
Source record: 114763

Jim Kelley wrote:
> The similarity between Richard's example and the problem being discussed
> is the absence of a transfer of energy to the point of interest. The
> difference is in the fact that the waves are not necessarily traveling
> along the same line and in the same direction. The interference pattern
> simply has a different spacial profile.

Aha, I see what your problem is. When two EM waves interfere in free space,
the energy level in the waves doesn't change. If the energy level in the
waves doesn't change, of course they do not transfer any energy.

The wave cancellation that happens at a match point is entirely different.
The waves cease to exist so their energy levels cannot possibly remain
the same and they are forced to transfer their energy to the constructive
interference point.

I understand your confusion now. Hopefully, soon you will also.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6812. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-19 23:49:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF24C26.6000002@ieee.org>
Source record: 114764

Roy Lewallen wrote:
> There's no doubt and no argument that energy is conserved. But the fact
> that complete cancellation takes place in some directions doesn't
> guarantee that complete reinforcement will necessarily occur in any
> direction.

True for antenna fields but not true for transmission lines. In a transmission line, since there are only two directions, complete wave cancellation in one direction requires complete reinforcement in the other direction. Transmission lines are a binary decision tree. In a transmission line:

Pa+Pb-2*Sqrt(Pa*Pb) in one direction forces P1+P2+2*Sqrt(P1*P2) in the opposite direction where |2*Sqrt(Pa*Pb)|=|2*Sqrt(P1*P2)|.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6813. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:01:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF24EF0.20103@ieee.org>
Source record: 114765

Jim Kelley wrote:
> Energy transfer is the definition of power.

Joules/Sec passing a point is the definition of Watts. All that requires
is moving energy.

> It can't determine whether energy is being transfered from one point to
> another.

Movement of energy is *exactly* what a wattmeter detects.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6814. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:04:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF24F9F.7010903@ieee.org>
Source record: 114766

Jim Kelley wrote:
> W5DXP wrote:
>>Assuming you have changed your mind, what happens to the
>>intrinsic energy in waves destroyed by wave cancellation?
>
> What do you mean "what happens to it"?

You seem to agree that EM waves are associated with an intrinsic energy. If you don't agree, please say so. If EM waves are associated with intrinsic energy, what happens to that intrinsic energy when the waves are canceled. It's a simple question, Jim.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6815. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:16:55 UTC
From: ryeburn@sfu.caz
Message-ID: <ryeburn-1906031716550001@bni030qny8kc.bc.hsia.telus.net>
Source record: 114767

In article <Xns939F54D095EB4pookster@129.250.170.83>, Bill Turner
<noway@nohow.com> wrote:

> "Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
> 208.206.142.104:
>

...(snip)...

> > I've known many hams who only learned Morse code because it was a
> > license requirement, who became avid CW operators because of that
> > demand. They would have never "wasted their time" learning the code
> > if they hadn't been required to do it to get the license.

That describes me at age 14 in summer 1949. But by the time I got my code
speed up to 13 wpm that fall (there was no such thing as a "Novice"
licence then; the "Class B" licence I got was later renamed "General
class") I was beginning to enjoy code. I got an Extra Class ticket in
1955, not because it would allow me to do anything that I wanted to do
that I couldn't do already, but because the day I wrote my First Phone
commercial ticket exam I decided that while I was at the Chicago FCC
office I might as well take the Extra Class exam too since I could by then
copy 50+ wpm in my head.

> Your statement about newbies later becoming avid CW ops is correct, of
> course. I just don't believe in forcing CW down someone's throat if they
> really don't like it. I would prefer the new ham to get his license, get
> on the air, and let his interest take him wherever he wants. Even the
> rankest newbie is aware that CW exists - if he is at all interested, he
> will pursue it further.
>
> This is a hobby, after all. Some people take to CW like a duck to water,
> others like a cat to water. To each his own.

Amen.

The only reason I might one of these days apply for a VE7 licence would be
to take a low-power CW rig along on backpacking trips.

Now can we get back to talking about antennas?

David, ex-W8EZE, estimated code speed still about 25 wpm when I listen to
the stuff once a year or so

--
David or Jo Anne Ryeburn
ryeburn@sfu.caz

To send e-mail, remove the letter "z" from this address.

6816. Re: 40m Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:28:42 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF2553A.48D55064@cwis.net>
Source record: 114768

Karl,
Will it work? Probably, but don't count on it working
very well. Higher is always better and getting it further
away from your house will also reduce the chance of RFI.
But, anything is almost always better than nothing, so why
not try it??
'Doc

6817. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:31:23 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF255DB.C1DFAE4C@cwis.net>
Source record: 114669

Nic,
Just connect the antenna to the receiver. The mismatch
probably won't make enough difference for you to tell the
difference.
'Doc

6818. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:35:38 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF256DA.BA522DCB@cwis.net>
Source record: 114670

Andy,
Unfortunately, it doesn't mean that the SWR will be
the same over the whole frequency range. It does mean
that the antenna can be tuned for use within that range
of frequencies...
'Doc

6819. Re: Array Gain

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:37:05 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306191637.746a81fc@posting.google.com>
Source record: 114671

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
Ian, the following antenna is generally the same as I built
several years ago with the aid of the AO optimizer.
It worked quite well but with close spaced wires it is
difficult to tell how good it was but it is a example
of how elements can be coupled together with relative
control of phase to possibly achieve ideal gain resolution.

```
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.........Vcap...........
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. .
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. feed
```

Coupling between elements are shown as being wide but in
actual fact were extremely close and the 3 sides of the
connecting loop was actually insulated wire.
I present this not as a solution but to show how elements
not only can be placed close together unlike the yagi
but with choice transitional coupling phase can also be
controlled. This can be drawn up as several coupled
comlex system for those that enjoy mathematic challenges
while I used what AO gave me and made slight adjustments
for <2:1 feed. You can of course couple the odd number of
elements of course as well as changes in elevation between
elements to over come the boom length factor.

6820. W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:37:44 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <nHsla.2785$%91.407688@news20.bellglobal.com>
Source record: 114672

"Roy Lewallen"
> Consider a W8JK antenna...
> ...this antenna has a gain of about 4 dB
> relative to a single isolated element...
> ...the trick is mutual coupling...
> ...feedpoint resistance of a close-spaced
> W8JK is very low...
> Element currents are extremely high for a
> given power input, which results in the gain...

Hmmm...
"Element currents are extremely high...
which results in the gain..."

I'm concerned by this apparent logic:
1) Low feedpoint resistance
2) Thus high current [okay]
3) Results in (more) gain [?]

Rhetorical question #1:
Does the typical '73-ohm' dipole provide higher gain than a '300-ohm' folded dipole because it has a lower feedpoint resistance?

Rhetorical question #2:
Given an antenna with an average gain (in all directions) of 0dBi, if the feedpoint resistance is somehow lowered, will the average gain (in all directions) now exceed 0dBi?

I always assumed that gain could be derived from phase and geometry (Moir&#65533;
patterns to put it simply).

I didn't think that Zo had anything to do with gain.

6821. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:39:30 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <0JsIa.2788$%91.408422@news20.bellglobal.com>
Source record: 114674

"Roy Lewallen"
> Consider a W8JK antenna...

I've started a new thread...

See: W8JK Gain - a result of Zo ?

(I didn't want to get lost in this thread.)

6822. Re: Omnidirectional (but vertical) loop?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:51:09 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <YTsIa.2797$%91.411213@news20.bellglobal.com>
Source record: 114676

"Albert P. Belle Isle"
> ...three half-loops, each approximately two feet in
> diameter, and each in a vertical plane 120 degrees
> from its neighbors, all joined together. It sort of
> looked like an egg-beater on a broom handle.

Maybe an LF/MF/HF electronic goniometer antenna used for direction finding.

Maybe... maybe not.

6823. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:54:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4mplantkrb76@corp.supernews.com>
Source record: 114673

Consider an eigth wavelength transmission line, short circuited at the load end. At the short circuit, the forward and reverse voltage waves completely cancel. At what point on the line do they completely reinforce?

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> There's no doubt and no argument that energy is conserved. But the
>> fact that complete cancellation takes place in some directions doesn't
>> guarantee that complete reinforcement will necessarily occur in any
>> direction.
>
>
> True for antenna fields but not true for transmission lines. In a
> transmission
> line, since there are only two directions, complete wave cancellation in
> one
> direction requires complete reinforcement in the other direction.
> Transmission
> lines are a binary decision tree. In a transmission line:
>
> Pa+Pb-2*Sqrt(Pa*Pb) in one direction forces P1+P2+2*Sqrt(P1*P2) in the
> opposite
> direction where |2*Sqrt(Pa*Pb)|=|2*Sqrt(P1*P2)|.

6824. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 00:57:35 UTC
From: tdonaly@aol.com
Message-ID: <20030619205735.23689.00001060@mb-m27.aol.com>
Source record: 114675

Jim wrote,
>
>I agree with John. If it weren't for the fact that you were afraid of
>getting your feelings hurt, we could have been discussing this by email
>- a MUCH better utilization of the bandwidth. Coward.
>
>ac6xg
>
>
>W5DXP wrote:
>>
>> JohnDoe wrote:
>> > GOD DAMM IT ALL TO HELL, ENOUGH OF THIS SHIT. WHO GIVES A BIG FUCK!
>TALK
>> > ABOUT SOMETHING IMPORTANT OR AT LEAST INTERESTING FOR CRYING OUT LOUD.
>>
>> Is your mommie forcing you to read it? :-)
>> --
>> 73, Cecil, W5DXP
>
>

The audience got up and walked out of the theater a
long time ago. The only people left are two actors and the stage hands.
73,
Tom Donaly, KA6RUH

6825. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:13:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mrn4fvkqjo64p4qg7h4b3qlhn75e5kn7a6@4ax.com>
Source record: 114677

On Thu, 19 Jun 2003 17:54:16 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Consider an eigth wavelength transmission line, short circuited at the
>load end. At the short circuit, the forward and reverse voltage waves
>completely cancel. At what point on the line do they completely reinforce?
>
>Roy Lewallen, W7EL
>
Gee Roy,

In the Rhetoric! :-)

73's
Richard Clark, KB7QHC

6826. Re: Mobile Quad band tuning help needed (UHV-4)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:15:11 UTC
From: wess@gtii.com
Message-ID: <vf4nvpavdkug88@corp.supernews.com>
Source record: 114678

vhfradiobuff@aol.comspamme (VHFRadioBuff) wrote:

>>You sure you are not thinking of the Diamond HV7A? I kinda wish I had
>>bought that one. Much nicer instructions. Don't have that antenna
>>but since they look alike I grabbed instructions off of web to see
>>what they had to say. Those ship with 16 ga wire to use to clip away
>>until a match is found.
>
>You're right, that's the one I'm thinking of. You would have been better off
>either buying at triband 6m/2m/70cm antenna or a dualband 2m/70cm antenna and a
>monoband 6m antenna and used a duplexer.

>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

Before it is over I probably will be doing something like this. If I
knew what I know now, I'd have done that to begin with.

Ah, the price of education.

73, Wes, kc8spr

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6827. Re: 40m Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:16:25 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EF26061.1CC456A3@shaw.ca>
Source record: 114679

Karl Almquist wrote:
>
> I live in a flat-roof house with a level eave of sufficient length to
> accommodate a straight 40m dipole antenna. I plan to install the antenna
> under the eave which is roughly 10' above ground level. Is this feasible?

Many hams are working the world with less. The big thing is to get it
up and see. You might also consider feeding it with twin lead and
a tuner for multiband operation. Yes, higher is better, but any antenna
is better than none! You might be pleasantly surprised!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

6828. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:29:33 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <1stIa.77375$YZ2.249834@rwcrnsc53>
Source record: 114680

Sure does. It gives all the old geezers something to bitch about.
(this one should last for days)
"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
news:bcqg37$l5g$1@slb4.atl.mindspring.net...
> Nope don't thing CW is better than sex. But I do think CW has a place in
> communications.

6829. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:35:27 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <DotIa.3443$sQ1.2162@fe01.atl2.webusenet.com>
Source record: 114681

' corse this "NEW" band is WORTHLESS, when you compare it with a LONG ESTABLISHED "Frequency" (I hesitate to use the word, "BAND" , for ALASKA EMERGENCIES authorized , on 5167.5 kHz, (usb), and in many of the modern rigs! Just WHEN WAS THE LAST TIME IT WAS USED ??? Doubt it worthwhile to add these freqs to your rig, much less antenna capabilities (other than a tuner) to your antenna farm. Maybe being cynical, but also a realist! Jim NN7K

"Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message news:bcpvledeu1@slb4.atl.mindspring.net...
>
> "Bill Turner" <noway@nohow.com> wrote in message
> news:Xns939DE35535953pookster@129.250.170.85...
> > "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in
> > news:bco9rptfs1@slb4.atl.mindspring.net:
> >
> > > Only because so many of the new so - called hams are too sorry to
> > > learn cw.
> > >
> > > Dan/W4NTI
> > >
> > > ----------
> >
> > If it had perceived value to the new hams, they would learn it.
> >
> > --
> > Bill, W7TI
>
> Not true at all Bill and you know it. The basic problem with all the
> anti-cw whinning is there too dang lazy to actually put out the effort. And
> thats the facts.
>
> Dan/W4NTI
>
>

6830. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:45:16 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <5ytIa.3458$sQ1.1143@fe01.atl2.webusenet.com>
Source record: 114682

Neg, these die around 40-45 mHz ,great at uhf- vhf, lossier then hell at HF ! (as with most tv baluns) Worse, you won't notice much loss JUST CONNECING the antenna you have to the terminals! forget the impedence matching on recieve, most likely will never notice an improvement (and if you do, its going to cost you bunch of BUX !!! Jim

"Tom Coates" <tecoates@comcast.net> wrote in message news:EW-dnWD0C-b7l2-jXTWJgA@comcast.com...
> You might get close enough with a Radio Shack matching transformer No.
> 15-1140 for $2.99. It "matches 300-ohm screw terminals on antenna to 75-ohn
> coax cable." Connect it backwards and see if receiver matching is like
> horseshoes, where close is good enough. A similar item may be available
> from other sources.
>
> Tom, N3IJ
>
> "Nic. Santean" <nic@csd.uwo.ca> wrote in message news:3ef20337@shknews01...
> > How can I couple a Z=50Ohms SW antenna to
> > a 300Ohms receiver input (I have a Grundig S350)?
> >
> > - sorry if I mistakenly posted this message twice
> >
> > Nic.
> >
> >
>
>

6831. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:46:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4psblrf4373f@corp.supernews.com>
Source record: 114683

J. Harvey wrote:
> "Roy Lewallen"
>
>>Consider a W8JK antenna...
>>...this antenna has a gain of about 4 dB
>>relative to a single isolated element...
>>...the trick is mutual coupling...
>>...feedpoint resistance of a close-spaced
>>W8JK is very low...
>>Element currents are extremely high for a
>>given power input, which results in the gain...
>
>
> Hmmm...
> "Element currents are extremely high...
> which results in the gain..."
>
> I'm concerned by this apparent logic:
> 1) Low feedpoint resistance
> 2) Thus high current [okay]
> 3) Results in (more) gain [?]
>
> Rhetorical question #1:
> Does the typical '73-ohm' dipole provide higher gain than a '300-ohm' folded
> dipole because it has a lower feedpoint resistance?

No. Nor do you increase the gain of antenna by connecting the input to a transformer. What counts is the element current for a given power input. The common-mode current (the "component" that does the radiating) of a folded dipole is the same as for an unfolded dipole. So its gain is the same. Folding simply transforms the input impedance, like a transformer would.

> Rhetorical question #2:
> Given an antenna with an average gain (in all directions) of 0dBi, if the
> feedpoint resistance is somehow lowered, will the average gain (in all
> directions) now exceed 0dBi?

Only if the feedpoint resistance is lowered by increasing the antenna's current. (Or, if you wish, if lowering the resistance results in increased current. You choose.) And, sorry, J, try as you might, you won't be able to do that. At least without a creative marketing department.

> I always assumed that gain could be derived from phase and geometry (Moirï¿½
> patterns to put it simply).

>
> I didn't think that Zo had anything to do with gain.

I'm not sure what you mean by Z0, but "coupled resistance" -- the feedpoint resistance change due to mutual coupling -- most certainly does. If your understanding of antenna gain doesn't account for mutual coupling, you have a great opportunity to further your education. Chapter 8 of the ARRL Antenna Book is one place you could start. If that doesn't suit you, there are some very clear explanations and illustrations in the broadcast antenna chapter of Jasik or Johnson's _Antenna Engineering Handbook_. In that book you'll also find an explanation and examples of the use of the term "coupled resistance" and "coupled impedance".

Roy Lewallen, W7EL

6832. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:48:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4pvndg5hg657@corp.supernews.com>
Source record: 114684

Make that eighth. Sorry.

Roy Lewallen, W7EL

Roy Lewallen wrote:
> Consider an eigth wavelength transmission line . . .

6833. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 01:51:48 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619215148.19519.00001745@mb-m10.aol.com>
Source record: 114685

>Andy,
> Unfortunately, it doesn't mean that the SWR will be
>the same over the whole frequency range. It does mean
>that the antenna can be tuned for use within that range
>of frequencies...
> 'Doc

I'm not sure that's accurate, because you can take a monoband 2m antenna and trim it for good SWR higher up. The listing seems to indicate that it can simultaneously be used from 140 - 160 mhz without tuning.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6834. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:09:58 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306191809.97bf341@posting.google.com>
Source record: 114686

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EF102CA.7090300@ieee.org>...
> Bill Turner wrote:
> > If "SSB" and "new" automatically pop into your mind together, things are
> > worse than I thought. :-)
>
> You mean those Single-Sidewinders are here to stay? Why would anyone
> want to sound like Mickey Mouse? :-)

You have your cartoon characters mixed up Cecil. Them sidewinders was
the Donald Ducks back when.

Don't feel bad, I mix up a LOT more than just cartoon characters mixed
up these days . . .

I thought I built four dipoles for 80/40/20/15 over the past few days
for Field Day. Went to string 'em up to put the 259B to 'em and found
out I have dipoles for 80/40/15/15.

b.

6835. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:18:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF26EDE.9050801@ieee.org>
Source record: 114687

Roy Lewallen wrote:
> Consider an eigth wavelength transmission line, short circuited at the
> load end. At the short circuit, the forward and reverse voltage waves
> completely cancel. At what point on the line do they completely reinforce?

Uhhhhhh Roy, I hate to break it to you, but that is NOT complete wave
cancellation. It doesn't even come close. Would you believe all the energy
is contained in the magnetic field at that point? Why do most of you guys
completely ignore the current waves? Wave cancellation cannot occur unless
BOTH the voltage and current waves are canceled. So I repeat: "... complete
wave cancellation in one direction requires complete reinforcement in the
other direction."
--
73, Cecil http://www.qsl.net/w5dxp

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6836. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:20:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF26F7F.5010703@ieee.org>
Source record: 114688

Richard Clark wrote:
> Roy Lewallen <w7el@eznec.com> wrote:
>>Consider an eigth wavelength transmission line, short circuited at the
>>load end. At the short circuit, the forward and reverse voltage waves
>>completely cancel. At what point on the line do they completely reinforce?
>>
> In the Rhetoric! :-)

Too bad Roy's example has absolutely nothing to do with "complete wave cancellation". I'm beginning to believe that none of your guys comprehend complete wave cancellation.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6837. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:32:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF2724D.6090400@ieee.org>
Source record: 114689

Jim wrote,
>I agree with John. If it weren't for the fact that you were afraid of
>getting your feelings hurt, we could have been discussing this by email
>- a MUCH better utilization of the bandwidth. Coward.

Sorry, but I just will not tolerate every other word in an email
being filthy and obscene. While your abuse went to 100%, your
technical content went to zero.
--
73, Cecil http://www.qsl.net/w5dxp

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6838. Re: Is Cecil's Math a Blender?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:41:42 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EF27498.2060400@adelphia.net>
Source record: 114690

I must confess I started reading this thread only after it started on it's (second week?) Now it's morbid fascination that keeps me reading it.

Cecil and Jim, no matter WHAT the other people say, DON'T take this to private email. This is theater guys. Kind of like the time in the high school lunchroom when I put all my money in the jukebox and played "On the Cover of the Rolling Stone" thirty times.

After a while, it becomes art.

Keep it up guys! I'm still reading.

- Mike KB3EIA -

6839. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:55:13 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <flula.2909$%91.443252@news20.bellglobal.com>
Source record: 114694

"Jeff Harvey"
>> Rhetorical question #1:
>> Does the typical '73-ohm' dipole provide higher
>> gain than a '300-ohm' folded dipole because it
>> has a lower feedpoint resistance?

"Roy Lewallen"
> The common-mode current (the "component" that
> does the radiating) of a folded dipole is the same
> as for an unfolded dipole. So its gain is the same.

Excellent response (for a *bad* rhetorical question).
I'm glad I always carry a spare...

>> Rhetorical question #2:
>> Given an antenna with an average gain (in all directions)
>> of 0dBi, if the feedpoint resistance is somehow lowered,
>> will the average gain (in all directions) now exceed 0dBi?

> Only if the feedpoint resistance is lowered by increasing the
> antenna's current. (Or, if you wish, if lowering the resistance
> results in increased current. You choose.) And, sorry, J[eff],
> try as you might, you won't be able to do that. At least
> without a creative marketing department.

Hmmm... I'd like to explore this one a bit further to see I can find the
missing bit of my understanding. The W8JK antenna provides an excellent
example that can be used to make the points clear.

Let's assume for a minute that the two dipoles in the W8JK antenna are
mounted farther apart (somehow maintaining the same feed relationships) so
that it is really just a plain old "phased array" of two dipoles, with no
significent mutual coupling between them, with a peak forward gain of about
3dBd (note dBd - relative to a single plain old dipole). Let's assume 100%
efficiency (of course), no ground effects, everything simple. All pretty
straight forward. Obviously the average gain (in all directions) is still
exactly 0dBi (right?).

Now, bring the two dipoles closer until they become a perfectly-optimised
W8JK antenna with about 4dBd (note - relative to a single, plain old
dipole).

Here's the question: Is the average gain (in all directions) still
exactly 0dBi?

The catch is that (according to the theory that current => gain) the
increased current would logically increase the field strength (= gain?) in

ALL directions. Yikes! Therefore, EZNEC should report an average gain (in all directions) of about +1dBi. Doesn't that constitute an error warning ?

Doesn't that violate the laws of physics? Isn't it a basic tenant of antenna design that the average gain (in all directions, averaged over the entire sphere) *shall be* exactly 0 dBi (or less with losses)? Did I miss a footnote on that rule?

Note that I've used the W8JK antenna to provide the perfect example for my rhetorical question #2.

> ...mutual coupling...
> ...Chapter 8....ARRL Antenna Book

Usually my antenna books are at the office, but today they happen to be at home and within arm's reach. I've just reviewed page 8-4 and the concept of mutual coupling is (dare I say) old hat and almost trivial. That part I understand fully. If it was lab I would promptly set the elements 180 degrees out of phase and drive them together. ;-)

The bit that I don't get is described above.

I trust that you find this topic worth discussing further.

Regards,
Jeff Harvey

6840. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 02:57:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf4u0ooc6hcu28@corp.supernews.com>
Source record: 114691

By golly, you've got me there.

So please give me an example of a transmission line driven by a single source in which "complete wave cancellation" by your definition does occur. Please restrict it to a lossless line, but otherwise feel free to choose any characteristic impedance, load impedance (real, imaginary, complex, open, or short), and line length you'd like. Then point out the position on the line where both the voltage and current waves cancel, requiring all this folderal to explain where the energy "went".

Thanks!

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Consider an eigth wavelength transmission line, short circuited at the
>> load end. At the short circuit, the forward and reverse voltage waves
>> completely cancel. At what point on the line do they completely
>> reinforce?
>
>
> Uhhhhhh Roy, I hate to break it to you, but that is NOT complete wave
> cancellation. It doesn't even come close. Would you believe all the energy
> is contained in the magnetic field at that point? Why do most of you guys
> completely ignore the current waves? Wave cancellation cannot occur unless
> *BOTH* the voltage and current waves are canceled. So I repeat: "...
> complete
> wave cancellation in one direction requires complete reinforcement in the
> other direction."

6841. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:03:06 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <mnt4fv8u8cjtt8jqq3rac29l2araif212a@4ax.com>
Source record: 114692

On 20 Jun 2003 01:51:48 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

>>Andy,
>> Unfortunately, it doesn't mean that the SWR will be
>>the same over the whole frequency range. It does mean
>>that the antenna can be tuned for use within that range
>>of frequencies...
>> 'Doc
>
>I'm not sure that's accurate, because you can take a monoband 2m antenna and
>trim it for good SWR higher up. The listing seems to indicate that it can
>simultaneously be used from 140 - 160 mhz without tuning.

I really think they mean you can cut it for low SWR at one particular
frequency within the 140-160 range. Or re-cut it for another higher
frequency. Of course, once you do that, you can't re-cut it to the
lower frequency again, because it's too short now.

If their ad copy means something else, there's been a miraculous
advance in the science of 2-meter antennas :-)

Bob
k5qwg

>=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
>Beachwood, NJ USA! Grid FM29vw
>http://vhfradiobuff.tripod.com
>Fight Spam! http://spamcop.net

6842. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:08:38 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <QUuIa.2929$%91.447251@news20.bellglobal.com>
Source record: 114696

"Roy Lewallen"
> By golly, you've got me there.
>
> So please give me an example of a transmission line driven by a single
> source in which "complete wave cancellation" by your definition does
> occur. Please restrict it to a lossless line, but otherwise feel free to
> choose any characteristic impedance, load impedance (real, imaginary,
> complex, open, or short), and line length you'd like. Then point out the
> position on the line where both the voltage and current waves cancel,
> requiring all this folderal to explain where the energy "went".

The trivial concepts of wave reflection and wave cancellation have been all
twisted up and mixed together for the past, oh, about 962 postings. ;-)

6843. Re: Is Cecil's Math a Bummer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:09:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <eiu4fvsegrrs0e154eh7q1qa4imrkc50qt@4ax.com>
Source record: 114693

On Fri, 20 Jun 2003 02:41:42 GMT, Mike Coslo <mcoslo@adelphia.net>
wrote:
>I must confess I started reading this thread only after it started on
>it's (second week?) Now it's morbid fascination that keeps me reading it.

Hi Mike,

What planet have you returned from? Second YEAR!

73's
Richard Clark, KB7QHC

6844. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:15:26 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <d%uIa.2940$%91.449118@news20.bellglobal.com>
Source record: 114698

"Bob Miller"
> Of course, once you do that, you can't re-cut it to the
> lower frequency again, because it's too short now.

Get the ACME Antenna Stretcher. ;-)

6845. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:16:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF27C87.3000404@ieee.org>
Source record: 114695

Roy Lewallen wrote:
> So please give me an example of a transmission line driven by a single
> source in which "complete wave cancellation" by your definition does
> occur. Please restrict it to a lossless line, but otherwise feel free to
> choose any characteristic impedance, load impedance (real, imaginary,
> complex, open, or short), and line length you'd like. Then point out the
> position on the line where both the voltage and current waves cancel,
> requiring all this folderal to explain where the energy "went".

It ain't rocket science, Roy. We don't even need to show the source or
load.

-------50 ohm feedline---------+---------150 ohm feedline-------
Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W

in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2

s11*a1 and s12*a2 engage in complete wave cancellation because
"|b1|^2 = Power reflected from the input port of the network."
and that value is given as zero. (Quoted from HP AN 95-1)

I can say the same thing in ham radio terms if you prefer.
--
73, Cecil http://www.qsl.net/w5dxp

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6846. Re: Is Cecil's Math a Bummer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:25:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF27EBD.9040806@ieee.org>
Source record: 114697

Richard Clark wrote:
> What planet have you returned from? Second YEAR!

It might be interesting to review what Dr. Best said two years
ago.

"The total forward power increases as a direct result of the vector
superposition of forward voltage and current. This DOES NOT require a
corresponding destructive interference process (reduction of power
elsewhere) to balance the law of conservation of power..."

This is in direct contradiction to what Hecht asserts in _Optics_.
--
73, Cecil http://www.qsl.net/w5dxp

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6847. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:32:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF28046.8030507@ieee.org>
Source record: 114700

J. Harvey wrote:
> The trivial concepts of wave reflection and wave cancellation have been all
> twisted up and mixed together for the past, oh, about 962 postings. ;-)

Yes, they have and that is part of the problem. Wave cancellation is a completely different thing from normal dark ring, bright ring interference. For normal interference, the two waves emerge unaffected by each other. Thus, they certainly do not give up any energy to interference. However, when two waves cancel completely, they give up *ALL* their energy to interference.
--
73, Cecil http://www.qsl.net/w5dxp

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6848. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:33:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf503c4f1uib39@corp.supernews.com>
Source record: 114699

Please show the load impedance, the lengths of the lines, and at what point on which line "complete wave cancellation" takes place. If any of these things aren't important, then make some values up.

If that's "ham radio terms", then yes, I prefer ham radio terms.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> So please give me an example of a transmission line driven by a single
>> source in which "complete wave cancellation" by your definition does
>> occur. Please restrict it to a lossless line, but otherwise feel free
>> to choose any characteristic impedance, load impedance (real,
>> imaginary, complex, open, or short), and line length you'd like. Then
>> point out the position on the line where both the voltage and current
>> waves cancel, requiring all this folderal to explain where the energy
>> "went".
>
>
> It ain't rocket science, Roy. We don't even need to show the source or
> load.
>
> -------50 ohm feedline---------+---------150 ohm feedline-------
> Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
>
> in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2
>
> s11*a1 and s12*a2 engage in complete wave cancellation because
> "|b1|^2 = Power reflected from the input port of the network."
> and that value is given as zero. (Quoted from HP AN 95-1)
>
> I can say the same thing in ham radio terms if you prefer.

6849. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:47:36 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030619234736.11451.00001080@mb-m13.aol.com>
Source record: 114701

>I really think they mean you can cut it for low SWR at one particular
>frequency within the 140-160 range. Or re-cut it for another higher
>frequency. Of course, once you do that, you can't re-cut it to the
>lower frequency again, because it's too short now.
>
>If their ad copy means something else, there's been a miraculous
>advance in the science of 2-meter antennas :-)

All their other dualbanders are specifically listed as 146/440 mhz. When I get the antenna, I'll hook up the analyzer and see what the story is. I don't see any reason why a vertical mobile antenna can't be designed to cover a continuous 20 mhz range. At my last job, our radios operated on our frequency, which was around 165mhz and also worked on the local agencies frequencies, which were typically around 150 mhz - 155 mhz. I don't know what the SWR looked like, but I assume they wouldn't enable transmit on those other frequencies if the antenna couldn't handle it.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6850. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 03:57:39 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <cuvyxnansvbet.hgr73q9.pminews@netnews.attbi.com>
Source record: 114702
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

On Thu, 19 Jun 2003 00:21:31 -0400, Ryan, KC8PMX wrote:

>Are those parts of Part 97 specifically listed as not applicable or is that
>just certain people "reading into it" to serve their own agenda?

Hey, you got "the word" and its history here for free but you are
certainly free to pay -your- attorney $150/hour to research it in
Pike and Fischer or Berry-Best if you disagree.

--
73 de K2ASP - Phil Kane

6851. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 04:00:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4315fvsknp5lad4q8qblt86o8runsasnv7@4ax.com>
Source record: 114703

On 20 Jun 2003 03:47:36 GMT, vhfradiobuff@aol.comspamme (VHFRadioBuff)
wrote:

> I don't know what the SWR looked
>like, but I assume they wouldn't enable transmit on those other frequencies if
>the antenna couldn't handle it.

Hi Andy,

The antenna has nothing to do with it - or you have one lousy design
(hard to do and still be commercial).

And that brings us to my other question, what gear are we talking
about? Some manufacturers over-design their gear for maximum service
(commercial grade) and tolerate conditions that would put Hams to
tears over.

The logic of your candidate antenna should be portable to 20M; but you
won't find any 20M design that works out to 16MHz unless it has a
resistor in it OR it is a fat radiator.

At VHF some common conductors (like my suggestion of brass tube stock)
are very thick if we were to scale its diameter for 20M (10 times
thicker). All of this is very simply modeled by Roy's free EZNEC
program, and it already has the antenna designs waiting to confirm or
deny claims that you find (but can you find the literal measurements
of the radiator?).

73's
Richard Clark, KB7QHC

6852. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 04:34:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf53m952e1ht41@corp.supernews.com>
Source record: 114704

J. Harvey wrote:
>
>>>Rhetorical question #2:
>>>Given an antenna with an average gain (in all directions)
>>>of 0dBi, if the feedpoint resistance is somehow lowered,
>>>will the average gain (in all directions) now exceed 0dBi?
>
>
>>Only if the feedpoint resistance is lowered by increasing the
>>antenna's current. (Or, if you wish, if lowering the resistance
>>results in increased current. You choose.) And, sorry, J[eff],
>>try as you might, you won't be able to do that. At least
>>without a creative marketing department.
>
>
> Hmmm... I'd like to explore this one a bit further to see I can find the
> missing bit of my understanding. The W8JK antenna provides an excellent
> example that can be used to make the points clear.
>
> Let's assume for a minute that the two dipoles in the W8JK antenna are
> mounted farther apart (somehow maintaining the same feed relationships) so
> that it is really just a plain old "phased array" of two dipoles, with no
> significent mutual coupling between them, with a peak forward gain of about
> 3dBd (note dBd - relative to a single plain old dipole). Let's assume 100%
> efficiency (of course), no ground effects, everything simple. All pretty
> straight forward. Obviously the average gain (in all directions) is still
> exactly 0dBi (right?).

There's very significant mutual coupling between the elements of just about any "plain old" phased array. Given graphs of mutual impedance you can find in the ARRL Antenna Book and many other sources, and the assumed currents in the elements, calculation of the coupled impedance is pretty simple. But there are some magic spacings and current ratios that result in either a zero coupled resistance or in coupled element resistances with effects that cancel. (An example of the latter is a 2 element 90 degree spaced and fed array, which has a gain of exactly 3 dB relative to a single element. Jasik/Johnson calculates a "total resistance" which relates to the array gain and for that array equals zero. But I won't diverge here.) In the special case of two elements fed out of phase with equal currents, the coupled resistance (the amount the feedpoint resistance changes as a result of mutual coupling) is simply -Rm, where Rm is the mutual resistance. (See Eq. 19 in Chapter 8 of the ARRL Antenna Book.) From the graph in the ARRL Antenna Book (Fig. 19 in Chapter 8), Rm = 0 for half wave parallel antennas at spacings of about

0.43, 0.96, 1.46, and 1.98 wavelength (and of course others which are off the graph). So let's say the elements are spaced 0.43 wavelength, where Rm = 0. Then the coupled resistance would be zero, and your gain would be 3 dBd, where 0 dBd is the gain of a single isolated element.

Yes, the average gain in all directions would be 0 dBi, as it is for all lossless antennas in free space.

> Now, bring the two dipoles closer until they become a perfectly-optimised
> W8JK antenna with about 4dBd (note - relative to a single, plain old
> dipole).
>
> **Here's the question**: Is the average gain (in all directions) still
> exactly 0dBi?

Yes. The average gain of all lossless antennas in free space is 0 dBi.

> The catch is that (according to the theory that current => gain) the
> increased current would logically increase the field strength (= gain?) in
> *ALL* directions.

Nope. As soon as you bring the elements closer together than a half wavelength, the fields either fully or partially cancel in all directions. And it turns out that the increase in field strength from the increased currents just makes up for the field cancellation, so that the average gain ends up at 0 dBi.

But to be fair, you can have gain in excess of 3 dB for two out of phase elements spaced a half wavelength or farther. This will occur at any spacing where Rm is positive -- for example between about 0.96 and 1.46 wavelengths. Yet no laws of physics are violated. If you look at the patterns, you'll see that the lobes are narrower than they would be if there were no mutual coupling. In fact, they're just the right width to keep that average gain at 0 dBi. You see, you can't have two elements spaced at 1.2 wavelength, say, without mutual coupling. Or look at it another way. If you were to add the fields from two dipoles spaced 1.2 wavelength apart, and you assumed no mutual coupling, you'd end up with an average gain of less than 0 dBi. How 'bout them apples. It might be easier to see what would happen if you added up the fields from two elements spaced much closer than a half wavelength and assumed no mutual coupling. Then you'd come up with an average field strength considerably less than 0 dBi because of the field cancellation.

Yikes! Therefore, EZNEC should report an average gain
> (in all directions) of about +1dBi. Doesn't that constitute an error
> warning ?

I'm sorry, you've lost me there. Assuming no loss in the model and no calculation problems, EZNEC should report 0 dB "average gain". Remember, EZNEC's reported "average gain" is really the total power divided by the power from the sources -- so it's not in dBi.

> Doesn't that violate the laws of physics? Isn't it a basic tenant of
> antenna design that the average gain (in all directions, averaged over the
> entire sphere) *shall be* exactly 0 dBi (or less with losses)? Did I miss a
> footnote on that rule?

Nope. You've got the rule right. What's mistaken is your reasoning that
leads to the antenna having an average gain greater than 0 dBi.

> Note that I've used the W8JK antenna to provide the perfect example for my
> rhetorical question #2.
>
>
>
>
>>...mutual coupling...
>>...Chapter 8....ARRL Antenna Book
>
>
> Usually my antenna books are at the office, but today they happen to be at
> home and within arm's reach. I've just reviewed page 8-4 and the concept of
> mutual coupling is (dare I say) old hat and almost trivial. That part I
> understand fully. If it was lab I would promptly set the elements 180
> degrees out of phase and drive them together. ;-)
>
> The bit that I don't get is described above.
>
> I trust that you find this topic worth discussing further.

Sure. I've been trying to communicate these principles to the amateur
community for a good 20 years. It began with an 80 page typed manuscript
that I'd send to anyone who asked for the price of copying and mailing.
About 50 people around the world heard about it and asked for it. It was
too long to get published in the amateur literature, until Jerry Hall
offered to include it in the Antenna Book when he overhauled it, what, a
dozen or so years ago. And so it became most of Chapter 8, where it's
been since. This newsgroup provides a way to reach a lot more people.
There are a whole lot of "lurkers" out there who I hope will benefit
from this exchange. That makes it worthwhile.

While you're thumbing through Chapter 8, take a look at the family of
graphs of antenna patterns of 2 element arrays, Figure 10 unless it's
changed since my copy was printed. Note that the gains (all without
loss, and all relative to a single element) vary from 0.3 to 4.8 dB. If
it weren't for mutual coupling, they'd all be 3 dB. (Incidentally, I
didn't produce those -- I think Jerry did them with ELNEC.)

Oh, one more thing I should mention. Even this analysis is
oversimplified. It turns out that mutual coupling also changes the
current *distribution* on the elements. In some cases the effect is
minor, in some cases major. An example of a minor effect is the little
-25 dB rear lobe you'll see in a computer simulation of a 90 degree
spaced and phased array. More profound effects happen when the elements
are near anti-resonance (half wavelength monopole or full wavelength

dipole). It's not an original observation, but it seems pretty unknown in the amateur community. I commented on it in QST's "Technical Correspondence" in July 1990. But guess what -- the average gain ends up being 0 dBi after you've accounted for the changed distribution. And _only_ if you've accounted for it. Kinda cool how things all work out, isn't it?

Don't worry, the laws of physics can withstand this.

Roy Lewallen, W7EL

6853. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 04:45:16 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcu3gsac0@208.207.71.132>
Source record: 114705

Bill Turner wrote:

> "Dick Carroll;" <dixie@townsqr.com> wrote in
> news:bcoo50$l2t$0@208.206.142.96:
>
> > Bill you surely know that generalizations in general are generally
> > wrong.:-)
> > As always, it depends entirely on the situation. For real time
> > operations, where no hard copy is needed and verbal exchange is all
> > that is required, voice is always best, assuming of course that radio
> > conditions agree. But for passing message traffic, voice is limited by
> > transcription speed as well as quicker deterioration of copy quality
> > as atmospherics and propagation fall out of useable range. A good CW
> > op can be going strong still, under conditions where voice has
> > deteriorated below usefulness..
> >
> ----------
>
> The phone/cw emergency debate has gone on for decades and won't be settled
> here. Or anywhere else for that matter.
>

I can't understand why so many people regard it as a brawl between phone and
CW when each are just one of several tools that should all be available for use
in a well stocked emergency comms toolbox.
Of course the most reliable mode is the one which is useful over the broadest
range of detrimental conditions, and neither phone nor CW qualifies, altho CW
beats phone out, at least among those who "can"..

The people labeling it a CW/phone brawl are those who want to opt out of
learning Morse code.

> Nearly all emergency communications using HF are relatively short range - a
> few hundred to maybe a thousand miles - so extreme DXing isn't necessary.
> Signals are normally strong even with relatively low power, and speed is
> essential. 60 meters is an excellent choice for emergency voice
> communications just for the above reasons.
>
> --
> Bill, W7TI

6854. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 04:57:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcu48lbli1@hercules.btinternet.com>
Source record: 114706

> The audience got up and walked out of the theater a
> long time ago. The only people left are two actors and the stage hands.
==========

I came back to switch off the lights.

(Everybody contributes towards the electricity bill.)

6855. Re: coupling a low impedance antenna to a high impedance receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 04:57:57 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcu48lbli2@hercules.btinternet.com>
Source record: 114707

```
> Just connect the antenna to the receiver. The mismatch
> probably won't make enough difference for you to tell the
> difference.

==================================

Doc, your appropriate polite brevity is much admired.
Reg.
```

6856. Re: Omnidirectional (but vertical) loop?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 05:03:11 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcu4if$9vq$1@sparta.btinternet.com>
Source record: 114708

If phased 120 degrees apart - omnidirectional ?

6857. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 05:16:31 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bcu5bf$3lg$0@208.207.71.132>
Source record: 114709

Bill Turner wrote:

> "Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
> 208.206.142.104:
>
> > That won't wash, Bill. That says that only that which a newcomer
> > perceives as valuable to him -unlearned as he is- is worth learning.
> >
> > The proof?
> >
> > I've known many hams who only learned Morse code because it was a
> > license requirement, who became avid CW operators because of that
> > demand. They would have never "wasted their time" learning the code
> > if they hadn't been required to do it to get the license.
> >
> > Dick W0EX
> >
> >
> ----------
>
> Your statement about newbies later becoming avid CW ops is correct, of
> course. I just don't believe in forcing CW down someone's throat if they
> really don't like it. I would prefer the new ham to get his license, get
> on the air, and let his interest take him wherever he wants. Even the
> rankest newbie is aware that CW exists - if he is at all interested, he
> will pursue it further.
>
> This is a hobby, after all. Some people take to CW like a duck to water,
> others like a cat to water. To each his own.

Yeah, this is "just a hobby". A hobby with so little required of those entering that it should be no surprise when so many of them discard it as being of so little value to them.

6858. Dipole Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 05:29:52 UTC
From: Wendy and Matt <mapwam@frontiernet.net>
Message-ID: <kZwla.375$7m3.365@news01.roc.ny.frontiernet.net>
Source record: 114710

I have two 3/8 long whips. if I mount them in dipole fashion, will they still work, or does this design only work for half or quarter wavelengths? Thanks.

Matt

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.489 / Virus Database: 288 - Release Date: 6/10/2003

6859. Re: Dipole Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 06:47:43 UTC
From: donut <none@none.com>
Message-ID: <Xns939FF0C422025donut@216.102.43.227>
Source record: 114711

"Wendy and Matt" <mapwam@frontiernet.net> wrote in
news:kZwIa.375$7m3.365@news01.roc.ny.frontiernet.net:

> I have two 3/8 long whips. if I mount them in dipole fashion, will
> they still work, or does this design only work for half or quarter
> wavelengths? Thanks.
>
> Matt
>

How long are the whips? What band do you want to cover? Of course, they
would be a dipole at SOME frequency.

6860. Re: Dipole Design

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 06:59:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcubc1kdu1@titan.btinternet.com>
Source record: 114712

Two back-to-back 3/8-wave whips will work exactly the same as a 3/4-wave dipole. A nice efficient radiator.

Centre-feedpoint impedance, depending on antenna diameter, near to 100-ohms, purely resistive at exact resonance.

A standard line impedance of 75 ohms will result in a satisfactory SWR of 1.3 on the line.

Anybody with Eznec can describe the theoretical radiation pattern within 1/2-hour but many elementary text books will provide a good-enough guide.

Performance at the 1/2-wave resonant frequency is well known. The impedance match to a 75-ohm line will be very good. If the line is coaxial don't lose any sleep worrying about radiation from the feeder. It won't be wasted.

Depending on the size of your back-yard, the sort of ground and the many interfering obstructions, the actual radiation pattern will vary considerably from one site to another.

But as you will very likely not make it rotatable, for practical purposes it can be considered omni-directional.

Reg, G4FGQ

6861. braided coax shields ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 08:54:40 UTC
From: Ed <ed@nospam.com>
Message-ID: <JIednTxqFpJnVm-jXTWJhg@comcast.com>
Source record: 114713
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Hi,

In the Dayton flea market area this year I saw what appeared to be lengths of braided coax shield. No center conductor, no dielectric, no outside insulation - just the braided coax shield. It wasn't flat braided cable either - its apparently just braided coax shield and it looks like the skin that a snake would shed .

Unfortunately it had disappeared by the next day when I came to look for it again.

Anyone know what its called and where I can get some ?

Thanks

Ed

6862. nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 08:57:23 UTC
From: c <no@spam.com>
Message-ID: <3ef2d26a$0$76762$1b62eedf@news.wanadoo.nl>
Source record: 114714
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hello All,

Do you have nice amateur software
on your computer wich is NOT in my
list?
PLEASE LET US KNOW, it's nice to compare,
also for the other people in this news-group.

The software list is also on my webte:
http://www.qsl.net/pd0rkc

PSK
WinPSK v2.13 s
n MIXWIN 2.07 s
LOGGER 7.09 s
LOGGER-UPDATE 8.07 s

SSTV
n CHROMAPIX V1.5.10 s
MMSSTV 1.08 s
n MSCAN V3.20 s
n MIXWIN 2.07 s
EZSSTV v3.0 m
DL4SAW GSHPC V2.3 s
JVFAX v.7.1 m
n W95SSTV 1.10 s
n RADIOCOM 4.0

RTTY
HAMCOM v3.1 m
n MIXWIN 2.07 s
MMTTY 1.65 s
MORSE DECODER
n CWGET v1.36 s
MORSE TRAINER
n NUMORSE 1.09

PACKET
AGWE 2002.308 s
TPK v1.83 m
n WINPACK 6.80 s
TSTHOST V2.21B m

APRS
n UIVIEW2.39 s

RTTY/CW/PACKET
HAMSOPE 1.51 s
BUZZER DECODER
POCSAC v2.5 s

ANTENNA
DL6WU

SATELLITE
n NOVA 2.1q
SATSCAPE 2.00

INTERNET QSO
ECHOLINK 1.5.832

DB CALCULATIONS
minidBcalculator 1.3.2

EME/SCATTER
wsjt300

DTMF TONES
dtmfdail

KENWOOD TS-2000
service manual

LOGBOOK
vqlog 2.3b

6863. antenna calculation software.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 09:05:06 UTC
From: c <no@spam.com>
Message-ID: <3ef2d26c$0$76762$1b62eedf@news.wanadoo.nl>
Source record: 114716
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hello all,

Does someone knows a good program
for (yagi) antenna calculation?
Such like an optimizer, or a (yagi) designer.

I know there are some good programs, but
that are DOS programs, it give problems
with windows XP.

Please your information!!!

Cor

6864. looking for DX prospecting sites!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 09:09:09 UTC
From: c <no@spam.com>
Message-ID: <3ef2d26c$1$76762$1b62eedf@news.wanadoo.nl>
Source record: 114715
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Hello All,

Does someone knows good website
for prospecting for aurora, ES?, tropo for
the VHF, and UHF (SHF) bands.

I trie to collect them for myself, and my
home-page visitors.

I do have already some intresting links, look
at: http://www.qsl.net/pd0rkc (DX INFO).

When you go to visit my page, please come
back and tell me your links!

73's Cor

6865. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 11:06:47 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <5VBIa.8693$9y3.873941@news20.bellglobal.com>
Source record: 114717

"Roy Lewallen" ~wrote the book~ on mutual coupling;
or at least contributed to Chapter 8 :
> <snipped for brevity - see his posting>

>> **Here's the question**: Is the average gain...
>> still exactly 0dBi?

> Yes. The average gain of all lossless antennas in free
> space is 0 dBi. ... As soon as you bring the elements
> closer together than a half wavelength, the fields either
> fully or partially cancel in all directions. And it turns
> out that the increase in field strength from the increased
> currents just makes up for the field cancellation, so that
> the average gain ends up at 0 dBi.

Well, thank goodness for that. Perfect.

> EZNEC should report 0 dB "average gain". Remember,
> EZNEC's reported "average gain" is really the total power
> divided by the power from the sources -- so it's not in dBi.

It's okay - "dBi" is also a unitless ratio so it's really almost the same
thing in a harmless sort of way.

> What's mistaken is your reasoning that leads to the
> antenna having an average gain greater than 0 dBi.

I'm very glad to learn that the lobes narrow up to explain the extra gain.
What concerned me was the simplified version of the W8JK explanation. The
more complete version of the explanation (as you've provided here) all makes
perfect sense.

> Oh, one more thing I should mention. Even this analysis is
> oversimplified. It turns out that mutual coupling also changes
> the current *distribution* on the elements.

Yikes ! ...

Excellent explanation - many thanks.

6866. "Ringo Rranger Matching "

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 12:11:10 UTC
From: Marvin Rosen <puns@att.net>
Message-ID: <yRCIa.13373$0v4.1102917@bgtnsc04-news.ops.worldnet.att.net>
Source record: 114718

I have a ringo ranger 2 mtr ant minus the "ringo"
matching unit. Is there a different type of matching
unit i can make that will make this ant operable?

6867. Re: braided coax shields ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 12:26:36 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EF2FC79.6C1E0F59@gte.net>
Source record: 114619
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Ed wrote:

> Hi,
>
> In the Dayton flea market area this year I saw what appeared to be lengths
> of braided coax shield. No center conductor, no dielectric, no outside
> insulation - just the braided coax shield. It wasn't flat braided cable
> either - its apparently just braided coax shield and it looks like the skin
> that a snake would shed .
>
> Unfortunately it had disappeared by the next day when I came to look for it
> again.
>
> Anyone know what its called and where I can get some ?
>
> Thanks
>
> Ed

It's called braided cable and is available from The Wireman, Probably The RF Connection, and any ham store where lightning/grounding gear is sold.
Dale W4OP

6868. Re: "Ringo Rranger Matching "

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 12:31:18 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EF2FD92.DD5AE33D@gte.net>
Source record: 114620

Marvin Rosen wrote:

> I have a ringo ranger 2 mtr ant minus the "ringo"
> matching unit. Is there a different type of matching
> unit i can make that will make this ant operable?

You could take an electrical 1/4 wave line- short the bottom end,
connect the center conductor to the bottom of the Ringo and (this is the
mechanically difficult part) locate a point up from the shorted end that
matches 50 Ohms. Or make a parallel L-C. Connect the antenna to one end,
the coax shield to the other and tap up from ground on the coil until
you find 50 Ohms. Or an L network- series L shunt C from antenna to
ground. Any of the ham software will aid in calculating the L values.
Assume 1K Ohm for the Z of the Ringo as a starting point..

Dale W4OP

6869. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 12:56:44 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3048C.1000809@ieee.org>
Source record: 114621

Roy Lewallen wrote:
> Please show the load impedance, the lengths of the lines, and at what
> point on which line "complete wave cancellation" takes place. If any of
> these things aren't important, then make some values up.

Complete wave cancellation takes place to cause Pref1 to be equal
to zero watts. (b1 = 0 = s11*a1 + s12*a2) so (s11*a1 = -s12*a2)
Adding load impedance and length of lines will add nothing of
value to the example. There are an infinite number of loads and
line lengths that will satisfy the given conditions. Do you want
an easy one or a difficult one?

>> -------50 ohm feedline---------+---------150 ohm feedline-------
>> Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6870. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 13:00:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3055C.3030708@ieee.org>
Source record: 114622

Dick Carroll; wrote:
> Yeah, this is "just a hobby". A hobby with so little required of those
> entering that it should be no surprise when so many of them discard it as
> being of so little value to them.

Broccoli is good for you. Shut up and eat it! :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

6871. Re: "Ringo Rranger Matching "

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 13:07:15 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <7GDIa.43343$Fa6.31057@sccrnsc02>
Source record: 114623

Parts for the Ringo Ranger are readily available from Cushcraft

http://www.cushcraft.com/amateur/support/faqs.htm

Customer Service may be reached by telephone, E-mail, and/or phone Cushcraft at (603) 627-7877 between 8 AM and 5 PM Eastern Time.
Other E-Mail addresses include:

E-Mail Cushcraft at "hamsales@cushcraft.com" for product information or "techsup@cushcraft.com" for technical support.

Cushcraft's FAX number is (603) 627-1764.

Our mailing address is: Cushcraft Corporation, 48 Perimeter Road, Manchester, NH 03103.

Can I get parts for my Cushcraft Antenna?

Cushcraft supplies replacement parts for all current antennas and many discontinued models. If there was a defect part shipped with your new Cushcraft antenna, a part missing from a new antenna, or a replacement part is desired, use our web parts ordering page, Parts/Order Form. If our Technical Support Team is between 4PM Eastern Time, your missing or wrong part will be shipped immediately at no charge. You may also contact Cushcraft by phone, fax or E-Mail for parts orders.

Cushcraft charges $7.00 for shipping and handling on all non warranty parts orders. Stock parts are shipped within 48 hours. Orders may by paid in advance with Visa or Master Card. Personal checks or money orders are accepted before orders are shipped/ We do not send orders COD.

I lost my Instruction Manual or I bought a used Cushcraft antenna and want to buy a manual. What do I do?

Currently the numerous manuals are available online in Adobe Acrobat .pdf format.Our goal is to have all of our manuals available on this page.

To order any of our antenna manuals, send by surface mail $5.00 in a letter with the antenna model number listed (ex. ARX2B, R6000) to our mailing address. The majority of our manual requests are from people that have purchased a used Cushcraft antenna. We do not supply "Free" manuals. This is because they are not actually "Free". Shipping, printing, and handling costs are expensive and we do not wish to pass these costs on to all of our customers.

"Marvin Rosen" <puns@att.net> wrote in message
news:yRCIa.13373$0v4.1102917@bgtnsc04-news.ops.worldnet.att.net...
> I have a ringo ranger 2 mtr ant minus the "ringo"

> matching unit. Is there a different type of matching
> unit i can make that will make this ant operable?
>
>

6872. Re: braided coax shields ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 13:18:58 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vf62bjai51dv05@corp.supernews.com>
Source record: 114624
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Dear Ed:
Unless the flexibility of braided cable is critical to your
application, one is usually much better off with solid conductors. This
is especially true when conductors are exposed to "weathering." 73
Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
Office: JCM@McLMcL.Com
"Dale Parfitt" <parinc@gte.net> wrote in message
news:3EF2FC79.6C1E0F59@gte.net...
>
>
> Ed wrote:
>
> > Hi,
> >
> > In the Dayton flea market area this year I saw what appeared to be
lengths
> > of braided coax shield. No center conductor, no dielectric, no
outside
> > insulation - just the braided coax shield. It wasn't flat braided
cable
> > either - its apparently just braided coax shield and it looks like
the skin
> > that a snake would shed .
> >
> > Unfortunately it had disappeared by the next day when I came to look
for it
> > again.
> >
> > Anyone know what its called and where I can get some ?
> >
> > Thanks
> >
> > Ed
>
> It's called braided cable and is available from The Wireman, Probably
The RF
> Connection, and any ham store where lightning/grounding gear is sold.
> Dale W4OP
>

6873. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 13:39:58 UTC
From: Art Fraud <moo@hilo.com>
Message-ID: <Om2dnW-6ttI6k26jXTWJiA@comcast.com>
Source record: 114625

"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030619004309.13678.00000867@mb-m25.aol.com...
> >Larson w/mag mount antenna, I trimmed
> >from the bottom, maybe an 1/8 inch at a time, till it looked nice
> >around 147 or 148 Mhz. I took what I could get in the 440 Mhz band --
> >where the swr was a bit higher. I don't think these antennas are gonna
> >give you 1:1 on both bands.
>
> Thanks for the suggestions. I ended up buying a Comet CA-2X4SR antenna.
They
> advertise it as a wideband antenna with a 1.5 SWR from 140 - 160. We'll
see...

Andy, why the need to transmit in the 150's?

6874. Re: 433 MHz printed antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 13:57:47 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <0B2dnSvNNcJBj26jXTWJgA@comcast.com>
Source record: 114626

As you point out, a patch is kind of huge at 433 MHz. I suspect what he wants is like what you have in a remote garage door opener or key fob.

Tam/WB2TT
"Sam Storm van Leeuwen" <samsvl@nlr.nl> wrote in message news:Xns939F6DDF51C37samsvlnlrnl@137.17.128.14...
> "Ramilacaponi" <acuadrad@puc.cl> wrote in news:3ef1000d@omega.ifxnw.cl:
>
> > Maybe it's not the extact name for this antennas. What I meant where
> > those antennas that you make on the PCB, antennas that are made of
> > "lines" of copper on the PCB. They are really cheap, almost free, and
> > you can made them very small. Any information about this would be very
> > helpful
>
> If you are looking for a patch antenna, you can make it from double sided
> PC board. For FR-4 the dimensions (length and width) will be in the order
> of 20 cm.
>
> BFN
>
> Sam
>
>

6875. SEM Tranzmatch ATU

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:01:16 UTC
From: John Durdin <g7kcc01@nospam.2s.com>
Message-ID: <bcv43cfdl2@news.freedom2surf.net>
Source record: 114627
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.shortwave

Does anybody have any info on the above, I have one, but can find no info on it. Any help much appreciated.

Do you know what the outputs are on the back, they are unmarked on mine, I have a coax input, 2 outputs and 2 pairs of wire terminals and a single ground (apart from the Ezitune connections). There is a pair of black and a pair of red terminals, I expected to have the ground side of a pair distinguished, and I am assuming that the pairs are for high and low impedance matching, but don't know which way.

What I want to use it for is to tune a wire as an antenna, I am restricted in what I can use (conservation area in our "world heritage site" city!!!!) so need to run something around the plastic guttering - any ideas would be great.

regards

John G7KCC (Bath, UK)
I can be contacted direct on the following (with the spaces removed and the "at" replaced),- g7kcc01 at f2s.com

6876. SEM Tranzmatch ATU

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:04:32 UTC
From: John Durdin <g7kcc01@f2s.com>
Message-ID: <bcv49g$fi9$2@news.freedom2surf.net>
Source record: 114628
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.shortwave

Does anybody have any info on the above, I have one, but can find no info on it. Any help much appreciated.

Do you know what the outputs are on the back, they are unmarked on mine, I have a coax input, 2 outputs and 2 pairs of wire terminals and a single ground (apart from the Ezitune connections). There is a pair of black and a pair of red terminals, I expected to have the ground side of a pair distinguished, and I am assuming that the pairs are for high and low impedance matching, but don't know which way.

What I want to use it for is to tune a wire as an antenna, I am restricted in what I can use (conservation area in our "world heritage site" city!!!!) so need to run something around the plastic guttering - any ideas would be great.

regards

John G7KCC (Bath, UK)
I can be contacted direct on the following (with the spaces removed and the "at" replaced),- g7kcc01 at f2s.com

6877. Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:17:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3176C.5070703@ieee.org>
Source record: 114629

If resistors to ground were installed at the ends of a 1/2WL
dipole such that reflections were eliminated from the ends
of the dipole, what would be its feedpoint impedance? Not a
trick question. Would it be the same as any other traveling
wave antenna, e.g. like a Rhombic?
--
73, Cecil, W5DXP

6878. need literatuer from greenhouse

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:22:14 UTC
From: n <novian@iwe.rwth-aachen.de>
Message-ID: <bcv595$c4e$1@nets3.rz.RWTH-Aachen.DE>
Source record: 114630

Hi NG...

I need the paper from:
H.M. Greenhouse. 1974. "Design of Planar Rectangular Microelectronic Inductors," IEEE Trans on Parts, Hybrids, and Packaging, Vol. PHP-10, No. 2:101-109.

It's for calculating a rectangular planar spiral inductor of a RFID system.

can somebody send me an electronic version of the paper? I tried to search the web with google, but I only find some papers based on the paper of Greenhouse. And they only show the formula, but not the calculation how to get it. It's about the mutual inductance parameter.

Thanks!

Novian

6879. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:26:38 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <qcplg3os5xlb.182w8d9wpwdv8$.dlg@40tude.net>
Source record: 114635

On 20 Jun 2003 05:16:31 GMT, Dick Carroll; wrote:

> Yeah, this is "just a hobby". A hobby with so little required of those
> entering that it should be no surprise when so many of them discard it as
> being of so little value to them.

Most hobbies have no entrance requirements at all. So what? IMO, the only reason there should be entry requirements for amateur radio is so the newbies don't get on the air and cause interference without knowing it.

Beyond that, I see little need for any license exam at all. Heresy to some, I'm sure, but that's how I feel.

Bill, W7TI

6880. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:27:33 UTC
From: JohnDoe <JohnDoe@spam.com>
Message-ID: <pREIa.63858$49.2422350@twister.socal.rr.com>
Source record: 114631

Well, why in the Fxxk didn't you say so about 900 postings ago?

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF27C87.3000404@ieee.org...
> Roy Lewallen wrote:
> > So please give me an example of a transmission line driven by a single
> > source in which "complete wave cancellation" by your definition does
> > occur. Please restrict it to a lossless line, but otherwise feel free to
> > choose any characteristic impedance, load impedance (real, imaginary,
> > complex, open, or short), and line length you'd like. Then point out the
> > position on the line where both the voltage and current waves cancel,
> > requiring all this folderal to explain where the energy "went".
>
> It ain't rocket science, Roy. We don't even need to show the source or
> load.
>
> -------50 ohm feedline---------+---------150 ohm feedline-------
> Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
>
> in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2
>
> s11*a1 and s12*a2 engage in complete wave cancellation because
> "|b1|^2 = Power reflected from the input port of the network."
> and that value is given as zero. (Quoted from HP AN 95-1)
>
> I can say the same thing in ham radio terms if you prefer.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6881. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:37:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF31C18.3030800@ieee.org>
Source record: 114632

JohnDoe wrote:
> Well, why in the Fxxk didn't you say so about 900 postings ago?

I did! Nobody comprehended it. I am water wearing away rocks.
The rocks, in this case, are brains that have turned to concrete.
--
73, Cecil, W5DXP

6882. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:39:04 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030620103904.13547.00000855@mb-m11.aol.com>
Source record: 114633

>Andy, why the need to transmit in the 150's?

Read the whole thread.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6883. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:48:01 UTC
From: kf4tun <kf4tun@adelphia.net>
Message-ID: <B8FIa.3984$Hw.3317244@news2.news.adelphia.net>
Source record: 114634

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bcu5bf$3lg$0@208.207.71.132...
>
>
> Bill Turner wrote:
>
> > "Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
> > 208.206.142.104:
> >
> > > That won't wash, Bill. That says that only that which a newcomer
> > > perceives as valuable to him -unlearned as he is- is worth learning.
> > >
> > > The proof?
> > >
> > > I've known many hams who only learned Morse code because it was a
> > > license requirement, who became avid CW operators because of that
> > > demand. They would have never "wasted their time" learning the code
> > > if they hadn't been required to do it to get the license.
> > >
> > > Dick W0EX
> > >
> > >
> > ____
> >
> > Your statement about newbies later becoming avid CW ops is correct, of
> > course. I just don't believe in forcing CW down someone's throat if
they
> > really don't like it. I would prefer the new ham to get his license,
get
> > on the air, and let his interest take him wherever he wants. Even the
> > rankest newbie is aware that CW exists - if he is at all interested, he
> > will pursue it further.
> >
> > This is a hobby, after all. Some people take to CW like a duck to
water,
> > others like a cat to water. To each his own.
>
> Yeah, this is "just a hobby". A hobby with so little required of those
> entering that it should be no surprise when so many of them discard it as
> being of so little value to them.
>
For many, their no-code ticket is no more that "Hell, anybody can pass it,
they give you the answers to study". If you haven't heard that, go out into
the real world. If, in the eyes of the holder it has little or no value, it

becomes just that. I take pride in knowing the code, taking the tests, and passing them by learning the material, not just the answers. Maybe, I and people like me, are just old fashion, taking pride in what we do and what we can accomplish using our own skills. I, for one, intend to stay that way. In my 30 years as a licensed ham, I have learnt one thing, stop and listen. You will be amazed at what you thought you knew was wrong and how must new stuff you learn.

Jim Simmons, kf4tun

6884. N types & fitting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 14:57:26 UTC
From: KTF
Message-ID: <qhFIa.282$yw5.7420@newsfep4-glfd.server.ntli.net>
Source record: 114636

Hello,

I have an N type plug here ready to go on the end of a piece of coax but for the life of me I can't remember which order the parts go in. The problem I have at the moment is that the coax just falls out of the body of the plug!

I soldered the pin onto the end of the coax, then bent the braid back and put the collar inside the plug for the braid and casing to push up against. Then screwed the end piece in that fits around the coax. It's meant to be the correct size for the cable and looks OK, but the cable falls out of the plug with the pin attached, so useless for sticking on the bottom of the antenna!

Can anyone tell me which way it should be fitted as I never remember having this problem years ago.

Thanks.

Ian.

6885. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:04:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF32264.6030604@ieee.org>
Source record: 114637

Jim Kelley wrote:
> Since the argument is about your paper, will you admit that energy is
> not transfered by waves which cancel in their direction of propagation?

On the contrary, I am prepared to argue that energy *MUST* be transferred by waves which cancel in their direction of propagation. Bear in mind, I am not talking about dark rings and bright rings in an interference pattern. Those two individual waves are unaffected by the interference and certainly do not transfer energy. That is also true of antenna radiation patterns. You seem to be confusing unaffected waves with waves that are destroyed. There's a big difference that you are missing.

Wave cancellation is a completely different happening from dark ring, bright ring interference. The two waves involved in wave cancellation disappear from the universe. They *MUST* transfer their combined energy components somewhere. You have admitted that they indeed do contain energy that cannot be destroyed.

> Will you admit
> that energy doesn't change direction by means other than reflection?

Define "reflection". If reflection is defined as the changing of direction of energy in a transmission line then, NO!!! That would be admitting a falsehood.

In a transmission line, the two canceled waves transfer their energy components to the wave cancellation point which is a dead-end for that energy. The conservation of energy principle dictates that the energy in the canceled waves changes directions since there are only two directions available. Not only does the energy change direction, but it is also transformed to a new ratio of E-feld/H-field as required by the constructive interference environment. That transformation of characteristic impedance certainly meets the definition of "energy transfer".
--
73, Cecil, W5DXP

6886. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:06:47 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <1dp5awszthj3p$.1991g7fz8s0lq.dlg@40tude.net>
Source record: 114645

On Fri, 20 Jun 2003 14:48:01 GMT, kf4tun wrote:

> For many, their no-code ticket is no more that "Hell, anybody can pass it,
> they give you the answers to study". If you haven't heard that, go out into
> the real world. If, in the eyes of the holder it has little or no value, it
> becomes just that. I take pride in knowing the code, taking the tests, and
> passing them by learning the material, not just the answers. Maybe, I and
> people like me, are just old fashion, taking pride in what we do and what we
> can accomplish using our own skills.

Some people view their license as a status symbol and proof of achievement.
Gives them bragging rights, so to speak. While I understand their
motivation, I don't think that is good for amateur radio.

To me, an amateur license *should* be like a driver's license - proof that
you have mastered the fundamentals sufficiently to get out on the road
without (hopefully) killing anyone. If someone needs something to brag on,
there should be other certification programs available. The license class
structure in our hobby is divisive and a clear detriment to the comradeship
which *should* exist, IMO.

73, Bill W7TI

6887. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:08:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bcv80t$4h3$1@titan.btinternet.com>
Source record: 114638

> If resistors to ground were installed at the ends of a 1/2WL
> dipole such that reflections were eliminated from the ends
> of the dipole, what would be its feedpoint impedance? Not a
> trick question. Would it be the same as any other traveling
> wave antenna, e.g. like a Rhombic?
==========

Cec, what's the feedpoint impedance of a Rhombic ? Otherwise how will
anybody know whether or not something is like it?

Hint: In the process of answering the qestion, BINGO! you will also find
the answer to your own.

Reg.

6888. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:10:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF323DC.9010701@ieee.org>
Source record: 114639

kf4tun wrote:
> For many, their no-code ticket is no more that "Hell, anybody can pass it,
> they give you the answers to study". If you haven't heard that, go out into
> the real world. If, in the eyes of the holder it has little or no value, it
> becomes just that.

The only tangible value that a ham ticket provides is privileges granted
by the federal government. Any other perceived value is intangible and
depends upon each individual's emotional feelings. What's wrong with
live and let live?
--
73, Cecil, W5DXP

6889. Dealing with extra coax question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:12:32 UTC
From: wess@gtii.com
Message-ID: <vf6935t550bh19@corp.supernews.com>
Source record: 114640

I have a question. At the moment, I am using 50 ft of coax in my truck since it is what I have on hand. I coiled it up and things seem okay.

I have noticed on jpoles, a coil of coax is used as a balun.

So is coiling up coax okay and how best to do it. I have a feeling other ham's have some they don't / didn't cut.

73, wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6890. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:15:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF32510.509@ieee.org>
Source record: 114641

Bill Turner wrote:
> Most hobbies have no entrance requirements at all. So what? IMO, the only
> reason there should be entry requirements for amateur radio is so the
> newbies don't get on the air and cause interference without knowing it.

It's akin to getting a driver's license. If one passes the absolute
minimum qualifications, one gets a driver's license. If we had a
maximum qualifications exam for hams, there would be one licensed
ham with no one to talk to.
--
73, Cecil, W5DXP

6891. J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:20:00 UTC
From: wess@gtii.com
Message-ID: <vf69h7920dge5@corp.supernews.com>
Source record: 114642

I built a couple of Jpoles. The two meter and six meter j's work great. At this time I've either set the 2 meter down the hall or the 6 meter on a 10' piece of pvc to get it up in the air. I worked pretty good.

Right now, I would just like to get these up 10 feet or so. Might mount up on tv mast on house for 16 feet. My question is about grounding them. Clamping on some 10 ga stranded to a ground rod, will that do? If I don't get an answer, I'll give it a try. Anything is an improvement over my UHV-4 on truck. Not slamming it but size does matter.

73, wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6892. Re: looking for DX prospecting sites!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:20:28 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <0DFIa.67944$Pc5.43514@fed1read01>
Source record: 114643
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Cor -- There are some links for Aurora, Es, and tropo for VHF/UHF at URL:
http://ac6v.com/propagation.htm

"c" <no@spam.com> wrote in message
news:3ef2d26c$1$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Does someone knows good website
> for prospecting for aurora, ES?, tropo for
> the VHF, and UHF (SHF) bands.
>
> I trie to collect them for myself, and my
> home-page visitors.
>
> I do have already some intresting links, look
> at: http://www.qsl.net/pd0rkc (DX INFO).
>
> When you go to visit my page, please come
> back and tell me your links!
>
>
> 73's Cor
>
>
>
>

6893. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:20:31 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <zgh862rq937$.1xtrpsekrk1md.dlg@40tude.net>
Source record: 114648
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Fri, 20 Jun 2003 10:57:23 +0200, c wrote:

> Do you have nice amateur software
> on your computer wich is NOT in my
> list?
> PLEASE LET US KNOW, it's nice to compare,
> also for the other people in this news-group.

RITTY by K6STI is, by general consensus, the best of all soundcard programs for decoding RTTY under weak-signal conditions. It has some drawbacks: It is expensive ($100), runs only under DOS (not a DOS window) and has specific hardware requirements. Most people probably will not be interested since MMTTY is very nearly as good, but if you want the best, RITTY is it.

73, Bill W7TI

6894. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:23:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF326D6.5080505@ieee.org>
Source record: 114644

Reg Edwards wrote:
> Cec, what's the feedpoint impedance of a Rhombic ? Otherwise how will
> anybody know whether or not something is like it?

As I recall from memory, it is about 600 ohms. I'm at work and
don't have my ARRL Antenna Book with me.

> Hint: In the process of answering the qestion, BINGO! you will also find
> the answer to your own.

Yep, that's why I asked the question.
--
73, Cecil, W5DXP

6895. Re: looking for DX prospecting sites!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:37:42 UTC
From: KC2FTN <kc2ftn@arrl.net>
Message-ID: <aTFIa.83713$zm1.47541@twister.nyroc.rr.com>
Source record: 114646
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Try this site. You can change the map to whatever part of the world you want too. It's :
http://www.iprimus.ca/~hepburnw/tropo.html

KC2FTN
www.hamwave.com

"c" <no@spam.com> wrote in message
news:3ef2d26c$1$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Does someone knows good website
> for prospecting for aurora, ES?, tropo for
> the VHF, and UHF (SHF) bands.
>
> I trie to collect them for myself, and my
> home-page visitors.
>
> I do have already some intresting links, look
> at: http://www.qsl.net/pd0rkc (DX INFO).
>
> When you go to visit my page, please come
> back and tell me your links!
>
>
> 73's Cor
>
>
>
>

6896. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:42:21 UTC
From: KC2FTN <kc2ftn@arrl.net>
Message-ID: <xXFIa.4842$1n.1231@twister.nyroc.rr.com>
Source record: 114647
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Surf the 'download' section of:
http://www.hamwave.com

KC2FTN

"c" <no@spam.com> wrote in message
news:3ef2d26a$0$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Do you have nice amateur software
> on your computer wich is NOT in my
> list?
> PLEASE LET US KNOW, it's nice to compare,
> also for the other people in this news-group.
>
> The software list is also on my webte:
> http://www.qsl.net/pd0rkc
>
> PSK
> WinPSK v2.13 s
> n MIXWIN 2.07 s
> LOGGER 7.09 s
> LOGGER-UPDATE 8.07 s
>
> SSTV
> n CHROMAPIX V1.5.10 s
> MMSSTV 1.08 s
> n MSCAN V3.20 s
> n MIXWIN 2.07 s
> EZSSTV v3.0 m
> DL4SAW GSHPC V2.3 s
> JVFAX v.7.1 m
> n W95SSTV 1.10 s
> n RADIOCOM 4.0
>
> RTTY
> HAMCOM v3.1 m
> n MIXWIN 2.07 s
> MMTTY 1.65 s
> MORSE DECODER
> n CWGET v1.36 s
> MORSE TRAINER
> n NUMORSE 1.09
>

> PACKET
> AGWE 2002.308 s
> TPK v1.83 m
> n WINPACK 6.80 s
> TSTHOST V2.21B m
>
> APRS
> n UIVIEW2.39 s
>
> RTTY/CW/PACKET
> HAMSOPE 1.51 s
> BUZZER DECODER
> POCSAC v2.5 s
>
> ANTENNA
> DL6WU
>
> SATELLITE
> n NOVA 2.1q
> SATSCAPE 2.00
>
>
> INTERNET QSO
> ECHOLINK 1.5.832
>
> DB CALCULATIONS
> minidBcalculator 1.3.2
>
> EME/SCATTER
> wsjt300
>
> DTMF TONES
> dtmfdail
>
> KENWOOD TS-2000
> service manual
>
> LOGBOOK
> vqlog 2.3b
>
>
>

6897. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:54:52 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcvaltepu1@slb0.atl.mindspring.net>
Source record: 114649

What is your definition of a 'old gezzer' ?? Let me guess...anyone that knows more than you....hell thats the whole world from what you just wrote.

Dan/W4NTI

"CW" <clinton.magers@attbi.com> wrote in message news:1stIa.77375$YZ2.249834@rwcrnsc53...
> Sure does. It gives all the old geezers something to bitch about.
> (this one should last for days)
> "Dan/W4NTI" <w4nti@NOSPAMmindspring.com> wrote in message
> news:bcqg37$l5g$1@slb4.atl.mindspring.net...
> > Nope don't thing CW is better than sex. But I do think CW has a place in
> > communications.
>
>

6898. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 15:59:14 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcvau4mhv1@slb9.atl.mindspring.net>
Source record: 114650

"Dick Carroll;" <dixie@townsqr.com> wrote in message
news:bcu5bf$3lg$0@208.207.71.132...
>
>
> Bill Turner wrote:
>
> > "Dick Carroll;" <dixie@townsqr.com> wrote in news:bcr9homkp0@
> > 208.206.142.104:
> >
> > > That won't wash, Bill. That says that only that which a newcomer
> > > perceives as valuable to him -unlearned as he is- is worth learning.
> > >
> > > The proof?
> > >
> > > I've known many hams who only learned Morse code because it was a
> > > license requirement, who became avid CW operators because of that
> > > demand. They would have never "wasted their time" learning the code
> > > if they hadn't been required to do it to get the license.
> > >
> > > Dick W0EX
> > >
> > >
> > > ____
> >
> > Your statement about newbies later becoming avid CW ops is correct, of
> > course. I just don't believe in forcing CW down someone's throat if
they
> > really don't like it. I would prefer the new ham to get his license,
get
> > on the air, and let his interest take him wherever he wants. Even the
> > rankest newbie is aware that CW exists - if he is at all interested, he
> > will pursue it further.
> >
> > This is a hobby, after all. Some people take to CW like a duck to
water,
> > others like a cat to water. To each his own.
>
> Yeah, this is "just a hobby". A hobby with so little required of those
> entering that it should be no surprise when so many of them discard it as
> being of so little value to them.
>

Finally...someone saying it how it is. You get out of it what you put into
it. Bingo !!!

Dan/W4NTI

6899. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 16:00:31 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcvb0ieri1@slb3.atl.mindspring.net>
Source record: 114651

"Bill Turner" <noway@nohow.com> wrote in message
news:qcplg3os5xlb.182w8d9wpwdv8$.dlg@40tude.net...
> On 20 Jun 2003 05:16:31 GMT, Dick Carroll; wrote:
>
> > Yeah, this is "just a hobby". A hobby with so little required of those
> > entering that it should be no surprise when so many of them discard it
as
> > being of so little value to them.
>
>
> --
>
> Most hobbies have no entrance requirements at all. So what? IMO, the
only
> reason there should be entry requirements for amateur radio is so the
> newbies don't get on the air and cause interference without knowing it.
>
> Beyond that, I see little need for any license exam at all. Heresy to
> some, I'm sure, but that's how I feel.
>
> Bill, W7TI

Congrats Bill...you have achieved the ultimate. You have entered my idiot
box.

Dan/W4NTI

6900. Re: The new (U.S.) 60M band

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 16:04:03 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bcvb75fdf1@slb6.atl.mindspring.net>
Source record: 114652

"Bill Turner" <noway@nohow.com> wrote in message
news:1dp5awszthj3p$.1991g7fz8s0lq.dlg@40tude.net...
> On Fri, 20 Jun 2003 14:48:01 GMT, kf4tun wrote:
>
> > For many, their no-code ticket is no more that "Hell, anybody can pass
it,
> > they give you the answers to study". If you haven't heard that, go out
into
> > the real world. If, in the eyes of the holder it has little or no value,
it
> > becomes just that. I take pride in knowing the code, taking the tests,
and
> > passing them by learning the material, not just the answers. Maybe, I
and
> > people like me, are just old fashion, taking pride in what we do and
what we
> > can accomplish using our own skills.
>
>
> --
>
> Some people view their license as a status symbol and proof of
achievement.
> Gives them bragging rights, so to speak. While I understand their
> motivation, I don't think that is good for amateur radio.
>
> To me, an amateur license *should* be like a driver's license - proof that
> you have mastered the fundamentals sufficiently to get out on the road
> without (hopefully) killing anyone. If someone needs something to brag
on,
> there should be other certification programs available. The license class
> structure in our hobby is divisive and a clear detriment to the
comradeship
> which *should* exist, IMO.
>
> 73, Bill W7TI

Well maybe not such a idiot afterall....you can thank the ARRL for incentive
licensing.

Dan/W4NTI

6901. Re: Dealing with extra coax question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 16:50:12 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pfe6fvg4pf3otoheis697b0gdl5o60s4l7@4ax.com>
Source record: 114653

On Fri, 20 Jun 2003 11:12:32 -0400, wess@gtii.com wrote:

>I have a question. At the moment, I am using 50 ft of coax in my
>truck since it is what I have on hand. I coiled it up and things seem
>okay.
>
>I have noticed on jpoles, a coil of coax is used as a balun.
>
>So is coiling up coax okay and how best to do it. I have a feeling
>other ham's have some they don't / didn't cut.
>
>73, wes, kc8spr

Hi Wes,

Depends on how long a random lower radiator you want before the RF
sees the choke. If you are satisfied with the operation, there is
little to gain by changing it.

For greater detail, offer greater detail: Band used, Antenna type,
coil/choke location, issues of Common Mode, SWR....

73's
Richard Clark, KB7QHC

6902. Re: J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 16:57:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pre6fv8sffdvrl6124osigb5dkms1r5m1q@4ax.com>
Source record: 114654

On Fri, 20 Jun 2003 11:20:00 -0400, wess@gtii.com wrote:

>I built a couple of Jpoles. The two meter and six meter j's work
>great. At this time I've either set the 2 meter down the hall or the 6
>meter on a 10' piece of pvc to get it up in the air. I worked pretty
>good.
>
>Right now, I would just like to get these up 10 feet or so. Might
>mount up on tv mast on house for 16 feet. My question is about
>grounding them. Clamping on some 10 ga stranded to a ground rod, will
>that do? If I don't get an answer, I'll give it a try. Anything is
>an improvement over my UHV-4 on truck. Not slamming it but size does
>matter.
>
>73, wes, kc8spr

Hi Wes,

What do wish to accomplish with grounding? Lightning control, or RF match/radiation control? Both will be affected. Lightning control is not within the provence of an amateur to faithfully test, so you would best conform to local code. RF match/radiation control, for JPoles, could be all over the map - good luck (or simply learn to choke them - kinda segues into your other posting).

Not slamming but size hardly matters, height does.

73's
Richard Clark, KB7QHC

6903. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:05:06 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <okf6fvo70cskgb0dn818tttp0ta7k14fm3@4ax.com>
Source record: 114655

On Fri, 20 Jun 2003 07:56:44 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Roy Lewallen wrote:
>> Please show the load impedance, the lengths of the lines, and at what
>> point on which line "complete wave cancellation" takes place. If any of
>> these things aren't important, then make some values up.
>
Dead on Arrival

6904. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:12:03 UTC
From: richardharrison@webtv.net
Message-ID: <22840-3EF34063-349@storefull-2314.public.lawson.webtv.net>
Source record: 114668

Roy, W7EL wrote:
"In the special case of the two elements fed out of phase with equal currents, the coupled resistance (the amount the feedpoint resistance changes as a result of mutual coupling) is simply -Rm."

Thanks to Roy, I`ve looked at Chapter 8 of the ARRL Antenna Book. It is interesting to note that mutual impedance may affect directivity of an array.

Indeed, 180-degrees leading or lagging is the same thing. Z of the feedpoints of the two elements shifts the same in both, due to the mutual coupling, I suppose. To me, it is immediately apparent that the elements must behave exactly the same due to simple symmetry. There is no way a stupid element in the simple W8JK array has of knowing it is not the other element. Symmetry obviously also makes the W8JK array bidirectional.

A bidirectional pattern can be obtained from a simple dipole. Why use a W8JK array? 4 dbd gain may be a reason. The price of this gain may be a drivepoint resistance of only about 7-ohms versus about 10X that resistance for the dipole. Also, the bandwidth of the simple dipole is about twice that of the W8JK array.

In this thread, loss has been mentioned. Prospective loss due to the W8JK`s drivepoint resistance, may make the power gain of the array hard to realize. Terman refers to this problem under the topic of super-gain antennas which rely on very close spacing.

Terman also notes the difference between directive gain and power gain of antennas on page 870 of his 1955 edition:
"Directive gain depends entirely on the distribution in space of radiated power. The power input to the antenna, the antenna losses, or the power consumed in a terminating resistance have nothing to do with directive gain. Such factors are taken in terms of the power gain of the antenna---."

If you don`t cross the element feed wires of the W8JK beam, you get a cardioid pattern, 4 dbd gain, 50-ohm drivepoint resistance, about 4X the bandwidth of the W8JK beam, with only 25% more space between the two dipole elements, according to Arnold B. Bailey in "TV and Other Receiving Antennas"

Best regards, Richard Harrison, KB5WZI

6905. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:19:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <heg6fvo01ng2uuqlv9oo4luv8tvto1gvvc@4ax.com>
Source record: 114656

On Fri, 20 Jun 2003 08:23:02 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Reg Edwards wrote:
>> Cec, what's the feedpoint impedance of a Rhombic ? Otherwise how will
>> anybody know whether or not something is like it?
>
>As I recall from memory, it is about 600 ohms. I'm at work and
>don't have my ARRL Antenna Book with me.
>
>> Hint: In the process of answering the qestion, BINGO! you will also find
>> the answer to your own.
>
>Yep, that's why I asked the question.

Hi Cecil,

So....

Now you know, or no?

73's
Richard Clark, KB7QHC

6906. Re: Is Cecil's Math a Bummer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:19:50 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF34236.9090902@psu.edu>
Source record: 114658

Richard Clark wrote:
> On Fri, 20 Jun 2003 02:41:42 GMT, Mike Coslo <mcoslo@adelphia.net>
> wrote:
>
>>I must confess I started reading this thread only after it started on
>>it's (second week?) Now it's morbid fascination that keeps me reading it.
>
>
> Hi Mike,
>
> What planet have you returned from? Second YEAR!

This thread? or just a general continuance? Regardless, it is a thread Salvador Dali would be proud of! ;^)

6907. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:21:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF34288.9060204@ieee.org>
Source record: 114657

Richard Clark wrote:
>> Roy wrote:
>>>Please show the load impedance, the lengths of the lines, and at what
>>>point on which line "complete wave cancellation" takes place. If any of
>>>these things aren't important, then make some values up.
>>
> Dead on Arrival

Load = 100+j132.3 ohms, 150 ohm feedline length = 46.19 ft., 150 ohm
feedline VF = 0.9, Frequency = 7.0 MHz. Complete wave cancellation of
reflected waves traveling toward the source takes place at '+'.
Did I leave anything out?
--
73, Cecil, W5DXP

6908. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:23:05 UTC
From: J Tabor <denews@taborsoft.com>
Message-ID: <vf6gnut1kbnr8b@corp.supernews.com>
Source record: 114659
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

Hi,

Most anything downloadable from:
www.taborsoft.com :-)

Regards,
Jim
--
email sent to: denews@taborsoft.com
is discarded without being seen.
Sorry for any inconvenience.

6909. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:24:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF34346.6050202@ieee.org>
Source record: 114660

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Yep, that's why I asked the question.
>
> Now you know, or no?

If my memory is correct, I know. If not, I don't. That's why I
asked the question. 600-800 ohms seems to ring a bell.
--
73, Cecil, W5DXP

6910. EZ-NEC Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:30:56 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF344D0.801@psu.edu>
Source record: 114661

I've been playing with EZ-NEC the last couple days. One strange thing I noticed in the creation of an 80 meter dipole is that as I rais it above the ground, the FF pattern starts lowering it's angle, then starts to "collapse" at the highest angles. Further raising of the height above ground, and the pattern starts to raise up again at the high angles, eventually making a hat like shape.

This happens at a height that isn't terribly practical, but I was wondering if this was a program anomaly, or if the pattern actually did this?

And if it does, why? It seems as if the pattern should just get shallower, until it reached a certain point then stabilize.

- Mike KB3EIA -

6911. Re: Is Cecil's Math a Bummer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:37:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m6h6fv0fvhv8s0l0hiqi7ik2k7691sn9q7@4ax.com>
Source record: 114662

On Fri, 20 Jun 2003 13:19:50 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>Richard Clark wrote:
>> On Fri, 20 Jun 2003 02:41:42 GMT, Mike Coslo <mcoslo@adelphia.net>
>> wrote:
>>
>>>I must confess I started reading this thread only after it started on
>>>it's (second week?) Now it's morbid fascination that keeps me reading it.
>>
>>
>> Hi Mike,
>>
>> What planet have you returned from? Second YEAR!
>
> This thread? or just a general continuance? Regardless, it is a thread
>Salvador Dali would be proud of! ;^)
>
Hi Mike,

Well what with Cecil muffing up the Subject line, I suppose you could call it a "new" thread. You could also call it "new" wine in old bottles.

I prefer to think of it in terms of Salvador's buddy Luis Buï¿½uel and his work "Illusion Travels by Streetcar" ("La Ilusiï¿½n Viaja en Tranvia").

73's
Richard Clark, KB7QHC

6912. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:37:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF3466B.9376682@uci.edu>
Source record: 114664

W5DXP wrote:
> -------50 ohm feedline---------+---------150 ohm feedline-------
> Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
>
> in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2

But s11 = b1/a1 so b1 = s11*a1. If b1 = 0, then s11 = 0 - which is
what I told you two days ago.

The gain of the network can only be 1 if b1 and s11 are equal to zero.

ac6xg

6913. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:39:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ljh6fv45kr40bm84uusqe94a93jcmmm8be@4ax.com>
Source record: 114663

On Fri, 20 Jun 2003 10:24:22 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Yep, that's why I asked the question.
>>
>> Now you know, or no?
>
>If my memory is correct, I know. If not, I don't. That's why I
>asked the question. 600-800 ohms seems to ring a bell.

Hi Cecil,

That accounts for the fact, not the question nor the answer.
>> Now you know, or no?

73's
Richard Clark, KB7QHC

6914. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:39:48 UTC
From: richardharrison@webtv.net
Message-ID: <22840-3EF346E4-353@storefull-2314.public.lawson.webtv.net>
Source record: 114667

I should have mentioned the name given the non-W8JK beam by Arnpld B.
Bailey. It`s "Half-Wave Antenna and Connected Reflector".
It`s driven directly at one of its identical dipoles. So, its cardioid
pattern is reversible and depends upon which element has the feedline.

Best regards, Richard Harrison, KB5WZI

6915. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:41:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ooh6fvgu130pghge4thb3r9osdb0slunr4@4ax.com>
Source record: 114665
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

On Fri, 20 Jun 2003 12:23:05 -0500, "J Tabor" <denews@taborsoft.com>
wrote:

>Hi,
>
>Most anything downloadable from:
>www.taborsoft.com :-)
>
>Regards,
>Jim

Hi Jim,

Good reference site.

73's
Richard Clark, KB7QHC

6916. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:41:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF34765.75806577@uci.edu>
Source record: 114570

W5DXP wrote:
> Too bad Roy's example has absolutely nothing to do with "complete wave
> cancellation".

How come the textbooks don't differentiate between your "complete wave cancellation" and the other kind of wave cancellation due to destructive interference?

> I'm beginning to believe that none of your guys comprehend
> complete wave cancellation.

Why should they? You made it up!

ac6xg

6917. Re: Dealing with extra coax question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:44:35 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030620134435.00333.00001143@mb-m12.aol.com>
Source record: 114666

I know that Radio Shack coax isn't exactly the best quality, but they offer it in various lengths, much shorter than 50 feet. Perhaps you should visit your local Radio Shack and get some shorter stuff?
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net

6918. Re: Is Cecil's Math a Blender?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:46:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF3486D.DE542A0C@uci.edu>
Source record: 114569

Mike Coslo wrote:
>
> I must confess I started reading this thread only after it started on
> it's (second week?) Now it's morbid fascination that keeps me reading it.
>
> Cecil and Jim, no matter WHAT the other people say, DON'T take this to
> private email. This is theater guys. Kind of like the time in the high
> school lunchroom when I put all my money in the jukebox and played "On
> the Cover of the Rolling Stone" thirty times.
>
> After a while, it becomes art.
>
> Keep it up guys! I'm still reading.
>
> - Mike KB3EIA -

Want to be a stand-in, Mike? I can only take so much abuse.

73, Jim AC6XG

6919. Re: EZ-NEC Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:54:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2uh6fvgsdsparp4qol8tlug5qtf84dt6rp@4ax.com>
Source record: 114571

On Fri, 20 Jun 2003 13:30:56 -0400, Mike Coslo <mjc5@psu.edu> wrote:

> I've been playing with EZ-NEC the last couple days. One strange thing I
>noticed in the creation of an 80 meter dipole is that as I rais it above
>the ground, the FF pattern starts lowering it's angle, then starts to
>"collapse" at the highest angles. Further raising of the height above
>ground, and the pattern starts to raise up again at the high angles,
>eventually making a hat like shape.
>
> This happens at a height that isn't terribly practical, but I was
>wondering if this was a program anomaly, or if the pattern actually did
>this?
>
> And if it does, why? It seems as if the pattern should just get
>shallower, until it reached a certain point then stabilize.
>
>
> - Mike KB3EIA -

Hi Mike,

Think of earth as an antenna element. You are raising the radiator,
and the reflector is below (this is what makes quarterwave high
dipoles improved cloud warmers).

To the earth's credit, it extends much further than a manmade
reflector and allows for developing new, greater, lower radiation
lobes with adding more height (above the quarterwave already
mentioned). To the earth's debit, at some point the trig forces those
same issues to begin to sap the same gains and put them back into the
sky.

Few dipole enthusiasts (sneering at verticals for their need for
ground) would admit that adding ground treatment improves a dipole
(again, issues of reflection, but also in improved radiation
efficiency).

Brush up on your Trig and ray tracing.

73's
Richard Clark, KB7QHC

6920. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:58:42 UTC
From: richardharrison@webtv.net
Message-ID: <22840-3EF34B52-354@storefull-2314.public.lawson.webtv.net>
Source record: 114574

Cecil, W5DXP wrote:
"Bear in mind, I am not talking about dark rings and bright rings in an interference pattern. Those two individual waves are unaffected by the interference and certainly do not transfer energy."

Where do the bright rings come from then?

Best regards, Richard Harrison, KB5WZI

6921. Re: N types & fitting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 17:58:52 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306200958.54ea9570@posting.google.com>
Source record: 114572

There are some variations on the theme, but normally I'd expect to put
over the outside of the coax first the nut, then a flat washer, a
rubber gasket/washer, and finally a cone-shaped piece, with cone
toward the end of the coax and stopping against the cut outer jacket.
The braid folds back over the cone. The center and pin must be the
right length beyond that, of course.

Cheers,
Tom

"KTF" <.@.> wrote in message news:<qhFIa.282$yw5.7420@newsfep4-glfd.server.ntli.net>...
> Hello,
>
> I have an N type plug here ready to go on the end of a piece of coax but for
> the life of me I can't remember which order the parts go in. The problem I
> have at the moment is that the coax just falls out of the body of the plug!
>
> I soldered the pin onto the end of the coax, then bent the braid back and
> put the collar inside the plug for the braid and casing to push up against.
> Then screwed the end piece in that fits around the coax. It's meant to be
> the correct size for the cable and looks OK, but the cable falls out of the
> plug with the pin attached, so useless for sticking on the bottom of the
> antenna!
>
> Can anyone tell me which way it should be fitted as I never remember having
> this problem years ago.
>
> Thanks.
>
> Ian.

6922. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:05:30 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306201005.1f0144a9@posting.google.com>
Source record: 114573

It's not clear to me HOW you would install such resistors without also adding considerable reactance, but for some insight into the answer to what you probably are trying to get at, have a look at Joseph M. Boyer, "The Antenna-Transmission Line Analog," a two-part article in April and May, 1977, "Ham Radio" magazine. You could also go back to Schelkunoff's original work on the subject, but Boyer's articles are probably easier to digest.

Cheers,
Tom

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EF3176C.5070703@ieee.org>...
> If resistors to ground were installed at the ends of a 1/2WL
> dipole such that reflections were eliminated from the ends
> of the dipole, what would be its feedpoint impedance? Not a
> trick question. Would it be the same as any other traveling
> wave antenna, e.g. like a Rhombic?

6923. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:19:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf6k164q5cf21f@corp.supernews.com>
Source record: 114575

At last, some numbers I can check.

From your first description, the net power is 100 watts. Using the phase of the load current as a reference, then, the current in the load is 1 + j0 amps, and the voltage across it is 100 + j132.3 volts. The line length is 131.5 electrical degrees. Using the familiar equations in _Reference Data for Radio Engineers_ which have served me well for many years, I calculate that the voltage at point X is -66.25 + j24.71 volts and the current -1.323 + j0.4994 amps.

But you're claiming that the voltage and current at this point are both zero. Where did I go wrong in my calculation?

The equations I used are:

E1 = E2*cos(theta) + j*I2*Z0*sin(theta)
I1 = I2*cos(theta) + j*E2*Y0*sin(theta)

There's a good possibility that I made an error in the calculation. But I can't see *any* combination of I2, E2, Z0, and theta which will produce zero for both E1 and I1. So, are these equations wrong, or is there really some combination of values that will produce simultaneous E1 = 0 and I1 = 0? And are those values the ones that you gave, that is,

I2 = 1 + j0
E2 = 100 + j132.3
theta = 131.5 degrees

Can you show how, step by step, you get E1 = 0 and I1 = 0 by using these equations, or can you give evidence that the equations are wrong?

Roy Lewallen, W7EL

W5DXP wrote:
> Richard Clark wrote:
>
>>> Roy wrote:
>>>
>>>> Please show the load impedance, the lengths of the lines, and at
>>>> what point on which line "complete wave cancellation" takes place.
>>>> If any of these things aren't important, then make some values up.
>>>
>>>
>>> Dead on Arrival
>
>
> Load = 100+j132.3 ohms, 150 ohm feedline length = 46.19 ft., 150 ohm

> feedline VF = 0.9, Frequency = 7.0 MHz. Complete wave cancellation of
> reflected waves traveling toward the source takes place at '+'.
> Did I leave anything out?
> --
> 73, Cecil, W5DXP
>

6924. Re: Is Cecil's Math a Blender?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:19:51 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF35047.3010905@psu.edu>
Source record: 114577

Jim Kelley wrote:
>
> Mike Coslo wrote:
>
>>I must confess I started reading this thread only after it started on
>>it's (second week?) Now it's morbid fascination that keeps me reading it.
>>
>> Cecil and Jim, no matter WHAT the other people say, DON'T take this to
>>private email. This is theater guys. Kind of like the time in the high
>>school lunchroom when I put all my money in the jukebox and played "On
>>the Cover of the Rolling Stone" thirty times.
>>
>> After a while, it becomes art.
>>
>> Keep it up guys! I'm still reading.
>>
>> - Mike KB3EIA -
>
>
> Want to be a stand-in, Mike? I can only take so much abuse.

I don't think I'd be able to keep up, Jim! My head is spinning with
what I've read already.

But if it ever gets to the point of

"UH-Huh!

and

"Unh-Unh"

I might be able to help out!

BTW, guys, this is all just good natured ribbing. 8^)

- Mike KB3EIA -

6925. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:19:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF3504C.2519C028@uci.edu>
Source record: 114576

W5DXP wrote:
> Aha, I see what your problem is.
> When two EM waves interfere in free space,
> *the energy level in the waves doesn't change*. If the energy level in the
> waves doesn't change, of course they do not transfer any energy.

> The wave cancellation that happens at a match point is entirely different.
> The waves cease to exist so their energy levels cannot possibly remain
> the same and they are forced to transfer their energy to the constructive
> interference point.

Nope, that would still require energy to perform your supernatural
turnaround in direction. Cancelled waves don't tranfer energy, no
matter how much hand waving you do. The energy is transferred by the
algebraic compliments of the cancelled waves - P1 and P2 in your paper,
through constructive interference. Pfwd2 = 8.33 + 75 + 2*sqrt(8.33*75)
= 133.33. That's how constructive interference works, and that's all
there is to it. Works out the same way for Vfwd2^2, V1^2, and V2^2.
Couldn't be simpler.

ac6xg

6926. Re: Is Jim's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:22:31 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF350E7.7060908@ieee.org>
Source record: 114578

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>-------50 ohm feedline---------+---------150 ohm feedline-------
>>Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
>>
>>in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2
>
> But s11 = b1/a1 so b1 = s11*a1. If b1 = 0, then s11 = 0 - which is
> what I told you two days ago.

Good grief, Jim. s11 = b1/a1 *WHEN* a2 = 0. In my above example,
a2 is *NOT* equal to zero. a2 = 0 is the boundary condition for
s11 equaling b1/a1. In the above example, s11 equals 0.5, i.e.
the reflected voltage, b1, is half the incident voltage, a1, when
a2 equals zero. Please get back to us after you get some help
from someone who understands s-parameters.
--
73, Cecil, W5DXP

6927. Re: EZ-NEC Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:26:51 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF351EB.8050102@psu.edu>
Source record: 114580

Richard Clark wrote:
> On Fri, 20 Jun 2003 13:30:56 -0400, Mike Coslo <mjc5@psu.edu> wrote:
>
>
>> I've been playing with EZ-NEC the last couple days. One strange thing I
>>noticed in the creation of an 80 meter dipole is that as I rais it above
>>the ground, the FF pattern starts lowering it's angle, then starts to
>>"collapse" at the highest angles. Further raising of the height above
>>ground, and the pattern starts to raise up again at the high angles,
>>eventually making a hat like shape.
>>
>> This happens at a height that isn't terribly practical, but I was
>>wondering if this was a program anomaly, or if the pattern actually did
>>this?
>>
>> And if it does, why? It seems as if the pattern should just get
>>shallower, until it reached a certain point then stabilize.
>>
>>
>> - Mike KB3EIA -
>
>
> Hi Mike,
>
> Think of earth as an antenna element. You are raising the radiator,
> and the reflector is below (this is what makes quarterwave high
> dipoles improved cloud warmers).
>
> To the earth's credit, it extends much further than a manmade
> reflector and allows for developing new, greater, lower radiation
> lobes with adding more height (above the quarterwave already
> mentioned). To the earth's debit, at some point the trig forces those
> same issues to begin to sap the same gains and put them back into the
> sky.

Fascinating! Thank you, Richard.

> Few dipole enthusiasts (sneering at verticals for their need for
> ground) would admit that adding ground treatment improves a dipole
> (again, issues of reflection, but also in improved radiation
> efficiency).

I believe that. Just form some empirical evidence from an early antenna.

> Brush up on your Trig and ray tracing.

Never hurts.... 8^)

- Mike KB3EIA -

6928. Re: Is Cecil's Math a Bummer?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:28:08 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vf6kj6st615pa7@corp.supernews.com>
Source record: 114579

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:m6h6fv0fvhv8s0l0hiqi7ik2k7691sn9q7@4ax.com...
> On Fri, 20 Jun 2003 13:19:50 -0400, Mike Coslo <mjc5@psu.edu> wrote:
>
> >Richard Clark wrote:
> >> On Fri, 20 Jun 2003 02:41:42 GMT, Mike Coslo <mcoslo@adelphia.net>
> >> wrote:
> >>
> >>>I must confess I started reading this thread only after it started on
> >>>it's (second week?) Now it's morbid fascination that keeps me reading
it.
> >>
> >>
> >> Hi Mike,
> >>
> >> What planet have you returned from? Second YEAR!
> >
> > This thread? or just a general continuance? Regardless, it is a thread
> >Salvador Dali would be proud of! ;^)
> >
> Hi Mike,
>
> Well what with Cecil muffing up the Subject line, I suppose you could
> call it a "new" thread. You could also call it "new" wine in old
> bottles.
>
> I prefer to think of it in terms of Salvador's buddy Luis Bu�uel and
> his work "Illusion Travels by Streetcar" ("La Ilusi�n Viaja en
> Tranvia").
>
> 73's
> Richard Clark, KB7QHC

Andalusian Dogs my Blood of A Poet.
Shall we Dali with a Cocteau of Bu�uel?
H., NQ5H

6929. PLUMBER's LOOP: a SWL loop - simple and effective

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:34:34 UTC
From: "Nic. Santean" <nic@csd.uwo.ca>
Message-ID: <3ef3538a@shknews01>
Source record: 114581

Loop antennas are not very popular in SWL mainly because
they should manifest a low inductive reactance. I have recently
experimented a simple design which I would like to post for
your review:

PLUMBER's LOOP:

An inductor of 3uH tuned with a standard 365pF variable
capacitor covers from about 4.8MHz to about 24.5MHz.
Hence, a loop having this reactance (and tuned with the above
mentioned VC) would cover from 60m down to 13m - perfect
for SWL. Here is a simple (15 minutes of work) construction:

1. Buy a standard pack of copper pipe for plumbing of 1/4" OD,
1/8" ID and 10' long (costs about 6CAD). It comes wound in
a 1' diameter coil.

2. Carefully unwound the coil such that the outer circle shape is
preserved. You end up with a copper pipe in a perfect circle shape,
of around 40" diameter.

3. The good news is that this loop has a 3uH inductive reactance
(noise-bridge measured). It remains to couple the 365pF VC in
parallel and you have a perfect loop for SWL.

4. Although it is rigid enough, I passed the loop through a
"hula hoop" to make sure its shape is preserved in time.

5. Since I have a Grundig S350 with a 500Ohms antenna input
I have chosen to collect the signal from one of VC's pins, with
a single wire attached to either receiver's whip or directly to
receiver's antenna hot connection. This wire should not exceed
2 meters.

* One may want to try a coupling wound; however, this setup
works like a charm and indeed it tunes along the above mentioned
frequency range. Gain wise, it appears that this loop is at least
twice better than a whip fully extended.

Should you require furthe details do not hesitate to contact me.

Cheers,

Nic.

6930. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:41:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF35560.7090305@ieee.org>
Source record: 114582

Jim Kelley wrote:
>
> W5DXP wrote:
>>Too bad Roy's example has absolutely nothing to do with "complete wave
>>cancellation".
>
> How come the textbooks don't differentiate between your "complete wave
> cancellation" and the other kind of wave cancellation due to destructive
> interference?

Maybe they thought even idiots would abide by the
conservation of energy principle. :-)

Wave cancellation is a special case of destructive interference.
Most destructive interference is NOT complete wave cancellation.
What you have had to say is correct for most destructive
interference but false for complete wave cancellation.

>>I'm beginning to believe that none of your guys comprehend
>>complete wave cancellation.
>
> Why should they? You made it up!

Nope, I didn't, Jim. I suspect Heavyside or Maxwell made it up.
Complete wave cancellation occurs when two coherent waves of
opposite phases and equal amplitudes traveling in exactly the
same path are destroyed and cease to exist. Their combined
energy components are transferred to the constructive interference
event that MUST exist in the only other possible direction.
--
73, Cecil, W5DXP

6931. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:42:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF355AB.C3D08951@uci.edu>
Source record: 114585

W5DXP wrote:
>
> Jim Kelley wrote:
> > Since the argument is about your paper, will you admit that energy is
> > not transfered by waves which cancel in their direction of propagation?
>
> On the contrary, I am prepared to argue that energy *MUST* be transferred
> by waves which cancel in their direction of propagation.

I've got just the publication for you: "The Journal of Theoretics".
That's the only place that would even consider entertaining such
ludicrous ideas.

> Bear in mind, I
> am not talking about dark rings and bright rings in an interference
> pattern.

Of course not. You've invented a new and improved kind of interference!

> Those two individual waves are unaffected by the interference
> and certainly do not transfer energy.

Waves themselves are never _affected_ by interference. They don't
interact with each other. They only superpose.

> Wave cancellation is a completely different happening from dark ring,
> bright ring interference.

(It's like I'm listening to one of those raving lunatics out on a street
corner somewhere.) Tell it, Reverend!

> The two waves involved in wave cancellation
> disappear from the universe.

I'd like to see your proof that they don't continue to propagate out of
phase with one another. ;-)

> They *MUST* transfer their combined energy
> components somewhere.

You mean the energy they aren't transfering anywhere to begin with?

> You have admitted that they indeed do contain energy
> that cannot be destroyed.

But that only poses a problem for those who believe the waves disappear
from the universe.

> > Will you admit
> > that energy doesn't change direction by means other than reflection?

> Define "reflection".

It's well defined in the literature. Why don't you look it up like I
did.

> In a transmission line, the two canceled waves transfer their energy
> components to the wave cancellation point which is a dead-end for that
> energy.

In any/every transmission line? -1 point

> The conservation of energy principle dictates that the energy
> in the canceled waves changes directions since there are only two
> directions available.

Conservation of energy says nothing about changing directions. -1 point

> Not only does the energy change direction, but
> it is also transformed to a new ratio of E-feld/H-field as required
> by the constructive interference environment.

Can't happen without an interaction with a different medium. -1 point

> That transformation of
> characteristic impedance certainly meets the definition of "energy
> transfer".

Yikes. -10 points

ac6xg

6932. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:43:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ddl6fv0vt1pmvo9be7b4pm4eu31hje8i5h@4ax.com>
Source record: 114584

On Fri, 20 Jun 2003 12:58:42 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Cecil, W5DXP wrote:
>"Bear in mind, I am not talking about dark rings and bright rings in an
>interference pattern. Those two individual waves are unaffected by the
>interference and certainly do not transfer energy."
>
>Where do the bright rings come from then?
>
>Best regards, Richard Harrison, KB5WZI

Not from any halo effect. :-)

6933. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:43:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf6le6q8a57ad7@corp.supernews.com>
Source record: 114583

Richard Harrison wrote:
> Roy, W7EL wrote:
> "In the special case of the two elements fed out of phase with equal
> currents, the coupled resistance (the amount the feedpoint resistance
> changes as a result of mutual coupling) is simply -Rm."
>
> Thanks to Roy, I`ve looked at Chapter 8 of the ARRL Antenna Book. It is
> interesting to note that mutual impedance may affect directivity of an
> array.
>
> Indeed, 180-degrees leading or lagging is the same thing. Z of the
> feedpoints of the two elements shifts the same in both, due to the
> mutual coupling, I suppose. To me, it is immediately apparent that the
> elements must behave exactly the same due to simple symmetry. There is
> no way a stupid element in the simple W8JK array has of knowing it is
> not the other element. Symmetry obviously also makes the W8JK array
> bidirectional.

Yes, that's correct. There's something else special about the particular cases of two elements fed 180 degrees out of phase or fed in phase, as a result of what you've observed. Because each element looks the same to each other, the feedpoint impedances end up equal, even though they can be quite different than the impedance of an isolated element. If you feed the elements of an in-phase array with any lengths of transmission line, as long as they're equal, the phase shifts and impedance transformations of the lines are equal, even though they're not what they'd be with a matched line. Similarly, an out-of-phase array can be fed with lengths that differ by a half wavelength, resulting in equal, out of phase currents to the two elements. This simple feed method doesn't work in general, even for two in-phase or out-of-phase elements in a larger array. These particular arrays are the easiest of all to feed properly.

>
> A bidirectional pattern can be obtained from a simple dipole. Why use a
> W8JK array? 4 dbd gain may be a reason. The price of this gain may be a
> drivepoint resistance of only about 7-ohms versus about 10X that
> resistance for the dipole. Also, the bandwidth of the simple dipole is
> about twice that of the W8JK array.

There are a couple of interesting things about the W8JK array. One is that you can feed the two elements with equal lengths of line, giving one a half twist to effect the phase reversal. Then you've got an antenna that maintains its pattern over an extremely wide bandwidth -- from an arbritrarily low frequency up to the frequency at which the

elements are a half wavelength apart. The feedpoint impedance obviously varies a great deal over this range, but the pattern stays the same. This array is also unusual in that its elevation pattern is noticeably different from a dipole or Yagi. The latter have essentially the same elevation pattern -- except at very high angles -- when mounted over ground, since both have broad free-space elevation patterns. The free-space elevation pattern of a W8JK is quite different, with an overhead null. This often results in concentration of power at noticeably lower elevation angles for a given mounting height. The downsides to this array are the bidirectional pattern you've mentioned, and low feedpoint resistance. Care has to be taken to avoid excessive loss because of the low resistance, and tuning is quite narrowbanded.

> In this thread, loss has been mentioned. Prospective loss due to the
> W8JK`s drivepoint resistance, may make the power gain of the array hard
> to realize. Terman refers to this problem under the topic of super-gain
> antennas which rely on very close spacing.

Yes, absolutely true.

> Terman also notes the difference between directive gain and power gain
> of antennas on page 870 of his 1955 edition:
> "Directive gain depends entirely on the distribution in space of
> radiated power. The power input to the antenna, the antenna losses, or
> the power consumed in a terminating resistance have nothing to do with
> directive gain. Such factors are taken in terms of the power gain of the
> antenna---."
>
> If you don`t cross the element feed wires of the W8JK beam, you get a
> cardioid pattern, 4 dbd gain, 50-ohm drivepoint resistance, about 4X the
> bandwidth of the W8JK beam, with only 25% more space between the two
> dipole elements, according to Arnold B. Bailey in "TV and Other
> Receiving Antennas"

Yep, there's more than one way to skin a cat.

You don't automatically get a fully cardiod pattern by that method, though. To get a cardioid, the phase delay between elements has to equal the element spacing, and the current transformation of the "phasing" line has to be unity. Connecting a transmission line between the elements doesn't achieve this, for reasons explained in Chapter 8 of the ARRL Antenna Book, since the transmission line is invariably mismatched. But with the proper choice of "phasing line" and element lengths (which impact the strong mutual coupling in these arrays), you can get a nearly cardioid pattern and very good f/b ratio. I do exactly this in my "Field Day Special" antenna. It's one of the example files that comes with EZNEC, and notes and a program to help design them can be downloaded from ftp://eznec.com/pub/ as FDSP~.EXE.

The Bailey method can be easily evaluated with EZNEC, even the demo version, for any particular cases of interest.

Roy Lewallen, W7EL

6934. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:49:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF35722.1020906@ieee.org>
Source record: 114586

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Bear in mind, I am not talking about dark rings and bright rings in an
> interference pattern. Those two individual waves are unaffected by the
> interference and certainly do not transfer energy."
>
> Where do the bright rings come from then?

You need to understand what Jim means by "transfer" of energy.
The bright rings contain more energy than the dark rings but
it is not because energy is transferred from the waves to the
bright spot. The waves are right there *IN* the bright spot with
their energy components unchanged. The waves themselves are
unaffected by the interference. That's what makes the above
normal interference different from complete wave cancellation
where the two waves are completely (or partially) destroyed.
--
73, Cecil, W5DXP

6935. Re: Traveling Wave Dipole Feedpoint Impedance?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:51:48 UTC
From: richardharrison@webtv.net
Message-ID: <22840-3EF357C4-363@storefull-2314.public.lawson.webtv.net>
Source record: 114593

Cecil, W5DXP wrote:
"If resistors to ground were installed at the ends of a 1/2WL dipole such that reflections were eliminated from the ends of the dipole, what would be its feedpoint impedance?"

There are configuration problems. Why do I think of B&W?

The antenna wire has a surge impedance which depends on its length to diameter ratio. Arnold B. Bailey gives the surge impedance for all the antennas in his catalog. He also has detailled instructions for doing the calculations yourself with tables and graphs to make it easy.

For a 1/2-wave dipole, 27.6 inches long, made of #10 wire, 0.1 in. dia,. resonant at 200 MHz, the surge impedance is 610 ohms.

If you could connect the resistor ground ends seamlessly, the drivepoint would be 1220 ohms.

Best regards, Richard Harrison, KB5WZI

6936. Re: Dealing with extra coax question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:52:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf6lvacmg6lh40@corp.supernews.com>
Source record: 114587

Coax is sometimes coiled to stop current on the outside of the line, which you usually don't want there. That's what people are doing with j-poles. It doesn't have any effect at all on what's going on inside the coax -- that is, on its transmission line properties. The only rule is that you shouldn't bend coax really sharply -- keep bends moderate, with a radius of at least several coax diameters. Otherwise, you can coil it any way you'd like, lay it on the ground or the floor of your truck, even bury it, with no affect on how it does its job.

Roy Lewallen, W7EL

wess@gtii.com wrote:
> I have a question. At the moment, I am using 50 ft of coax in my
> truck since it is what I have on hand. I coiled it up and things seem
> okay.
>
> I have noticed on jpoles, a coil of coax is used as a balun.
>
> So is coiling up coax okay and how best to do it. I have a feeling
> other ham's have some they don't / didn't cut.
>
>
>
> 73, wes, kc8spr

6937. Re: Is Jim's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:53:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF35826.D86EED8F@uci.edu>
Source record: 114589

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>-------50 ohm feedline---------+---------150 ohm feedline-------
> >>Pfwd1 = 100W, Pref1 = 0 watts Pfor2=133.33W, Pref2=33.33W
> >>
> >>in s-parameter voltage terms, b1 = 0 = s11*a1 + s12*a2
> >
> > But s11 = b1/a1 so b1 = s11*a1. If b1 = 0, then s11 = 0 - which is
> > what I told you two days ago.
>
> Good grief, Jim. s11 = b1/a1 *WHEN* a2 = 0. In my above example,
> a2 is *NOT* equal to zero. a2 = 0 is the boundary condition for
> s11 equaling b1/a1. In the above example, s11 equals 0.5, i.e.
> the reflected voltage, b1, is half the incident voltage, a1, when
> a2 equals zero. Please get back to us after you get some help
> from someone who understands s-parameters.

I guess that wouldn't be you, then.

Explain how G=1 when s11<>0. Thanks.

ac6xg

6938. Re: braided coax shields ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:58:14 UTC
From: Ed <ed@nospam.com>
Message-ID: <nlidnaw8W-rXxG6jXTWJhQ@comcast.com>
Source record: 114588
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Looks like you're thinking about flat braided cable which is available at "any ham store...". Not what I'm looking for and The Wireman doesn't have it - I checked.

Ed

"Dale Parfitt" <parinc@gte.net> wrote in message news:3EF2FC79.6C1E0F59@gte.net...
>
>
> Ed wrote:
>
> > Hi,
> >
> > In the Dayton flea market area this year I saw what appeared to be lengths
> > of braided coax shield. No center conductor, no dielectric, no outside
> > insulation - just the braided coax shield. It wasn't flat braided cable
> > either - its apparently just braided coax shield and it looks like the skin
> > that a snake would shed .
> >
> > Unfortunately it had disappeared by the next day when I came to look for it
> > again.
> >
> > Anyone know what its called and where I can get some ?
> >
> > Thanks
> >
> > Ed
>
> It's called braided cable and is available from The Wireman, Probably The RF
> Connection, and any ham store where lightning/grounding gear is sold.
> Dale W4OP
>

6939. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 18:59:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF35991.10807@ieee.org>
Source record: 114590

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>Aha, I see what your problem is.
>>When two EM waves interfere in free space,
>>*the energy level in the waves doesn't change*. If the energy level in the
>>waves doesn't change, of course they do not transfer any energy.
>
>
>
>>The wave cancellation that happens at a match point is entirely different.
>>The waves cease to exist so their energy levels cannot possibly remain
>>the same and they are forced to transfer their energy to the constructive
>>interference point.
>
> Nope, that would still require energy to perform your supernatural
> turnaround in direction.

The turnaround is not supernatural, Jim. Melles-Griot would not put
supernatural events on their web page. Given only two possible directions,
the energy in the destroyed waves simply has no other place to go

> Cancelled waves don't tranfer energy, no
> matter how much hand waving you do.

I will go on record and say you simply do not know what you are talking
about. The energy in completely canceled (destroyed) waves *MUST* go
somewhere. That energy simply cannot disappear from the universe. So
you are back to trying to convince us that EM waves carry no energy.
Funny how a contradiction always come back to bite its owner in the
posterior.
--
73, Cecil, W5DXP

6940. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:01:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF35A13.B72B1FED@uci.edu>
Source record: 114592

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>Too bad Roy's example has absolutely nothing to do with "complete wave
> >>cancellation".
> >
> > How come the textbooks don't differentiate between your "complete wave
> > cancellation" and the other kind of wave cancellation due to destructive
> > interference?
>
> Maybe they thought even idiots would abide by the
> conservation of energy principle. :-)

> Wave cancellation is a special case of destructive interference.

Yeah, sure it is.

> What you have had to say is correct for most destructive
> interference but false for complete wave cancellation.

Right, because it disproves Cecil's paper, which would violate all
Cecilian theorems and paradynes, and the world would have to come to an
end.

> >>I'm beginning to believe that none of your guys comprehend
> >>complete wave cancellation.
> >
> > Why should they? You made it up!

> Nope, I didn't, Jim. I suspect Heavyside or Maxwell made it up.

You might wanna check that out. They musta written it down somewhere.

> Complete wave cancellation occurs when two coherent waves of
> opposite phases and equal amplitudes traveling in exactly the
> same path are destroyed and cease to exist. Their combined
> energy components are transferred to the constructive interference
> event that MUST exist in the only other possible direction.

oooooookay. If waves cease to exist in the way you describe, I'll drop
out of the conversation. Though you'll still have to figure out how
they cease to exist, and then turn around and change phase.

ac6xg

6941. Re: EZ-NEC Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:02:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf6mitel6lepd7@corp.supernews.com>
Source record: 114591

To add a note to Richard's explanation:

Remember that the "ground" in EZNEC is flat and infinite in extent. And no matter how high you are above it, the far field pattern is being observed at a point so far away that your height above the ground is insignificant. So even if you're very high, very low angle rays will reflect from the ground plane at some distant point, and be observed at a more distant point yet. If you go high enough above the real Earth, low angle waves will begin missing the Earth, and you'll get a free space pattern at those angles. But you can never get high enough above EZNEC's idealized ground plane for this to happen.

Roy Lewallen, W7EL

6942. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:14:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF35D06.C4FB6CEF@uci.edu>
Source record: 114594

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >
> >>Aha, I see what your problem is.
> >>When two EM waves interfere in free space,
> >>*the energy level in the waves doesn't change*. If the energy level in the
> >>waves doesn't change, of course they do not transfer any energy.
> >
> >
> >
> >>The wave cancellation that happens at a match point is entirely different.
> >>The waves cease to exist so their energy levels cannot possibly remain
> >>the same and they are forced to transfer their energy to the constructive
> >>interference point.
> >
> > Nope, that would still require energy to perform your supernatural
> > turnaround in direction.
>
> The turnaround is not supernatural, Jim. Melles-Griot would not put
> supernatural events on their web page.

And they didn't. It's only your opinion about it that turns it into
something supernatural.

> > Cancelled waves don't tranfer energy, no
> > matter how much hand waving you do.
>
> I will go on record and say you simply do not know what you are talking
> about.

You've been on record in that regard for a few months now. It's amazing
to me that you can't accept the impossibility in what you're saying.
It's absolutely astounding.

> The energy in completely canceled (destroyed) waves *MUST* go
> somewhere.

Therein lies your problem: destroyed waves. You really should rethink
that idea.

> That energy simply cannot disappear from the universe.

I agree completely.

> So
> you are back to trying to convince us that EM waves carry no energy.

Define "carry".

> Funny how a contradiction always come back to bite its owner in the
> posterior.

Yes, but W5DXP continues to deny that he's been bitten. :-)

ac6xg

6943. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:25:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF35F9B.7EC7C855@uci.edu>
Source record: 114595

W5DXP wrote:
>
> Richard Harrison wrote:
> > Cecil, W5DXP wrote:
> > "Bear in mind, I am not talking about dark rings and bright rings in an
> > interference pattern. Those two individual waves are unaffected by the
> > interference and certainly do not transfer energy."
> >
> > Where do the bright rings come from then?
>
> You need to understand what Jim means by "transfer" of energy.

Physician, heal thyself.

> The bright rings contain more energy than the dark rings but
> it is not because energy is transferred from the waves to the
> bright spot.

What??

> The waves are right there *IN* the bright spot with
> their energy components unchanged.

??

> The waves themselves are
> unaffected by the interference.

Waves themselves are unaffected by interference, that's correct.

> That's what makes the above
> normal interference different from complete wave cancellation
> where the two waves are completely (or partially) destroyed.

How do they waves know whether to destroy each other or not? They must
be pretty smart waves. ;-)

ac6xg

6944. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:45:28 UTC
From: Hank Oredson <horedson@att.net>
Message-ID: <svJIa.13813$0v4.1137085@bgtnsc04-news.ops.worldnet.att.net>
Source record: 114596
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

See the W0RLI web site.

--

... Hank

Hank: http://horedson.home.att.net
W0RLI: http://w0rli.home.att.net

"c" <no@spam.com> wrote in message
news:3ef2d26a$0$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Do you have nice amateur software
> on your computer wich is NOT in my
> list?
> PLEASE LET US KNOW, it's nice to compare,
> also for the other people in this news-group.
>
> The software list is also on my webte:
> http://www.qsl.net/pd0rkc
>
> PSK
> WinPSK v2.13 s
> n MIXWIN 2.07 s
> LOGGER 7.09 s
> LOGGER-UPDATE 8.07 s
>
> SSTV
> n CHROMAPIX V1.5.10 s
> MMSSTV 1.08 s
> n MSCAN V3.20 s
> n MIXWIN 2.07 s
> EZSSTV v3.0 m
> DL4SAW GSHPC V2.3 s
> JVFAX v.7.1 m
> n W95SSTV 1.10 s
> n RADIOCOM 4.0
>
> RTTY
> HAMCOM v3.1 m
> n MIXWIN 2.07 s
> MMTTY 1.65 s
> MORSE DECODER

> n CWGET v1.36 s
> MORSE TRAINER
> n NUMORSE 1.09
>
> PACKET
> AGWE 2002.308 s
> TPK v1.83 m
> n WINPACK 6.80 s
> TSTHOST V2.21B m
>
> APRS
> n UIVIEW2.39 s
>
> RTTY/CW/PACKET
> HAMSOPE 1.51 s
> BUZZER DECODER
> POCSAC v2.5 s
>
> ANTENNA
> DL6WU
>
> SATELLITE
> n NOVA 2.1q
> SATSCAPE 2.00
>
>
> INTERNET QSO
> ECHOLINK 1.5.832
>
> DB CALCULATIONS
> minidBcalculator 1.3.2
>
> EME/SCATTER
> wsjt300
>
> DTMF TONES
> dtmfdail
>
> KENWOOD TS-2000
> service manual
>
> LOGBOOK
> vqlog 2.3b
>
>
>

6945. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 19:47:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF364ED.6C19491E@uci.edu>
Source record: 114597

W5DXP wrote:
>
> Jim wrote,
> >I agree with John. If it weren't for the fact that you were afraid of
> >getting your feelings hurt, we could have been discussing this by email
> >- a MUCH better utilization of the bandwidth. Coward.

> Sorry, but I just will not tolerate every other word in an email
> being filthy and obscene. While your abuse went to 100%, your
> technical content went to zero.

I believe you're confused. The emails you SENT were filthy and obsence,
not the ones you received. Although you're constrained to a lower level
of abuse here on abusenet, your ego is probably more gratified when
you're able dispense the insults publicly.

6946. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:00:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF367F6.5070702@ieee.org>
Source record: 114598

Roy Lewallen wrote:
> But you're claiming that the voltage and current at this point are both
> zero. Where did I go wrong in my calculation?

In the s-parameter equation, (b1 = s11*a1 + s12*a2), b1 is the voltage reflected back toward the source from the impedance discontinuity. We know that reflected voltage is zero because Pref1=0. That means that (s11*a1 = -s12*a2), i.e. the two rearward-traveling reflected voltage waves cancel to zero volts - same for the two rearward-traveling current waves - they cancel to zero.

You are calculating the *net* voltage and *net* current. I am talking about the reflected voltage and reflected current on the 50 ohm line which is given as zero. That's why I said you didn't need the value of the load or the length of the feedline (or the VF or the frequency).

Everything you need to know that (s11*a1 + s12*a2) equals zero is given in the original example. Since (s11*a1 + s12*a2 = 0) we can say those two rearward-traveling reflected waves engage in complete wave cancellation in the rearward-traveling direction. They are forced by the conservation of energy principle to give up their component energies to the constructive interference occurring on the load side of the impedance discontinuity.
--
73, Cecil http://www.qsl.net/w5dxp

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6947. Re: Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:05:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF368EC.23A270BD@uci.edu>
Source record: 114599

W5DXP wrote:
>
> Jim Kelley wrote:
> > Energy transfer is the definition of power.
>
> Joules/Sec passing a point is the definition of Watts. All that requires
> is moving energy.

The units are correct in the same way that units for potential energy
are the same as any other units of energy.

ac6xg

6948. Quad Loop question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:10:15 UTC
From: John <my-callsign@qsl.net>
Message-ID: <vDKIa.2648$j21.169736@newsfep1-win.server.ntli.net>
Source record: 114612

I am thinking of using a quad loop arrangement to operate on all bands between 20m and 10m. on a forthcoming /P trip. I will use a 10mtr (33ft) fibre glass vertical pole with cross-arms to form the quad spreaders.

What is the preferred solution?

a) A single full wave loop on 20mtrs that I feed with 450 Ohm feeder and tune through an ATU to achieve low SWR (but sadly, not resonance) on all bands, maybe breaking the loop opposite the feed-point on 10m & 12m.

b) Nested loops on the spreader - one for each band at a full wavelength each. I would bring the wire ends to a single coax feed. Multiple resonances, one on each band.

OK, the problem with option b) as I see it: I can't find anything on the web that describes something similar to this. Maybe there is interaction between the elements? Also, the theoretic feed impedance of a quad loop at resonance is around 100 to 150 Ohms. Therefore I would need a 4:9 matching balun. I can't find the design for one of these on the web either.

Am I doomed to option a) and will have to tune my ATU every time I change band?

Comments please?!

My other option is just run a Cushcraft vertical. It will be sitting on the beach in salt water. I'm erring towards the fibre-glass quad loop arrangement simply because of the lesser impact on excess-luggage and the ease of putting it in position.

John
G4IRN.

(Best suggestions get a sched with FH/G4IRN and S79IRN in September: www.qsl.net/g4irn for further info).

6949. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:16:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF36B8A.2020408@ieee.org>
Source record: 114601

Jim Kelley wrote:
>
> W5DXP wrote:
>>What you have had to say is correct for most destructive
>>interference but false for complete wave cancellation.
>
> Right, because it disproves Cecil's paper, which would violate all
> Cecilian theorems and paradynes, and the world would have to come to an
> end.

Nope, the ham world would be forced to accept as literal fact the
conservation of energy principle instead of just paying it lip service.

>>Complete wave cancellation occurs when two coherent waves of
>>opposite phases and equal amplitudes traveling in exactly the
>>same path are destroyed and cease to exist. Their combined
>>energy components are transferred to the constructive interference
>>event that MUST exist in the only other possible direction.
>
> ooooookay. If waves cease to exist in the way you describe, I'll drop
> out of the conversation. Though you'll still have to figure out how
> they cease to exist, and then turn around and change phase.

You are still confused about what happens. The two rearward-traveling
reflected waves engage in complete wave cancellation (destruction) and
those two waves CEASE TO EXIST. They do NOT turn around!!! They do not
change phase!!! However, the phase of the destructive interference energy
re-directed toward the load is perfect for joining the forward wave. We
know that the energy in those two waves cannot disappear from the universe.
We know that the energy in those two waves does not continue rearward. We
know that the energy in those two waves does not stand still. We know that
the energy in those two waves is not dissipated. Ergo, the energy in those
two waves changes direction and joins the forward wave as in-phase constructive
interference. This is all explained on the Melles-Griot web page and in _Optics_,
by Hecht. I haven't discovered anything new. I have just reported something that
is well known from the field of optics that most hams (apparently) don't know yet.
--
73, Cecil http://www.qsl.net/w5dxp

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6950. Zenith 60 Console questions..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:17:46 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <KZJIa.3344$pH3.1355@news2.east.cox.net>
Source record: 114600

Anyone own a Zenith 60 console? I have one to restore
for my collection. The advertising photos in the Cones/Byant
book are very poor to work by...

I need to know if there is supposed to be a front door over the
knobs and tuning dial. I also need good photos of the proper
knobs for this radio, and some details of the door hinges,
decorative scroll work (if any), or other important details.

Pete

6951. Re: Zenith 60 Console questions..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:21:49 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbf6r6t.8u5.bit-bucket@localhost.config.com>
Source record: 114602

On Fri, 20 Jun 2003 20:17:46 GMT, Uncle Peter hath writ:
> Anyone own a Zenith 60 console? I have one to restore
> for my collection. The advertising photos in the Cones/Byant
> book are very poor to work by...

And , this has WHAT ALL !#$&*{?#@ to do with antennas?

6952. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:22:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <49n6fvsv3348ngumskm7ec9ndbu2dbf5q3@4ax.com>
Source record: 114603

On Fri, 20 Jun 2003 11:19:23 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>At last, some numbers I can check.
>
> From your first description, the net power is 100 watts. Using the
>phase of the load current as a reference, then, the current in the load
>is 1 + j0 amps, and the voltage across it is 100 + j132.3 volts. The
>line length is 131.5 electrical degrees. Using the familiar equations in
>_Reference Data for Radio Engineers_ which have served me well for many
>years, I calculate that the voltage at point X is -66.25 + j24.71 volts
>and the current -1.323 + j0.4994 amps.
>
>But you're claiming that the voltage and current at this point are both
>zero. Where did I go wrong in my calculation?
>
>The equations I used are:
>
>E1 = E2*cos(theta) + j*I2*Z0*sin(theta)
>I1 = I2*cos(theta) + j*E2*Y0*sin(theta)
>
>There's a good possibility that I made an error in the calculation. But
>I can't see *any* combination of I2, E2, Z0, and theta which will
>produce zero for both E1 and I1. So, are these equations wrong, or is
>there really some combination of values that will produce simultaneous
>E1 = 0 and I1 = 0? And are those values the ones that you gave, that is,
>
> I2 = 1 + j0
> E2 = 100 + j132.3
> theta = 131.5 degrees
>
>Can you show how, step by step, you get E1 = 0 and I1 = 0 by using these
>equations, or can you give evidence that the equations are wrong?
>
>Roy Lewallen, W7EL
>
>W5DXP wrote:
>> Richard Clark wrote:
>>
>>>> Roy wrote:
>>>>
>>>>> Please show the load impedance, the lengths of the lines, and at
>>>>> what point on which line "complete wave cancellation" takes place.
>>>>> If any of these things aren't important, then make some values up.

>>>>
>>>>
>>> Dead on Arrival
>>
>>
>> Load = 100+j132.3 ohms, 150 ohm feedline length = 46.19 ft., 150 ohm
>> feedline VF = 0.9, Frequency = 7.0 MHz. Complete wave cancellation of
>> reflected waves traveling toward the source takes place at '+'.
>> Did I leave anything out?
>> --
>> 73, Cecil, W5DXP
>>

Patient upgraded from Dead to Still Living.

Surgeon passed away at the table though.
Requiescat in pace. Constructive rings of interfering light may now
be properly re-ascribed to halo effect.

Send flowers in place of math....

6953. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:25:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF36DA0.6060403@ieee.org>
Source record: 114604

Jim Kelley wrote:
>
> W5DXP wrote:
>>The turnaround is not supernatural, Jim. Melles-Griot would not put
>>supernatural events on their web page.
>
> And they didn't.

According to you, they did. All I am doing is reporting what I read
on their web page. Since you reject it, why don't you take it up
with Melles-Griot?

>>I will go on record and say you simply do not know what you are talking
>>about.
>
> You've been on record in that regard for a few months now. It's amazing
> to me that you can't accept the impossibility in what you're saying.
> It's absolutely astounding.

I find it astounding that you refuse to accept the conservation of
energy principle. Everything I am saying falls out from that principle.

You are, once again, forced to assert that waves that are destroyed were
associated with zero energy.

>>The energy in completely canceled (destroyed) waves *MUST* go
>>somewhere.
>
> Therein lies your problem: destroyed waves. You really should rethink
> that idea.

What else can happen to waves traveling in the identical path that have
their amplitudes equal and their phases 180 degrees out? Dr. Best said
that they continue to exist without energy presumably out to infinity.
Do you want to join him in that assertion?

>>That energy simply cannot disappear from the universe.
>
> I agree completely.

Then where does the energy in destroyed waves go? You cannot have your
cake and eat it too.
--
73, Cecil http://www.qsl.net/w5dxp

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6954. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:28:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF36E71.2060004@ieee.org>
Source record: 114605

Jim Kelley wrote:
> How do they waves know whether to destroy each other or not? They must
> be pretty smart waves. ;-)

They have no choice, Jim. If they are smart enough and conscious
enough to refuse to be destroyed, Mother Nature executes them anyway.
By this time you, above all people, should realize that it's not nice
to try to fool Mother Nature by paying only lip service to the
conservation of energy principle.
--
73, Cecil http://www.qsl.net/w5dxp

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6955. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:32:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf6rqqouhsuj80@corp.supernews.com>
Source record: 114606

Huh? The "complete wave cancellation" which you earlier insisted meant that both the voltage and current go to zero, doesn't result in zero voltage and zero current? At least you're right about one thing -- I didn't understand "complete wave cancellation". But now I do, thanks to your explanation. You get it by creating a number of waves, and choosing a couple that cancel at some point. And voila! Complete wave cancellation! No trick to that -- you can create as many waves as you like, and get the correct answer to any transmission line problem, provided only that the sum of the waves you've created is correct. I'm sure you can find all sorts of interesting things when you combine them in various combinations. It's too bad you can't add power or energy like that, valiantly as you've been trying.

Thanks, I have the answer to my question. I'll leave you to your waves.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> But you're claiming that the voltage and current at this point are
>> both zero. Where did I go wrong in my calculation?
>
>
> In the s-parameter equation, (b1 = s11*a1 + s12*a2), b1 is the voltage
> reflected back toward the source from the impedance discontinuity. We
> know that reflected voltage is zero because Pref1=0. That means that
> (s11*a1 = -s12*a2), i.e. the two rearward-traveling reflected voltage
> waves cancel to zero volts - same for the two rearward-traveling
> current waves - they cancel to zero.
>
> You are calculating the *net* voltage and *net* current. I am talking
> about the reflected voltage and reflected current on the 50 ohm line
> which is given as zero. That's why I said you didn't need the value
> of the load or the length of the feedline (or the VF or the frequency).
>
> Everything you need to know that (s11*a1 + s12*a2) equals zero is
> given in the original example. Since (s11*a1 + s12*a2 = 0) we can
> say those two rearward-traveling reflected waves engage in complete
> wave cancellation in the rearward-traveling direction. They are
> forced by the conservation of energy principle to give up their
> component energies to the constructive interference occurring on
> the load side of the impedance discontinuity.

6956. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:33:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF36FAE.58E36B7C@uci.edu>
Source record: 114608

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>What you have had to say is correct for most destructive
> >>interference but false for complete wave cancellation.
> >
> > Right, because it disproves Cecil's paper, which would violate all
> > Cecilian theorems and paradynes, and the world would have to come to an
> > end.
>
> Nope, the ham world would be forced to accept as literal fact the
> conservation of energy principle instead of just paying it lip service.

You invented the violation in the first place.

> I haven't discovered anything new. I have just reported something that
> is well known from the field of optics that most hams (apparently) don't > know yet.

You're not reporting, you're inventing. You won't find a reputable
scientist anywhere in the world who would corroborate your claims.

ac6xg

6957. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:34:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF36FC2.6010603@ieee.org>
Source record: 114607

Jim Kelley wrote:
>
> W5DXP wrote:
>>Sorry, but I just will not tolerate every other word in an email
>>being filthy and obscene. While your abuse went to 100%, your
>>technical content went to zero.
>
> I believe you're confused. The emails you SENT were filthy and obsence,
> not the ones you received.

:-) :-) :-) Good laugh, Jim, thanks.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

6958. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:45:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3726E.2060000@ieee.org>
Source record: 114609

Roy Lewallen wrote:
> Huh? The "complete wave cancellation" which you earlier insisted meant
> that both the voltage and current go to zero, doesn't result in zero
> voltage and zero current?

Yes, it results in zero voltage and zero current flowing toward the
source since Pref1 was given as zero. We know that a reflected wave
flows from the load toward the source. We know that reflected wave
doesn't reach the source. Something cancels it. Do you know of
anything that can cancel a wave besides another wave of equal
amplitude and opposite phase?
--
73, Cecil http://www.qsl.net/w5dxp

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6959. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:49:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3734F.8020504@ieee.org>
Source record: 114610

Jim Kelley wrote:
>
> W5DXP wrote:
>>Nope, the ham world would be forced to accept as literal fact the
>>conservation of energy principle instead of just paying it lip service.
>
> You invented the violation in the first place.

You are free to assert, once again, that waves that are destroyed by
wave cancellation weren't associated with any energy to start with.
Do you really want to go through your crawfishing exercise again?

>>I haven't discovered anything new. I have just reported something that
>>is well known from the field of optics that most hams (apparently) don't > know yet.
>
> You're not reporting, you're inventing.

The Melles-Griot web page and _Optics_, by Hecht support what I am
saying. That you cannot tolerate the truth is not my problem.
--
73, Cecil http://www.qsl.net/w5dxp

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6960. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 20:52:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF37427.BE0D7289@uci.edu>
Source record: 114611

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>The turnaround is not supernatural, Jim. Melles-Griot would not put
> >>supernatural events on their web page.
> >
> > And they didn't.
>
> According to you, they did. All I am doing is reporting what I read
> on their web page.

The devil is in the details, Cecil. You've taken an illustrative description, interpretted it incorrectly, and drawn your own conclusions. I'm happy to report that the relevant equations do not support your interpretation.

> Since you reject it, why don't you take it up
> with Melles-Griot?

If you thought you were correct, I'm sure you'd get Melles-Griot to corroborate your assertions.

> >>I will go on record and say you simply do not know what you are talking
> >>about.
> >
> > You've been on record in that regard for a few months now. It's amazing
> > to me that you can't accept the impossibility in what you're saying.
> > It's absolutely astounding.
>
> I find it astounding that you refuse to accept the conservation of
> energy principle. Everything I am saying falls out from that principle.

I can drive a car across 10,000 miles of roads to get from here to New York, but it doesn't prove the distance from here to there is 10,000 miles.

> You are, once again, forced to assert that waves that are destroyed were
> associated with zero energy.

:-) I'm still waiting for your proof that waves are destroyed. So far, you're the first to make that claim. If anyone is destroying energy, it's you. You certainly are wasting a lot of it on this foolish idea.

> > Therein lies your problem: destroyed waves. You really should rethink
> > that idea.

> What else can happen to waves traveling in the identical path that have
> their amplitudes equal and their phases 180 degrees out?

As far as you know? I suppose whatever suits your fancy is what happens
to them.

> Dr. Best said
> that they continue to exist without energy presumably out to infinity.
> Do you want to join him in that assertion?

I don't know. What does continue without energy mean? At any rate, Dr.
Best is the first to observe that EM waves aren't destroyed.

> >>That energy simply cannot disappear from the universe.
> >
> > I agree completely.

> Then where does the energy in destroyed waves go?

You seem to have a dead spot in your intellect on this subject.

ac6xg

6961. Re: 40m Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 21:49:05 UTC
From: Pat Whelton <pwhelton@earthlinkNOSPAM.net>
Message-ID: <IjLIa.5154$C83.490322@newsread1.prod.itd.earthlink.net>
Source record: 114613

Karl. I have a 20m dipole under the eave of my home at about 7' feet. I run about 3 watts and have worked North America, South America, Europe, Africa and Asia. I wish I could go higher but I'm just happy to be on the air. Give it a shot and see what happens.

"Karl Almquist" <kalmquist2@cox.net> wrote in message news:tNqIa.96636$MJ5.60284@fed1read03...
> I live in a flat-roof house with a level eave of sufficient length to
> accommodate a straight 40m dipole antenna. I plan to install the antenna
> under the eave which is roughly 10' above ground level. Is this feasible?
>
>

6962. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 21:59:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF383D4.83FCBA76@uci.edu>
Source record: 114615

W5DXP wrote:
>
> Jim Kelley wrote:
> > How do they waves know whether to destroy each other or not? They must
> > be pretty smart waves. ;-)
>
> They have no choice, Jim.

Out snookered again. Why didn't I think to say that when you asked me
the same stupid question! If only physics was just a matter of scoring
newsgroups points......

> If they are smart enough and conscious
> enough to refuse to be destroyed, Mother Nature executes them anyway.

But she also takes the energy out of 'em right before that, and recyles
it the way you said to. Right? You're in fantasyland, OM.

ac6xg

6963. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:07:05 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <q317fvk5hlghhfmvnj1990gbnllpfvtvou@4ax.com>
Source record: 114614

On Fri, 20 Jun 2003 15:34:10 -0500, W5DXP <Cecil.A.Moore@ieee.org> wrote:

>Jim Kelley wrote:
>>
>> W5DXP wrote:
>>>Sorry, but I just will not tolerate every other word in an email
>>>being filthy and obscene. While your abuse went to 100%, your
>>>technical content went to zero.
>>
>> I believe you're confused. The emails you SENT were filthy and obsence,
>> not the ones you received.
>
>:-) :-) :-) Good laugh, Jim, thanks.

Jesus Christ fellows will someboby please admit they were wrong and get on with it!
Cecil's math blunder every other post, makes me wanna fill the tub up with warm water,
crawl in,
then slit my wrist.ARRGGHH!!!!
Move on to dipoles, verticals, moxons, rhombics, loops, antennas of real interest.

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're
gonna get"

6964. Re: J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:11:43 UTC
From: wess@gtii.com
Message-ID: <vf71jfg5rmu703@corp.supernews.com>
Source record: 114616

Richard Clark <kb7qhc@attbi.com> wrote:

>On Fri, 20 Jun 2003 11:20:00 -0400, wess@gtii.com wrote:
[snip]
>Hi Wes,
>
>What do wish to accomplish with grounding? Lightning control, or RF
>match/radiation control? Both will be affected. Lightning control is
>not within the provence of an amateur to faithfully test, so you would
>best conform to local code. RF match/radiation control, for JPoles,
>could be all over the map - good luck (or simply learn to choke them -
>kinda segues into your other posting).

The grounding is primarily to protect home and equipment. But then I
wondered, how does hanging a big chunk of wire off a metal thing
(jpole) affect how the j pole performs.

Choke them???
>
>Not slamming but size hardly matters, height does.

Point taken. Though a 6m meter jpole is massive compared to my mobile
6m antenna.
>
>73's
>Richard Clark, KB7QHC

73 back at ya, Wes, KC8SPR

--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6965. Re: Dealing with extra coax question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:13:53 UTC
From: wess@gtii.com
Message-ID: <vf71nhmiq9en2e@corp.supernews.com>
Source record: 114617

Roy Lewallen <w7el@eznec.com> wrote:

>Coax is sometimes coiled to stop current on the outside of the line,
>which you usually don't want there. That's what people are doing with
>j-poles. It doesn't have any effect at all on what's going on inside the
>coax -- that is, on its transmission line properties. The only rule is
>that you shouldn't bend coax really sharply -- keep bends moderate, with
>a radius of at least several coax diameters. Otherwise, you can coil it
>any way you'd like, lay it on the ground or the floor of your truck,
>even bury it, with no affect on how it does its job.
>
>Roy Lewallen, W7EL

Thank you. I finally got the antenna (uhv-4) to work and I just
didn't want to change anything (for a while ;))

73, Wes, KC8SPR
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

6966. active antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:25:32 UTC
From: Leo Baumann <ib.leobaumann@t-online.de>
Message-ID: <bd01kshkk07$1@news.t-online.com>
Source record: 114618

Hello,

i don't need my Dressler ara 60 any more.

100 kHz-120 MHz, power supply 230 V to 12 V, BNC-cable for receiver and attentuator.

ib@leobaumann.com

6967. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:35:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF38C3E.8DBB6E9D@uci.edu>
Source record: 114519

Donnie wrote:
> Jesus Christ fellows will someboby please admit they were wrong and get on > with it!

A peer reviewed process would have ended this long ago.

Let's take a vote.

Aye, or nay:

Cecil's energy analysis and phenomenological descriptions are well
supported by physics and are scientifically sound.

I will submit to the consensus of the group.

73, Jim AC6XG

6968. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:37:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF38CA5.7000906@ieee.org>
Source record: 114520

Jim Kelley wrote:
>
> W5DXP wrote:

> You've taken an illustrative
> description, interpretted it incorrectly, and drawn your own
> conclusions.

Where can I get a license for omniscience like you have, Jim?

> If you thought you were correct, I'm sure you'd get Melles-Griot to
> corroborate your assertions.

Good idea. Stand by for their response.

>>I find it astounding that you refuse to accept the conservation of
>>energy principle. Everything I am saying falls out from that principle.

>>You are, once again, forced to assert that waves that are destroyed were
>>associated with zero energy.
>
> :-) I'm still waiting for your proof that waves are destroyed.

The reflected voltage is zero and the reflected current is zero, Jim.
That's destruction of the two rearward-traveling waves as defined in
none other than Dr. Best's QEX article.

>>What else can happen to waves traveling in the identical path that have
>>their amplitudes equal and their phases 180 degrees out?
>
> As far as you know? I suppose whatever suits your fancy is what happens
> to them.

Have you ever noticed that when you know you are wrong, you answer a straight-
forward question with a nonsense question and nonsense answer?

> I don't know. What does continue without energy mean? At any rate, Dr.
> Best is the first to observe that EM waves aren't destroyed.

Yep, his supernatural waves last forever unsupported by one iota of energy -
wooooooeeeee, wooooooeeeeee, wooooooeeeeee (supernatural sound effects).
--
73, Cecil http://www.qsl.net/w5dxp

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6969. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:39:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF38D17.30607@ieee.org>
Source record: 114521

Jim Kelley wrote:
>
> W5DXP wrote:
>>If they (waves) are smart enough and conscious
>>enough to refuse to be destroyed, Mother Nature executes them anyway.
>
> But she also takes the energy out of 'em right before that, ...

Of course she does, Jim, of course she does. (Somebody get the net!)
--
73, Cecil http://www.qsl.net/w5dxp

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6970. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 22:45:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF38E83.90602@ieee.org>
Source record: 114522

Jim Kelley wrote:
> I will submit to the consensus of the group.

Of course you would, Jim. You seem to love a diversion like
argumentum ad populum. We know what people like you did
to Galileo using those exact same methods.
--
73, Cecil http://www.qsl.net/w5dxp

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6971. Re: active antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:03:13 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3ef392ac$0$48891$edfadb0f@dtext02.news.tele.dk>
Source record: 114523

Hello Leo

> i don't need my Dressler ara 60 any more.
>
> 100 kHz-120 MHz, power supply 230 V to 12 V, BNC-cable for receiver and
> attentuator.

Where in the world is you located ??

Regards Max

6972. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:27:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF39844.D6168A49@uci.edu>
Source record: 114524

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
>
> > You've taken an illustrative
> > description, interpretted it incorrectly, and drawn your own
> > conclusions.

> Where can I get a license for omniscience like you have, Jim?

You could learn to read. That's what I do. Might be a good start.

> > If you thought you were correct, I'm sure you'd get Melles-Griot to
> > corroborate your assertions.
>
> Good idea. Stand by for their response.

I can't wait to see this if it's anything like the way you tried to turn
the negative responses from sci.physics.electromag around in your favor.
How about I put in a good word for you over there at M-G? :-)

> >>I find it astounding that you refuse to accept the conservation of
> >>energy principle. Everything I am saying falls out from that principle.
>
> >>You are, once again, forced to assert that waves that are destroyed were
> >>associated with zero energy.
> >
> > :-) I'm still waiting for your proof that waves are destroyed.
>
> The reflected voltage is zero and the reflected current is zero, Jim.
> That's destruction of the two rearward-traveling waves as defined in
> none other than Dr. Best's QEX article.

Unlike you, I don't presume to speak for Dr. Best. Cancellation is the
correct term. As I pointed out to you very early on, wave 'destruction'
is a misnomer. The correct term is superposition.

> >>What else can happen to waves traveling in the identical path that have
> >>their amplitudes equal and their phases 180 degrees out?
> >
> > As far as you know? I suppose whatever suits your fancy is what happens
> > to them.

> Have you ever noticed that when you know you are wrong, you answer a straight-
> forward question with a nonsense question and nonsense answer?

Don't like taking your own medicine, eh Cecil? No, the question has already been answered. I will comply and reiterate it. The waves continue to propagate, 180 degrees out of phase, transferring no energy. Although at 14 MHz each does "carry" a whopping 9.3e-27 Joules of energy per second away from the source.

73, ac6xg

6973. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:36:17 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306201536.9951ec7@posting.google.com>
Source record: 114525
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

"c" <no@spam.com> wrote in message news:<3ef2d26a$0$76762$1b62eedf@news.wanadoo.nl>...
> Hello All,
>
> Do you have nice amateur software
> on your computer wich is NOT in my
> list?
> PLEASE LET US KNOW, it's nice to compare,
> also for the other people in this news-group.
>
> The software list is also on my webte:
> http://www.qsl.net/pd0rkc

No DSP software? There are quite a few of those floating around. MK

6974. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:43:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF39C3A.3901240C@uci.edu>
Source record: 114526

W5DXP wrote:
>
> Jim Kelley wrote:
> > I will submit to the consensus of the group.
>
> Of course you would, Jim. You seem to love a diversion like
> argumentum ad populum. We know what people like you did
> to Galileo using those exact same methods.

If you are like Galileo, then I am like those people you're refering to
and what we now know about electromagnetic wave interference is wrong.

ac6xg

Aye, or nay:

Cecil's energy analysis and phenomenological descriptions are well
supported by physics and are scientifically sound.

6975. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:47:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF39D0E.6010602@ieee.org>
Source record: 114527

Jim Kelley wrote:
> W5DXP wrote:

> I can't wait to see this if it's anything like the way you tried to turn
> the negative responses from sci.physics.electromag around in your favor.

I was expecting negative responses from s.p.e but they weren't negative
at all. They said, given a classical fields and waves approach, I was right.
Sorry you missed those responses.

> How about I put in a good word for you over there at M-G? :-)

Well, I just tried their web page feedback and got some sort of error.
I will call them on Monday.

> Unlike you, I don't presume to speak for Dr. Best.

I don't speak for him either, Jim. I just quote what he said to me
in numerous postings. His denial of the existence of interference
at a transmission line match point is particularly interesting.

> The waves continue to propagate, 180 degrees out of phase,
> transferring no energy.

Where do they continue to propagate to, Jim? Beyond the edge of the
universe or what? How can waves continue to propagate devoid or any
energy content? Whhhhooooooeeeeeee, Whhhhhhooooooooeee, Whhhooooeeeeee, ...

Is any of the light from Alpha Centauri devoid of energy content?
You are very close to having to defend your earlier assertion that waves
can exist without any associated energy.

Jim, I'm worried about you. Only God can make things happen by thinking
about them. Did I miss God dying and putting you in charge?
--
73, Cecil http://www.qsl.net/w5dxp

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6976. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-20 23:52:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF39E2F.6090006@ieee.org>
Source record: 114528

Jim Kelley wrote:
> If you are like Galileo, then I am like those people you're refering to
> and what we now know about electromagnetic wave interference is wrong.

Change "we" to "I" and I will agree with you. What you think you
know about EM wave cancellation *IS* wrong. Jim, you have proven
beyond any doubt that you don't even understand the s-parameter
equations. What on earth makes you think that you understand
wave cancellation after not having a clue about s-parameters?
--
73, Cecil http://www.qsl.net/w5dxp

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6977. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 00:28:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF3A69E.A6CF587F@uci.edu>
Source record: 114530

The discussion here has degraded to the same level you took it to in our email discussion. I have no use for your insults. I design and build optics experiments among other things for the university, and have done so for 18 years. You on the other hand are a rote beginner. I have researched the subject and have consulted on the topic with my collegues at the university, and have conveyed the subject matter to you to the best of my ability. The explanations I have provided are substantiated in the physics literature. That you do not accept them is your problem. I do not pretend to be facil with s-parameters. However I am at a loss to explain why you object to my citing direct quotes from the reference you provided.

The conversation is ended. May you continue to languish in your conceited ignorance of the topic.

Regards,

Jim Kelley, AC6XG

W5DXP wrote:
> What you think you
> know about EM wave cancellation *IS* wrong. Jim, you have proven
> beyond any doubt that you don't even understand the s-parameter
> equations. What on earth makes you think that you understand
> wave cancellation after not having a clue about s-parameters?
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
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> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6978. Re: looking for DX prospecting sites!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 00:34:51 UTC
From: Jimnn7k@reno.rmci.net
Message-ID: <GBNIa.168$mc4.141@fe01.atl2.webusenet.com>
Source record: 114529
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.dx

Probably already got this one, but if not, try :
http://dxworld.com/50prop.html

actually several bands , and aurora (real time) -- Jim NN7K

"c" <no@spam.com> wrote in message
news:3ef2d26c$1$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Does someone knows good website
> for prospecting for aurora, ES?, tropo for
> the VHF, and UHF (SHF) bands.
>
> I trie to collect them for myself, and my
> home-page visitors.
>
> I do have already some intresting links, look
> at: http://www.qsl.net/pd0rkc (DX INFO).
>
> When you go to visit my page, please come
> back and tell me your links!
>
>
> 73's Cor
>
>
>
>

6979. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 00:45:44 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <8v97fv0tb2nfku9je5nl3vidl1t5qccdo4@4ax.com>
Source record: 114531

On Fri, 20 Jun 2003 15:35:42 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>Donnie wrote:
>> Jesus Christ fellows will someboby please admit they were wrong and get on > with it!
>
>A peer reviewed process would have ended this long ago.
>
>Let's take a vote.
>
>Aye, or nay:
>
>Cecil's energy analysis and phenomenological descriptions are well
>supported by physics and are scientifically sound.
>
>
>
>I will submit to the consensus of the group.
>
>73, Jim AC6XG

How about I send the both of you twenty bucks each and you argue with each other on the phone.
I'll throw a extra five spot each if needed to buy the smokes and coffee.

FUGGETIABOUTIT ALREADY.

Someone please wave the white hankie....

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

6980. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 00:50:50 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <psa7fvcilomeadifuonfletnqe0pfs7d30@4ax.com>
Source record: 114532

On Fri, 20 Jun 2003 17:28:14 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>The discussion here has degraded to the same level you took it to in our
>email discussion. I have no use for your insults. I design and build
>optics experiments among other things for the university, and have done
>so for 18 years. You on the other hand are a rote beginner. I have
>researched the subject and have consulted on the topic with my collegues
>at the university, and have conveyed the subject matter to you to the
>best of my ability. The explanations I have provided are substantiated
>in the physics literature. That you do not accept them is your
>problem. I do not pretend to be facil with s-parameters. However I am
>at a loss to explain why you object to my citing direct quotes from the
>reference you provided.
>
>The conversation is ended. May you continue to languish in your
>conceited ignorance of the topic.
>
>Regards,
>
>Jim Kelley, AC6XG
>
>W5DXP wrote:
>> What you think you
>> know about EM wave cancellation *IS* wrong. Jim, you have proven
>> beyond any doubt that you don't even understand the s-parameter
>> equations. What on earth makes you think that you understand
>> wave cancellation after not having a clue about s-parameters?
>> --
>> 73, Cecil http://www.qsl.net/w5dxp
>>
>> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
>> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
>> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

Could this be the end? I'm waiting to die.....
Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

6981. Re: J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 00:52:10 UTC
From: gmz79@aol.comnospam
Message-ID: <20030620205210.01961.00000007@mb-m10.aol.com>
Source record: 114533

The grounding is primarily to protect home and equipment. But then I
wondered, how does hanging a big chunk of wire off a metal thing
(jpole) affect how the j pole performs.

Here's My saga.
2m J-pole on 10ft pvc fifty feet from any structures.
tuned to < 1.5-1 from 144-148.
Mounted to 10ft steel mast and chimney straps < 2.1-1.
Added 10ft more mast < 1.7-1
added 8 ft more mast <2.5-1
added #8 CU wire from base of mast to Ground rod < 3.5-1
shortened #8 5 inchs <1.8-1
att. 19 inch wire to lower chimney strap and slid around perimeter
of chimney to lowest swr, <1.2-1 from 144-148
Done--
YMMV

73
KC*VIF

Greg Z
to thine own sound be true

6982. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 01:08:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3B023.9030200@ieee.org>
Source record: 114534

Jim Kelley wrote:
> The discussion here has degraded to the same level you took it to in our
> email discussion.

Translation: I cannot tolerate being proven wrong in public any
better than I can tolerate being proven wrong in private email.

Jim, I think I understand your confusion between temporary destructive
interference and permanent destruction of waves. It is/was an easy
mistake to make. You are right about the great majority of interference
patterns. You were just wrong about the one particular unusual
interference pattern that we were discussing.

> I do not pretend to be facil with s-parameters. However I am
> at a loss to explain why you object to my citing direct quotes from the
> reference you provided.

Someone forgot to tell you that you are not allowed to falsify a quote.
Why did you think the "a2=0" subscript in your "quote" gave you permission
to ignore the "a2=0" subscript in your quote?

> The conversation is ended. May you continue to languish in your
> conceited ignorance of the topic.

Heh, heh, translation: Your rational logic involving technical issues
is overwhelming my Sacred Cows and Old Wives' Tales acquired after
many years of seduction by the steady-state model.
--
73, Cecil, W5DXP

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6983. Re: STOP! Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 01:10:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3B097.90706@ieee.org>
Source record: 114535

Donnie wrote:
> Could this be the end? I'm waiting to die.....
> Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

You're gonna miss us when we're gone. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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6984. Re: Zenith 60 Console questions..

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 01:14:12 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <EjOIa.3434$pH3.892@news2.east.cox.net>
Source record: 114536

Good question! Wrong rec. group. BTW, having a bad
day? Chill out.

Uncle Pete

"Allodoxaphobia" <bit-bucket@config.com> wrote in message
news:slrnbf6r6t.8u5.bit-bucket@localhost.config.com...
> On Fri, 20 Jun 2003 20:17:46 GMT, Uncle Peter hath writ:
> > Anyone own a Zenith 60 console? I have one to restore
> > for my collection. The advertising photos in the Cones/Byant
> > book are very poor to work by...
>
> And , this has WHAT ALL !#$&*{?#@ to do with antennas?

6985. Schematics of PLUMBER's LOOP

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 01:21:59 UTC
From: "Nic. Santean" <nic@csd.uwo.ca>
Message-ID: <3ef3b2d0@shknews01>
Source record: 114537

I have been asked to make some drawings for
Plumber's Loop. I've done so: you can find the
description, drawings and pictures of the loop
at the following URL:

http://www.csd.uwo.ca/~nic/radio/radio.shtml

(not too much to draw, really)

Nic.

6986. Picking up local radio on telephone via DirecTV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 01:56:43 UTC
From: Tim C <tcurwick@verizon.net>
Message-ID: <vXOIa.3716$_q2.1358@nwrddc03.gnilink.net>
Source record: 114538

Some combination of my DirecTV satellite dish, coax cabling and/or receiver is picking up KSPA, 1510 AM, a local radio station with a transmitter less than a mile from my house. The receiver is then sending the signal onto my phone line, resulting in faint 40's swing music in the background of every conversation. (It can only be heard on my end.)

Disconnecting the receivers (I have two) from the phone line makes the music go away. Alternately, disconnecting the receivers from the cable to the dish also makes the music go away. Both receivers have been replaced with no change. Disconnecting the main phone line to the house also makes the music go away, but it appears that the telephone line is supplying the carrier voltage, not the signal.

Does anyone know how this is happening? Can anyone offer advice on shielding or a filter to eliminate the problem? I know almost nothing about radio. I have some familiarity with electronics and communications circuits.

Thanks,
Tim C

6987. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 02:20:11 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <mhPIa.486$BC3.128249@news20.bellglobal.com>
Source record: 114540

"W5DXP"
> Complete wave cancellation occurs when two coherent
> waves of opposite phases and equal amplitudes traveling
> in exactly the same path are destroyed and cease to exist.

Without meaning to be pedantic...

BWAHAHAHA... Sorry, excuse me. Where was I?

...shouldn't the above definition include explicit mention that the two waves need to traveling not only "...in exactly the same path..." BUT ALSO in the same direction (as opposed to the exactly opposite direction)?

After all, we certainly wouldn't want to get reflections and standing waves all mixed-up with "complete wave cancellation".

6988. Re: Picking up local radio on telephone via DirecTV

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 02:22:55 UTC
From: dplatt@radagast.org
Message-ID: <vf7gbvkcf0ip48@corp.supernews.com>
Source record: 114539

>Some combination of my DirecTV satellite dish, coax cabling and/or receiver
>is picking up KSPA, 1510 AM, a local radio station with a transmitter less
>than a mile from my house. The receiver is then sending the signal onto my
>phone line, resulting in faint 40's swing music in the background of every
>conversation. (It can only be heard on my end.)
>
>Disconnecting the receivers (I have two) from the phone line makes the music
>go away. Alternately, disconnecting the receivers from the cable to the
>dish also makes the music go away. Both receivers have been replaced with
>no change. Disconnecting the main phone line to the house also makes the
>music go away, but it appears that the telephone line is supplying the
>carrier voltage, not the signal.
>
>Does anyone know how this is happening? Can anyone offer advice on
>shielding or a filter to eliminate the problem? I know almost nothing about
>radio. I have some familiarity with electronics and communications
>circuits.

My guess is that the coax braid is probably acting as an antenna, and carrying the signal to the chassis of the DirecTV receiver. The audio is then leaking into the phone line path (possibly via surge-protection capacitors or varistors in the receiver's phone line DAA module). It's being rectified (detected) by a semiconductor junction somewhere along the way.

The remedies I'd suggest:

- Make sure that your DirecTV coax is grounded, just before it enters the building. Use a good static-grounding block with a pair of F connectors on it. Connect the block to an 8' ground rod hammered into the ground - put this ground rod and the coax-grounding block as close to the cable's entry-into-the-building as you can. "Bond" this ground rod to your house's main electrical ground point using a heavy-gauge (6-8 gauge) copper wire, in order to comply with the National Electric Code.

- Buy a telephone-line RFI filter, and also a big ferrite toroid or EI core. Plug the RFI filter into the DirecTV receiver. Wind the last foot or so of the phone line through the ferrite toroid a bunch of times, and then plug the last couple of free inches of it into the RFI filter. If necessary, repeat this process at each telephone in the house.

You might also try adding a few ferrite RFI filters to the coax which enters the house - i.e. between the grounding block and the house wall. The sort which clamp onto the outside of a wire or coax would

work... or, use another ferrite toroid, and wind the coax through it a
few times.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

6989. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 03:27:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF3D08D.30203@ieee.org>
Source record: 114541

J. Harvey wrote:
> ...shouldn't the above definition include explicit mention that the two
> waves need to traveling not only "...in exactly the same path..." BUT ALSO
> in the same direction (as opposed to the exactly opposite direction)?

Picky, picky, picky. I was using "path" in the vector sense. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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6990. Parabolic antenna for FWA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 05:43:56 UTC
From: Morten Trab <mortenREMOVE@trab.dk>
Message-ID: <1056174247.1382.0@demeter.uk.clara.net>
Source record: 114542

What type of head do I nead to make an FWA connection via my old parabilic antenna?

The FWA type i need to run uses 2,4 GHz...

--
Mvh. Morten Trab
--
Svar venligst kun i NG, med mindre det er MEGET vigtigt.
Ved mail, slet REMOVE i min adresse.

Web: http://www.blackchart.dk

6991. Re: Quad Loop question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 05:45:46 UTC
From: Bob <bcnntp@optusnet.com.au>
Message-ID: <aer0db-aqp.ln@p400bob.lse.com.au>
Source record: 114561

Hi John

For a while I was using a 10M/6M interlaced single quad element. I originally started with separate antennas fed with 1/4 wavelength 75r coax Q sections. When I interlace them there was no perceptible performace difference or major change in VSWR.

Not a very scientific measurement but it worked for me!

Cheers Bob VK2YQA

> OK, the problem with option b) as I see it: I can't find anything on the
> web that describes something similar to this. Maybe there is interaction
> between the elements? Also, the theoretic feed impedance of a quad loop at
> resonance is around 100 to 150 Ohms. Therefore I would need a 4:9 matching
> balun. I can't find the design for one of these on the web either.
>
> Am I doomed to option a) and will have to tune my ATU every time I change
> band?
>
> Comments please?!
>
>
> My other option is just run a Cushcraft vertical. It will be sitting on
> the beach in salt water. I'm erring towards the fibre-glass quad loop
> arrangement simply because of the lesser impact on excess-luggage and the
> ease of putting it in position.
>
>
>
>
> John
> G4IRN.
>
> (Best suggestions get a sched with FH/G4IRN and S79IRN in September:
> www.qsl.net/g4irn for further info).

6992. Re: J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 06:46:40 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306202246.3dcd27d2@posting.google.com>
Source record: 114543

gmz79@aol.comnospam (greg z) wrote in message
news:<20030620205210.01961.00000007@mb-m10.aol.com>...
> The grounding is primarily to protect home and equipment. But then I
> wondered, how does hanging a big chunk of wire off a metal thing
> (jpole) affect how the j pole performs.
>
> ------------------------
> Here's My saga.
> 2m J-pole on 10ft pvc fifty feet from any structures.
> tuned to < 1.5-1 from 144-148.
> Mounted to 10ft steel mast and chimney straps < 2.1-1.
> Added 10ft more mast < 1.7-1
> added 8 ft more mast <2.5-1
> added #8 CU wire from base of mast to Ground rod < 3.5-1
> shortened #8 5 inchs <1.8-1
> att. 19 inch wire to lower chimney strap and slid around perimeter
> of chimney to lowest swr, <1.2-1 from 144-148
> Done---
> YMMV
>
> 73
> KC*VIF

You can tell the decoupling leaves a bit to be desired. But fairly
normal, being most j-poles use no decoupling devices like radials or
sleeves, etc. MK

6993. Mizuho KX-2 atu

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 07:47:46 UTC
From: Des Wood <dezwood@clara.net>
Message-ID: <1056180762.16809.0@despina.uk.clara.net>
Source record: 114544

I need the original circuit so that I can restore this unit to original.

Any help appreciated

Des

6994. Re: nice amateur software!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 10:48:25 UTC
From: Sally <sallyx.parkinsx@ntlworld.com>
Message-ID: <bd1dd2$nmcpc$1@ID-40408.news.dfncis.de>
Source record: 114545
Cross-posted to: alt.ham-radio.vhf-uhf,de.comm.ham,rec.radio.amateur.antenna,rec.radio.amateur.dx,uk.radio.amateur

NuMorse Professional, like NuMorse but extra features.
NuCode, Koch based code training course
NuTest, for the Tech, General, Extra written tests
Above from the Nu-Ware website:
http://www.Nu-Ware.com

Code Weaver preview from http://www.nu-ware.com/Weaver/wdload.htm looks like
it will be useful when it is finished!

Sally

"c" <no@spam.com> wrote in message
news:3ef2d26a$0$76762$1b62eedf@news.wanadoo.nl...
> Hello All,
>
> Do you have nice amateur software
> on your computer wich is NOT in my
> list?
> PLEASE LET US KNOW, it's nice to compare,
> also for the other people in this news-group.
>
> The software list is also on my webte:
> http://www.qsl.net/pd0rkc
>
> PSK
> WinPSK v2.13 s
> n MIXWIN 2.07 s
> LOGGER 7.09 s
> LOGGER-UPDATE 8.07 s
>
> SSTV
> n CHROMAPIX V1.5.10 s
> MMSSTV 1.08 s
> n MSCAN V3.20 s
> n MIXWIN 2.07 s
> EZSSTV v3.0 m
> DL4SAW GSHPC V2.3 s
> JVFAX v.7.1 m
> n W95SSTV 1.10 s
> n RADIOCOM 4.0
>
> RTTY
> HAMCOM v3.1 m
> n MIXWIN 2.07 s

> MMTTY 1.65 s
> MORSE DECODER
> n CWGET v1.36 s
> MORSE TRAINER
> n NUMORSE 1.09
>
> PACKET
> AGWE 2002.308 s
> TPK v1.83 m
> n WINPACK 6.80 s
> TSTHOST V2.21B m
>
> APRS
> n UIVIEW2.39 s
>
> RTTY/CW/PACKET
> HAMSOPE 1.51 s
> BUZZER DECODER
> POCSAC v2.5 s
>
> ANTENNA
> DL6WU
>
> SATELLITE
> n NOVA 2.1q
> SATSCAPE 2.00
>
>
> INTERNET QSO
> ECHOLINK 1.5.832
>
> DB CALCULATIONS
> minidBcalculator 1.3.2
>
> EME/SCATTER
> wsjt300
>
> DTMF TONES
> dtmfdail
>
> KENWOOD TS-2000
> service manual
>
> LOGBOOK
> vqlog 2.3b
>
>
>

6995. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 11:38:07 UTC
From: richardharrison@webtv.net
Message-ID: <22605-3EF4439F-3@storefull-2311.public.lawson.webtv.net>
Source record: 114546

Roy, W7EL wrote:
"The complete wave cancellation" which you earlier insisted meant that both the voltage and current go to zero, doesn`t result in zero voltage and current?

I think total absorption causes total cancellation. Total reflection only requires total instantaneous elimination of only the E-field or the H-field, but not both.

Arnold B. Bailey suggests a qualitive review to serve as a background for a complicated subject. I`ll try a summary which I hope is accurate.

Reflection is caused by a change in the medium in which a wave travels, an impedance bump.

At an impedance bump, the wave may be absorbed, or redirected, or some of both.

There is a possibility that the changed medium offers a bumpless and lossless passage. It may be transparent.

Radiated energy creates a large wavefront in which different parts of the wavefront are encountering different conditions.

The summation of E vectors is additive when they are in phase. If they happen to cancel, no power will be noted, even though the components of the zero resultant are there, the resultant is still zero.

Arnold Bailey has much more. His book is "TV and Other Receiving Antennas". There was talk of a reprint and I don`t know if it has been reprinted. I think it would be worth a high price.

Best regards, Richard Harrison, KB5WZI

6996. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 12:15:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF44C57.50809@ieee.org>
Source record: 114547

Richard Harrison wrote:
> Roy, W7EL wrote:
> "The complete wave cancellation" which you earlier insisted meant that
> both the voltage and current go to zero, doesn`t result in zero voltage
> and current?
>
> I think total absorption causes total cancellation. Total reflection
> only requires total instantaneous elimination of only the E-field or the
> H-field, but not both.

But in the case of the two rearward-traveling reflected waves canceling at
a match point, both the rearward-traveling E-field and H-field go to zero
at the same time. Even a "virtual short" will not do that. Thus it is not
ordinary reflection.

The ratio of the rearward-traveling E-field to H-field is Z01.
The ratio of the new E-field to H-field traveling in the opposite direction
after the wave cancellation is Z02. Not only is the direction of flow of
the energy reversed but the ratio of E-field to H-field is also transformed
from the rearward Z01 value to the forward Z02 value.
--
73, Cecil http://www.qsl.net/w5dxp

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6997. Re: Quad Loop question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 12:20:15 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF44D7F.93C77628@cwis.net>
Source record: 114548

John,
Of the two choices (A) or (B), I would use (A). And
yes, you'd have to retune for different bands. There are
a number of other choices. One would be to use the pole
as a support for half of a 66 foot doublet, let the other
half lay on the ground. You would still need the ATU and
have to retune for each band, but...
'Doc

6998. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 15:27:21 UTC
From: richardharrison@webtv.net
Message-ID: <22603-3EF47959-22@storefull-2311.public.lawson.webtv.net>
Source record: 114549

Cecil, W5DXP wrote:
"But in the case of two rearward-traveling waves (E and H, I suppose) cancelling at a match point (a virtual short?), both the rearward-traveling E-field and H-field go to zero "at the same time".

A mismatch causes reflection but the wave traveling in either direction on a uniform transmission line has a voltage to current ratio of Zo regardless of the impedance on either end.

John E. Cunningham in "The Complete Broadcast Handbook" tries to explain how a short-circuit reverses only the phase of the voltage and not the current to reverse the direction of the EM wave at the line short:

"The situation where the receiving end (wave destination) of the line is shorted is shown in Fig. 2-7. In Fig. 2-7B, because the end of the line is shorted, we end the equivalent circuit with an inductance (a capacitor connected across the shorted end of the line would have no effect). As in the case where the end of the line was open, when the switch is closed a voltage wave of 50V travels down the line. Just ahead of the wave the voltage across the line is zero, and just behind the wave it is 50V. At the instant the wave reaches the end of the line (Fig. 2-7B) there is nothing to limit the current in the inductor (no subsequent line inductance to generate counter-emf) and it (the current) increases until the induced voltage (in the final inductance) is just high enough to reduce the voltage (in the Fig.) across the last capacitor to zero. Note that the current is in the same direction, but that the induced voltage has the opposite polarity (is a counter-emf) of that traveling down the line from the source. A very short time later the voltage rises across the preceding inductance and discharges the next capacitor (back from the short in the Fig.) Thus there is a reflected wave of 50V that is out of phase with the original wave as shown in Fig. 2-7C.

Cunningham goes on and on but this posting is already too long. Point is, only the volts are forced to zero by a short. All the energy of the E-field is forcibly transferred to the H-field by the short. Regeneration of the voltage creates the reflected wave.

Best regards, Richard Harrison, KB5WZI

6999. Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 16:39:19 UTC
From: billvnce@aol.com
Message-ID: <20030621123919.21463.00000931@mb-m05.aol.com>
Source record: 114550

Looking for someone to help model on eznec a multielement antenna system I have on my Chevy pickup truck. Would like to include the ground plane of truck etc, as far as eznec I am clueless. I have a picture of the setup and all element lengths, and size of ground plane etc. I just don't know how to input for a correct reading. Any help appreciated. Please email if you would like to help. I would reimburse for your time if necassary.

7000. Re: "Ringo Rranger Matching "

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 16:48:18 UTC
From: fmmck@aol.com
Message-ID: <20030621124818.09383.00000984@mb-m29.aol.com>
Source record: 114551

<< I have a ringo ranger 2 mtr ant minus the "ringo"
matching unit. Is there a different type of matching
unit i can make that will make this ant operable? >>

Marvin-

Take a look at the J-Pole antenna. You may be able to fabricate a similar
matching system using either aluminum rods or just 300 Ohm twin lead.

In fact, there is a do-it-yourself J-Pole design on the web made of 300 Ohm
twin lead. Encapsulating one in a PVC pipe would make a nice, inexpensive
antenna, depending on how much PVC costs!

73, Fred, K4DII

7001. Be SURE to oppose Broadband Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 17:11:12 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0306210911.5ab4f06c@posting.google.com>
Source record: 114552
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

BE SURE TO FILE YOUR COMMENTS WITH THE FCC. You can do this easily and conveniently at:

http://gullfoss2.fcc.gov/ecfs/Upload/

Just select "Broadband Over Power Line (BPL) - Docket 03-104" and press Continue.

If you don't know what all this is about, go to:
http://www.arrl.org/news/stories/2003/05/08/3/#noi

Jason Hsu, AG4DG

7002. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 17:15:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF492A8.4080807@ieee.org>
Source record: 114553

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "But in the case of two rearward-traveling waves (E and H, I suppose)
> cancelling at a match point (a virtual short?), both the
> rearward-traveling E-field and H-field go to zero "at the same time".
>
> A mismatch causes reflection but the wave traveling in either direction
> on a uniform transmission line has a voltage to current ratio of Zo
> regardless of the impedance on either end.

That's true of a single wave. Here are two rearward-traveling waves with
a V/I ratio of 50 ohms that superpose with each other. What is the outcome
of superposition? Here are the two rearward-traveling waves.

Wave 1: 35.36 volts at zero deg, 0.707 amps at 180 degrees.
Wave 2: 35.36 volts at 180 deg, 0.707 amps at zero degrees.

What do you get when you superpose (add) those two rearward-traveling waves?

Answer: Zero volts and zero amps. That is wave cancellation. Those two
rearward-traveling waves cease to exist.

> John E. Cunningham in "The Complete Broadcast Handbook" tries to explain
> how a short-circuit reverses only the phase of the voltage and not the
> current to reverse the direction of the EM wave at the line short:

Richard, we are not talking about a short circuit - we are talking about
a match point. There is NO short or open at a match point. There is only
the physical impedance discontinuity, e.g. |rho| = 0.5, in the following:

-----50 ohm feedline--------+--------150 ohm feedline-----------
100W forward, 0W reflected 133.33W forward, 33.33W reflected

Where's the short?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7003. Copper Cactus

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 17:29:39 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bd24m7$ohbvv$1@ID-134747.news.dfncis.de>
Source record: 114554

I am in the process of building a "Copper Cactus"
(a multi band J-Pole). I have all the parts cut
for the antenna except the 6 meter matching
section. When, AND IF, the rain stops I will cut
it and begin to assemble the beast. Building for
432/144/54 bands. You start to tune this beast,
from the top down. For the bottom two sections I
will use my MFJ-259. I want to minimize
transmission time into a possible mismatch so I am
going to see what happens if I use the "259" as
part of the high band tune up. 432 and 144 are
nicely related that way. Any actual experience
out there.

--
73 es cul

wb3fup
a Salty Bear

7004. Re: Maldol Yagi (2m / 70cm)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 17:35:05 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <dH0Ja.51398$hz1.126328@sccrnsc01>
Source record: 114555

Holger -

Are you referring to the Maldol Fox Series HF-FOX 727 antenna??
http://maldol.co.jp/amate/antcat3.html#fox

Greg
W9GB

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
"Holger Fiala" <holger.fiala@a-city.de> wrote in message
news:3EF1E9D0.5020902@a-city.de...
> Dear all,
>
> I bought a second hand maldol yagi. unfortunately it seems, that the
> elements were not marked correct during disassembling. So I tried my
> best and assembled according the picture on maldols Japan homepage.
> during first test I tried to adjust SWR. Until now I did not get a
> better SWR, 2m -> 1:3,0 and 70cm -> 1:2.4 I could not belief that this
> is the best what this antenna can reach. So maybe I did not assemble
> correct or anything else. know my question, is here a radio ham who has
> also experience with his antenna. I need some tips to adjust the yagi.
>
> best regards (73)
>
> Holger (DO3HF)
>

7005. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 18:15:21 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd27bp$d6m$1@hercules.btinternet.com>
Source record: 114556

"BillVnce" wrote ...
> Looking for someone to help model on eznec a multielement antenna system
I
> have on my Chevy pickup truck. Would like to include the ground plane of
truck
> etc, as far as eznec I am clueless. I have a picture of the setup and all
> element lengths, and size of ground plane etc. I just don't know how to
input
> for a correct reading. Any help appreciated. Please email if you would
like to
> help. I would reimburse for your time if necassary.

==========

To save save several weeks teaching yourself how to use Eznec and another several weeks of using it for experimental modelling of yagis, etc., above a completely indeterminate ground plane of a Chevy pickup truck (What vintage? Suppose it was a Ford), your best plan is to copy an already-designed working, proven, antenna which I'm sure somebody who is already using one will willingly recommend. That's where you will probably end-up in any case.

If your ultimate purpose is to educate yourself on antenna design there is no alternative but to do it the long, hard way with Eznec.

Just very briefly describe to the newsgroup what performance you would like from it (You will have to begin with that anyway), plus the antenna's purpose, not forgetting exact operating frequency, and see what happens.

Good luck old man. You will probably need some. ;o)

But I must reassure you by saying almost anything will work. Radio is by far the most inexact of all the engineering fields. A dB here and a dB there is of little consequence. There's no such thing as failure in amateur radio !

Reg, G4FGQ.

7006. Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 18:36:36 UTC
From: Ron <rons533@dejazzd.com>
Message-ID: <3EF4A4A5.34C3@dejazzd.com>
Source record: 114557

I am now using a 40 meter inverted V fed with coax as my only HF antenna. I want to operate 10-15-17 and 20 meters also. I took a look at the G5RV and want to homebrew one. By using the open wire feed line am I more susceptible to RF in the shack and RFI?
I live in a neighborhood where the homes are very close together and my antenna would be only be 30 feet from my neighbor. I don't want to have problems with the neighbors.

7007. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 19:10:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4ADAD.2060608@ieee.org>
Source record: 114558

Ron wrote:
> I am now using a 40 meter inverted V fed with coax as my only HF
> antenna. I want to operate 10-15-17 and 20 meters also. I took a look at
> the G5RV and want to homebrew one. By using the open wire feed line am I
> more susceptible to RF in the shack and RFI?
> I live in a neighborhood where the homes are very close together and my
> antenna would be only be 30 feet from my neighbor. I don't want to have
> problems with the neighbors.

If you are careful how you run the open-wire line, you shouldn't have any more feedline radiation (RFI) than you do with coax. My advice is just to feed your 40m inv-V with 450 ohm window-line. That would be the easiest way for you to get on 10m-30m. A 66' window-line fed dipole is described on my web page. Covers all HF bands except 75m.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7008. Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 20:14:13 UTC
From: "Eric C. Weaver" <weav@sigma.net>
Message-ID: <3ef4bc96$1@news.announcetech.com>
Source record: 114559

I have recently come to work for an outfit that does a fair bit of public-safety RF stuff, and might get the use of a pass cavity for around 152 MHz.

What I'd really like is a notch for 152.48, where a pager transmitter causes my little V/U handheld all manner of grief when on the outdoor antenna at home.

Is there any simple way to take a pass cavity and make it reject? Tee it onto the line and leave the output port open, perhaps? I'd like this to be "transparent" except for the vicinity of the notch.

Thanks for whatever you can tell me.

--
Eric Weaver -- weav@sigma.net -- NW6E

7009. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 20:58:29 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2gth$nthrk$1@ID-175933.news.dfncis.de>
Source record: 114560

If the antenna itself radiates most of the tx output power, should RFI at the neighbors much be affected by the antenna feed line?

That is, if the natural impedance of the transmission line matches the antenna input impedance, radiation from the line will be an insignificant part of the total radiation from the antenna system.

RF

Visit http://rfry.org for FM broadcast RF system papers

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EF4ADAD.2060608@ieee.org...
> Ron wrote:
> > I am now using a 40 meter inverted V fed with coax as my only HF
> > antenna. I want to operate 10-15-17 and 20 meters also. I took a look at
> > the G5RV and want to homebrew one. By using the open wire feed line am I
> > more susceptible to RF in the shack and RFI?
> > I live in a neighborhood where the homes are very close together and my
> > antenna would be only be 30 feet from my neighbor. I don't want to have
> > problems with the neighbors.
>
> If you are careful how you run the open-wire line, you shouldn't have any
> more feedline radiation (RFI) than you do with coax. My advice is just to
> feed your 40m inv-V with 450 ohm window-line. That would be the easiest
> way for you to get on 10m-30m. A 66' window-line fed dipole is described
> on my web page. Covers all HF bands except 75m.

7010. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 21:05:36 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ef4ca59_3@news1.prserv.net>
Source record: 114562

Eric:

It's been about 20 years since I did last this, but you are on the right track. I recall an additional stub at the "T" into the cavity, however, and I have no idea where my notes on this are, or why it was there. Probably to bring the impedance at the pass frequencies back under control. DB Products used to provide some useful information in this regard, before Allen took over. See if you can locate a repository of old DB App notes from the 60s. Or hook up to a good network analyzer and tune away.

--
Crazy George
W5VPQ
Remove NO and SPAM from return address
"Eric C. Weaver" <weav@sigma.net> wrote in message
news:3ef4bc96$1@news.announcetech.com...
>
> I have recently come to work for an outfit that does a fair bit of
> public-safety RF stuff, and might get the use of a pass cavity for around
152
> MHz.
>
> What I'd really like is a notch for 152.48, where a pager transmitter
causes
> my little V/U handheld all manner of grief when on the outdoor antenna at
home.
>
> Is there any simple way to take a pass cavity and make it reject? Tee it
onto
> the line and leave the output port open, perhaps? I'd like this to be
> "transparent" except for the vicinity of the notch.
>
> Thanks for whatever you can tell me.
>
> --
> Eric Weaver -- weav@sigma.net -- NW6E
>

7011. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 21:17:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf9irf8j0k5fba@corp.supernews.com>
Source record: 114563

The impedance match has nothing to do with the amount the line will radiate. A perfectly matched line can radiate badly, and a badly matched line can radiate very little. In the sort of multiband antenna the original poster described, the line will inevitably be very mismatched on some, and probably all, bands. This doesn't at all cause line radiation.

What matters is the balance of current between the two feedline conductors. If the currents are equal in magnitude and out of phase, the line will radiate very little. The reason is that the field from one conductor is equal to and opposite from the field from the other. If they're not balanced like that, the line will radiate. Although a balun can help, it's difficult to construct a balun which will work well on a single non-resonant antenna, because of the large range of impedances that might be encountered. The most reliable way to insure current balance on that sort of setup is to use a balanced tuner. Although the antenna is symmetrical, non-symmetrical feeding systems can cause line imbalance.

A measure of the imbalance is the common mode current. One definition of common mode current(*) is Icm = 1/2(I1 + I2) where I1 and I2 are the (complex) values of currents in the two conductors, with positive being defined in the same direction for both. If I1 and I2 are perfectly balanced, I2 = -I1 and the common mode current will be zero. If common mode current is present, the feedline will radiate just as though there were Icm flowing on each wire of the feedline in phase, or 2*Icm flowing on a single wire.

(*) Common mode current is sometimes defined without the 1/2 factor, in which case line radiation is the same as it would be with Icm (by this definition) flowing on a single wire.

Roy Lewallen, W7EL

Richard Fry wrote:
> If the antenna itself radiates most of the tx output power, should RFI at
> the neighbors much be affected by the antenna feed line?
>
> That is, if the natural impedance of the transmission line matches the
> antenna input impedance, radiation from the line will be an insignificant
> part of the total radiation from the antenna system.

7012. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 21:31:13 UTC
From: jgboyles@aol.com
Message-ID: <20030621173113.27102.00001852@mb-m06.aol.com>
Source record: 114564

>Looking for someone to help model on eznec a multielement antenna system I
>have on my Chevy pickup truck. Would like to include the ground plane of
>truck

What type of answers do you want from Eznec. Do you want SRC data so you will know how to feed the antenna, or do you want to know the pattern of the antenna, or do you want to know the effect of antenna placement over various sections of the truck?
What bands are you planning on using? Also, exactly what type of multielement antenna are you trying to model?
I have seen models using just wires to form the outline of a vehicle. This approach should approximate the ground plane of the truck.

73 Gary N4AST

7013. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 21:43:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4D18F.6010803@ieee.org>
Source record: 114565

Richard Fry wrote:
> That is, if the natural impedance of the transmission line matches the
> antenna input impedance, radiation from the line will be an insignificant
> part of the total radiation from the antenna system.

A balanced antenna fed with unbalanced feedline is technically
not "matched". :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7014. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 21:59:57 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2kgo$o5b5c$1@ID-175933.news.dfncis.de>
Source record: 114566

Please give examples of each concerning coaxial transmission line. Are you assuming that the source Z matches the line Z?

RF

Roy Lewallen" <w7el@eznec.com> wrote in message
news:vf9irf8j0k5fba@corp.supernews.com...
> The impedance match has nothing to do with the amount the line will
> radiate. A perfectly matched line can radiate badly, and a badly matched
> line can radiate very little.

7015. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 22:31:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2mc8$oc3fc$1@ID-175933.news.dfncis.de>
Source record: 114567

Virtually ALL commercial FM broadcast antennas are designed for, and use 50 ohm, unbalanced, coaxial transmission line to drive vertically collinear arrays of dipole radiators.

RF

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message news:3EF4D18F.6010803@ieee.org...
> Richard Fry wrote:
> > That is, if the natural impedance of the transmission line matches the
> > antenna input impedance, radiation from the line will be an insignificant
> > part of the total radiation from the antenna system.
>
> A balanced antenna fed with unbalanced feedline is technically
> not "matched". :-)
> --
> 73, Cecil http://www.qsl.net/w5dxpServers!

7016. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 22:32:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf9n88365ihq59@corp.supernews.com>
Source record: 114568

A ground-mounted 5/8 wave vertical antenna fed with 50 ohm coax, with no matching network at the base, will present a bad impedance match to the transmission line. The line will have a high SWR. The line won't radiate.

A resonant dipole with a 75 ohm input impedance fed with 75 ohm coax will be well matched. If the distance along the outside of the feedline and other conductive paths to ground (e.g., a rig's connection to ground) is approximately a half wavelength, the line will radiate considerably.

The source match has no effect on either the transmission line's SWR or its current balance (that is, how much it will radiate). However, the balance of the connection at the source does imact the current balance. For example, if you feed a dipole with an open wire line, both the line and the dipole are symmetrical. But if you plug one conductor of the line into the center of your rig's coax output connector and connect the other coductor to the rig's chassis, the line will sho' 'nuff radiate.

Neither the match at the load end nor the match at the source end have anything to do with whether or not the transmission line radiates. It's a myth that dies hard.

Roy Lewallen, W7EL

Richard Fry wrote:
> Please give examples of each concerning coaxial transmission line. Are you
> assuming that the source Z matches the line Z?
>
> RF
> _________
>
> Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vf9irf8j0k5fba@corp.supernews.com...
>
>>The impedance match has nothing to do with the amount the line will
>>radiate. A perfectly matched line can radiate badly, and a badly matched
>>line can radiate very little.
>
>
>

7017. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 22:45:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf9o0ijuomtj7d@corp.supernews.com>
Source record: 114469

If you'll take a good look at how these are fed, you'll find that it's done in a way that prevents current from flowing on the outside of the coax. That is, the feed system results in balanced conductor currents.

Not everyone agrees with Cecil's interpretation of "matched", but I have no intention of getting into an argument with him about definitions. When unbalanced currents exist on a transmission line, the problem is usually separated into two parts, an "odd mode" and an "even mode", also known as "differential mode" and "common mode". (There are additional modes if more than two conductors are involved.) The odd, differential, or "transmission line" currents represent the purely differential component of the currents. In the case of coax, these are inside the shield. Normal transmission line analysis can be done with this "mode" independently of the even mode conditions. And the line can be perfectly or imperfectly matched with regard to this mode. The even mode, common mode, or "antenna" currents are analyzed separately. They, and they alone cause radiation, and can be analyzed as part of the antenna, rather than part of the idealized transmission line. In the case of coax, the common mode current is conveniently physically separate from the differential mode current -- it's on the outside of the shield.

So the transmission line can be matched, by virtue of a proper match for the differential mode currents, while still having a common mode current which causes radiation.

Roy Lewallen, W7EL

Richard Fry wrote:
> Virtually ALL commercial FM broadcast antennas are designed for, and use 50
> ohm, unbalanced, coaxial transmission line to drive vertically collinear
> arrays of dipole radiators.
>
> RF
> ----------
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EF4D18F.6010803@ieee.org...
>
>>Richard Fry wrote:
>>
>>>That is, if the natural impedance of the transmission line matches the
>>>antenna input impedance, radiation from the line will be an
>
> insignificant
>

>>>part of the total radiation from the antenna system.
>>
>>A balanced antenna fed with unbalanced feedline is technically
>>not "matched". :-)
>>--
>>73, Cecil http://www.qsl.net/w5dxpServers!
>
>
>

7018. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:02:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2o5o$o6og5$1@ID-175933.news.dfncis.de>
Source record: 114470

RE: 2nd sentence quoted below...

BUT, this is the EXACT configuration chosen by the designers of FM & TV broadcast transmitters and antenna systems for the last 40+ years. Have they been wrong all this time? Is this a just a perspective of a "ham" vs commercial approach? Or does the same physics apply, regardless.... ?

RF

----- Original Message -----
From: "Roy Lewallen" <w7el@eznec.com>

> For example, if you feed a dipole with an open wire line, both the line
> and the dipole are symmetrical. But if you plug one conductor of the
> line into the center of your rig's coax output connector and connect the
> other coductor(sic) to the rig's chassis, the line will sho' 'nuff
radiate.

7019. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:11:15 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <nC5Ja.5827$pH3.814@news2.east.cox.net>
Source record: 114471

Try a tee connector with an electrical quarterwave line going to
one port in the cavity.

Tune the cavity to 152.48. At reasonance, the cavity will act like
a high impedance shunt, and the 1/4 line will become a suckout
filter. At other frequencies, the coupling loop shorts the quarterwave
line and it will work at as a broad bandpass... You may have to play
with the coupling loop size to get best results.

Pete

"Eric C. Weaver" <weav@sigma.net> wrote in message
news:3ef4bc96$1@news.announcetech.com...
>
> I have recently come to work for an outfit that does a fair bit of
> public-safety RF stuff, and might get the use of a pass cavity for around
152
> MHz.
>
> What I'd really like is a notch for 152.48, where a pager transmitter
causes
> my little V/U handheld all manner of grief when on the outdoor antenna at
home.
>
> Is there any simple way to take a pass cavity and make it reject? Tee it
onto
> the line and leave the output port open, perhaps? I'd like this to be
> "transparent" except for the vicinity of the notch.
>
> Thanks for whatever you can tell me.
>
> --
> Eric Weaver -- weav@sigma.net -- NW6E
>

7020. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:27:15 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <nR5Ja.2294$hY1.209974@news20.bellglobal.com>
Source record: 114474

"JGBOYLES"
> I have seen models using just wires to form the outline of a vehicle.
> This approach should approximate the ground plane of the truck.

Just for laughs, here is another approach.
http://www.demon.co.uk/asl/cadillac.html
(Excuse the Cadillac versus truck, but you get the idea.)

7021. Re: aluminium joints, vaseline or conductive grease?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:28:40 UTC
From: R P Haviland <bobh@iag.net>
Message-ID: <IS5Ja.59179$Io.5535315@newsread2.prod.itd.earthlink.net>
Source record: 114472

Many hardware and plumbing stores sell a pipe joint compound, a grease containing zinc powder; With it I have taken joints apart after 5 years in Florida, with no problem and no corrosion.
bob w4mb

7022. Re: aluminium joints, vaseline or conductive grease?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:28:47 UTC
From: R P Haviland <bobh@iag.net>
Message-ID: <PS5Ja.59180$lo.5535315@newsread2.prod.itd.earthlink.net>
Source record: 114473

Many hardware and plumbing places sell A pipe thread compound, a grease with zinc powder. It works great.

7023. Re: Quad Loop question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:49:33 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <_EidnQs9MsShcmmjXTWJiA@comcast.com>
Source record: 114475

John,

If you make the loop twice as high as wide, instead of square, the impedance
will be 50 Ohms. For instance 146 x 292 inches for 20 m.

Tam/WB2TT
"John" <my-callsign@qsl.net> wrote in message
news:vDKIa.2648$j21.169736@newsfep1-win.server.ntli.net...
> I am thinking of using a quad loop arrangement to operate on all bands
> between 20m and 10m. on a forthcoming /P trip. I will use a 10mtr (33ft)
> fibre glass vertical pole with cross-arms to form the quad spreaders.
>
>
> What is the preferred solution?
>
> a) A single full wave loop on 20mtrs that I feed with 450 Ohm feeder and
> tune through an ATU to achieve low SWR (but sadly, not resonance) on all
> bands, maybe breaking the loop opposite the feed-point on 10m & 12m.
>
> b) Nested loops on the spreader - one for each band at a full wavelength
> each. I would bring the wire ends to a single coax feed. Multiple
> resonances, one on each band.
>
>
> OK, the problem with option b) as I see it: I can't find anything on the
> web that describes something similar to this. Maybe there is interaction
> between the elements? Also, the theoretic feed impedance of a quad loop at
> resonance is around 100 to 150 Ohms. Therefore I would need a 4:9 matching
> balun. I can't find the design for one of these on the web either.
>
> Am I doomed to option a) and will have to tune my ATU every time I change
> band?
>
> Comments please?!
>
>
> My other option is just run a Cushcraft vertical. It will be sitting on
the
> beach in salt water. I'm erring towards the fibre-glass quad loop
> arrangement simply because of the lesser impact on excess-luggage and the
> ease of putting it in position.
>
>
>
>

> John
> G4IRN.
>
> (Best suggestions get a sched with FH/G4IRN and S79IRN in September:
> www.qsl.net/g4irn for further info).
>
>
>
>

7024. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:51:09 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2r1a$ohv5g$1@ID-175933.news.dfncis.de>
Source record: 114476

I do know how broadcast FM/TV arrays are fed, thanks.

Are not the currents on the inner and outer conductors of the coax feedlines for these systems everywhere equal for FM/TV dipole arrays when the Z of the feedline equals the Z of the dipole array?

This system configuration has been used by the designers of commercial FM and TV RF system designers for 40+ years, and seems to have well-proven by theory and practice. Do you have evidence to the contrary?

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vf9o0ijuomtj7d@corp.supernews.com...
> If you'll take a good look at how these are fed, you'll find that it's
> done in a way that prevents current from flowing on the outside of the
> coax. That is, the feed system results in balanced conductor currents.
---major clippage---
>so the transmission line can be matched, by virtue of a proper match for
> the differential mode currents, while still having a common mode current
> which causes radiation.
>
> Roy Lewallen, W7EL
>
> Richard Fry wrote:
> > Virtually ALL commercial FM broadcast antennas are designed for, and use
50
> > ohm, unbalanced, coaxial transmission line to drive vertically collinear
> > arrays of dipole radiators.

7025. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:52:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4EFBD.4080908@ieee.org>
Source record: 114477

Richard Fry wrote:
> Virtually ALL commercial FM broadcast antennas are designed for, and use 50
> ohm, unbalanced, coaxial transmission line to drive vertically collinear
> arrays of dipole radiators.

My Comet 2x4Max FM transmitting antenna is vertical collinear arrays of
dipole radiators but the feedpoint is not balanced. Feeding a balanced
antenna with an unbalanced feedline is a good way to cause common-mode
currents and feedline radiation.
--
73, Cecil http://www.qsl.net/w5dxp

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7026. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:54:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4F032.1010907@ieee.org>
Source record: 114478

Roy Lewallen wrote:
> Not everyone agrees with Cecil's interpretation of "matched", ...

Since I put it in parentheses, it can mean almost anything. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7027. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-21 23:57:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4F0FB.901@ieee.org>
Source record: 114479

Richard Fry wrote:
> This system configuration has been used by the designers of commercial FM
> and TV RF system designers for 40+ years, and seems to have well-proven by
> theory and practice. Do you have evidence to the contrary?

Do those antenna systems have a ground plane?
--
73, Cecil http://www.qsl.net/w5dxp

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7028. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 00:06:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf9soobejrtob5@corp.supernews.com>
Source record: 114480

Which is why it's a waste of time and energy to argue with you about definitions.

Roy Lewallen, W7EL

W5DXP wrote:
> Roy Lewallen wrote:
>
>> Not everyone agrees with Cecil's interpretation of "matched", ...
>
>
> Since I put it in parentheses, it can mean almost anything. :-)

7029. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 00:12:06 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2s8h$odl3c$1@ID-175933.news.dfncis.de>
Source record: 114481

Please give us specifics.

Assume a single 1/2-wave, resonant dipole fed by 73 ohm coax. What amount
of the total radiated field is attributable to radiation from the coax?

RF

Visit http://rfry.org for FM broadcast RF system papers.

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF4EFBD.4080908@ieee.org...
> Richard Fry wrote:
> > Virtually ALL commercial FM broadcast antennas are designed for, and use
50
> > ohm, unbalanced, coaxial transmission line to drive vertically collinear
> > arrays of dipole radiators.
>
> My Comet 2x4Max FM transmitting antenna is vertical collinear arrays of
> dipole radiators but the feedpoint is not balanced. Feeding a balanced
> antenna with an unbalanced feedline is a good way to cause common-mode
> currents and feedline radiation.
> --
> 73, Cecil http://www.qsl.net/w5dxpServers

7030. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 00:22:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vf9tllntbhghe5@corp.supernews.com>
Source record: 114482

Richard Fry wrote:
> I do know how broadcast FM/TV arrays are fed, thanks.
>
> Are not the currents on the inner and outer conductors of the coax feedlines
> for these systems everywhere equal for FM/TV dipole arrays when the Z of the
> feedline equals the Z of the dipole array?

The current on the outside of the feedline has nothing to do with the impedance match, as I said before. I suggest you take a look at "Baluns: What They Do and How They Do It", in the ARRL Antenna Compendium, Vol. 1; "Some Aspects of the Balun Problem" (Maxwell), in QST, March 1983; _Elecromagnetic Waves and Radiating Systems_ (Jordan and Balmain), p. 406; or _Antennas_ (Kraus), 2nd Ed., p. 741 if you're really interested in learning what causes current to flow along the outside of a coax feedline.

> This system configuration has been used by the designers of commercial FM
> and TV RF system designers for 40+ years, and seems to have well-proven by
> theory and practice. Do you have evidence to the contrary?

No, I don't. I don't in fact, have any evidence that TV and FM broadcasters don't load up womens' corsets for antennas. But I'm hoping that you, with your commercial broadcasting background, can direct us to some pictures that show exactly how typical commercial antennas are in fact fed.

Roy Lewallen, W7EL

7031. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 00:25:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF4F78D.80400@ieee.org>
Source record: 114483

Richard Fry wrote:
> Assume a single 1/2-wave, resonant dipole fed by 73 ohm coax. What amount
> of the total radiated field is attributable to radiation from the coax?

It depends on a lot of factors including the length of the coax. If the path back to ground down the outside braid of the coax is an even number of electrical 1/2WL's, the coax braid can present a lower impedance than the dipole to which it is connected. I would say 40% of the source power radiated from the feedline would not be completely outside the bounds of probability. If you are trying to radiate horizontally polarized RF, that can be quite a worst case problem.

On this subject, I bow to the experts. In the ARRL Antenna Compendium, Volume 1, is an article by some obscure author :-) that explains almost everything you are asking about. The title is, "Baluns: What They Do And How They Do It."
--
73, Cecil http://www.qsl.net/w5dxp

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7032. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 00:51:57 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd2uj9$of20h$1@ID-175933.news.dfncis.de>
Source record: 114484

RE: Below

I humbly suggest that you investigate this subject for yourself, to your (high) satisfaction. Apparently there is a gulf between amateur radio, and commercial broadcast antenna system applications.

Yes -- bedsprings, aluminum eavestroughs, and metal garage doors WILL radiate. Even, as you post, women's corsets (if you refer to their metal stays). But how efficiently???

I must confess to a bit of disappointment in your response, but maybe it was hyperbole?

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Roy Lewallen" <w7el@eznec.com> wrote in message news:vf9tllntbhghe5@corp.supernews.com...
> > This system configuration has been used by FM and TV RF system
> > designers for 40+ years, and seems to have been well-proven by
> > theory and practice. Do you have evidence to the contrary?
>
> No, I don't. I don't in fact, have any evidence that TV and FM
> broadcasters don't load up womens' corsets for antennas. But I'm hoping
> that you, with your commercial broadcasting background, can direct us to
> some pictures that show exactly how typical commercial antennas are in
> fact fed.

7033. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 01:04:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfa0495udpsd2@corp.supernews.com>
Source record: 114485

The current on the outside of the feedline is determined primarily by two things. One is the impedance of the path to ground along the outside of the feedline compared to the impedance looking into half the dipole. The current from the inside of the feedline shield splits between these two paths in inverse proportion to the impedances. The second determining factor is the orientation of the feedline relative to the antenna. Mutual coupling between the feedline and antenna induces or modifies the current on the feedline outside. This relationship is a more complicated one.

To answer your question, I'll assume that the feedline is perfectly symmetrical with respect to the antenna. And for simplicity, I assume that the feedline goes directly down to ground from the antenna, where the shield is connected to ground.

I modeled a 14 MHz dipole. The height was approximately 1/2 wavelength, varied a little to illustrate the effect. The current on the outside of the feedline is maximum when the impedance of the path to ground from the antenna is minimum. This occurs when the distance is about a half wavelength (or multiple), which is why it was chosen for the illustration. The feedline becomes a half wave vertical radiator with an approximately sinusoidal current distribution. Therefore, the ratio of the field strength from the feedline to that from the dipole is approximately equal to the ratio of currents in the two, since the two radiators have about the same length and current distribution shape. (On the feedline, the current is maximum at the ends and minimum at the middle, the opposite of the distribution on the dipole.)

When the antenna is exactly a half wavelength high, the ratio of antenna current to feedline outside current is about 1:0.68. So about 0.68/1.68 = 40% of the total radiated field is from the feedline. Remember, though, that it's vertically polarized. Adjusting the antenna height, and therefore the feedline length, just slightly -- by about a foot -- causes just about all the shield inside current to flow down the outside of the feedline. When that happens, half the dipole -- the half connected to the shield -- gets virtually no current. The current on the feedline is about equal to the current in the active half of the dipole, but it's flowing in twice the length of wire. So the field from the feedline in that case is 2/3 of the total field. If the antenna height/feedline length is changed by five feet in either direction, the feedline current drops to about 17% of the dipole current, so the contribution of the feedline radiation becomes about 15% of the total.

When the feedline length (that is, the total distance to ground along the feedline and ground conductors) is an odd number of quarter

wavelengths, the impedance of the path along the feedline to ground is high, so current on the outside of the feedline is negligible.

Note that even if the feedline is symmetrically placed with respect to the antenna, some current will be induced by mutual coupling if there's conducted current on the feedline. That's because conducted feedline current will imbalance the currents on the dipole halves, so the coupling from the two halves to the feedline will no longer cancel. The model took this into account automatically.

Roy Lewallen, W7EL

Richard Fry wrote:
> Please give us specifics.
>
> Assume a single 1/2-wave, resonant dipole fed by 73 ohm coax. What amount
> of the total radiated field is attributable to radiation from the coax?
>
> RF
>
> Visit http://rfry.org for FM broadcast RF system papers.
>
> ---
>
>
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
> news:3EF4EFBD.4080908@ieee.org...
>
>>Richard Fry wrote:
>>
>>>>Virtually ALL commercial FM broadcast antennas are designed for, and use
>
> 50
>
>>>>ohm, unbalanced, coaxial transmission line to drive vertically collinear
>>>>arrays of dipole radiators.
>>
>>My Comet 2x4Max FM transmitting antenna is vertical collinear arrays of
>>dipole radiators but the feedpoint is not balanced. Feeding a balanced
>>antenna with an unbalanced feedline is a good way to cause common-mode
>>currents and feedline radiation.
>>--
>>73, Cecil http://www.qsl.net/w5dxpServers
>
>
>

7034. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 01:13:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfa0la52frpa1e@corp.supernews.com>
Source record: 114486

I'm disappointed you're not willing to contribute to this learning
experience by helping us see some of these antennas you're describing.

Hopefully this discussion will give you an incentive to look up one or
more of the references I provided. After reading them, perhaps you can
resolve the apparent contradiction to your own satisfaction.

I'm not really interested in spending a lot of time trying to explain
something to someone who has no interest in learning. But I'm acutely
aware of all the "lurkers" who read this group, and it is worthwhile
going to the trouble for the benefit of those who really are interested
in gaining a better understanding of how things work.

Roy Lewallen, W7EL

Richard Fry wrote:
> RE: Below
>
> I humbly suggest that you investigate this subject for yourself, to your
> (high) satisfaction. Apparently there is a gulf between amateur radio, and
> commercial broadcast antenna system applications.
>
> Yes -- bedsprings, aluminum eavestroughs, and metal garage doors WILL
> radiate. Even, as you post, women's corsets (if you refer to their metal
> stays). But how efficiently???
>
> I must confess to a bit of disappointment in your response, but maybe it was
> hyperbole?

7035. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 01:57:47 UTC
From: xyz <w-4-i-h-k-@mindspring.com>
Message-ID: <bd32g0$4hg$1@slb9.atl.mindspring.net>
Source record: 114487

W5DXP wrote in message <3EF4F032.1010907@ieee.org>...
>Roy Lewallen wrote:
>> Not everyone agrees with Cecil's interpretation of "matched", ...
>
>Since I put it in parentheses, it can mean almost anything. :-)
>--
>73, Cecil http://www.qsl.net/w5dxp
>
>

I recall that there was a 'cat' that also suffered from the side effects of the "...whatever I say it means..." attitude. The cat was a prime candidate for la-la land!

Dean -- W4IHK

7036. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 02:05:19 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bd32t1$p5dsf$1@ID-134747.news.dfncis.de>
Source record: 114488

I cover all bands, 80 to 10 with a 68' doublet fed
with "window" line. What the antenna does not see
on top the feed line makes up as a "vertical'
component. I agree about the TVI problems,
particularly if the Coax fed antenna is used on a
frequency that it is not naturally resonate on.
(odd half wave multiples)

--
73 es cul

wb3fup
a Salty Bear

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF4ADAD.2060608@ieee.org...
> Ron wrote:
> > I am now using a 40 meter inverted V fed with
coax as my only HF
> > antenna. I want to operate 10-15-17 and 20
meters also. I took a look at
> > the G5RV and want to homebrew one. By using
the open wire feed line am I
> > more susceptible to RF in the shack and RFI?
> > I live in a neighborhood where the homes are
very close together and my
> > antenna would be only be 30 feet from my
neighbor. I don't want to have
> > problems with the neighbors.
>
> If you are careful how you run the open-wire
line, you shouldn't have any
> more feedline radiation (RFI) than you do with
coax. My advice is just to
> feed your 40m inv-V with 450 ohm window-line.
That would be the easiest
> way for you to get on 10m-30m. A 66' window-line
fed dipole is described
> on my web page. Covers all HF bands except 75m.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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7037. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 02:10:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF5102E.4010702@ieee.org>
Source record: 114489

xyz wrote:
> I recall that there was a 'cat' that also suffered from the side effects of
> the "...whatever I say it means..." attitude. The cat was a prime candidate
> for la-la land!

I always wondered where Schrï¿½dinger's cat came from. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7038. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 02:35:36 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <b75afv0e45rsvbva3vml7febstslgmiluj@4ax.com>
Source record: 114490

On Sat, 21 Jun 2003 19:51:57 -0500, "Richard Fry" <rfry@adams.net>
wrote:

>RE: Below
>
>I humbly suggest that you investigate this subject for yourself, to your
>(high) satisfaction. Apparently there is a gulf between amateur radio, and
>commercial broadcast antenna system applications.

Since commercial antennas are typically out in the country, on a big
piece of land, I doubt the station engineers are worried about TVI or
whatever as a ham might be on a tight city lot. Are we not talking
about apples and oranges, here?

I never really caught the point you were trying to make, if any.
Something about feedline radiation? Does it matter on a commercial
antenna?

What station do you work for?

Bob
k5qwg

>
>Yes -- bedsprings, aluminum eavestroughs, and metal garage doors WILL
>radiate. Even, as you post, women's corsets (if you refer to their metal
>stays). But how efficiently???
>
>I must confess to a bit of disappointment in your response, but maybe it was
>hyperbole?
>
>RF
>
>Visit http://rfry.org for FM broadcast RF system papers.
>-----------
>
>"Roy Lewallen" <w7el@eznec.com> wrote in message
>news:vf9tllntbhghe5@corp.supernews.com...
>> > This system configuration has been used by FM and TV RF system
>> > designers for 40+ years, and seems to have been well-proven by
>> > theory and practice. Do you have evidence to the contrary?
>>
>> No, I don't. I don't in fact, have any evidence that TV and FM
>> broadcasters don't load up womens' corsets for antennas. But I'm hoping
>> that you, with your commercial broadcasting background, can direct us to
>> some pictures that show exactly how typical commercial antennas are in

```
>> fact fed.
>
```

7039. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 03:05:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfa778od2mgoe5@corp.supernews.com>
Source record: 114491

Feedline radiation matters a lot to a commercial broadcaster. They have strict requirements regarding antenna pattern and the polarization of the emitted wave. Feedline radiation would affect both. That's why I'm sure that the feed system is designed in such a way as to reduce feedline radiation to a very low value -- and that they don't just use a center fed dipole directly connected to a coax feedline as Richard has said. But without the ability to see one up close or a picture of one, I don't know how the feed system is typically configured.

Roy Lewallen, W7EL

Bob Miller wrote:
> On Sat, 21 Jun 2003 19:51:57 -0500, "Richard Fry" <rfry@adams.net>
> wrote:
>
>
>>RE: Below
>>
>>I humbly suggest that you investigate this subject for yourself, to your
>>(high) satisfaction. Apparently there is a gulf between amateur radio, and
>>commercial broadcast antenna system applications.
>
>
> Since commercial antennas are typically out in the country, on a big
> piece of land, I doubt the station engineers are worried about TVI or
> whatever as a ham might be on a tight city lot. Are we not talking
> about apples and oranges, here?
>
> I never really caught the point you were trying to make, if any.
> Something about feedline radiation? Does it matter on a commercial
> antenna?
>
> What station do you work for?
>
> Bob
> k5qwg
>
>
>
>>Yes -- bedsprings, aluminum eavestroughs, and metal garage doors WILL
>>radiate. Even, as you post, women's corsets (if you refer to their metal
>>stays). But how efficiently???
>>
>>I must confess to a bit of disappointment in your response, but maybe it was
>>hyperbole?

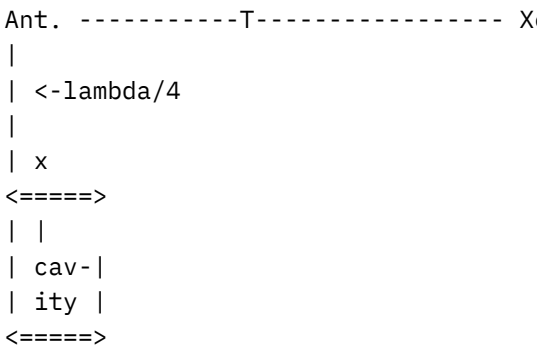
>>
>>RF
>>
>>Visit http://rfry.org for FM broadcast RF system papers.
>>_____________
>>
>>"Roy Lewallen" <w7el@eznec.com> wrote in message
>>news:vf9tllntbhghe5@corp.supernews.com...
>>
>>>>This system configuration has been used by FM and TV RF system
>>>>designers for 40+ years, and seems to have been well-proven by
>>>>theory and practice. Do you have evidence to the contrary?
>>>
>>>No, I don't. I don't in fact, have any evidence that TV and FM
>>>broadcasters don't load up womens' corsets for antennas. But I'm hoping
>>>that you, with your commercial broadcasting background, can direct us to
>>>some pictures that show exactly how typical commercial antennas are in
>>>fact fed.
>>
>

7040. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 03:17:28 UTC
From: "Eric C. Weaver" <weav@sigma.net>
Message-ID: <3ef51fc8$1@news.announcetech.com>
Source record: 114492

Uncle Peter wrote:
> Try a tee connector with an electrical quarterwave line going to
> one port in the cavity.

Okay, let's see if I've got this:



>
> Tune the cavity to 152.48. At reasonance, the cavity will act like
> a high impedance shunt, and the 1/4 line will become a suckout
> filter. At other frequencies, the coupling loop shorts the quarterwave
> line and it will work at as a broad bandpass... You may have to play
> with the coupling loop size to get best results.

Okay, I believe I follow the logic to this.

Thanks!

7041. Re: J-pole question on grounding (retry on question)

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 03:25:10 UTC
From: Unknown <yahoo@netscape.com>
Message-ID: <qk9Ja.7058$XV.524829@twister.austin.rr.com>
Source record: 114493

<wess@gtii.com> wrote in message news:vf69h7920dge5@corp.supernews.com...
> I built a couple of Jpoles. The two meter and six meter j's work
> great. At this time I've either set the 2 meter down the hall or the 6
> meter on a 10' piece of pvc to get it up in the air. I worked pretty
> good.
>
> Right now, I would just like to get these up 10 feet or so. Might
> mount up on tv mast on house for 16 feet. My question is about
> grounding them. Clamping on some 10 ga stranded to a ground rod, will
> that do? If I don't get an answer, I'll give it a try. Anything is
> an improvement over my UHV-4 on truck. Not slamming it but size does
> matter.
>
> 73, wes, kc8spr
> --
> Reply to:
> Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
> Lycos address is a spam trap.
I built a J-Pole out of the verticle element from a 3/4 wave CB antenna.
Gets the antenna itself 25' or so off the ground,will not be affected by
anything lower than the antenna proper,covers 144-148 at less then 1.5:1
after adding 10turns of rg8x at the feed point for a choke.
73's
Mike
kc5uea

7042. SHORTENED 2M-440 MOBILE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 04:47:57 UTC
From: Leland Cox <lcox107@comcast.net>
Message-ID: <3EF534FD.5050705@comcast.net>
Source record: 114494

I have a GMC Yukon 4WD that is only 10" shorter than my garage door. Anyone have any ideas for a 2M-440 antenna that is short enough to clear the door?

I use a dual bander about 30" long when I am traveling but I have to be sure to remove it before putting the Yukon in the garage when I return home. I am looking for something practical to use every day!

My idea is to wind a length of wire into a coil about 1" in diameter for the 2M part and add a 440 section at the bottom. It would look kind of like a J pole with a coil in the long part but the two parts would be connected together just above the insulator.

Any Comments or ideas?

Les, AA4F

7043. Re: Quad Loop question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 05:20:41 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306212120.ddc1cfe@posting.google.com>
Source record: 114495

"John" <my-callsign@qsl.net> wrote in message
news:<vDKIa.2648$j21.169736@newsfep1-win.server.ntli.net>...
> I am thinking of using a quad loop arrangement to operate on all bands
> between 20m and 10m. on a forthcoming /P trip. I will use a 10mtr (33ft)
> fibre glass vertical pole with cross-arms to form the quad spreaders.
>
>
> What is the preferred solution?
>
> a) A single full wave loop on 20mtrs that I feed with 450 Ohm feeder and
> tune through an ATU to achieve low SWR (but sadly, not resonance) on all
> bands, maybe breaking the loop opposite the feed-point on 10m & 12m.
>
> b) Nested loops on the spreader - one for each band at a full wavelength
> each. I would bring the wire ends to a single coax feed. Multiple
> resonances, one on each band.
>
>
> OK, the problem with option b) as I see it: I can't find anything on the
> web that describes something similar to this. Maybe there is interaction
> between the elements?

Shouldn't really be a problem. I see many built that way. Quads also.
Also, the theoretic feed impedance of a quad loop at
> resonance is around 100 to 150 Ohms. Therefore I would need a 4:9 matching
> balun. I can't find the design for one of these on the web either.

You can use a 75 ohm coax series transformer at the feedpoint. "The
rest of the line is 50 ohm".
But that is a single band solution. For multiband use, you would need
to switch in or out varying lengths of 75 ohm coax, or use a seperate
feedline for each band. A 1/4 wave length of 75 ohm coax is about 11.4
ft for 14.15 mhz, using .66 VF coax. Half that for 10m. You get the
idea...I see no problem feeding with ladder line and a tuner, but you
won't get the same pattern on each band like you would the parallel
loops.

>
> My other option is just run a Cushcraft vertical. It will be sitting on the
> beach in salt water. I'm erring towards the fibre-glass quad loop
> arrangement simply because of the lesser impact on excess-luggage and the
> ease of putting it in position.

Dang...If you are on the beach, the vertical should work fine. Will
favor lower angle stuff, but should work well. I'd try both. MK

7044. Re: Homebrew HF Shielded Loops

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 06:40:58 UTC
From: loopfan <brian@greertech.com>
Message-ID: <_bcJa.7393$C83.706666@newsread1.prod.itd.earthlink.net>
Source record: 114496

Roy, Tom, et al..

Thanks for the references! The closest I could find on the web was from W8JI

http://www.w8ji.com

which is a fantastic resource. Honestly, much is above my head, but the pictorial diagram of coaxial currents is helping me.

I now see how the gap can be the feedpoint. If I take my loop and straigten out one side of the loop so that it is vertical, instead of a cemicircle, it seems a bit more obvious now that the gap, or feedpoint is at the top of the transmission line - Especially if you fashion the loop-wire to look like a "D" instead of a circular loop.

I have taken my homegrown explanations off my site - I recognize that I need to get it right and not get hung up on a mixture of truths and half-truths until I fully understand it, and more importantly, explain it properly - although at this point I think I'll leave the explanations to the professionals and concentrate more on just construction and operation.

The way I construct my loop differs somewhat from the standard and my biggest problem now is that I believe that it is asymetrical rather then being symetrical, and I can't understand how my feedline placement doesn't seem to affect the directionality and sharp nulls I obtain. Basically, I don't understand why it is working so well.

If anyone could look at the construction site:
http://www.greertech.com/hfloop/mymagloop.html

and answer some questions I have, I'd be very grateful. I'm definitely not an antenna expert and I'm wondering about the way I make them: is it center-tapped? Is it symetrical or asymetrical?

I even downloaded EZNEC 3.0 demo but I definitely need to go through the dipole training before I even tackle the small constant-current loops. I'm in love with these antennas and look forward to modeling them someday.

73
Brian

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vf2r2imnugm4b7@corp.supernews.com...
> There's no disagreement among antenna professionals about how shielded
> loops work. One of the clearest explanations I've seen is in King,
> Mimno, and Wing's _Transmission Lines, Antennas, and Waveguides_,
> originally published in 1945. But you can find similar explanations in

> other texts. If you'll check in the Google archives for a posting I made
> on March 21 in the thread "Re: Loop antenna questions", you'll find
> material from that book and from Johnson's _Antenna Engineering
> Handbook_, plus additional information.
>
> Roy Lewallen, W7EL
>
> loopfan wrote:
> > Hello Henry,
> >
> > The best part about the shielded loop antenna is that even if there is
> > disagreement on how it works, the end result is that it *still works*.
> > <grin>
> >
> > I'm still learning how it works myself, and really appreciate the input
that
> > Tom, RHF, and others have made. I have discovered that this topic can
> > generate a considerable amount of debate. While we're debating, don't
let
> > that stop you from enjoying some noise-free sessions at the same time.
> >
> > With my quick-to-build version of the loop, there is NO physical
coupling
> > between the shield and the center conductor at the gap, (although others
are
> > free to disagree - without disagreement, none of us would experiment!)
> >
> > http://www.greertech.com/hfloop/mymagloop.html
> >
> > 73
> > Brian
>
>

7045. Re: $8,687 In 4 Weeks Using My Computer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 06:44:54 UTC
From: Scammer <Spoof@anon.com>
Message-ID: <bd3j9b$b09$0@pita.alt.net>
Source record: 114497
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc

"Gary Wright" <zapped@linkline.com> wrote in message
news:lF6Ja.7518$hI1.5189@nwrddc01.gnilink.net...
If you have ever thought of changing careers to make more money and would like to work from home, now is the time.

We are an International Marketing Company that is looking for select individuals in the United States and Canada, who would like to start their own home-based
business using the power of the Internet and Mail Order.

No special skills are required. We provide everything you need including personalized training in your area. All that is required is a computer, access to the Internet, and the ability to follow directions.

INCOME POTENTIAL
$700 / week part-time
to over $8,650+ / month full-time

In order for you to make this kind of income we MUST work personally with you to show you exactly how it's done. Therefore, we are only able to work with a limited amount of people in each area. Once we feel that this limit has been met we WILL NOT accept any more requests. Don't miss out!

www.thewright-homebiz.com

////

Yeah. Right. Take your scam elsewhere.

7046. Re: $8,687 In 4 Weeks Using My Computer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 07:17:17 UTC
From: Jenifer Anderson <nospam@nospam.com>
Message-ID: <bd3l61119a@enews2.newsguy.com>
Source record: 114498
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc

Didn't you write Dream Weaver back in the 70's????
"Gary Wright" <zapped@linkline.com> wrote in message
news:lF6Ja.7518$hI1.5189@nwrddc01.gnilink.net...
> If you have ever thought of changing careers to make more money and would
> like to work from home, now is the time.
>
> We are an International Marketing Company that is looking for select
> individuals in the United States and Canada, who would like to start their
> own home-based
> business using the power of the Internet and Mail Order.
>
> No special skills are required. We provide everything you need including
> personalized training in your area. All that is required is a computer,
> access to the Internet, and the ability to follow directions.
>
> INCOME POTENTIAL
> $700 / week part-time
> to over $8,650+ / month full-time
>
> In order for you to make this kind of income we MUST work personally with
> you to show you exactly how it's done. Therefore, we are only able to work
> with a limited amount of people in each area. Once we feel that this limit
> has been met we WILL NOT accept any more requests. Don't miss out!
>
> www.thewright-homebiz.com
>
>

7047. Re: Copper Cactus

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 11:03:18 UTC
From: raiar@bbs.galilei.com.nospam
Message-ID: <3ef58c6f.318234343@news.galilei.com>
Source record: 114499

Hi Salty

Don't forget to figure in the added 'thickness' the stubs create to
the lower bands. This shortens the overall length slightly and
affects the 1/4 wave matching sections to some degree.

TTUL
Gary

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> verbositized:

>I am in the process of building a "Copper Cactus"
>(a multi band J-Pole). I have all the parts cut
>for the antenna except the 6 meter matching
>section. When, AND IF, the rain stops I will cut
>it and begin to assemble the beast. Building for
>432/144/54 bands. You start to tune this beast,
>from the top down. For the bottom two sections I
>will use my MFJ-259. I want to minimize
>transmission time into a possible mismatch so I am
>going to see what happens if I use the "259" as
>part of the high band tune up. 432 and 144 are
>nicely related that way. Any actual experience
>out there.
>
>--
>73 es cul
>
>wb3fup
>a Salty Bear
>
>

7048. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 11:51:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF59846.5000709@ieee.org>
Source record: 114501

Richard Harrison wrote:
> Cunningham goes on and on but this posting is already too long. Point
> is, only the volts are forced to zero by a short. All the energy of the
> E-field is forcibly transferred to the H-field by the short.
> Regeneration of the voltage creates the reflected wave.

Richard, I'm not talking about a short or open or pure reactance. I am talking about complete wave cancellation. It is not wave reflection because the two rearward-traveling waves are destroyed. It is an energy reflection where the ratio of the E-field to the H-field is transformed in the process of a change in direction of the energy flow.

```
port 1 => | <= port 2
source---50 ohm feedline---+---150 ohm feedline----------load
Pfwd1=100W, Pref1=0 Pfwd2=133.33W, Pref2=33.33W
```

In the s-parameter equation, (b1 = s11*a1 + s12*a2), b1 is the voltage reflected back from port 1 (source side). a1 is the normalized voltage incident upon port 1 and a2 is the normalized voltage incident upon port 2, i.e. the voltage reflected from the load. s11 is the reflection coefficient looking into port 1 and s12 is the transmission coefficient looking into port 2. Putting that into ham radio terms:

Vref1 = rho*Vfwd1 + tau*Vref2

Vref1 is the voltage reflected back from the impedance discontinuity toward the source. Vfwd1 is the forward voltage from the source. Vref2 is the reflected voltage from the load. rho is the voltage reflection coefficient looking into the impedance discontinuity from the source side and tau is the voltage transmission coefficient looking into the impedance discontinuity from the load side.

If Vref1 = 0, then rho*Vfwd1 + tau*Vref2 = 0

In the above example, rho*Vfwd1 = 35.36V at zero (reference) degrees and tau*Vref2 = 35.36V at 180 degrees. These two rearward-traveling voltages cancel to zero.

In like manner, it can be shown that the two rearward-traveling currents of 0.707A each cancel to zero because they are out of phase.

35.36V at 0 deg, 0.707A at 180 deg phasor-added to
35.36V at 180 deg, 0.707A at 0 deg equals *zero volts and zero amps*.

That is not a normal wave reflection. That is wave cancellation accompanied by an energy reflection with the ratio of the E-field to the H-field being transformed in the process. Strangely enough, I cannot find this topic

discussed in any of the fields and waves references that I have.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7049. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 11:54:43 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <7OgJa.7239$pH3.6724@news2.east.cox.net>
Source record: 114500

Looks good. Don't forget that the loop inductance and Tee
fitting will have some effect on the electrical length of the
1/4 wave line. You should be able to get at least 10 or 20
dB without a lot of pruning, but if you're having Intermod
problems that equates to a 30 dB or better improvement.

Peter

"Eric C. Weaver" <weav@sigma.net> wrote in message
news:3ef51fc8$1@news.announcetech.com...
> Uncle Peter wrote:
> > Try a tee connector with an electrical quarterwave line going to
> > one port in the cavity.
>
> Okay, let's see if I've got this:
>
> Ant. -----------T----------------- Xcvr
> |
> | <-lambda/4
> |
> | x
> <=====>
> | |
> | cav-|
> | ity |
> <=====>
>
>
> >
> > Tune the cavity to 152.48. At reasonance, the cavity will act like
> > a high impedance shunt, and the 1/4 line will become a suckout
> > filter. At other frequencies, the coupling loop shorts the quarterwave
> > line and it will work at as a broad bandpass... You may have to play
> > with the coupling loop size to get best results.
>
> Okay, I believe I follow the logic to this.
>
> Thanks!
>

7050. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 12:26:09 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd478r$p6fnq$1@ID-175933.news.dfncis.de>
Source record: 114502

Roy/Bob (re your statements below):

The opening page of website http://www.eriinc.com/ has a photo of a complete, two-bay c-pol FM transmitting antenna, face mounted on a tower. The antenna is built on a 50 ohm rigid coaxial "spine," and the input impedance of the array is 50 ohms, unbalanced. The stem feeding each bay of the antenna contains a step transformer made by adjusting the diameter of the inner conductor in the stem, and a tee allowing each bay to be connected to the 50 ohm spine, to receive equal power from it, and to drive the two dipoles in each bay. The two outputs of the stem tee are fed internally and coaxially through the driven arms to connect to the outer arm assembly just past the insulators. No balun is used.

The antenna input is driven here by 3" OD, 50 ohm Heliax(tm) coaxial cable, the black jacket of which can be seen at the very bottom of the picture. The outer conductor of the Heliax is bonded to the tower at the top and bottom of the vertical run, and at least 200 ft intervals between.

This is the typical installation used in 95% + of all US FM broadcast stations, the biggest variable being the number of bays. More bays for a given vertical bay spacing = more gain and less antenna input power needed to reach the station's licensed ERP (effective radiated power), and generally less radiation at higher angles above and below the horizontal plane.

Paper # 4 at http://rfry.org graphically shows the development of the radiation patterns from this type of antenna, and the affect on those patterns from mounting the same array on two, simple tower structures. It's only three pages in length, with no equations.

Much attention is paid by the EPA and FCC to broadcast system radiation (power density), as it may affect human health and safety. Broadcasters are required as a condition of their continued licensing to show that they comply with their limits for the site. For those wanting to read more, look for OET Bulletin 65 at http://www.fcc.gov/oet/info/documents/bulletins/

Radiation from the main transmission line to the antenna would be a serious issue, because its source could be much closer to human exposure, physically, than the antenna is. But virtually all of the power density measured around a typical FM broadcast site is from the antenna(s), and adjacent mechanical environment -- not the main transmission line. This issue was not even discussed in the EPA work that led to OET 65.

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vfa778od2mgoe5@corp.supernews.com...
> Feedline radiation matters a lot to a commercial broadcaster. They have
> strict requirements regarding antenna pattern and the polarization of
> the emitted wave. Feedline radiation would affect both. That's why I'm
> sure that the feed system is designed in such a way as to reduce
> feedline radiation to a very low value -- and that they don't just use a
> center fed dipole directly connected to a coax feedline as Richard has
> said. But without the ability to see one up close or a picture of one, I
> don't know how the feed system is typically configured.
>
> Roy Lewallen, W7EL
>
> Bob Miller wrote:
> > Since commercial antennas are typically out in the country, on a big
> > piece of land, I doubt the station engineers are worried about TVI or
> > whatever as a ham might be on a tight city lot. Are we not talking
> > about apples and oranges, here?
> >
> > I never really caught the point you were trying to make, if any.
> > Something about feedline radiation? Does it matter on a commercial
> > antenna?

7051. Re: SHORTENED 2M-440 MOBILE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 12:59:31 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <RKhJa.82$OE2.21125@news20.bellglobal.com>
Source record: 114504

"Leland Cox"
> I have a GMC Yukon 4WD... <snip>
> I am looking for something practical
> to use every day!

http://tinyurl.com/ey99

;-)

7052. Looking For A Hazer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 13:00:28 UTC
From: william brooks <kv4dt@mfire.com>
Message-ID: <vfba1m52uv5mb3@corp.supernews.com>
Source record: 114503

Looking for a Glen Martin Hazer.

William

7053. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 13:26:03 UTC
From: billvnce@aol.com
Message-ID: <20030622092603.13692.00001236@mb-m25.aol.com>
Source record: 114505

>Subject: Re: Looking For Help Modeling a Mobile Antenna System with Eznec
>From: jgboyles@aol.com (JGBOYLES)
>Date: 6/21/2003 5:31 PM Eastern Daylight Time
>Message-id: <20030621173113.27102.00001852@mb-m06.aol.com>
>
>>Looking for someone to help model on eznec a multielement antenna system I
>>have on my Chevy pickup truck. Would like to include the ground plane of
>>truck
>
>What type of answers do you want from Eznec. Do you want SRC data so you
>will
>know how to feed the antenna, or do you want to know the pattern of the
>antenna, or do you want to know the effect of antenna placement over various
>sections of the truck?

This is what I am looking for the radiation pattern, and the effects of
placement over different area on vehicle.
And the gain that eznec claims

> What bands are you planning on using?

10 meters

Also, exactly what type of
>multielement antenna are you trying to model?

A 5 element system, antennas all spaced 6' apart, they are 1/4 wave driven
element and 1/4 w reflector, the 3 directors are all isolated from the ground
and border 1/2 wave in length. It works pretty good, would like to see what
eznec says though. Tnx

7054. Re: Looking For A Hazer

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 13:49:10 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <qtiJa.1018273$OV.1115375@rwcrnsc54>
Source record: 114506

There are a number of Hazer models, which specific model
and usage with whose tower were you looking for?

Glen Martin Engineering (Boonville, MO)
Amateur Radio products division
http://www.glenmartin.com/amateur.html

The Hazer (also referred to as "The Tram")
http://www.glenmartin.com/catalog/page10.html

Voyager Hazer
http://www.glenmartin.com/catalog/page12.html

W9GB
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"william brooks" <kv4dt@mfire.com> wrote in message
news:vfba1m52uv5mb3@corp.supernews.com...
> Looking for a Glen Martin Hazer.
>
> William
>
>

7055. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 14:23:16 UTC
From: "N. Kirk Pearson" <KI7YY@bresnan.net>
Message-ID: <oZiJa.1018389$OV.1115159@rwcrnsc54>
Source record: 114507

The initial question re: RFI with G5RV, are you worried more about harmonic radiation due to the balanced line used in the construction of a G5RV?

7056. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 14:56:47 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd4g3f$52t$1@hercules.btinternet.com>
Source record: 114508

"W5DXP" wrote
> Feeding a balanced
> antenna with an unbalanced feedline is a
> good way to cause common-mode
> currents and feedline radiation.

==========

Cec, How much does it matter ? Should we lose any sleep about it ?

Could you give us a roughly average value for the percent of Tx power which
is radiated from an unbalanced feedline.

Just a number will do.

Reg, G4FGQ

7057. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 15:07:30 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfbhf3hdaga804@corp.supernews.com>
Source record: 114509

See below....
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"BillVnce" <billvnce@aol.com> wrote in message
news:20030622092603.13692.00001236@mb-m25.aol.com...
> >Subject: Re: Looking For Help Modeling a Mobile Antenna System with
Eznec
> >From: jgboyles@aol.com (JGBOYLES)
> >Date: 6/21/2003 5:31 PM Eastern Daylight Time
> >Message-id: <20030621173113.27102.00001852@mb-m06.aol.com>
> >
> >>Looking for someone to help model on eznec a multielement antenna
system I
> >>have on my Chevy pickup truck. Would like to include the ground
plane of
> >>truck
> >
<snip>
>
> > What bands are you planning on using?
>
> 10 meters
>
> Also, exactly what type of
> >multielement antenna are you trying to model?
>
> A 5 element system, antennas all spaced 6' apart, they are 1/4 wave
driven
> element and 1/4 w reflector, the 3 directors are all isolated from
the ground
> and border 1/2 wave in length. It works pretty good, would like to see
what
> eznec says though. Tnx
>

Let us look at what has been said:
1. Chev. pickup truck
2. Five element (antenna) system
3. Each antenna spaced six feed from each other
---- the five consist of:
A 0.25 WL driven element;
A 0.25 WL reflector; and

three 0.5 WL directors

Assuming vertical elements, I can not come up with a way to position six elements so that they are each six feet from each other. Most likely the five elements are all in one (vertical) plane with a (wide) spacing of about 0.173 WL at 28.4 MHz. The longest Chev. pickup truck (S10 - Long Box) is 17.2 feet long. About seven feet too short. Moving up to the 1500 or 2500 series, the longest (Extended Cab Long Box) is about 20.6 feet long. Perhaps three feet too short.

Perhaps the truck is longer than a Chev. pick up. If adjusted as a Yagi type array, one would have an approximation to a unidirectional pattern. The desirability of such a pattern on a moving truck for amateur radio purposes escapes me.

It is likely that there is more to the story. However, one should get a first approximation of the pattern by using EZNEC with the verticals over a perfect ground.
I always wonder when I do not see a call sign, or the like, associated with those who ask questions.....
73 Mac N8TT

7058. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 15:39:56 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfbjbr1im95835@corp.supernews.com>
Source record: 114510

My experience suggests that "commercial broadcasters" do not have a clue about antennas. (Evidence has been provided on this news group that HF broadcasters are likely to be an exception.) A story I have told before: A church retained me to deal with their concerns about a proposed FM broadcast station (to be built adjacent to the church building). I found that the proposed antenna system had a major lobe straight down the tower (while meeting regulatory requirements). I re-did the station's antenna such that it lowered their costs! and did not zap the church. A classic win-win situation.
Parenthetically: Roy is exactly on point about how impedance matching (no matter which end) of a transmission line can have little to do with radiation from the feed line. Too many believe that conjugate matching has magical properties. That is far too simple an idea. 73
Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vfa778od2mgoe5@corp.supernews.com...
> Feedline radiation matters a lot to a commercial broadcaster. They
have
> strict requirements regarding antenna pattern and the polarization of
> the emitted wave. Feedline radiation would affect both. That's why I'm
> sure that the feed system is designed in such a way as to reduce
> feedline radiation to a very low value -- and that they don't just use
a
> center fed dipole directly connected to a coax feedline as Richard has
> said. But without the ability to see one up close or a picture of one,
I
> don't know how the feed system is typically configured.
>
> Roy Lewallen, W7EL
>

7059. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 15:45:09 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF5CF05.8080300@ieee.org>
Source record: 114511

Reg Edwards wrote:
> Could you give us a roughly average value for the percent of Tx power which
> is radiated from an unbalanced feedline.

Reg, Since we are talking about one antenna, averages don't matter.
My individual life span is what matters to me, not the average life
span of one million people my age. :-)

Consider that the way one models the outside of the coax in EZNEC is
by running a wire from the antenna back to the source ground. When
I get time, I will model that configuration for worst case.
--
73, Cecil http://www.qsl.net/w5dxp

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7060. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 16:19:30 UTC
From: Ron <rons533@dejazzd.com>
Message-ID: <3EF5D603.5CBF@dejazzd.com>
Source record: 114512

N. Kirk Pearson wrote:
>
> The initial question re: RFI with G5RV, are you worried more about harmonic
> radiation due to the balanced line used in the construction of a G5RV?

==========

I am concerned about any radiation that may be a result of the open
wire. As of now I don't have any problems with my coax fed dipole.

Ron

7061. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 16:29:50 UTC
From: richardharrison@webtv.net
Message-ID: <10476-3EF5D97E-82@storefull-2317.public.lawson.webtv.net>
Source record: 114513

Cecil, W5DXP wrote:
"I am talking about complete wave cancellation. It is not wave
reflection because the two rearward-traveling waves are destroyed."

Arnold B. Bailey in "TV and Other Receiving Antennas" says approximately
that reflection results from an impedance bump. Complete wave
cancellation is caused complete absorption.

Cancellation happens in a dummy load. Energy in the dummy load is not
destroyed, it is converted to heat.

Best regards, Richard Harrison, KB5WZI

7062. Re: How to adjust dualband mobile antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 17:18:48 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <YxlJa.751607$Si4.885440@rwcrnsc51.ops.asp.att.net>
Source record: 114514

It's quite easy to get that much bandwidth. Just put a resistor in line.
"VHFRadioBuff" <vhfradiobuff@aol.comspamme> wrote in message
news:20030619234736.11451.00001080@mb-m13.aol.com...
> >I really think they mean you can cut it for low SWR at one particular
> >frequency within the 140-160 range. Or re-cut it for another higher
> >frequency. Of course, once you do that, you can't re-cut it to the
> >lower frequency again, because it's too short now.
> >
> >If their ad copy means something else, there's been a miraculous
> >advance in the science of 2-meter antennas :-)
>
> All their other dualbanders are specifically listed as 146/440 mhz. When I
get
> the antenna, I'll hook up the analyzer and see what the story is. I don't
see
> any reason why a vertical mobile antenna can't be designed to cover a
> continuous 20 mhz range. At my last job, our radios operated on our
frequency,
> which was around 165mhz and also worked on the local agencies frequencies,
> which were typically around 150 mhz - 155 mhz. I don't know what the SWR
looked
> like, but I assume they wouldn't enable transmit on those other
frequencies if
> the antenna couldn't handle it.
>
> =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
> 73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
> Beachwood, NJ USA! Grid FM29vw
> http://vhfradiobuff.tripod.com
> Fight Spam! http://spamcop.net

7063. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 17:19:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF5E514.60405@ieee.org>
Source record: 114515

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "I am talking about complete wave cancellation. It is not wave
> reflection because the two rearward-traveling waves are destroyed."

> Cancellation happens in a dummy load.

Nope, wave cancellation doesn't happen in a dummy load. Wave cancellation can only happen between two waves of equal amplitudes and opposite phases. Those conditions don't exist in a dummy load. In a dummy load, the wave energy is converted to another type of energy. With wave cancellation, the wave energy is converted into constructive interference which is also wave energy of the same frequency as the canceled waves.
--
73, Cecil http://www.qsl.net/w5dxp

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7064. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 17:22:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF5E5D8.2060302@ieee.org>
Source record: 114516

Ron wrote:
> N. Kirk Pearson wrote:
>
>>The initial question re: RFI with G5RV, are you worried more about harmonic
>>radiation due to the balanced line used in the construction of a G5RV?

> I am concerned about any radiation that may be a result of the open
> wire. As of now I don't have any problems with my coax fed dipole.

Care needs to be taken in the routing of the open-wire line. A good
rule is at least 6 inches away from any metal and a twist every
couple of feet or so. You can tape coax to a metal support pole.
Don't do that with open-wire line. Also, don't coil open-wire line
upon itself.
--
73, Cecil http://www.qsl.net/w5dxp

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7065. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 17:58:37 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd4qod$jl0$1@titan.btinternet.com>
Source record: 114517

Cec said -

> Care needs to be taken in the routing of the open-wire line. A good
> rule is at least 6 inches away from any metal and a twist every
> couple of feet or so.

Why metal? Nearly all metals are very low loss. Other materials can be much lossier.

Reg

7066. Re: SHORTENED 2M-440 MOBILE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 18:25:42 UTC
From: "Mike M." <>
Message-ID: <2gsbfv4nevuapetd3fc0bqbe8cvd7lafkv@4ax.com>
Source record: 114518

On Sat, 21 Jun 2003 23:47:57 -0500, Leland Cox <lcox107@comcast.net>
wrote:

>I have a GMC Yukon 4WD that is only 10" shorter than my garage door.
>Anyone have any ideas for a 2M-440 antenna that is short enough to clear
>the door?
>
>I use a dual bander about 30" long when I am traveling but I have to be
>sure to remove it before putting the Yukon in the garage when I return
>home. I am looking for something practical to use every day!
>
>My idea is to wind a length of wire into a coil about 1" in diameter for
>the 2M part and add a 440 section at the bottom. It would look kind of
>like a J pole with a coil in the long part but the two parts would be
>connected together just above the insulator.
>
>Any Comments or ideas?
>
>Les, AA4F
I'm sure there are lots of dual banders that you could mount on the
fender that would be below the roof line. Another option would be a
through-the-glass dual bander on one of the rear side windows, I've
seen that done with cell phone antennas. A no gain dual bander should
only be about 18".

7067. Re: SHORTENED 2M-440 MOBILE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 18:59:38 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbfbv4q.rr6.bit-bucket@localhost.config.com>
Source record: 114419

On Sun, 22 Jun 2003 08:59:31 -0400, J. Harvey hath writ:
> "Leland Cox"
>> I have a GMC Yukon 4WD... <snip>
>> I am looking for something practical
>> to use every day!
>
> http://tinyurl.com/ey99
>
> ;-)

If you hadn't -- I would've.

:-)

7068. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:27:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF60339.2090805@ieee.org>
Source record: 114420

Reg Edwards wrote:
>>Care needs to be taken in the routing of the open-wire line. A good
>>rule is at least 6 inches away from any metal and a twist every
>>couple of feet or so.
>
> Why metal? Nearly all metals are very low loss. Other materials can be much
> lossier.

Support poles tend to be either metal or insulators like my fiberglas poles.
I was thinking of support poles when I wrote that. Metal can cause arcing.
--
73, Cecil http://www.qsl.net/w5dxp

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7069. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:28:11 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <crnJa.316$OE2.81426@news20.bellglobal.com>
Source record: 114421

"W5DXP"
> With wave cancellation, the wave energy
> is converted into constructive interference
> which is also wave energy of the same
> frequency as the canceled waves.

"...same frequency..."

I wonder if that is true in the case where everything is moving relative to each other and Doppler shifts get involved. The bit about reversal of direction makes me wonder what would happen in that case.

7070. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:42:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF60692.3010805@ieee.org>
Source record: 114422

J. Harvey wrote:
> I wonder if that is true in the case where everything is moving relative to
> each other and Doppler shifts get involved. The bit about reversal of
> direction makes me wonder what would happen in that case.

If the source is moving toward one stationary observer and away from
another stationary observer, the two observers would not detect the
same frequency. However, an observer moving with the source would
detect no change in frequency. Hopefully, all of us hams are moving
with our sources. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7071. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:45:34 UTC
From: richardharrison@webtv.net
Message-ID: <26602-3EF6075E-303@storefull-2315.public.lawson.webtv.net>
Source record: 114425

Cecil, W5DXP wrote:
"Complete wave cancellation occurs when two coherent waves of opposite phases and equal amplitudes traveling in exactly the same path are destroyed and cease to exist."

Yes.

Perform the feat yourself. Use a center-tapped power transformer secondary. Connect the outside ends of the secondary and fully energize the transformer.

The opposite phases and equal amplitudes are traveling in the same path. The coherent waves are destroyed and likely are not the only destruction in the vicinity if power continues for any lengthy time.

Like I said, the result is conversion of electrical energy to heat energy.

Best regards, Richard Harrison, KB5WZI

7072. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:48:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfc214jf8stq94@corp.supernews.com>
Source record: 114423

I can't find any EZNEC customers with the email address you're using, but I don't have email addresses for all customers, and they often change. The antenna you're describing is too complex for the demo version of EZNEC. If you're using the full version, email me, including your name so I can verify that you purchased the program, and I'll try to help you out as I do all EZNEC customers.

Roy Lewallen, W7EL

7073. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 19:52:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfc28nqbevpqfc@corp.supernews.com>
Source record: 114424

Posting does sometimes seem to be a waste of time. Just yesterday I posted results for a worst case, and how much difference a few feet of feedline length made.

And I posted similar data not too long ago in response to the very same question you asked then.

Is your ISP dropping postings? If so, you should be able to find those postings via google, and finally have the answer to your question.

Roy Lewallen, W7EL

Reg Edwards wrote:
> "W5DXP" wrote
>
>>Feeding a balanced
>>antenna with an unbalanced feedline is a
>>good way to cause common-mode
>>currents and feedline radiation.
>
>
> ============================
>
> Cec, How much does it matter ? Should we lose any sleep about it ?
>
> Could you give us a roughly average value for the percent of Tx power which
> is radiated from an unbalanced feedline.
>
> Just a number will do.
> ---
> Reg, G4FGQ
>
>
>

7074. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:00:24 UTC
From: richardharrison@webtv.net
Message-ID: <26602-3EF60AD8-305@storefull-2315.public.lawson.webtv.net>
Source record: 114426

J. Harvey wrote:
"...same frequency..."

(W5DXP wrote: "---converted into constructive interference which is also of the same frequency as the cancelled waves.")

My opinion is that the conversion is into waves of a much higher frequency, namely heat.

Best regards, Richard Harrison, KB5WZI

7075. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:18:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfc3pfb53pcuc6@corp.supernews.com>
Source record: 114427

Superficially, at least, this doesn't look much like a simple center fed dipole. To determine how the designer avoided feedline radiation will require a good look at the feed system. I did a brief web search for this antenna, hoping to find a better picture, but haven't located one. So far, I've determined that it doesn't seem to be made by Dielectric, Jampro, and Shively. Can you direct us to the manufacturer? A model number would also be helpful. Perhaps the manufacturer has a better picture.

Incidentally, if you don't believe in modeling or in explanations given in either amateur or professional publications, you'll find actual measurements of feedline current and dipole current imbalance in "Baluns: What They Do and How They Do It" in the _ARRL Antenna Compendium_, Vol. 1. And if even that isn't sufficient evidence, it's not at all hard to do a similar experiment in your own back yard.

Roy Lewallen, W7EL

Richard Fry wrote:
> Roy/Bob (re your statements below):
>
> The opening page of website http://www.eriinc.com/ has a photo of a
> complete, two-bay c-pol FM transmitting antenna, face mounted on a tower. . .

7076. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:38:28 UTC
From: richardharrison@webtv.net
Message-ID: <20954-3EF613C4-298@storefull-2313.public.lawson.webtv.net>
Source record: 114429

Arnold B. Bailey says on page 150 of "TV and Other Receiving Antennas":

"If the wave energy encounters any new and different gas, solid, or liquid in its travel, it is likely to be----

1. Partially absorbed, losing some of its energy.

2. Partially modified in its direction.

3. Totally absorbed.

4. Allowed free passage."

Note that when a wave hits an impedance bump, two outcomes are possible in various fractions: absorption and reflection.

Best regards, Richard Harrison, KB5WZI

7077. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:44:23 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <EyoJa.694$iM4.70441@news20.bellglobal.com>
Source record: 114431

"Richard Harrison"
> My opinion is that the conversion is into waves
> of a much higher frequency, namely heat.

:-)

Cecil will then ask you consider a situation where the waves have 'come from afar' and the cancellation can have no immediate influence on the source.
;-)

7078. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:46:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfc5chlt3hin0b@corp.supernews.com>
Source record: 114428

So that we all can learn, let's take another tack.

I've described two mechanisms by which current can be made to flow on the outside of a coax feedline. I've given four references which support this explanation (although admittedly I wrote one of them, so there are three others rather than four). I've demonstrated it with modeling and with actual measurements (reported in the Compendium article). You reject all this evidence, and insist that high SWR causes current on the outside. So can you please explain to us just how it is that high SWR does cause current to appear on the outside of the feedline? Can you demonstrate it with measurements or modeling, as I've done with my explanation? Can you point us to some published references where the mechanism is explained?

Thanks,

Roy Lewallen

7079. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 20:49:10 UTC
From: Graham <blackhole@user.ccc>
Message-ID: <mc5cfv82dnnkln4eeclhiuri7pu3376a0e@4ax.com>
Source record: 114430

Roy;

If we're looking at the same picture, the manufacturer is ERI.
They have better close-ups of the individual elements at:

http://www.eriinc.com/fm_antenna.html

Cheers!

On Sun, 22 Jun 2003 13:18:55 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Can you direct us to the manufacturer? A model
>number would also be helpful. Perhaps the manufacturer has a better picture.

7080. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:02:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF61954.5040606@ieee.org>
Source record: 114432

Richard Harrison wrote:
> The opposite phases and equal amplitudes are traveling in the same path.
> The coherent waves are destroyed and likely are not the only destruction
> in the vicinity if power continues for any lengthy time.
>
> Like I said, the result is conversion of electrical energy to heat
> energy.

Do you think the energy in the canceled waves associated with non-glare
glass is converted to heat? The Melles-Griot web page says the energy
in the canceled waves joins the forward wave.

http://www.mellesgriot.com/products/optics/oc_2_1.htm

Here's what they say: "... the principle of conservation of energy
indicates all "lost" reflected intensity will appear as enhanced
intensity in the transmitted beam."

No mention of heat. There's hardly any heat at an impedance
discontinuity in a transmission line since there's hardly
any resistance.
--
73, Cecil http://www.qsl.net/w5dxp

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7081. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:06:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF61A3A.90208@ieee.org>
Source record: 114433

Richard Harrison wrote:

> (W5DXP wrote: "---converted into constructive interference which is also
> of the same frequency as the cancelled waves.")
>
> My opinion is that the conversion is into waves of a much higher
> frequency, namely heat.

The Melles-Griot web page disagrees with you, Richard. They say:
" ... the principle of conservation of energy indicates all "lost"
reflected intensity will appear as enhanced intensity in the
transmitted beam."

Do you really think the 50 ohm to 300 ohm transition point in a
G5RV gets hot?
--
73, Cecil http://www.qsl.net/w5dxp

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7082. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:12:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF61BC8.8060405@ieee.org>
Source record: 114434

Richard Harrison wrote:
> Arnold B. Bailey says on page 150 of "TV and Other Receiving Antennas":
>
> "If the wave energy encounters any new and different gas, solid, or
> liquid in its travel, it is likely to be----
>
> 1. Partially absorbed, losing some of its energy.
>
> 2. Partially modified in its direction.
>
> 3. Totally absorbed.
>
> 4. Allowed free passage."
>
> Note that when a wave hits an impedance bump, two outcomes are possible
> in various fractions: absorption and reflection.

What happened to "allowed free passage" after an appropriate reflection?
--
73, Cecil http://www.qsl.net/w5dxp

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7083. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:36:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ru7cfvg6imhei32b8ft7ig8jstmte88a0j@4ax.com>
Source record: 114435

On Sun, 22 Jun 2003 16:02:12 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>There's hardly any heat at an impedance
>discontinuity in a transmission line since there's hardly
>any resistance.

Hardly any heat. A disclaimer couched here to offset a future claim
that there is enough. The Blunder continues.

As always, when Cecil measures Z with his thermometer, we never see a
syllable of what that temperature is, simply a recitation in Virtual
science.

There is enough to cripple any transmission system when the
discontinuity is not designed for and is an obvious failure for many
Hams who suffer the vagaries of nature against their less than robust
implementations.

Heat has been a common indicator of/at mismatch for generations.

73's
Richard Clark, KB7QHC

7084. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:37:58 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306221337.6b4f8435@posting.google.com>
Source record: 114436

Ron <rons533@dejazzd.com> wrote in message news:<3EF5D603.5CBF@dejazzd.com>...
> N. Kirk Pearson wrote:
> >
> > The initial question re: RFI with G5RV, are you worried more about harmonic
> > radiation due to the balanced line used in the construction of a G5RV?
>
> ====================
>
> I am concerned about any radiation that may be a result of the open
> wire. As of now I don't have any problems with my coax fed dipole.
>
> Ron

Shouldn't really matter much which line you use as far as TVI or radiation from the line. I've never really noticed much difference between coax and ladder line, assuming no problems with feedline lengths, balance, etc. Being your neighbors are 30 ft away, it's quite likely any TVI problems would be about as likely to come from the antenna itself, as the feedline, unless the antenna is real high. If you keep the antenna balanced, and are careful about routing the ladder line, and also keep away from lengths that may be a problem, you should have little trouble. Both ladder lines and coax are equally capable of radiating. Some of the worst cases I've seen involved coax. Being the ladder line is balanced, radiation from the line is normally canceled for the most part unless you have a balance problem with the antenna or line. They don't radiate near as much as some people might think. BTW...If you did decide to do this, there is really no need to switch to a G5RV. Just feed your present dipole straight with ladder line all the way to the tuner. If you don't like how it works, it's easy to switch back to coax. MK

7085. Acom 2000sw 10 Position Remote Antenna Switch.

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 21:42:32 UTC
From: Mel <k2at@comcast.net>
Message-ID: <uPGcne4x2_tYv2ujXTWJkQ@comcast.com>
Source record: 114437

Have for sale the acom 2000sw 10 position antenna switch which I know longer need as I went to a multi-band antenna. Will follow along with the transceiver and auto change up to 10 different antennas. Leaves u plenty time in contests to switch from band to band. Want $400. and $15. shipping for the switch and remote head as well as necessary cabling. New they r over $600. Go to the Acom web site for the specs. Mel.

7086. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 22:00:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF626F4.2070909@ieee.org>
Source record: 114438

Richard Clark wrote:
> Heat has been a common indicator of/at mismatch for generations.

Richard, do you have any examples of heat developed at an impedance
discontinuity point caused by a change in characteristic impedance
of the transmission lines. I would sure be surprised if you do.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7087. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 22:02:05 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <9m9cfvk98e19uermgjk022n06m25g5eqei@4ax.com>
Source record: 114439

On Sun, 22 Jun 2003 07:26:09 -0500, "Richard Fry" <rfry@adams.net>
wrote:

>Roy/Bob (re your statements below):
>
>The opening page of website http://www.eriinc.com/ has a photo of a
>complete, two-bay c-pol FM transmitting antenna, face mounted on a tower.
>The antenna is built on a 50 ohm rigid coaxial "spine," and the input
>impedance of the array is 50 ohms, unbalanced. The stem feeding each bay of
>the antenna contains a step transformer made by adjusting the diameter of
>the inner conductor in the stem, and a tee allowing each bay to be connected
>to the 50 ohm spine, to receive equal power from it, and to drive the two
>dipoles in each bay. The two outputs of the stem tee are fed internally and
>coaxially through the driven arms to connect to the outer arm assembly just
>past the insulators. No balun is used.

Oh yea? No balun used? From the manufacture's web page:

"ERI has engineered broadband element models to be used as building
blocks in the construction of custom horizontal radiation patterns.
The 1080 Flat Panel and the 1080 utilize pressurized *balun* support
stems with crossed, dipole arms......"

Danny, K6MHE

7088. Re: braided coax shields ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 22:24:02 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ef62df8_1@news1.prserv.net>
Source record: 114440
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Ed:

Did you examine it closely enough to determine that it was braided plated copper, and not steel? I recently sold a couple hundred feet of steel tubular braid to some military vehicle collectors for replacement loom. This I had came off some RG-18 or whatever armored RG-17 is nomenclatured. I didn't need the armor, and it sure makes handling the coax a lot easier without it.

As far as copper is concerned, both Alpha and Belden still show it in their master catalogs, Alpha #s 2132 thru 2152 for 1/16" to 25/32" I. D., while Belden numbers are 8660 to 8669, but not in any numerical order by size. Alpha calls theirs "Tinned Copper Oval Braid" while Belden's term is "Shielding and Bonding Cables". And, they are not flat. The flat has different part numbers.

Go to their web sites and check for dealers.

--
Crazy George
Remove NO and SPAM from return address>

7089. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 22:31:10 UTC
From: richardharrison@webtv.net
Message-ID: <10477-3EF62E2E-31@storefull-2317.public.lawson.webtv.net>
Source record: 114442

Cecil, W5DXP wrote:
"What happened to "allowed free passage" after an appropriate
reflection?"

Could happen. Bailey is assuming a change in medium which causes no
change in impedance in the free passage case. Free passage is
transparent. One can have a totally lossless reflection from a perfect
reflector, too.

Best regards, Richard Harrison, KB5WZI

7090. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 22:31:15 UTC
From: jgboyles@aol.com
Message-ID: <20030622183115.21192.00000859@mb-m20.aol.com>
Source record: 114441

>Let us look at what has been said:
>1. Chev. pickup truck
>2. Five element (antenna) system
>3. Each antenna spaced six feed from each other
>---- the five consist of:
> A 0.25 WL driven element;
> A 0.25 WL reflector; and
> three 0.5 WL directors

That must be a neat antenna, I wonder if BillVnce could provide some pictures, I would really like to see it (seriously). You say it works well, and I believe you. The problem I am having is how you got 24' spacing on a Chevy Truck, and why you would want such a directional array for a mobile antenna. The roads you drive must be all in a straight line, or you only use the antenna while stopped, in which case why did you mount that complex array on a truck? The .5 wl directors, how did you know that these elements would act as directors? I thought they would act as directors if they were slightly shorter than .25 wl, but I am not sure on this.
A series of wire boxes on Eznec to simulate the outline of the truck might give you some of what you are looking for. As others have suggested modeling the verticals over a perfect ground will give you a good first approximation. Another suggestion, do field strength readings as you change configurations. Get in a wide open area, and take readings in about a 20 meter radius circle around the truck. This will give you an idea of the pattern, the F/B ratio, but sadly will tell you nothing of the gain, since you have no reference. But, since this is directional, and you want to get all the signal in one direction the gain may not be important.
73 Gary N4AST

7091. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:03:48 UTC
From: "N. Kirk Pearson" <KI7YY@bresnan.net>
Message-ID: <oBqJa.75207$sm5.76140@rwcrnsc52.ops.asp.att.net>
Source record: 114443

The only balanced line in a typical G5RV is the 31 ft. vertical component,
which is supposed to radiate on the G5RV. Am I missing something? Thanks.
"Ron" <rons533@dejazzd.com> wrote in message
news:3EF5D603.5CBF@dejazzd.com...
> N. Kirk Pearson wrote:
> >
> > The initial question re: RFI with G5RV, are you worried more about
harmonic
> > radiation due to the balanced line used in the construction of a G5RV?
>
> ====================
>
> I am concerned about any radiation that may be a result of the open
> wire. As of now I don't have any problems with my coax fed dipole.
>
> Ron

7092. Re: Be SURE to oppose Broadband Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:08:33 UTC
From: user@domain.invalid
Message-ID: <3EF636F1.8020006@domain.invalid>
Source record: 114444
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Why bother? Unless you are a billionaire lining Powell's pockets, he is
not going to listen.

7093. Auto Tuner... ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:09:49 UTC
From: Wayne <waynebailey@charter.net.nospam>
Message-ID: <vfcdo83rph3pa3@corp.supernews.com>
Source record: 114445

I'm using the newest LDG autotuner (MP-11) with a 102 ft flat top wire. The flat top is fed with 75 feet of 450 ohm ladder line into a LDG 4:1 balun then to a piece of 50 ohm to the transceiver.

Question: Shouldn't I be able to tune across the band with this? So far I have not been able too.

It seems to find a match for 10 and 80 meters, but, for the other bands I'm having to manually adjust the tuner to get an acceptable match.

Any ideas??

7094. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:14:08 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd5d80$sl9$1@hercules.btinternet.com>
Source record: 114446

"J. McLaughlin" wrote -
> My experience suggests that "commercial broadcasters" do not have a clue
> about antennas.

==========

You are probably correct.

From the standard of old-wives' radio engineering displayed on this newsgroup it is probably worse.

Fortunately there are sufficiently very few proficient truly professional engineers to keep the world going. But they just get on with their jobs without wasting their valuable time trying to educate us ill-educated bickering newsgroup readers.

On the other hand this newsgroup is dedicated to Amateur Radio. Not salesmen. Let's see more callsigns. Long may the many various ways of obtaining 'kicks' from the hobby continue.

Reg, G4FGQ.

7095. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:19:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfceccolbicq05@corp.supernews.com>
Source record: 114447

Thanks!

It sure doesn't look much like a typical coax-fed dipole to me. But actually, in some ways it is. I'll explain.

Hopefully Richard can correct me if I'm wrong in my interpretation about how the feed works. I'm assuming that the vertical and horizontal pipes are the outside of a coaxial feed. The grayish rings part way out each of the curved dipoles look like insulators, so I'm guessing that's where the inner coaxial conductor connects. That is, the center conductor connects to the outside 1/3 or so of each dipole, making the effective feed points the gaps where the gray rings are. If I'm correct so far, then all the current from the inside of the coax shield flows onto each dipole at the inner edge of the gap (that is, the side of the gap closest to the center of the dipole). This of course is the main dipole current, responsible for the pattern. Starting with the inner side of the gap, current flowing along the dipole has a choice when it reaches the horizontal pipe extending between the dipoles -- it can flow on out the other half of the dipole, or it can flow along the horizontal pipe between the dipoles. The amount which goes each way depends on the impedances of the two paths. This is exactly the situation that occurs with a dipole fed at the center with a coax line. But let's see what happens next.

Whatever current flows along the horizontal pipe between the dipoles, each dipole contributes an equal amount. This is obvious from the symmetry (if you assume the dipoles are fed in phase). So if one dipole injects one amp into the horizontal arm, then the other dipole also injects one amp into the other end of the horizontal arm. The equal currents are flowing from opposite directions, so their fields will cancel (completely, broadside to the arm, and less completely in other directions) there'll be very little radiation from this horizontal arm. It's the same situation as the currents on two opposed ground plane radial wires. A very crude EZNEC model with straight rather than curved elements, and guessing at some dimensions, shows about 0.14 amps flowing along the horizontal arm for 1 amp at each dipole feedpoint. The small amount of radiation from the horizontal arm could be compensated by slight modification of the dipole elements to keep the pattern circular. It might not be necessary, though.

But what keeps the current on the horizontal arm between the dipoles from flowing along the horizontal mounting arm to the vertical structure? I think the trick here is in the length of the mounting arm. I'll bet it's very close to a quarter wavelength. That way, the impedance seen by any current on the horizontal arm between the dipoles

will be high. The conducted current on the horizontal mounting arm and therefore on the vertical structure will be very low -- for exactly the same reason that a dipole fed with a quarter wavelength of coax, with the bottom of the coax connected to ground, will have very little current on the outside of the coax. The fact that the impedance is high at the center of the horizontal arm between the dipoles means that not much current will flow onto the arm from the dipoles in the first place.

I've seen quarter wave conductive standoffs used in microwave applications. They act like insulators, since the impedance looking down from the top is very high. I'll bet that both Richard Harrison and Richard Fry have seen this technique used for antenna elements. And that's what I believe is being done here. Conducted current on the outside of the feedline is being inhibited by means of choosing the correct length for the mounting arm. In exactly the same manner, conducted feedline current can be inhibited on a coax fed dipole by having the distance to ground along conductors from the antenna feedpoint be appoximately an odd number of quarter wavelengths.

This antenna simply illustrates the principles I've been describing, and was obviously designed by someone who understands the principles. In no way does it provide evidence that matching an antenna inhibits current on the outside of a coax feedline or that mismatching causes it.

Roy Lewallen, W7EL

Graham wrote:
> Roy;
>
> If we're looking at the same picture, the manufacturer is ERI.
> They have better close-ups of the individual elements at:
>
> http://www.eriinc.com/fm_antenna.html
>
> Cheers!
>
> On Sun, 22 Jun 2003 13:18:55 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>
>>Can you direct us to the manufacturer? A model
>>number would also be helpful. Perhaps the manufacturer has a better picture.
>
>
>

7096. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:27:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd5e1b$e4$1@hercules.btinternet.com>
Source record: 114448

> Both ladder lines and coax are equally
> capable of radiating. Some of the worst
> cases I've seen involved coax.

==========

What is your definition of "worst" ?

Amongst your worst cases could you tell us very approximately what percent
of transmitter output power was radiated from the feedlines.

Just a number will do.

Reg, G4FGQ

7097. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:30:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <quecfvk1j05hcm564b6i382d88vg66vdia@4ax.com>
Source record: 114449

On Sun, 22 Jun 2003 17:00:20 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Heat has been a common indicator of/at mismatch for generations.
>
>Richard, do you have any examples of heat developed at an impedance
>discontinuity point caused by a change in characteristic impedance
>of the transmission lines. I would sure be surprised if you do.

You were probably just as surprised when you burned your lip.

73's
Richard Clark, KB7QHC

7098. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:30:46 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd5e6v$pcmse$1@ID-175933.news.dfncis.de>
Source record: 114450

Dan...

Sorry to be blunt -- but the ERI "1080 Flat Panel" configuration you refer to below really is not germane to my post.

ERI (and some other OEMs of FM broadcast arrays) do manufacture various forms of panel antennas, but their physical and electrical design is much different than the element design I referred to in my post, i.e., the "rototiller."
But the rototiller is THE most common element of sidemount FM broadcast arrays in use in the US. Similarly-performing designs are supplied by Dielectric Communications (their DCR series), Jampro (their "Penetrator" series), and several US domestic & offshore imitators of these basic element configurations.

The picture I referred to, and my description of it apply ONLY to the ERI rototiller element -- which is NOT a 1080 panel element. Therefore the 1080 description you referenced is irrelevant to that element configuration.

RF

Visit http://rfry.org for FM broadcast RF system papers.

----- Original Message -----
From: "Dan Richardson" <ChangeThisToCallSign@mendolink.com>
Newsgroups: rec.radio.amateur.antenna
Sent: Sunday, June 22, 2003 5:02 PM
Subject: Re: Open Wire with G5RV =RFI
>
> Oh yea? No balun used? From the manufacture's web page:
>
> "ERI has engineered broadband element models to be used as building
> blocks in the construction of custom horizontal radiation patterns.
> The 1080 Flat Panel and the 1080 utilize pressurized *balun* support
> stems with crossed, dipole arms......"
>
> Danny, K6MHE

7099. Re: Looking For Help Modeling a Mobile Antenna System with Eznec

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:54:12 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfcgaro4e6jr5f@corp.supernews.com>
Source record: 114451

Dear Group:
"Bill" sent me a picture looking at the front of what appears to be a full size GMC truck. The picture is taken with a view that is a few degrees off of the center line of the truck. Extending horizontally from the center of the front bumper of the truck is a significant, round member that has two "tall" vertical rods mechanically attached - one near the bumper and the other at the far end of the horizontal member. Just in front of the interface between the windshield and the hood, an additional "tall" vertical rod extends. This member has a coil present near its middle. Farther to the rear, and in line with the aforementioned rods, one can see two more shorter vertical rods. The truck has what I call a hood covering the box of the truck that is about flush with the top of the cab. The shorter rods are probably attached to the hood.

The accompanying message could be interpreted to indicate that the antenna was used in a "shoot out" to show persons using large amplifiers on 11 meters that one can achieve similar effects with an antenna. Bill indicates that he is a radio amateur who is endeavoring to convert experimenters to amateur radio.

I suggested, as I did before and as JGBOYLES has, that one might start with placing the elements over a perfect ground. Bill's message to me arrived well before Roy's offer of help. I noted the offer and how helpful Roy has been to his clients in the past.

73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20030622183115.21192.00000859@mb-m20.aol.com...
> >Let us look at what has been said:
> >1. Chev. pickup truck
> >2. Five element (antenna) system
> >3. Each antenna spaced six feed from each other
> >---- the five consist of:
> > A 0.25 WL driven element;
> > A 0.25 WL reflector; and
> > three 0.5 WL directors
>
> That must be a neat antenna, I wonder if BillVnce could provide some
pictures,
> I would really like to see it (seriously). You say it works well, and

I
> believe you. The problem I am having is how you got 24' spacing on a
Chevy
> Truck, and why you would want such a directional array for a mobile
antenna.
> The roads you drive must be all in a straight line, or you only use
the antenna
> while stopped, in which case why did you mount that complex array on a
truck?
> The .5 wl directors, how did you know that these elements would act as
> directors? I thought they would act as directors if they were
slightly shorter
> than .25 wl, but I am not sure on this.
> A series of wire boxes on Eznec to simulate the outline of the truck
might
> give you some of what you are looking for. As others have suggested
modeling
> the verticals over a perfect ground will give you a good first
approximation.
> Another suggestion, do field strength readings as you change
configurations.
> Get in a wide open area, and take readings in about a 20 meter radius
circle
> around the truck. This will give you an idea of the pattern, the F/B
ratio,
> but sadly will tell you nothing of the gain, since you have no
reference. But,
> since this is directional, and you want to get all the signal in one
direction
> the gain may not be important.
> 73 Gary N4AST

7100. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-22 23:59:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF642DE.9090107@ieee.org>
Source record: 114452

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "What happened to "allowed free passage" after an appropriate
> reflection?"
>
> Could happen. Bailey is assuming a change in medium which causes no
> change in impedance in the free passage case. Free passage is
> transparent. One can have a totally lossless reflection from a perfect
> reflector, too.

What we have at an impedance discontinuity is a change in impedance
with no change in medium. I find it hard to believe that simply
increasing the separation between two wires from 1/4" to 1" will
cause any heat dissipation at that point.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7101. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:00:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF6432F.4040009@ieee.org>
Source record: 114453

N. Kirk Pearson wrote:
> The only balanced line in a typical G5RV is the 31 ft. vertical component,
> which is supposed to radiate on the G5RV.

Nope, that 31 ft. is not supposed to radiate. The G5RV is a balanced
antenna and the 31 ft. is balanced line. Why would it radiate?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7102. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:07:05 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd5gb2$p62i8$1@ID-175933.news.dfncis.de>
Source record: 114454

RE: Post below the line

Roy,

This IS the manufacturer's website Just "clicking around" on the various choices there will lead you to their various product designs.

Rgds,

RF

Visit http://rfry.org for FM broadcast RF system papers.

----- Original Message -----

> (clipped) Can you direct us to the manufacturer?

> Roy Lewallen, W7EL

++++++++++

> Richard Fry wrote:
> > Roy (re your statements below):
> >
> > The opening page of website http://www.eriinc.com/ has a photo of a
> > complete, two-bay c-pol FM transmitting antenna, face mounted on a
>> tower. . .

7103. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:09:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF6454E.7090606@ieee.org>
Source record: 114455

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Richard, do you have any examples of heat developed at an impedance
>>discontinuity point caused by a change in characteristic impedance
>>of the transmission lines. I would sure be surprised if you do.
>
> You were probably just as surprised when you burned your lip.

My lip was burned by RF. You really think that increasing the
spacing between two wires from 1/4" to 1" is going to cause
additional heating at that point?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7104. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:14:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfchjpla3affc3@corp.supernews.com>
Source record: 114456

Thanks, I didn't realize that, and thought it was a consulting company.

But I think I've done enough now. I've given an explanation, references, modeling results, and measurements (in the Compendium article) to illustrate the principles. It's up to you, now, to show why this is all wrong, and how high SWR causes feedline radiation.

Roy Lewallen, W7EL

Richard Fry wrote:
> RE: Post below the line
>
> Roy,
>
> This IS the manufacturer's website Just "clicking around" on the various
> choices there will lead you to their various product designs.
>
> Rgds,
>
> RF
>
> Visit http://rfry.org for FM broadcast RF system papers.
> _________________________
>
> ----- Original Message -----
>
>
>>(clipped) Can you direct us to the manufacturer?
>
>
> > Roy Lewallen, W7EL
>
> ++++++++++
>
>
>>Richard Fry wrote:
>>
>>>Roy (re your statements below):
>>>
>>>The opening page of website http://www.eriinc.com/ has a photo of a
>>>complete, two-bay c-pol FM transmitting antenna, face mounted on a
>>> tower. . .
>
>
>

7105. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:19:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfchs7j6gmar4e@corp.supernews.com>
Source record: 114457

All it takes for a symmetrical line feeding a symmetrical antenna to radiate is an unbalanced tuner or source. Then, neither that symmetrical antenna nor symmetrical feedline will be balanced, and the line will radiate.

Roy Lewallen, W7EL

W5DXP wrote:
> N. Kirk Pearson wrote:
>
>> The only balanced line in a typical G5RV is the 31 ft. vertical
>> component,
>> which is supposed to radiate on the G5RV.
>
>
> Nope, that 31 ft. is not supposed to radiate. The G5RV is a balanced
> antenna and the 31 ft. is balanced line. Why would it radiate?

7106. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:27:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <56icfv461p6s989l70qvtkprvbqi4nkkcm@4ax.com>
Source record: 114458

On Sun, 22 Jun 2003 19:09:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Richard, do you have any examples of heat developed at an impedance
>>>discontinuity point caused by a change in characteristic impedance
>>>of the transmission lines. I would sure be surprised if you do.
>>
>> You were probably just as surprised when you burned your lip.
>
>My lip was burned by RF. You really think that increasing the
>spacing between two wires from 1/4" to 1" is going to cause
>additional heating at that point?

I really think we will have fun reading your dismissal of a hundred
years of that evidence - yes!

You can start right now (but that is redundant already).

73's
Richard Clark, KB7QHC

7107. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:34:07 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd5hto$phpv6$1@ID-175933.news.dfncis.de>
Source record: 114459

Roy (re your post below the line)...

Accepted, however I thought you would have discovered this on your own,
given your technical acumen.

Rgds,

RF

Visit http://rfry.org for FM broadcast RF system papers.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vfchjpla3affc3@corp.supernews.com...

> Thanks, I didn't realize that, and thought it was a consulting company.

+++++

Richard Fry wrote:

>> Roy,
> >
> >This IS the manufacturer's website Just "clicking around" on the various
>> choices there will lead you to their various product designs.
>
>> Rgds,
>
>> RF

7108. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 00:58:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <s7jcfv4he6rnepm9h2kteg9umlebe4io69@4ax.com>
Source record: 114460

On Sun, 22 Jun 2003 19:34:07 -0500, "Richard Fry" <rfry@adams.net>
wrote:

>Roy (re your post below the line)...
>
>Accepted, however I thought you would have discovered this on your own,
>given your technical acumen.
>
>Rgds,
>
>RF
>

Are we to presume this is the sum total of your technical rebuttal?

Roy's credentials outstrip yours to this point by actual demonstration
of theory and application - much less frequent exposure to critical
examination in this group and within the greater technical community.
There are already a number of professional engineers here with scads
of commercial radio experience that would have supported your
statement if they perceived its merit - but they too recognize Roy's
expertise. As another poster pointed out, you haven't offered much
beyond flippant sales engineering jargon.

This may be an amateur venue, but you haven't even risen to that level
of standard. Given the nature of newsgroup activity, you can either
complain of the mild abrasion, or respond to the technical challenge.

73's
Richard Clark, KB7QHC

7109. Re: Auto Tuner... ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 01:05:39 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF651FF.9010205@attbi.com>
Source record: 114461

Do you mean the AT-11MP??

Deacon Dave, W1MCE

Wayne wrote:
> I'm using the newest LDG autotuner (MP-11) with a 102 ft flat top wire. The
> flat top is fed with 75 feet of 450 ohm ladder line into a LDG 4:1 balun
> then to a piece of 50 ohm to the transceiver.
>
> Question: Shouldn't I be able to tune across the band with this? So far I
> have not been able too.
>
> It seems to find a match for 10 and 80 meters, but, for the other bands I'm
> having to manually adjust the tuner to get an acceptable match.
>
> Any ideas??
>
>
>

7110. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 01:37:23 UTC
From: richardharrison@webtv.net
Message-ID: <12011-3EF659D3-217@storefull-2316.public.lawson.webtv.net>
Source record: 114462

Cecil, W5DXP wrote:
"What we have at an impedance discontinuity is a change in impedance with no change in medium."

That happens, as Cecil aptly puts it, with an abrupt change in line spacing or other dimensional change. In the right circumstance there is no significant loss.

Reversing the direction of travel on the line requires reversal of only one field, E or H, not both. Both fields are together constantly reversing due to signal alternations. It has no effect on their travel direction.

The way to kill a wave is to soak it up with loss.

Best regards, Richard Harrison, KB5WZI

7111. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 01:49:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF65CC2.6D69CD36@cwis.net>
Source record: 114463

Richard,
Sounds like a 'cop out' to me. Are you going to
explain how SWR causes feedline radiation, or not?
'Doc

7112. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 02:01:29 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd5n1p$b11$1@sparta.btinternet.com>
Source record: 114464

"Roy Lewallen" wrote

> Posting does sometimes seem to be a waste of time.

==========

My service provider does not issue a guarantee. In any case I do not guarantee to have time to read all the reams of stuff appearing on these overloaded newsgroups. I do have other unpaid responsibilities.

==========

> Just yesterday I
> posted results for a worst case, and how
> much difference a few feet of
> feedline length made.

==========

I am quite familiar wth how much difference a few feet of feedline makes. It can even double 1% to something as catastrophic as 2%.

Did you post a numerical percent value. If not then your posting was little better than waffle. Remember Kelvin.

==========

> And I posted similar data not too long ago in response to the very same
> question you asked then.

==========

Yes I vaguely recall the occasion. But it could not have been the very same question. If I remember correctly it was you who could have learned somthing.

You may recall, a longer time ago, as you didn't seem to know, I told you in a newsgroup thread, how to model a dipole, centre-fed via coax using Eznec. It is of course a the simplest of procedures which you later adopted. And which on the later occasion you used without acknowledgement. Not that I expected any acknowledgement for such an obvious task.

==========

> Is your ISP dropping postings? If so, you should be able to find those
> postings via google, and finally have the answer to your question.

==========

You have quite deliberately twisted my question. A familiar sort of tactic of yours when you foresee the remote possibilty of losing an argument. You take such matters too seriously. This is a hobby newsgroup not a shop counter.

I had asked Cecil for an average, typical, expected, practical, usable, sensible approximate value of the percentage of transmitter power radiated from the feedline. I asked only for an approximate number which in the absence of any other information could be of guidance to the original questioner. A worst case value is meaningless unless referred to a completely specified system.

Cecil didn't know*. He waffled away on the subject of his personal longevity. Which, from Cecil, is quite acceptable, everybody understands, indeed even expects in his witty humorous replies.

Cecil then said, when he can find the time, he would use Eznec to provide the worst possible case value (of the percentage). The worst possible case is of no practical interest or use for the simple reason that in a practical dipole + feeder it so seldom occurs it would have to be specially contrived. You have a habit of using worse case examples to over-emphasize your point in an argument without saying so.

I did not reply to Cecil that Eznec is incapable of providing an answer to the percentage question because I wished to avoid the inevitable silly diverting argument which was sure to ensue. It would have dragged you in.

But since you have, as usual, dragged youself in, confident in your verbosity and eminent position in the Establishment, I will now say that Eznec cannot provide an answer to the percentage question because Eznec has enough common sense to recognise a stupid question when fed with one.

Can we now expect another outburst from that devoted ally of yours, another erstwhile member of the establishment - the dictionary swallower who treats all questions he is incapable of inventing an answer to as trolling ?

* And it appears neither do you.

Yours, Reg. G4FGQ

7113. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 02:06:56 UTC
From: richardharrison@webtv.net
Message-ID: <3978-3EF660C0-264@storefull-2318.public.lawson.webtv.net>
Source record: 114465

Cecil, W5DXP wrote:
"You really think that increasing the spacing between the wires from 1/4" to 1" is going to cause additional heating at that point?"

An impedance bump causes reflection and increases line current. Cecil`s qualification is "heating at that point".

Resistance is distributed in the line with reflections. Fig. 14 on page 24-11 of the 19th edition of the ARRL Antenna Book gives increase in db loss caused by standing waves versus matched loss for SWR`s from 1.5 to 20.

Best regards, Richard Harrison, KB5WZI

7114. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 02:27:46 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <a0pcfv8s3qm1bs2sn22tlr6462c1339rk4@4ax.com>
Source record: 114466

On Mon, 23 Jun 2003 02:01:29 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>Can we now expect another outburst from that devoted ally of yours, another
>erstwhile member of the establishment - the dictionary swallower who treats
>all questions he is incapable of inventing an answer to as trolling ?
>

Ah Punchinello!

You are clearly the greatest inventor of the group - playing both
sides of the question is easily your own special art form, but a Texas
cowboy is a rival to the bard of troll.

You demand knee-jerk response, I supply the knee (rhetorically of
course). ;-)

In all due respect to your infirmities, I will leave you the privilege
of the last comment (provided it is zipped up).

88's
Richard Clark, KB7QHC

7115. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 02:38:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rdpcfvcbumjdv8dpb8gjii5j5ur91je7ir@4ax.com>
Source record: 114467

On Sun, 22 Jun 2003 21:06:56 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Cecil, W5DXP wrote:
>"You really think that increasing the spacing between the wires from
>1/4" to 1" is going to cause additional heating at that point?"
>
>An impedance bump causes reflection and increases line current. Cecil`s
>qualification is "heating at that point".
>
>Resistance is distributed in the line with reflections. Fig. 14 on page
>24-11 of the 19th edition of the ARRL Antenna Book gives increase in db
>loss caused by standing waves versus matched loss for SWR`s from 1.5 to
>20.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

OK, pour a KW at this discontinuity that exhibits 20:1 as you allow.

What is the voltage across this 1/4" gap?

What results? A dissipationless discharge of a virtual arc? Are we
so inured to the siren's song of "High-Tech" to ignore the genesis of
the first transmitter?

This result is all too common compared to Cecil's mental gymnastics of
exotic trivialities. His is simply an example of the parade of poorly
bounded generalities that are passed off as deep thoughts into the
nature of truth.

73's
Richard Clark, KB7QHC

7116. Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 02:50:18 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030622225018.17702.00001357@mb-m23.aol.com>
Source record: 114468

Check this

Is light slowing down?
at
http://www.freerepublic.com/focus/f-news/933819/posts

this will fer sure mess up your reflections, deflections, calculations, resonant frequencies and electrical lengths. It for sure slowed down since I was young. Here some conclusion.
Have phun! Should be good for about 300 posts. :-)

Yuri

Caveat
The possibility that the speed of light is not a "constant" after all and has been slowing down is highly controversial and conjectural. Yet, some of the most dramatic changes in scientific perspective come only after much debate, vigorous opposition, and the like.

The entire field of physics is presently in a state of upheaval. The particle physicists have decided there is no causality, and that the universe has at least 10 dimensions. The redshift has been discovered to be quantized and that may shatter previous conceptions of our universe. Particle physics has totally altered our concepts of reality.

Many of today's scientific orthodoxies, however, originated from yesterday's unpopular heresies. The apparent decay in the velocity of light may be another of these controversial "heresies" looming on the horizon of modern physics. Only time will tell.

But the Bible changes not. It doesn't need to.

7117. FA: Air Tuning Cap 24-400 pf 2000 vdc

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 03:02:22 UTC
From: Alan Caplan <alan.caplan@frontiernet.net>
Message-ID: <25uJa.120$4d4.33@news01.roc.ny>
Source record: 114369

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3031349114&ssPageName=ADME:B:LC:US:1

Alan

7118. FA:Hy-gain 18AVT/WB Product 386 80/75 loading coil and special whip assy. Rare New

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 03:08:32 UTC
From: Alan Caplan <alan.caplan@frontiernet.net>
Message-ID: <PauJa.121$4l4.72@news01.roc.ny>
Source record: 114370

For those amateurs with a 18AVT/WB or WBS who want to work 80/75 meters this
is
a factory new top loading coil and hvy duty whip. These have been out of
production for
many years. With disk to hold the 4 top hat radials 3/8" 24 thread whip
section.

Alan

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3031343302&ssPageName=ADME:B:LC:US:1

7119. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 03:16:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <65scfvo8ce0h7jlnfjcjrmu823qupbfrc7@4ax.com>
Source record: 114371

On 23 Jun 2003 02:50:18 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
wrote:

>
>Is light slowing down?

Hi Yuri,

"Over the past 300 years, the velocity of light has been measured 163
times by 16 different methods. (As a Naval Academy graduate, I must
point out that Albert Michelson, Class of 1873, measured the speed of
light at the Academy. In 1881 he measured it as 299,853 km/sec. In
1907 he was the first American to receive the Nobel Prize in the
sciences. In 1923 he measured it as 299,798 km/sec. In 1933, at
Irvine, CA, as 299,774 km/sec.)"

Looks like it (but looking is slowing down too).

73's
Richard Clark, KB7QHC

7120. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 03:17:11 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd5rfneun1@hercules.btinternet.com>
Source record: 114372

I will leave you the privilege
> of the last comment
==========
At least you recognise yourself.

7121. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 03:35:43 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EF675C6.4000206@adelphia.net>
Source record: 114373

Yuri Blanarovich wrote:
> Check this
>
> Is light slowing down?
> at
> http://www.freerepublic.com/focus/f-news/933819/posts
>
> this will fer sure mess up your reflections, deflections, calculations,
> resonant frequencies and electrical lengths. It for sure slowed down since I
> was young. Here some conclusion.
> Have phun! Should be good for about 300 posts. :-)

Wow, we're all gonna get cold when light finally stops!

But since we're dealing in these absurdities, I'll toss out my
favorite: Where did the water of the great flood come from? Where did it
go? And did the kangaroos have to swim all the way to the Mideast from
Australia so they could get on the Ark and not drown when the flood came?

- Mike KB3EIA -

7122. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 05:28:40 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF69008.F7FEF57D@cwis.net>
Source record: 114374

Yuri,
The last sentence was;
"But the Bible changes not. It doesn't need to.". And
it's true. But, it's true because it doesn't require
proof, only faith. Faith doesn't require proof, but
science does...
'Doc

7123. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 06:11:29 UTC
From: Wes Stewart <n7ws@!#!arrl.net>
Message-ID: <h74dfvcvi8abbaaptrm8cujdu44fm1e0ga@4ax.com>
Source record: 114375

On Sun, 22 Jun 2003 07:26:09 -0500, "Richard Fry" <rfry@adams.net>
wrote:

|Roy/Bob (re your statements below):
|
|The opening page of website http://www.eriinc.com/ has a photo of a
|complete, two-bay c-pol FM transmitting antenna, face mounted on a tower.
|The antenna is built on a 50 ohm rigid coaxial "spine," and the input
|impedance of the array is 50 ohms, unbalanced. The stem feeding each bay of
|the antenna contains a step transformer made by adjusting the diameter of
|the inner conductor in the stem, and a tee allowing each bay to be connected
|to the 50 ohm spine, to receive equal power from it, and to drive the two
|dipoles in each bay. The two outputs of the stem tee are fed internally and
|coaxially through the driven arms to connect to the outer arm assembly just
|past the insulators. No balun is used.

Sigh. I've been trying to bite my tongue and stay out of this hoping
that Roy's comments would give you a clue, but alas...

Yes a balun is used, it is just cleverly included inside the driven
elements. Looks something like a double bazooka to me.

The first references to antennas of this type that I'm aware of are:

"New Multi-Station Top Mounted FM Antenna", IEEE Transactions on
Broadcasting, Vol BC23, No 2, June 1977

and

"A New High Power Circularly Polarized FM Antenna", IEEE Transactions
on Broadcasting, Vol BC-25, No. 1, March, 1979.

In both of the above, the feeder was outside of the driven elements
and configured in something like a combination delta/gamma match. The
center of each of the curved elements is fixed to the grounded support
structure, as in the (lousy) picture. However the elements are fed on
one side similarly to a gamma match, except the feed rods form a delta
with respect to the support arm.

7124. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 06:13:38 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306222213.16b71e81@posting.google.com>
Source record: 114376

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bd5e1b$e4$1@hercules.btinternet.com>...
> > Both ladder lines and coax are equally
> > capable of radiating. Some of the worst
> > cases I've seen involved coax.
>
> ============================
> What is your definition of "worst" ?
>
> Amongst your worst cases could you tell us very approximately what percent
> of transmitter output power was radiated from the feedlines.
>
> Just a number will do.
> ----
> Reg, G4FGQ

I have no idea. I just know which lines are the hottest with common mode currents in comparison to the others. "FS meter" It's not the percentage of power radiated by the line that is the biggest problem to me. It will still be radiated somewhere. It's the effects of the rf on radios, keyers, mike circuits, etc that is the real problem. I've seen a few coax fed dipoles, with "bad" lengths of coax, IE: near 1/2 wave, and no baluns, chokes, etc, that would radiate so much rf on the line, my whole station would malfunction. Garbled audio, mike bite, keyer lockup, etc.
I don't see that very often running ladder line. Not that it can't happen, but being coax is unbalanced feeding a balanced antenna, I view it as more prone to common mode problems. Of course, usually, I don't run "bad" lengths, and I use a choke, so it's normally a non issue. Besides, if you have a proper operating balun or choke, then coax length becomes a non issue. My "worst case" examples that I saw were with no baluns or decoupling used. MK

7125. Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 06:57:15 UTC
From: achilles03@hotmail.com
Message-ID: <fef44ceb.0306222257.5a978a28@posting.google.com>
Source record: 114377

I was hoping to increase the efficiency of my 2m handheld, and I know that rubber ducky antennas are a compromise between design and ergonomics.

What can I replace the rubber ducky antenna with to get a couple more dB out of my transmitter?

Any insight or knowledge is greatly appreciated!
Thanks!
Dave

7126. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 09:18:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfdhfbdrqiif9c@corp.supernews.com>
Source record: 114378

A quarter wave whip is quite a bit better than a ducky. And a half wave antenna is a considerably better HT antenna than a quarter wave. As you said, it's a trade.

Roy Lewallen, W7EL

David Harper wrote:
> I was hoping to increase the efficiency of my 2m handheld, and I know
> that rubber ducky antennas are a compromise between design and
> ergonomics.
>
> What can I replace the rubber ducky antenna with to get a couple more
> dB out of my transmitter?
>
> Any insight or knowledge is greatly appreciated!
> Thanks!
> Dave

7127. Re: Be SURE to oppose Broadband Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 10:51:41 UTC
From: helmsman <helmsman@DELETEmindspring.com>
Message-ID: <qpmdfv00q2ehff6thsq7n2o41hvt9e5vhc@4ax.com>
Source record: 114379
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On Sun, 22 Jun 2003 19:08:33 -0400, user@domain.invalid wrote:

>Why bother? Unless you are a billionaire lining Powell's pockets, he is
>not going to listen.
>
Same reason for voting, if you don't vote, you got no chance and no
squawk no matter what happens. If you vote at least you got a chance.
NEVER GIVE UP!!!!!

7128. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 10:54:32 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bd6m97$j71$1@sparta.btinternet.com>
Source record: 114380

"Mark Keith" wrote It's not the
> percentage of power radiated by the line that is the biggest problem
> to me. It will still be radiated somewhere.

==========

Mark, almost exact. It is impossible to segregate feedline power from antenna power. It is akin to saying only the middle section of a dipole does the radiating.

There may be something undesirable happening but we mislead ourselves, possibly jump to incorrect conclusions, by referring to it as radiation.

The severity of problem can be sensibly discussed only by attaching a number to a quantity which, if only in principle, can be measured. It is important to be able to predict in given circumstances whether anything needs to be done about it and what should be done.

The years of entirely unquantified waffle on this newsgroup about "radiation from the feedline" does nothing but magnify the size of what most of the time is un-noticeable to a vital-to-attend-to catastrophy which invariably occurs.

At HF, forget about watts radiated. Think in terms of the near field, measurable amps times length, and mutual coupling with adjacent conductors in the vicinity. I admit the subject loses its excitement but it is kept within reasonable bounds.

And remember in the amateur environment, even on a supposed balanced feedline the unbalance current is nearly always of appreciable magnitude if only because it is within the powerful near-field of the main antenna as is a director or reflector. And who loses much sleep about that? "If it works don't fix it" always applies.

Reg G4FGQ

7129. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 12:08:51 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030623080851.23175.00000799@mb-m21.aol.com>
Source record: 114381

>
> But since we're dealing in these absurdities, I'll toss out my
>favorite: Where did the water of the great flood come from? Where did it
>go? And did the kangaroos have to swim all the way to the Mideast from
>Australia so they could get on the Ark and not drown when the flood came?
>
> - Mike KB3EIA -
>

Not being there at the time, but I could speculate that it was local flood,
which in smaller scale is stil observable nowadays.
In that case kangaroos and other weird animals were safe where they were. Only
bad people, communists and democrats were punished :-)
Maybe lot of water went underground or sits on the poles as a giant icecube. We
have enough of "global warming" here in NE, too much rain and cooool.

Yuri

7130. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 12:14:17 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030623081417.23175.00000800@mb-m21.aol.com>
Source record: 114382

> The last sentence was;
>"But the Bible changes not. It doesn't need to.". And
>it's true. But, it's true because it doesn't require
>proof, only faith. Faith doesn't require proof, but
>science does...
> 'Doc
>
>

To me, there is enough proof (may be slightly distorted due to human innacuracies) and until I find better, more proven, I will stick with it. Back to reflecting on reflections....

Yuri

7131. Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 12:29:47 UTC
From: Pappy127@city.net
Message-ID: <3EF6F2BB.B325B868@city.net>
Source record: 114383

I am moving into a housing complex and that doesn't allow beams / verticals / satellite dishes. So I figured I would try a stealthy antenna like a wire that would work 40 - 10 meters. The darn contractor took down the trees that where on my plot of sand which I figured using to hook the wire too.

I figure what they can't see they can't complain about.

Any ideas would be appreciated.

7132. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 12:50:33 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <3EF6F799.8090602@PAMyahoo.ca>
Source record: 114384

Flagpole antenna?
73 de Eskay.

Pappy127@city.net wrote:
> I am moving into a housing complex and that doesn't allow beams /
> verticals / satellite dishes. So I figured I would try a stealthy
> antenna like a wire that would work 40 - 10 meters. The darn contractor
> took down the trees that where on my plot of sand which I figured using
> to hook the wire too.
>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

7133. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 13:37:03 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <3oDJa.74965$Pc5.11024@fed1read01>
Source record: 114385

Pappy -- some stealth antenna ideas at URL:
http://ac6v.com/antprojects.htm#STANT

AND the ARRL has a book on the subject URL:
http://www.arrl.org/catalog/
For Select a Category choose "ANTENNAS" For "Product Search" type in
"STEALTH"

<Pappy127@city.net> wrote in message news:3EF6F2BB.B325B868@city.net...
> I am moving into a housing complex and that doesn't allow beams /
> verticals / satellite dishes. So I figured I would try a stealthy
> antenna like a wire that would work 40 - 10 meters. The darn contractor
> took down the trees that where on my plot of sand which I figured using
> to hook the wire too.
>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

7134. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 13:46:02 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7049A.4050908@ieee.org>
Source record: 114386

Roy Lewallen wrote:
> All it takes for a symmetrical line feeding a symmetrical antenna to
> radiate is an unbalanced tuner or source. Then, neither that symmetrical
> antenna nor symmetrical feedline will be balanced, and the line will
> radiate.

My G5RV (store bought) came with a hefty 1:1 W2DU choke at
the coax-twinlead junction.
--
73, Cecil http://www.qsl.net/w5dxp

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7135. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 13:49:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7057E.2020508@ieee.org>
Source record: 114387

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>My lip was burned by RF. You really think that increasing the
>>spacing between two wires from 1/4" to 1" is going to cause
>>additional heating at that point?
>
> I really think we will have fun reading your dismissal of a hundred
> years of that evidence - yes!

You have 100 years of evidence that increasing the spacing between
transmission line wires causes the wires to heat up??? Would you
please provide just one reference?
--
73, Cecil http://www.qsl.net/w5dxp

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7136. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 13:51:24 UTC
From: richardharrison@webtv.net
Message-ID: <29598-3EF705DC-369@storefull-2312.public.lawson.webtv.net>
Source record: 114391

Reg, G4FGQ wrote:
"At HF forget about watts radiated."

That`s been my experience with transmission lines. Symmetry and close spacing avoid radiation. Good coax doesn`t leak r-f through its shield, but poor shielding at its ends lets r-f in or out. Unbalanced induction or radiation can put signal on the coax exterior.

A balanced open-wire line avoids radiation due to equal opposing signals at a distance from the wires. As in the case of coax, unbalanced induction or radiation can put a common-mode (unbalanced signal) on its wires.

King, Mimno, and Wing quantify, to some extent, radiation from transmission lines. This begins on page 235 of "Transmission Lines, Antennas and Wave Guides".

Best regards, Richard Harrison, KB5WZI

7137. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:01:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF70852.9070503@ieee.org>
Source record: 114388

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "What we have at an impedance discontinuity is a change in impedance
> with no change in medium."
>
> That happens, as Cecil aptly puts it, with an abrupt change in line
> spacing or other dimensional change. In the right circumstance there is
> no significant loss.

Yet an abrupt change in line spacing can result in wave cancellation of two waves traveling in the same direction with equal amplitudes and opposite phases. Note that I said "can result", not "must result".

> Reversing the direction of travel on the line requires reversal of only
> one field, E or H, not both.

You are talking about one wave and you are correct. I am talking about two waves engaging in wave cancellation. Wave cancellation requires at least two waves and is not the same thing as ordinary wave reflection. Please think outside the box of a single reflected wave.

> The way to kill a wave is to soak it up with loss.

The way to kill two waves is for them to be equal in amplitude and 180 degrees out of phase. That energy does NOT turn into heat. That energy reverses its direction of travel.
--
73, Cecil http://www.qsl.net/w5dxp

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7138. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:08:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF709CD.3030907@ieee.org>
Source record: 114389

Reg Edwards wrote:
> I did not reply to Cecil that Eznec is incapable of providing an answer to
> the percentage question because I wished to avoid the inevitable silly
> diverting argument which was sure to ensue.

EZNEC will indicate the magnitude of the current in the wire used to
simulate the outside braid of the coax. It will also indicate the
magnitude of the current in the antenna wire. What you will see is
the simulated outside braid of the coax sucking up current that
should be going into the antenna.
--
73, Cecil http://www.qsl.net/w5dxp

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7139. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:11:42 UTC
From: kf4tun <kf4tun@adelphia.net>
Message-ID: <yUDJa.4819$Hw.4114283@news2.news.adelphia.net>
Source record: 114390

Doc,
You say the scientific proof is fact. Take a good look at science, and the proof they have. You know and I know that most scientific proof is knowledgeable conjecture at best. Don't believe me, just look at the "scientific facts being taught in schools and colleges" which were disproved in your lifetime! Plate tectonics' was laughed at 40yrs ago, the facts said it just wasn't so, now, with help from the CIA, we know it to be a "fact". The big bang theory is gone!
I could list at least 500 more proven scientific facts that were flat wrong.

Jim, kf4tun
"'Doc" <w5lz@cwis.net> wrote in message news:3EF69008.F7FEF57D@cwis.net...
>
>
> Yuri,
> The last sentence was;
> "But the Bible changes not. It doesn't need to.". And
> it's true. But, it's true because it doesn't require
> proof, only faith. Faith doesn't require proof, but
> science does...
> 'Doc

7140. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:20:11 UTC
From: richardharrison@webtv.net
Message-ID: <29598-3EF70C9B-377@storefull-2312.public.lawson.webtv.net>
Source record: 114396

Eskay wrote:
"Flagpole antenna?"

Use plenty of buried radials and keep water out of the coax..

Best regards, Richard Harrison, KB5WZI

7141. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:20:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF70CBA.80303@ieee.org>
Source record: 114392

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "You really think that increasing the spacing between the wires from
> 1/4" to 1" is going to cause additional heating at that point?"
>
> An impedance bump causes reflection and increases line current. Cecil`s
> qualification is "heating at that point".

source-------------------50 ohm feedline-----------------50 ohm load

Widen the spacing to obtain the following:

source----50 ohm feedline---+---1/2WL 150 ohm feedline---50 ohm load

The system is matched. That means that the V/I ratio at point '+'
is the same as on the 50 ohm feedline. The impedance bump does *NOT*
cause increased heating at the '+' point. But the '+' point is exactly
where the wave cancellation is occurring. Ergo, wave cancellation is
not causing additional heating.
--
73, Cecil http://www.qsl.net/w5dxp

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7142. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:26:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF70E0C.4030107@ieee.org>
Source record: 114393

Yuri Blanarovich wrote:
> this will fer sure mess up your reflections, deflections, calculations,
> resonant frequencies and electrical lengths.

A change in the speed of light would be irrelevant to measurements
being made in a transmission line over a few minutes of time.
--
73, Cecil http://www.qsl.net/w5dxp

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7143. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:29:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF70EBE.3000002@ieee.org>
Source record: 114394

Richard Clark wrote:
> "Over the past 300 years, the velocity of light has been measured 163
> times by 16 different methods. (As a Naval Academy graduate, I must
> point out that Albert Michelson, Class of 1873, measured the speed of
> light at the Academy. In 1881 he measured it as 299,853 km/sec. In
> 1907 he was the first American to receive the Nobel Prize in the
> sciences. In 1923 he measured it as 299,798 km/sec. In 1933, at
> Irvine, CA, as 299,774 km/sec.)"
>
> Looks like it (but looking is slowing down too).

Light is not slowing down - seconds are getting shorter. Light simply
doesn't travel as far in a shorter second as it once did during a
longer second.
--
73, Cecil http://www.qsl.net/w5dxp

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7144. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:37:53 UTC
From: richardharrison@webtv.net
Message-ID: <29599-3EF710C1-155@storefull-2312.public.lawson.webtv.net>
Source record: 114397

Cecil, W5DXP wrote:
"I am talking about two waves engaging in wave cancellation."

You have same frequency, locked phase signals. Represented by vectors, they have a single resultant. For practical purposes, you have a single wave.

Best regards, Richard Harrison, KB5WZI

7145. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:40:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF71179.4050705@ieee.org>
Source record: 114395

Mike Coslo wrote:
> But since we're dealing in these absurdities, I'll toss out my
> favorite: Where did the water of the great flood come from? Where did it
> go?

The water of the great flood came from the Aegean Sea after the
last ice age melted and caused the sea levels to rise. It went
into the Black Sea at the rate of about six inches per day and
is still there. Noah's house is still under water.

http://www.nationalgeographic.com/blacksea/
--
73, Cecil http://www.qsl.net/w5dxp

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7146. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:45:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF712A0.7010403@ieee.org>
Source record: 114398

David Harper wrote:
> What can I replace the rubber ducky antenna with to get a couple more
> dB out of my transmitter?

A quarter-wave whip and a quarter-wave tiger tail will do the job.
I've got an aluminum hard hat with a quarter-wave whip on top that
works well and initiates a lot of conversations. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7147. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 14:57:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF71558.3050101@ieee.org>
Source record: 114399

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "I am talking about two waves engaging in wave cancellation."
>
> You have same frequency, locked phase signals. Represented by vectors,
> they have a single resultant. For practical purposes, you have a single
> wave.

Please don't try to rationalize these facts away. A single wave cannot
cancel. It takes at least two waves for wave cancellation to occur.
--
73, Cecil http://www.qsl.net/w5dxp

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7148. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 15:08:02 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <9n5efv849ema0srmntmfetbc5e2ni9nh9o@4ax.com>
Source record: 114400

On Sun, 22 Jun 2003 23:11:29 -0700, I wrote:

|
|The first references to antennas of this type that I'm aware of are:
|
|"New Multi-Station Top Mounted FM Antenna", IEEE Transactions on
|Broadcasting, Vol BC23, No 2, June 1977
|
|and
|
|"A New High Power Circularly Polarized FM Antenna", IEEE Transactions
|on Broadcasting, Vol BC-25, No. 1, March, 1979.
|
|In both of the above, the feeder was outside of the driven elements
|and configured in something like a combination delta/gamma match. The
|center of each of the curved elements is fixed to the grounded support
|structure, as in the (lousy) picture. However the elements are fed on
|one side similarly to a gamma match, except the feed rods form a delta
|with respect to the support arm.

A picture is worth a 1000 words. See:

http://www.eriinc.com/fm_antenna.html#Anchor-Roto-Filler-49575

and look at the "100 series circular" for what I describe above.
|

7149. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 15:17:45 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <trOBVgAZox9+EAP9@ifwtech.co.uk>
Source record: 114405

W5DXP wrote:
>Roy Lewallen wrote:
>> All it takes for a symmetrical line feeding a symmetrical antenna to
>>radiate is an unbalanced tuner or source.

Or an unbalanced environment for the antenna - different layout of houses/masts/trees at opposite ends, and/or sloping ground beneath...

Or an unbalanced installation, typically any installation where the open-wire and/or coax doesn't run away from the main antenna at right-angles for a long, long way.

>>Then, neither that symmetrical antenna nor symmetrical feedline will
>>be balanced, and the line will radiate.
>
...to some extent. The question is whether the line radiates - or conducts RF currents back into the house and shack, or picks up noise on receive - *enough* to cause problems. This depends on many other factors besides the antenna system itself.

The balun/no-balun controversy is mostly divided between people who have had problems and cured them with a balun, and the second group who haven't had any problems... or not yet.

There is also a third group who think the right time to add the balun is *after* you've had RFI complaints from family or neighbors. Anyone who thinks it might be a good idea to take simple precautions *before* going on the air is obviously a worrier and an old wife.

Cecil wrote:
>My G5RV (store bought) came with a hefty 1:1 W2DU choke at
>the coax-twinlead junction.

Unless you're in that third group, that seems a right good idea.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

7150. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:22:15 UTC
From: tdonaly@aol.com
Message-ID: <20030623122215.09323.00001858@mb-m07.aol.com>
Source record: 114401

Cecil wrote,
>
>David Harper wrote:
>> What can I replace the rubber ducky antenna with to get a couple more
>> dB out of my transmitter?
>
>A quarter-wave whip and a quarter-wave tiger tail will do the job.
>I've got an aluminum hard hat with a quarter-wave whip on top that
>works well and initiates a lot of conversations. :-)
>--
>73, Cecil http://www.qsl.net/w5dxp
>

It won't work without a propeller.
73,
Tom Donaly, KA6RUH

7151. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:27:12 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF72A60.1F76CBFB@cwis.net>
Source record: 114402

Jim,
Show me where I said scientific proof was 'fact', or
that it was absolute. Science requires proof, religion
requires faith. Historically, the two are seldom
compatible. I don't have a problem with that, why should
you? Before you get all indignant, this isn't really the
place for a religious/philosophical discussion.
'Doc

7152. Looking for Cushcraft R4 Manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:36:07 UTC
From: Edmondo <iw0gvp@edmondoconetta.comNOSPAM>
Message-ID: <D1GJa.844$OE2.217437@news20.bellglobal.com>
Source record: 114404

If you have a copy of this old antenna, let me know!
All the best
Edmondo

va3ita at rac.ca

7153. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:38:46 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <q2GJa.75246$Pc5.3108@fed1read01>
Source record: 114403

I use an AEA Hotrod telescopic antenna -- collapses to 1/4 wave -- extends to 5/8 wave -- and it REALLY works well. Hard to find but check ebay and swap pages. Others are from Diamond RH-205 see URL: http://www.rfparts.com/diamond/

"David Harper" <achilles03@hotmail.com> wrote in message news:fef44ceb.0306222257.5a978a28@posting.google.com...
> I was hoping to increase the efficiency of my 2m handheld, and I know
> that rubber ducky antennas are a compromise between design and
> ergonomics.
>
> What can I replace the rubber ducky antenna with to get a couple more
> dB out of my transmitter?
>
> Any insight or knowledge is greatly appreciated!
> Thanks!
> Dave

7154. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:40:12 UTC
From: richardharrison@webtv.net
Message-ID: <10476-3EF72D6C-111@storefull-2317.public.lawson.webtv.net>
Source record: 114409

Cecil, W5DXP wrote:
"Ergo, wave cancellation is not causing additional heating."

I said: "An impedance bump causes reflection and increases line current."

This happens at the junction of a 150-ohm line and a 50-ohm load. The mismatch produces a reflection in the 150-ohm line. Never mind that the line sees 50 ohms at both ends and these 50-ohm sections have no reflections if the 150-ohm line is 1/2-wave long.

Best regards, Richard Harrison, KB5WZI

7155. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 16:54:30 UTC
From: richardharrison@webtv.net
Message-ID: <10476-3EF730C6-114@storefull-2317.public.lawson.webtv.net>
Source record: 114408

Cecil, W5DXP wrote:
"Please don`t try to rationalize these facts away."

It is impossible to have distinguishable locked-phase waves traveling in the same direction on a transmission line. They merge.

Best regards, Richard Harrison, KB5WZI

7156. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:08:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF73409.4080008@ieee.org>
Source record: 114407

Tdonaly wrote:
> Cecil wrote,
>>A quarter-wave whip and a quarter-wave tiger tail will do the job.
>>I've got an aluminum hard hat with a quarter-wave whip on top that
>>works well and initiates a lot of conversations. :-)
>
> It won't work without a propeller.

Good idea, Tom.
--
73, Cecil http://www.qsl.net/w5dxp

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7157. VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:11:38 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <b77efv0t562di137vi85gh7tcrp87jf3ql@4ax.com>
Source record: 114406

On Mon, 23 Jun 2003 08:49:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

> Would you please provide just one reference?

Would two invalidate a thesis?

This is a pitiful plea to your effort to stem the tide of history
Cecil - but here goes:
Standard Handbook for Electrical Engineers,
McGraw-Hill, copyright 1907
Section 21, Telephony, Telegraphy, and Radiotelegraphy
para 264, High frequency circuits
"At each spark ... the energy is consumed either in the form of
heat in the circuit itself, or through radiation of electrical
waves."
para 266 The Spark
"... a long spark , which in turn introduces a high resistance
into the antenna circuit, thus limiting the antenna current
obtainable."
para 267 Coupled Circuits
"In order to get rid of this objectionable spark resistance,
it is customary to excite the antenna circuit by means of a
step-up transformer..."
"A certain portion of the energy oscillating in the antenna
is returned and is lost in the spark circuit; that is, the
presence of the spark circuit is equivalent to a definite
resistance introduced in the antenna."
para 297 The Electric Arc Wave Generator
"... discovered by Elihu Thomson in 1892

This historical reference, of course, relates only to the matter of
actual resistance of that same spark (and has not been altered
conceptually by physics since this publication). Examples of arcing
in transmission lines abounds across the same span of time and you
have confirmed its potency in your own testimony of a burn to the lip
- but your sole offering (or subsequent denial) is certainly not
limiting to the abundance of example.

Discontinuities and arcing are commonplace in the literature, but
given your inclination to dismiss authority, let us fast forward in
time to a title that was current during your tutelage:
Microwave Transmission Circuits,
MIT Radiation Laboratory Series,

McGraw-Hill, 1948
"Elementary Line Theory"
Sec 2-14 "The Design of Matched Circuit Elements"
"The next most important consideration is, in many cases,
that involving voltage breakdown. It was shown in Sec 2-6
that the net power which may be transmitted through a
transmission line to a load is decreased, compared with the
net power transferred in a matched line, by a factor
exactly equal to the value of the VSWR in the line. Thus, in
our example above, the power handling capacity of the transmission
line is reduced to two-thirds of that of the matched condition by
the assumed VSWR of 1.5." [Does anyone need assistance
for computations in the 20:1 regions? - rwc]

This last reference is so commonplace as to be hardly worth the effort
of repetition in the face of abundant experience and the oft-repeated
mantra of maintaining match. Again, the last reference goes on to
point out that the loss of a discontinuity is marginal to system
operation, but that the breakdown is vastly more limiting.

Amateurs (who aspire to write like engineers) sneer at these as
"bumps" of no consequence. Those same amateurs are the first to be
surprised when flames result at their attempts to push full power over
these same bumps. How many failures have occurred not in mid
transmission line, but at exactly the location of a transition? Such
symptoms are classic.

Lurkers are well advised to observe this severe limitation when they
work into deliberate mismatches (even if they appear to be only a
"bump" in the line). Results can be catastrophic in comparison to the
paper computations of marginal dB losses. If you can conspire to move
the voltage node away from that discontinuity, you may have engineered
a solution. If you simply go for the luck of the draw, insurance
actuarial tables give condemning testimony to those outcomes.

73's
Richard Clark, KB7QHC

7158. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:16:05 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030623131605.18941.00002193@mb-m20.aol.com>
Source record: 114410

>
>A change in the speed of light would be irrelevant to measurements
>being made in a transmission line over a few minutes of time.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

OK, then what about using WiFi spray?

http://j-walk.com/blog/docs/wifispray.htm

sure looks like remedy for many things, maybe even Fractals and CFAs will work.

Yuri

7159. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:23:17 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF73785.9060206@ieee.org>
Source record: 114411

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Please don`t try to rationalize these facts away."
>
> It is impossible to have distinguishable locked-phase waves traveling in
> the same direction on a transmission line. They merge.

And in merging, they may completely cancel, i.e. they disappear.
One wave cannot cancel so if wave cancellation occurs, we know
there were at least two waves involved. We know that b1 cannot
be zero unless s11*a1 = -s12*a2, i.e. a component of a1 is
present, a component of a2 is present, and they are of equal
magnitudes and opposite phases.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7160. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:28:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF738A6.9080004@ieee.org>
Source record: 114412

Richard Clark wrote:
> "At each spark ...

Sparks are irrelevant to the present discussion.

> ... that involving voltage breakdown.

Voltage breakdown is irrelevant to the present discussion.

Just as I thought, what Richard C. says is irrelevant to the
present discussion. :-)

To refresh your poor memory, Richard, the question is whether
linear wave cancellation causes energy loss as heat. No sparks -
no arcing - no non-linearity of any kind.
--
73, Cecil http://www.qsl.net/w5dxp

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-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7161. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 17:39:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <mjeefv4079j9b3njusp0cn5uufqtk4e8e6@4ax.com>
Source record: 114413

On Mon, 23 Jun 2003 12:28:06 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Voltage breakdown is irrelevant to the present discussion.
>
A solipsism suitable for inscription on a cemetery stone.

Do you still kiss the mike Cecil?

7162. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 18:30:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7474E.4020902@ieee.org>
Source record: 114414

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Voltage breakdown is irrelevant to the present discussion.
>
> A solipsism suitable for inscription on a cemetery stone.
>
> Do you still kiss the mike Cecil?

Yes, I do, Richard, but now the mike is plastic. If it will
make you feel any better, I will agree that if someone kisses
a Z0-match point during transmitter operation, he will more
than likely burn his lips. There, do you feel better now? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7163. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 18:57:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5aiefvcbln4ntqdrjrn0mc5n0hlt3pjovn@4ax.com>
Source record: 114415

On Mon, 23 Jun 2003 13:30:38 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>
>>>Voltage breakdown is irrelevant to the present discussion.
>>
>> A solipsism suitable for inscription on a cemetery stone.
>>
>> Do you still kiss the mike Cecil?
>
>Yes, I do, Richard, but now the mike is plastic. If it will
>make you feel any better, I will agree that if someone kisses
>a Z0-match point during transmitter operation, he will more
>than likely burn his lips. There, do you feel better now? :-)

Hi Cecil,

Plastic (increased di-electric strength) testifies to the relevancy of
breakdown. Feelings is not an issue with me. As your tender lips
would compel otherwise, and using your basis of measure in feeling it
seems that you stand corrected by the admission of your experience,
and correlative, correcting actions. Burning obviously reveals heat.

However, the presence or absence of your lips at a discontinuity do
not engender nor deny the occurrence of heat at that same point. I
still await your explanations of Virtual Arcing and non-dissipation.
Yours is an exceedingly remote actuality (or even a paradise lost)
where no amount of voltage can sustain an arc across 1/4th an inch
(even in the purity of vacuum). I supplied two references to your
request for one and we wait for your counter references to support
your myths.

73's
Richard Clark, KB7QHC

7164. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 18:58:40 UTC
From: Bis Wichy <wd0hco@ev1.net>
Message-ID: <BB1CB7BE.4496%wd0hco@ev1.net>
Source record: 114416
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

>> Why bother? Unless you are a billionaire lining Powell's pockets, he is
>> not going to listen.
>>
> Same reason for voting, if you don't vote, you got no chance and no
> squawk no matter what happens. If you vote at least you got a chance.
> NEVER GIVE UP!!!!!

I love it! You guys don't see the FCC's plan do you?

This stuff is so incredibly broad banded that it will also affect Standard AM Broadcast, shortwave as well as over the air TV Broadcasts.

Ahhh, but if your rich, you can afford to buy a new Digital AM DAB receiver or XM Satellite receiver to listen to that dimwit Rush Limburger... and of course.....

We ALL have to buy that Digital HDTV if you wanna watch TV over the air or keep your old NTSC TV and pay for a Satellite or cable TV hookup.

Either way, you gonna have to spend money to keep what you got now!

See the plan now ???

No wonder Commissioner Powell jr is getting a big woody over this!

This one technology alone will FORCE everyone to go digital. Like it or not.

So just sit there, take it and don't say anything.

It's what they are hoping for.

- WDï¿½HCO -

7165. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 19:15:37 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306231115.699a6679@posting.google.com>
Source record: 114319

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bd6m97$j71$1@sparta.btinternet.com>...
> "Mark Keith" wrote It's not the
> > percentage of power radiated by the line that is the biggest problem
> > to me. It will still be radiated somewhere.
>
> ================================
>
> Mark, almost exact. It is impossible to segregate feedline power from
> antenna power. It is akin to saying only the middle section of a dipole
> does the radiating.
>
> There may be something undesirable happening but we mislead ourselves,
> possibly jump to incorrect conclusions, by referring to it as radiation.

Maybe so, but the line does radiate in such a case. IE: dipole fed
with 1/2 wave line and no balun used as an example.

>
> The severity of problem can be sensibly discussed only by attaching a number
> to a quantity which, if only in principle, can be measured. It is important
> to be able to predict in given circumstances whether anything needs to be
> done about it and what should be done.

Well, I think Roy pretty much covered this in another post. Could be
up to about 40% in a worst case. But in my case, I usually don't know
the *exact* length of my line, so I can only guestimate.
>
> The years of entirely unquantified waffle on this newsgroup about "radiation
> from the feedline" does nothing but magnify the size of what most of the
> time is un-noticeable to a vital-to-attend-to catastrophy which invariably
> occurs.

Depends on the scenario. On HF using a dipole or other simple antenna,
I agree, it's usually not worth worrying about as long as there are no
adverse reactions to the gear in the shack from common mode currents.
But if you use a yagi on HF, the decoupling becomes more important if
you want a clean pattern. But not overly critical. It will still
"work" ok, just a bit skewed. On VHF/UHF, decoupling often becomes
very critical. So it varies from case to case.
>
> At HF, forget about watts radiated. Think in terms of the near field,
> measurable amps times length, and mutual coupling with adjacent conductors
> in the vicinity. I admit the subject loses its excitement but it is kept
> within reasonable bounds.

I've never really considered watts radiated. I only worry about the effects to the shack, or effects to the pattern of the antenna if need be. I have no easy accurate way of measuring the watts radiated by the line, so there is not much use in worrying about the exact value. I could guestimate it using theory I suppose, but I don't bother.

> And remember in the amateur environment, even on a supposed balanced
> feedline the unbalance current is nearly always of appreciable magnitude if
> only because it is within the powerful near-field of the main antenna as is
> a director or reflector. And who loses much sleep about that? "If it works
> don't fix it" always applies.

I agree with the last statement. If it isn't whacking out my radio and keyer, etc, I usually don't worry about it on HF. But, I always consider decoupling on VHF/UHF important even if the currents don't bother the radio. It's a major performance issue there. MK

7166. Re: Looking for Cushcraft R4 Manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 19:19:23 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <3EF752BB.5080109@PAMyahoo.ca>
Source record: 114418

Hi
Look on the Cushcraft website,I did once and found what I was looking
for. 73 de Eskay...

Edmondo wrote:
> If you have a copy of this old antenna, let me know!
> All the best
> Edmondo
>
>
> va3ita at rac.ca
>
>

7167. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 19:19:42 UTC
From: richardharrison@webtv.net
Message-ID: <29598-3EF752CE-396@storefull-2312.public.lawson.webtv.net>
Source record: 114320

Cecil, W5DXP wrote:
"One wave cannot cancel, i.e. they disappear."

Just how waves cancel depends on configuration. Cecil did not respond to my example of equal and out of phase transformer sections in parallel. These represent a short. In the usual case at power frequencies, most of the "wave cancellation" is due to loss absorption.

Redirection of waves is not cancellation. Absorption is cancellation of waves.

Best regards, Richard Harrison, KB5WZI

7168. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 19:32:23 UTC
From: Bill Ogden <ogden@us.ibm.com>
Message-ID: <3EF755C7.6214A0E3@us.ibm.com>
Source record: 114417

Question from a lurker, for Roy:

Being a little dense, I simply buy the right length of coax to go from my rig to the antenna, speaking of quads or dipoles that are reasonably symmetrical.

Your illustration with a half-wavelength transmission line certainly got my attention. Feeding a 20, 17, 15, 12, 10 meter antenna through a common feedline (where the distance involved is 100 - 200 feet) means there are lots of magic transmission line lengths to avoid.

Is a current balun (as represented by, say, 8 turns of coax in a 1 foot diameter coil), right at the antenna, a general solution for this exposure? (Or, equally, about a foot of the right type of toroids at the same location?)

Is it reasonable to say that, no matter how good the antenna match (although not relevant) and symmetry (relevant), it would be good practice to place a current balun at the antenna end of a transmission line for any dipole, loop, or other symmetric antenna?

Thanks, from a lurker

Bill
W2WO

7169. MOXON Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 19:57:55 UTC
From: Wayne <n4gil@yahoo.com.nospam>
Message-ID: <vfemscmllek63@corp.supernews.com>
Source record: 114321

Anyone here using a Moxon antenna for vhf?

I realize that they are essentially a 2 element beam. I have an antenna site where a rotor can not be used and wondered if the Moxon would work.

Could 2 of these antennas be mounted in a back to back configuration to achieve somewhat of an omni-directional pattern?

Has anyone experimented much with this antenna design?

7170. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:02:25 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF75CD1.3040002@ieee.org>
Source record: 114322

Richard Clark wrote:
> I supplied two references to your
> request for one and we wait for your counter references to support
> your myths.

What makes you think that supplying irrelevant references is of any
value to anyone?
--
73, Cecil http://www.qsl.net/w5dxp

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7171. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:13:20 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF75F60.6020503@psu.edu>
Source record: 114324

Richard Clark wrote:

> Patient upgraded from Dead to Still Living.
>
> Surgeon passed away at the table though.
> Requiescat in pace. Constructive rings of interfering light may now
> be properly re-ascribed to halo effect.
>
> Send flowers in place of math....

Oh Frabjous day! I thought this one was going to go away, but here it is, back again, strong and healthy.

Keep it up guys! I'm still reading. 8^)

- Mike KB3EIA -

7172. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:14:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <c0nefvsf0dm34bclhf7rj7edhifr0ljgq9@4ax.com>
Source record: 114323

On Mon, 23 Jun 2003 14:19:42 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Cecil, W5DXP wrote:
>"One wave cannot cancel, i.e. they disappear."
>
>Just how waves cancel depends on configuration. Cecil did not respond to
>my example of equal and out of phase transformer sections in parallel.
>These represent a short. In the usual case at power frequencies, most of
>the "wave cancellation" is due to loss absorption.
>
>Redirection of waves is not cancellation. Absorption is cancellation of
>waves.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

One reason (possibly of several) for that lack of response is the
obvious corollary of complete cancellation requires just what you
describe: BOTH out-of-phase sources have to occupy the same point in
electrical space. ANY separation results in some region of that space
that does not fully cancel which negates Cecil's premise.

And this, of course, returns us to Jeff's illustration of the circular
transmission line satisfying Cecil's conundrum of standing waves from
a single point. Cecil's appeal to flat-land (in an amusing retort to
the general equations working just fine there too) has him dancing
with one foot nailed to the floor.

This doesn't come nearly as close to outright comedy that follows from
his premise that for your case, there exist two sets of waves
everywhere canceling everywhere - oblivious to the short circuit at
the origin that can obviously support neither in the first (nor last)
place.

Cecil's logic would win billions at the racetrack as he heads to the
payoff windows demanding that since his horse is in its starting
position, that it has already finished the course and returned well
ahead of the clear losers spread over the track.

Cecil, the horse is dead.

73's
Richard Clark, KB7QHC

7173. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:16:01 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF76001.1060302@ieee.org>
Source record: 114325

Richard Harrison wrote:
> Redirection of waves is not cancellation. Absorption is cancellation of
> waves.

Richard, I hope you will read up on wave cancellation. Absorption
is NOT cancellation. Absorption is energy transformation from RF (for instance)
to heat. Complete wave cancellation requires two waves of equal amplitude and
opposite phases traveling in the same direction engaging in permanent destructive
interference. It is the same phenomenon that causes non-glare glass to work. In
a transmission line, it happens when b1=0, therefore s11*a1 = -s12*a2. I don't
know how to say it any plainer than that.
--
73, Cecil http://www.qsl.net/w5dxp

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7174. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:22:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF76174.4050306@ieee.org>
Source record: 114326

Richard Clark wrote:
> Cecil, the horse is dead.

That's the same thing my 5 year old grandson said, Richard. Like him,
I will simply wait for you to possess adult intelligence. :-)

EM wave cancellation is a well-understood phenomenon in non-glare glass.
That you are ignorant of that mechanism is not my problem.
--
73, Cecil http://www.qsl.net/w5dxp

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7175. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:35:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vmoefv4d3bs7bte0up4pl8i44o025kvrop@4ax.com>
Source record: 114327

On Mon, 23 Jun 2003 15:22:12 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Cecil, the horse is dead.
>
>That's the same thing my 5 year old grandson said, Richard. Like him,
>I will simply wait for you to possess adult intelligence. :-)
>
>EM wave cancellation is a well-understood phenomenon in non-glare glass.
>That you are ignorant of that mechanism is not my problem.

Your understanding of that mechanism in "non-glare" glass is of low
quality already surpassed by my discussion of this topic years ago:

>From: rwclark@rwclark.seanet.com (Richard Clark)
>Subject: Re: W. Maxwell & Wave Mechanics
>Date: 1998/06/10
>Message-ID: <357fbdf0.81406369@news.seanet.com>
>Content-Transfer-Encoding: 7bit
>References: <357D1ED1.34645009@mwci.net> <6ljfm9arm1@newsd-123.bryant.webtv.net>
<357D9C2F.54F5@ibm.net>
>Content-Type: text/plain; charset=us-ascii
>Organization: Seanet Online Services, Seattle WA
>Mime-Version: 1.0
>Newsgroups: rec.radio.amateur.antenna
>
>Hi Cecil,
>
...
> RE: "Optics," Miles Klein, 5.5 Interference by
>Reflections from Nonidentical Interfaces.
> "... Hence the name "quarter-wave layer." Often the
>wavelength Lambda0 is chosen to be near 5500 Angstroms (550
>nM or Kelly Green [rwc]), at the maximum of the visual
>response curve. [a lot of math left out] This meets the
>requirement closely enough to reduce the energy reflection
>coefficient from about 5% for an uncoated simple lens to 1 %
>for a simple lens with proper MgF2 coating."
>
>One may observe that reflections are neither completely
>removed nor attended to at all colors (frequencies). One
>may also observe that moving from the RF arena to the
>Optical arena brings no change in the issues that dominate
>power transfer; merely a new perspective. It is the lack of

>experience with this perspective that so often cripples
>discussion.
>
>73's
>Richard Clark, KB7QHC
>
>

5 years hasn't changed all that much.... Except that you need to bury
the horse.

73's
Richard Clark, KB7QHC

7176. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:37:25 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF76505.8080809@psu.edu>
Source record: 114328

W5DXP wrote:
> Yuri Blanarovich wrote:
>
>> this will fer sure mess up your reflections, deflections, calculations,
>> resonant frequencies and electrical lengths.
>
>
> A change in the speed of light would be irrelevant to measurements
> being made in a transmission line over a few minutes of time.

Not at the drop off in speed they are talking about! The reduction in speed should be apparent from measurement to measurement. If the variable light speed people want to prove their point, it should be able to be done in one short experiment, with perhaps three readings.

If light travels a foot in a nanosecond, any appreciable slowdown (and these people are talking about kilometers in tens of years) will be quickly apparent.

- Mike KB3EIA -

7177. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:41:11 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EF765E7.90909@psu.edu>
Source record: 114330

W5DXP wrote:
> Mike Coslo wrote:
>
>> But since we're dealing in these absurdities, I'll toss out my
>> favorite: Where did the water of the great flood come from? Where did
>> it go?
>
>
> The water of the great flood came from the Aegean Sea after the
> last ice age melted and caused the sea levels to rise. It went
> into the Black Sea at the rate of about six inches per day and
> is still there. Noah's house is still under water.
>
> http://www.nationalgeographic.com/blacksea/

That is quite possibly true. Can you imagine how amazing that must have been to the people who lived through that? Another theory is about the damming and subsequent undamming to the Mediterranean at the Straights of Gibraltar. That was quite a bit longer ago though. I go for the former scenario

- Mike KB3EIA -

7178. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:47:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <q5pefvc3s0gk3deuk3gutouq15ggv2j6vs@4ax.com>
Source record: 114329

On Mon, 23 Jun 2003 15:02:25 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> I supplied two references to your
>> request for one and we wait for your counter references to support
>> your myths.
>
>What makes you think that supplying irrelevant references is of any
>value to anyone?

Well, you asked for one. You got two and you are shy at zero.

Clearly such references are of no use to your argument and as such peg
the baloney meter (sorry but here's another reference, Scientific
American's article on Baloney Detection):
>3. Have the claims been verified by another source?
>Typically pseudoscientists make statements that are unverified or
>verified only by a source within their own belief circle.
>
>6. Does the preponderance of evidence point to the claimant's
>conclusion or to a different one?
>
>8. Is the claimant providing an explanation for the observed phenomena
>or merely denying the existing explanation?
>This is a classic debate strategy--criticize your opponent and never
>affirm what you believe to avoid criticism. This stratagem is
>unacceptable in science.
>

Your blunders compound across the spectrum. You might be excused
because if you lack a stable reference, you might be lulled into the
notion that you are just rocking along.

Anyway, it is clear you have no empirical evidence nor authority to
refute common experience and this line of discussion tends toward the
300 ways of saying" t'ain't so" from you. Feel free to add 294 more
to satisfy your agenda.

73's
Richard Clark, KB7QHC

7179. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:52:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0upefv402n0c9kch7043r57n75760t4d9p@4ax.com>
Source record: 114332

On Mon, 23 Jun 2003 16:13:20 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>Richard Clark wrote:
>
>> Patient upgraded from Dead to Still Living.
>>
>> Surgeon passed away at the table though.
>> Requiescat in pace. Constructive rings of interfering light may now
>> be properly re-ascribed to halo effect.
>>
>> Send flowers in place of math....
>
> Oh Frabjous day! I thought this one was going to go away, but here it
>is, back again, strong and healthy.
>
> Keep it up guys! I'm still reading. 8^)
>
> - Mike KB3EIA -

Hi Mike,

Of all the posters, you are the only one to observe protocol.

Thanx for the flowers.

73's
Richard Clark, KB7QHC

7180. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 20:52:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfeq4oa69jj0a7@corp.supernews.com>
Source record: 114331

Mark Keith wrote:
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bd6m97$j71$1@sparta.btinternet.com>...
> . . .
>>The severity of problem can be sensibly discussed only by attaching a number
>>to a quantity which, if only in principle, can be measured. It is important
>>to be able to predict in given circumstances whether anything needs to be
>>done about it and what should be done.
>
>
> Well, I think Roy pretty much covered this in another post. Could be
> up to about 40% in a worst case. But in my case, I usually don't know
> the *exact* length of my line, so I can only guestimate.
> . . .

The worst case in the example I gave was that about 2/3 of the total field radiation was from the feedline. With the worst case feedline length of about 1/2 wavelength to ground, half the dipole gets just about no current at all -- the current it would normally get is diverted to the outside of the feedline. The current on the feedline is equal to the current on the dipole half which does get current, but the feedline is twice as long as the radiating dipole half. Both have a sinusoidal distribution, so the field from the feedline is twice the field from the dipole.

The feedline-to-dipole radiation ratio can be made as large as desired by choosing longer feedlines in multiples of a half wavelength. For example, a feedline approximately 1-1/2 wavelengths long (shield grounded at the bottom) can be adjusted to suck the current from half the dipole just like the 1/2 wavelength line did. If that happens, the dipole has only 1/4 wavelength of radiating wire, while the feedline has 1-1/2 wavelengths carrying the same amount of current. So in that case, the feedline is radiating 1.5/1.75 = 86% of the total field.

These are obviously contrived cases, with the line length carefully adjusted to maximize feedline radiation. It simply illustrates how profound feedline radiation can be, not how bad it's likely to be with a randomly chosen feedline length. You might get lucky and pick a length where feedline radiation is low, or have a situation where it doesn't matter or even helps with your communication needs. Or you might not.

Roy Lewallen, W7EL

7181. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:05:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfeqshicmlqu1b@corp.supernews.com>
Source record: 114333

Bill Ogden wrote:
> Question from a lurker, for Roy:

Welcome to the newsgroup, Bill.

> Being a little dense, I simply buy the right length of coax to go from my rig
> to the antenna, speaking of quads or dipoles that are reasonably symmetrical.

For a large number of situations, that's adequate. But for some, it's not.

> Your illustration with a half-wavelength transmission line certainly got my
> attention. Feeding a 20, 17, 15, 12, 10 meter antenna through a common
> feedline (where the distance involved is 100 - 200 feet) means there are lots
> of magic transmission line lengths to avoid.

Yes, probably so. As it turns out, though, it doesn't take much of a
deviation from the magic length to knock the current down considerably.

> Is a current balun (as represented by, say, 8 turns of coax in a 1 foot
> diameter coil), right at the antenna, a general solution for this exposure?
> (Or, equally, about a foot of the right type of toroids at the same location?)

Yes, provided that the feedline is positioned at a right angle to the
antenna to minimize coupling. But for a coax coil over that frequency
range I'd use the dimensions for a 21 MHz balun given in the ARRL
Handbook - for RG-8 sized cable, 8 ft. of wire in a coil of 6-8 turns,
or for RG-58, 6 ft. of wire in a coil of 8 turns.

If you can't run the feedline at more or less a right angle, you might
also have trouble with feedline current due to coupling with the
antenna. (This also occurs with ground plane and J pole antennas where
the feedline is collinear with the antenna.) So if the single current
balun at the feedpoint doesn't reduce the current adequately, a second
one about 1/4 wavelength below the first will usually be effective.
Hopefully, you'd have trouble on at most one band, so could position the
second balun appropriately for that band.

> Is it reasonable to say that, no matter how good the antenna match (although
> not relevant) and symmetry (relevant), it would be good practice to place a
> current balun at the antenna end of a transmission line for any dipole, loop,
> or other symmetric antenna?

Yes.

>
> Thanks, from a lurker
>
> Bill

> W2WO

Thanks for joining the discussion.

Roy Lewallen, W7EL

7182. VSWR vs SWR vs virtual something-or-other

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:09:00 UTC
From: "H. Adam Stevens" <solo@totalaccess.net>
Message-ID: <vfer4r1n93t09e@corp.supernews.com>
Source record: 114334

this is virtually

a: true

b: false

c: who cares?

deletia
>Feel free to add 294 more
> to satisfy your agenda.
>
> 73's
> Richard Clark, KB7QHC

7183. Re: Auto Tuner... ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:09:43 UTC
From: jgboyles@aol.com
Message-ID: <20030623170943.09886.00002258@mb-m26.aol.com>
Source record: 114335

>I'm using the newest LDG autotuner (MP-11) with a 102 ft flat top wire. The
>flat top is fed with 75 feet of 450 ohm ladder line into a LDG 4:1 balun
>then to a piece of 50 ohm to the transceiver.

Hi Wayne, Why don't you download Reg Edwards' Dipole1 program. With it you can take a look at the impedance this arrangment presents to the 4:1 balun on the different bands you are trying to use it. I think you would be better off without the 4:1, go to a 1:1 current balun, or try it with no balun at all and see if the auto tuner is happier.

73 Gary N4AST

7184. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:28:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5krefv4k5kgq3r5bhpjnkqsr1lq9t88joq@4ax.com>
Source record: 114336

On Mon, 23 Jun 2003 16:37:25 -0400, Mike Coslo <mjc5@psu.edu> wrote:

> If light travels a foot in a nanosecond, any appreciable slowdown (and
>these people are talking about kilometers in tens of years) will be
>quickly apparent.
>
> - Mike KB3EIA -

Hi Mike,

How do you measure time without light?

The article cited offers that time is a function of light in that time is defined by the orbital actions of Cesium that are influenced by the speed of light. (As having been responsible for the calibration, maintenance and upkeep of such a Cesium Beam standard, I offer that that link's descriptions are quite juvenile.)

In other words, it is wholly imperceptible because both sides of the equation counter balance (are complementary) - this, of course, leads to a self contradiction of the premise (time OR the speed of light changing). It is like measuring your shrinking dollar with a tape measure shrinking in the same ratio. Clearly the proponents have neglected the common issue of the measurer being part of the problem.

What is more amusing is that this site also offers half a dozen of the purported 160 measurements to include data that shows light/time is BOTH speeding-up AND slowing-down (take your pick) in the early 20th century - and they have the gumption to say that ALL data fits this curve whose outliers are at the worst possible accuracy.

73's
Richard Clark, KB7QHC

7185. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:35:18 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bd7var$ev7$1@bob.news.rcn.net>
Source record: 114345
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

"Bis Wichy" <wd0hco@ev1.net> wrote in message
news:BB1CB7BE.4496%wd0hco@ev1.net...
>
> >> Why bother? Unless you are a billionaire lining Powell's pockets, he is
> >> not going to listen.
> >>
> > Same reason for voting, if you don't vote, you got no chance and no
> > squawk no matter what happens. If you vote at least you got a chance.
> > NEVER GIVE UP!!!!!
>
> I love it! You guys don't see the FCC's plan do you?
>
> This stuff is so incredibly broad banded that it will also affect Standard
> AM Broadcast, shortwave as well as over the air TV Broadcasts.
>
> Ahhh, but if your rich, you can afford to buy a new Digital AM DAB
receiver
> or XM Satellite receiver to listen to that dimwit Rush Limburger... and of
> course.....

1) AM IBOC is fragile enough that I think it would also be affected. And
may never get the stamp of approval because of how bad it sounds. And
because each station
occupies three channels. In itself, AM IBOC may kill AM for most people.

2) Limburger isn't on XM.

7186. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 21:53:23 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF776D3.9080500@ieee.org>
Source record: 114337

Richard Clark wrote:
> <Cecil.A.Moore@ieee.org> wrote:
>>EM wave cancellation is a well-understood phenomenon in non-glare glass.
>>That you are ignorant of that mechanism is not my problem.
>
> Your understanding of that mechanism in "non-glare" glass is of low
> quality already surpassed by my discussion of this topic years ago:

We noticed that you didn't even attempt to explain your equations
copied out of a book, Richard. You *discussed* absolutely nothing.

So what do you say happens when two EM waves with equal amplitudes
and opposite phases encounter each other while traveling in exactly
the same vector direction? Please be specific including concepts.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7187. Re: MOXON Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:03:35 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EF77936.CF44235@nospam.com>
Source record: 114338

Hi,

I am a Moxon fan for 2m, 440 6m and 20m !

I learned all I know about these antenna on http://www.cebik.com

Dr. Cebik also has plans for using two moxon phased for satellite work on 2m / 440

I like them because they are low cost to build, direct fed with 50 ohm coax and are easy
to hide (except my 20m moxon !)

The 6m moxon works great for ssb/cb horizontal polarization.

73 jimbo

Wayne wrote:

> Anyone here using a Moxon antenna for vhf?
>
> I realize that they are essentially a 2 element beam. I have an antenna
> site where a rotor can not be used and wondered if the Moxon would work.
>
> Could 2 of these antennas be mounted in a back to back configuration to
> achieve somewhat of an omni-directional pattern?
>
> Has anyone experimented much with this antenna design?

7188. Re: MOXON Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:06:28 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EF779E4.7591277@nospam.com>
Source record: 114339

Hi

Forgot to add a few things, the Moxon have gain over jpole/dipole and are simailar to
a yagi but take up less space as the elements are bent inside to form the rectangle.

The antenna also have good front to back specs and good side rejection if you want to null
out other stations like for field day.

http://www.cebik.com has everything you need (or wanted) to know about the moxon.

73 jimbo

Wayne wrote:

> Anyone here using a Moxon antenna for vhf?
>
> I realize that they are essentially a 2 element beam. I have an antenna
> site where a rotor can not be used and wondered if the Moxon would work.
>
> Could 2 of these antennas be mounted in a back to back configuration to
> achieve somewhat of an omni-directional pattern?
>
> Has anyone experimented much with this antenna design?

7189. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:08:18 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF77A52.1050704@ieee.org>
Source record: 114341

Mike Coslo wrote:
> Not at the drop off in speed they are talking about! The reduction
> in speed should be apparent from measurement to measurement.

They are barking up the wrong tree. The intrinsic speed of light is not
changing. Seconds are getting shorter and space is expanding. The apparent
decrease in the speed of light is just an optical illusion.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7190. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:09:25 UTC
From: James <jimbo@nospam.com>
Message-ID: <3EF77A95.4E4C91DD@nospam.com>
Source record: 114340
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Would the interference from these broad banded power line signals
disturb the digital signals as well as analog ?
I know the hdtv is higher up the the analog tv signals.

73 jimbo

Bis wrote:

> >> Why bother? Unless you are a billionaire lining Powell's pockets, he is
> >> not going to listen.
> >>
> > Same reason for voting, if you don't vote, you got no chance and no
> > squawk no matter what happens. If you vote at least you got a chance.
> > NEVER GIVE UP!!!!!
>
> I love it! You guys don't see the FCC's plan do you?
>
> This stuff is so incredibly broad banded that it will also affect Standard
> AM Broadcast, shortwave as well as over the air TV Broadcasts.
>
> Ahhh, but if your rich, you can afford to buy a new Digital AM DAB receiver
> or XM Satellite receiver to listen to that dimwit Rush Limburger... and of
> course.....
>
> We ALL have to buy that Digital HDTV if you wanna watch TV over the air or
> keep your old NTSC TV and pay for a Satellite or cable TV hookup.
>
> Either way, you gonna have to spend money to keep what you got now!
>
> See the plan now ???
>
> No wonder Commissioner Powell jr is getting a big woody over this!
>
> This one technology alone will FORCE everyone to go digital. Like it or not.
>
> So just sit there, take it and don't say anything.
>
> It's what they are hoping for.
>
> - WDï¿½HCO -

7191. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:12:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF77B62.3090608@ieee.org>
Source record: 114342

Mike Coslo wrote:
>
> W5DXP wrote:
>> The water of the great flood came from the Aegean Sea after the
>> last ice age melted and caused the sea levels to rise. It went
>> into the Black Sea at the rate of about six inches per day and
>> is still there. Noah's house is still under water.
>>
>> http://www.nationalgeographic.com/blacksea/
>
> That is quite possibly true. Can you imagine how amazing that must
> have been to the people who lived through that?

Especially since a large percentage of the civilized world lived
around the Black Sea at the time. There was most probably a large
storm at the time that made matters worse. It certainly could have
rained for 40 days and 40 nights.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7192. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:14:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF77BE3.8090309@ieee.org>
Source record: 114343

Richard Clark wrote:
> Clearly such references are of no use to your argument ...

Clearly such references are of absolutely no use to *ANY* argument
based on linear systems. One wonders about your true agenda.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7193. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:17:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF77C81.8050602@ieee.org>
Source record: 114344

Richard Clark wrote:
> How do you measure time without light?

How do you measure light with a varying second of time?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7194. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:35:43 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7uuefv4rp908clm7b5qq4esom2ntkf6e7g@4ax.com>
Source record: 114346

On Mon, 23 Jun 2003 16:53:23 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>We noticed that you didn't even attempt to explain your equations
>copied out of a book, Richard. You *discussed* absolutely nothing.

Cecil, Cecil, Cecil,

Given the quality of your discussion, it is obvious that I am ahead of
the curve without trying. ;-)

If someone else asks, to clarify their confusion (or for any reason),
I will respond to them. I have already demonstrated that my notice of
these issues clearly pre-date your inferior material. I have also
supplied general equations that solve all problems you have posed and
you claim ignorance of these as it suits your agenda. Thus repetition
hardly bodes any new developments and certainly no better quality of
discussion to return to my old postings yet again.

However, to respond directly to your complaint, the material you
snipped to leverage the argument of lack of demonstration was in fact
a clipping from that very demonstration entitled "The Color of Glare"
which you left undisputed. This posting was in fact a repeat of
earlier discussion (Mike, these peregrinations have been going on more
than 5 years).

Now, your having asked for this material, you will characteristically
complain and ask why it is offered. Feel at liberty to engage in your
300 posting chorus of "t'ain't" so. The key of H would be a pleasing
change.

73's
Richard Clark, KB7QHC

7195. Re: VSWR limitations at a discontinuity, the continuing exposure of Cecil's Math Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:46:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qf0ffv83tmakeftl1bfifc7kc42s9nauet@4ax.com>
Source record: 114348

On Mon, 23 Jun 2003 17:14:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Clearly such references are of no use to your argument ...
>
>Clearly such references are of absolutely no use to *ANY* argument
>based on linear systems. One wonders about your true agenda.

So my comment is undisputed. Your wondering is another matter beyond
my control however. Please continue your refrains:
295 denials on the wall, 295 denials that's all!
Take one down and post it around;
294 denials left on the wall!

:-)

73's and counting,
Richard Clark, KB7QHC

7196. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 22:56:03 UTC
From: Shephed <roll1up@smkey.com>
Message-ID: <7ALJa.229917$VP.48434664@twister.neo.rr.com>
Source record: 114347
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

"Bis Wichy" <wd0hco@ev1.net> wrote in message
news:BB1CB7BE.4496%wd0hco@ev1.net...
>
> >> Why bother? Unless you are a billionaire lining Powell's pockets, he is
> >> not going to listen.
> >>
> > Same reason for voting, if you don't vote, you got no chance and no
> > squawk no matter what happens. If you vote at least you got a chance.
> > NEVER GIVE UP!!!!!
>
> I love it! You guys don't see the FCC's plan do you?
>
> This stuff is so incredibly broad banded that it will also affect Standard
> AM Broadcast, shortwave as well as over the air TV Broadcasts.
>
> Ahhh, but if your rich, you can afford to buy a new Digital AM DAB
receiver
> or XM Satellite receiver to listen to that dimwit Rush Limburger... and of
> course.....
>
> We ALL have to buy that Digital HDTV if you wanna watch TV over the air or
> keep your old NTSC TV and pay for a Satellite or cable TV hookup.
>
> Either way, you gonna have to spend money to keep what you got now!
>
> See the plan now ???
>
> No wonder Commissioner Powell jr is getting a big woody over this!
>
> This one technology alone will FORCE everyone to go digital. Like it or
not.
>
> So just sit there, take it and don't say anything.
>
> It's what they are hoping for.
>
> - WD&#65533;HCO -
>
Still sore about the 2000 election I see. :-)

7197. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:27:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF78CFF.8060602@ieee.org>
Source record: 114349

Richard Clark wrote:
> Given the quality of your discussion, it is obvious that I am ahead of
> the curve without trying. ;-)

What I am wondering is if there are any readers of this newsgroup
who understand how the wave cancellation in non-glare glass works.
It is fully explained on the Melles-Griot web page but you, with your
non-linear examples, don't seem to understand what they are talking about.
--
73, Cecil, W5DXP

7198. Re: Looking for Cushcraft R4 Manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:30:31 UTC
From: Edmondo <iw0gvp@edmondoconetta.comNOSPAM>
Message-ID: <c5MJa.1765$iM4.260770@news20.bellglobal.com>
Source record: 114354

Well the R4 is not on the website.
I can't even find a decent picture of this antenna on the internet
Thank you again
Edmondo

"Eskay" <sieb_kNOS@PAMyahoo.ca> wrote in message
news:3EF752BB.5080109@PAMyahoo.ca...
> Hi
> Look on the Cushcraft website,I did once and found what I was looking
> for. 73 de Eskay...
>
> Edmondo wrote:
> > If you have a copy of this old antenna, let me know!
> > All the best
> > Edmondo
> >
> >
> > va3ita at rac.ca
> >
> >
>

7199. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:34:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5h3ffvk9i5ahjok251vlhh1cumu4htcohb@4ax.com>
Source record: 114350

On Mon, 23 Jun 2003 16:27:59 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Given the quality of your discussion, it is obvious that I am ahead of
>> the curve without trying. ;-)
>
>What I am wondering is if there are any readers of this newsgroup
>who understand how the wave cancellation in non-glare glass works.
>It is fully explained on the Melles-Griot web page but you, with your
>non-linear examples, don't seem to understand what they are talking about.

Your wondering and seeming come as no surprise. Anything else barring
repetition of the obvious?

73's
Richard Clark, KB7QHC

7200. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:36:19 UTC
From: rc12234@aol.com
Message-ID: <20030623193619.08432.00002366@mb-m24.aol.com>
Source record: 114351

Suggest inverted V configuration in the attic to get feed point as high as possible.
Ron

7201. Kenwood TS-50 tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:38:45 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vff3sahhaqs436@corp.supernews.com>
Source record: 114352

A good friend of mine in his late 70's connected the Kenwood matching tuner backwards to his TS-50 and now he thinks it's broken. Anyone know if this tuner would be damaged by connecting it in reverse?
tnx
hank wd5jfr

7202. Re: Kenwood TS-50 tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:42:51 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF7907B.B6A76C20@cwis.net>
Source record: 114353

Hank,
I couldn't say for sure, but I am sure that it probably
wouldn't be the best thing to do. Have him take the lid
off of it, there's at least one fuse inside the AT-50. And
while he's in there, have him check to see if the mods or
up-grades have been done.
'Doc

7203. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-23 23:59:39 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7946B.8050409@ieee.org>
Source record: 114355

Richard Clark wrote:
> Your wondering and seeming come as no surprise.

So please tell us, Richard. After all the sparking and
arcing, how does non-glare glass work?
--
73, Cecil, W5DXP

7204. Re: Looking for Cushcraft R4 Manual

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:02:13 UTC
From: "G.Beat" <abuse@comcast.com>
Message-ID: <9yMJa.2850$3d.1313@sccrnsc02>
Source record: 114356

The Cushcraft R5 manual should be appropriate.
http://www.cushcraft.com/support/pdf/r5.pdf

The Cushcraft R4 was introduced in early 1989 and covered 10, 12, 15 and 20 meter bands.

Later that year the R45K kit was introduced by Cushcraft to add the 17 meter band (WARC granted) to the R4 antenna.
Price for this kit was about $ 50 USD

With the addition of this kit the R4 antenna became the R5 model. The original R4 model was discontinued
with the introduction of the R5 (which was actually an R4 with the R45K kit).

You will have to contact Cushcraft about the availability of the kit - IF you desire to add 17 meters to your antenna.
Also - some Cushcraft dealers (Michigan Radio, AES, HRO, etc.) may still have this kit in stock
http://www.cushcraft.com/amateur/support/dealers.htm

Customer Service may be reached by telephone, E-mail, and/or phone Cushcraft at (603) 627-7877 between 8 AM and 5 PM Eastern Time.
Other E-Mail addresses include:
E-Mail Cushcraft at "hamsales@cushcraft.com" for product information or "techsup@cushcraft.com" for technical support. Cushcraft's FAX number is (603) 627-1764. Our mailing address is: Cushcraft Corporation, 48 Perimeter Road, Manchester, NH 03103.

Here is EI7BA's informative web site on the Cushcraft R5 and R7 antennas (their operation and repair)
http://www.iol.ie/~bravo/r7_vertical.htm

Contact Cushcraft regarding details of this notice sent 3 years ago to Cushcraft dealers:
http://www.cushcraft.com/amateur/support/questions.htm

In an undated letter to their dealers, but received the week of October 9th, 2000, Cushcraft Corporation, maker of Cushcraft verticals, announced among other things:

"..... also please note to your customers that parts for the following older obsolete antennas are no longer available: AP8, AP8A, R4, R5 & R7"

Cushcraft supplies replacement parts for all current antennas and many

discontinued models. If there was a defect part shipped with your new Cushcraft antenna, a part missing from a new antenna, or a replacement part is desired, use our web parts ordering page, Parts/Order Form. If our Technical Support Team is between 4PM Eastern Time, your missing or wrong part will be shipped immediately at no charge. You may also contact Cushcraft by phone, fax or E-Mail for parts orders.

Cushcraft charges $7.00 for shipping and handling on all non warranty parts orders. Stock parts are shipped within 48 hours. Orders may by paid in advance with Visa or Master Card. Personal checks or money orders are accepted before orders are shipped/ We do not send orders COD.

W9GB
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"Edmondo" <iw0gvp@edmondoconetta.comNOSPAM> wrote in message
news:D1GJa.844$OE2.217437@news20.bellglobal.com...
> If you have a copy of this old antenna, let me know!
> All the best
> Edmondo
>
>
> va3ita at rac.ca
>
>

7205. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:32:33 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EF79C58.4000100@adelphia.net>
Source record: 114357

Yuri Blanarovich wrote:
>> But since we're dealing in these absurdities, I'll toss out my
>>favorite: Where did the water of the great flood come from? Where did it
>>go? And did the kangaroos have to swim all the way to the Mideast from
>>Australia so they could get on the Ark and not drown when the flood came?
>>
>> - Mike KB3EIA -
>>
>
>
> Not being there at the time, but I could speculate that it was local flood,
> which in smaller scale is stil observable nowadays.

There ya go! That I can buy. Problem is that some people, like the ones
who postulate the variable speed of light, are some of the same ones
that insist that if the book said that the whole earth was covered, then
by gaw, the whole earth was covered! Then they have to invent scenarios
where the water came from some giant cloud layer in the sky, or from
inside the earth, then it came down or out, then went somewhere else.

> In that case kangaroos and other weird animals were safe where they were. Only
> bad people, communists and democrats were punished :-)

HAR! good one!

> Maybe lot of water went underground or sits on the poles as a giant icecube. We
> have enough of "global warming" here in NE, too much rain and cooool.

Yeah sometimes it seems strange, but that is the laws of average.

- Mike KB3EIA -

7206. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:51:28 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EF7A07C.333F9B55@shaw.ca>
Source record: 114358

W5DXP wrote:
>

>
> Light is not slowing down - seconds are getting shorter. Light simply
> doesn't travel as far in a shorter second as it once did during a
> longer second.

They just don't make it like they used to!
--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

7207. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:54:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2c7ffvksan6c7do8vgasrbgrg4n7teh1jh@4ax.com>
Source record: 114359

On Mon, 23 Jun 2003 16:59:39 -0700, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Your wondering and seeming come as no surprise.
>
>So please tell us, Richard. After all the sparking and
>arcing, how does non-glare glass work?

Not very well at all.

There are not that many people who care about it who suffer from green
reflections. Do you? Do you use a lot of green lights in your home?
Do your neighbors? Do their neighbors? Christmas is over.

I doubt there is one person here in this group that uses green lights
that also worries about green reflections.

I tell ya what, if one single person who does and responds to me, I
will grace them with the math (that will teach 'em). On the other
hand, for you Cecil - my condolences. There are certainly better
remedies with vastly simpler math that you wouldn't have to seem and
wonder at.

73's
Richard Clark, KB7QHC

7208. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:56:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7A1C5.3020803@ieee.org>
Source record: 114360

Irv Finkleman wrote:
> W5DXP wrote:
>>Light is not slowing down - seconds are getting shorter. Light simply
>>doesn't travel as far in a shorter second as it once did during a
>>longer second.
>
> They just don't make it like they used to!

If one examines Bristlecone Pine rings Vs Carbon 14 dating,
one can actually detect the time drift.
--
73, Cecil, W5DXP

7209. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 00:59:52 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qf8ffv0ho0huoe7ib77v40dqch1tcqiget@4ax.com>
Source record: 114361

On Tue, 24 Jun 2003 00:51:28 GMT, Irv Finkleman <finkirv@shaw.ca>
wrote:
>W5DXP wrote:
>> Light is not slowing down - seconds are getting shorter. Light simply
>> doesn't travel as far in a shorter second as it once did during a
>> longer second.
>
>They just don't make it like they used to!

But they're making more of it all the time. Plenty to go around.

73's
Richard Clark, KB7QHC

7210. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 01:18:11 UTC
From: Alan <abs@hotmail.com>
Message-ID: <e05ec31df3dd61a4d7c523044050e184@news.meganetnews.com>
Source record: 114362
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

```
1. Limbaugh IS on XM - speak of what you know
2. Limbaugh ABHORS big government, so you're a little askew in
trashing him. Clearly you 'know what you know but have never listened'
If he had his way in the issue, the FCC would be abolished.
3. Get over it.
```

"Shephed" <roll1up@smkey.com> wrote in message
news:7ALJa.229917$VP.48434664@twister.neo.rr.com...
>
> "Bis Wichy" <wd0hco@ev1.net> wrote in message
> news:BB1CB7BE.4496%wd0hco@ev1.net...
> >
> > >> Why bother? Unless you are a billionaire lining Powell's pockets, he
is
> > >> not going to listen.
> > >>
> > > > Same reason for voting, if you don't vote, you got no chance and no
> > > > squawk no matter what happens. If you vote at least you got a chance.
> > > > NEVER GIVE UP!!!!!
> >
> > I love it! You guys don't see the FCC's plan do you?
> >
> > This stuff is so incredibly broad banded that it will also affect
Standard
> > AM Broadcast, shortwave as well as over the air TV Broadcasts.
> >
> > Ahhh, but if your rich, you can afford to buy a new Digital AM DAB
> receiver
> > or XM Satellite receiver to listen to that dimwit Rush Limburger... and
of
> > course.....
> >
> > We ALL have to buy that Digital HDTV if you wanna watch TV over the air
or
> > keep your old NTSC TV and pay for a Satellite or cable TV hookup.
> >
> > Either way, you gonna have to spend money to keep what you got now!
> >
> > See the plan now ???
> >
> > No wonder Commissioner Powell jr is getting a big woody over this!
> >

> > This one technology alone will FORCE everyone to go digital. Like it or
> not.
> >
> > So just sit there, take it and don't say anything.
> >
> > It's what they are hoping for.
> >
> > - WD�HCO -
> >
> Still sore about the 2000 election I see. :-)
>
>

7211. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 01:39:42 UTC
From: richardharrison@webtv.net
Message-ID: <22604-3EF7ABDE-125@storefull-2311.public.lawson.webtv.net>
Source record: 114365

Cecil, W5DXP wrote:
"One wave cannot cancel, i.e., they disappear."

All you have is one wave in each direction on the usual transmission line when we are dealing with a forward and reflected wave. Any additional wave manifestations must merge.

I have selected items from Terman to support the cause of reflection and the cause of wave disappearance from the line.

These items can be found around pages 85 and 90 of Terman`s 1955 edition. However they are not complete or verbatim. I`ve tried to capture the meaning:

1. The incident wave on a transmission line can therefore be described as a voltage accompanied by a current that is everywhere in phase with, and proportional to the voltage and hence current decreasing exponentially in magnitude and dropping back uniformly in phase as the load is approached.

2. The reflected wave is identical to the incident wave except that it is traveling toward the generator.

3. E` / I` = Zo & E`` / I`` = -Zo, everywhere on the line.

4. ---the ratio E`` / E` of the voltages of the reflected and incident waves at a distance from the load can be termed the reflection coefficient at the point l. It will be noted that when alpha=0 (i.e., zero losses in the line), the reflection everywhere has the same magnitude, and equals the reflection coefficient of the load.

5. The actual voltage and current existing on a transmission line are the sum of the voltages and currents, respectively, of the incident and reflected waves---.

6. When the load end of the line is short-circuited, that is, ZL = 0, the reflection coefficient has a value of -1.0 on an angle of zero-degrees = +1.0 on an angle of 180-degrees.

7. When the load ZL = Zo such that the reflection is zero, the load is able to absorb completely the incident wave.

Terman gives the secret of reflection in the phase reversal of #6 above.

Terman gives the secret of nullification in item #7 above.

Best regards, Richard Harrison, KB5WZI

7212. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 01:41:32 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EF7AC83.6030400@adelphia.net>
Source record: 114363

Richard Clark wrote:
> On Mon, 23 Jun 2003 16:37:25 -0400, Mike Coslo <mjc5@psu.edu> wrote:
>
>
>> If light travels a foot in a nanosecond, any appreciable slowdown (and
>>these people are talking about kilometers in tens of years) will be
>>quickly apparent.
>>
>> - Mike KB3EIA -
>
>
> Hi Mike,
>
> How do you measure time without light?
>
> The article cited offers that time is a function of light in that time
> is defined by the orbital actions of Cesium that are influenced by the
> speed of light. (As having been responsible for the calibration,
> maintenance and upkeep of such a Cesium Beam standard, I offer that
> that link's descriptions are quite juvenile.)

True enough. While I point out the logical inconsistencies, the scientific errors that can be proven by anyone who actually works in the business are there in scads.

> In other words, it is wholly imperceptible because both sides of the
> equation counter balance (are complementary) - this, of course, leads
> to a self contradiction of the premise (time OR the speed of light
> changing). It is like measuring your shrinking dollar with a tape
> measure shrinking in the same ratio. Clearly the proponents have
> neglected the common issue of the measurer being part of the problem.
>
> What is more amusing is that this site also offers half a dozen of the
> purported 160 measurements to include data that shows light/time is
> BOTH speeding-up AND slowing-down (take your pick) in the early 20th
> century - and they have the gumption to say that ALL data fits this
> curve whose outliers are at the worst possible accuracy.

Sigh... I've heard a few arguments on that part where they claim that the SOL both speeds up, and slows down. The first part of the creation of the universe is where it is going really fast, then it slows down tremendously for the days of the creation of the world, then speeds up again, then (apparently) starts another decay in velocity.

- Mike KB3EIA -

7213. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 01:49:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8bbffv4qdgcamjj8s2g3u5424vdq8p1cf6@4ax.com>
Source record: 114364

On Tue, 24 Jun 2003 01:41:32 GMT, Mike Coslo <mcoslo@adelphia.net>
wrote:

> Sigh... I've heard a few arguments on that part where they claim that
>the SOL both speeds up, and slows down. The first part of the creation
>of the universe is where it is going really fast, then it slows down
>tremendously for the days of the creation of the world, then speeds up
>again, then (apparently) starts another decay in velocity.
>
> - Mike KB3EIA -

Deus ex Roller-coaster

7214. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 01:54:15 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3EF7AF7E.7070800@adelphia.net>
Source record: 114366

W5DXP wrote:

> Especially since a large percentage of the civilized world lived
> around the Black Sea at the time. There was most probably a large
> storm at the time that made matters worse. It certainly could have
> rained for 40 days and 40 nights.

HAH! It's been doing that in the Northeast this year! 8^)

- Mike KB3EIA -

7215. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 02:21:34 UTC
From: fmmck@aol.com
Message-ID: <20030623222134.07705.00001613@mb-m18.aol.com>
Source record: 114367

<< What can I replace the rubber ducky antenna with to get a couple more
dB out of my transmitter? >>

Dave-

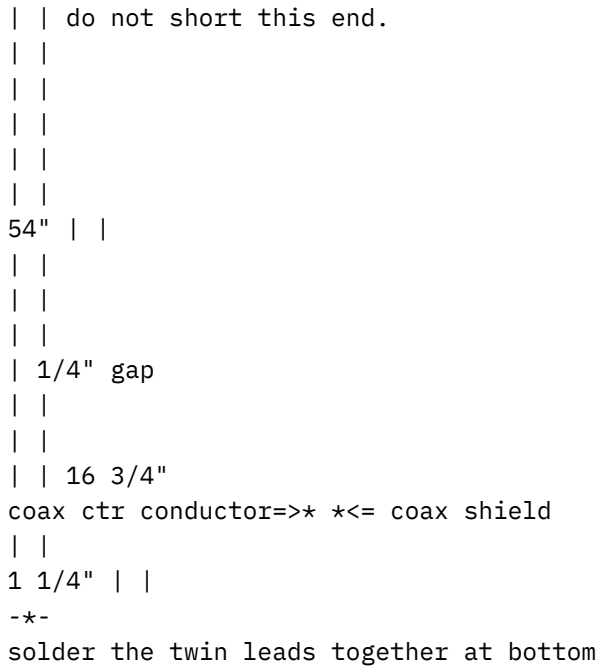
The following information may not be exactly what you want because it isn't
very portable. I thought I would dig it out of the archives and see if you
could use it, since it is a LOT better than a rubber duck antenna!

For the illustration to look right, you should open it in your word processor
and choose a "mono-spaced" font such as Courier.

73, Fred, K4DII

2M Jpole with 300 ohm twin lead
>From: kinsman@ektools.UUCP (Andrew A. Kinsman)
Newsgroups: rec.ham-radio
Organization: Eastman Kodak, Dept. 47, Rochester NY

The following is a description of a J-Pole antenna made from 300 ohm
TV twin-lead. Quite a few of the hams in the area have successfully
built one or more of these antennas. They have quite a few advantages
which include improved performance for 2-meter HTs, portability, and
last, but never least, they are inexpensive.



1. Start with 54 1/2" of TV twin lead (foam core does not work as well)
2. Strip 1/2" of insulation at bottom and solder wires together.
3. Measure 1 1/4" from soldered wires and strip insulation on both sides. This is the solder point for a coax feedline.
4. Measure 16 3/4" from bottom and cut out 1/4" notch on one side.
5. Feed with a length of RG58U coax. Tape coax at feedpoint to the twin lead for strength and weather protection.

I have also attached an alligator clip to the plastic on the top of the antenna in order to conveniently hang it. I am successfully using one in my attic to avoid any CCNR problems. I have another that I can take with me camping, sailing, etc.

This design has appeared on many BBSs and in club newsletters; the earliest reference that I know of is a Jan. 1984 D.A.R.C. antenna article by James Burks, KA5QYV.

Enjoy,
N6UBM

7216. Re: Kenwood TS-50 tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 02:30:26 UTC
From: fmmck@aol.com
Message-ID: <20030623223026.07705.00001614@mb-m18.aol.com>
Source record: 114368

<< Have him take the lid
off of it, there's at least one fuse inside the AT-50. And
while he's in there, have him check to see if the mods or
up-grades have been done >>

Doc-

What mods or up-grades? Mine needs something. It has been back to Kenwood twice and is still weird. It worked OK for several years but now is unable to tune even a 50 Ohm load on some frequencies, and works fine a few KHz away. Do you happen to know how to do a reset to the tuner? Resetting the TS-50 doesn't help this problem. (The TS-50 works OK on a borrowed tuner.)

By the way, there is also another fuse inside the TS-50, in series with the one in the AT-50.

73, Fred, K4DII

7217. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 03:16:37 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF7C295.8070201@ieee.org>
Source record: 114269

Richard Harrison wrote:
> 6. When the load end of the line is short-circuited, that is, ZL = 0,
> the reflection coefficient has a value of -1.0 on an angle of
> zero-degrees = +1.0 on an angle of 180-degrees.
>
> 7. When the load ZL = Zo such that the reflection is zero, the load is
> able to absorb completely the incident wave.
>
> Terman gives the secret of reflection in the phase reversal of #6 above.
>
> Terman gives the secret of nullification in item #7 above.

Both 6 & 7 deal with what happens at a load. Wave cancellation happens
at an impedance discontinuity match point. What happens at a load has
nothing to do with wave cancellation.

What is it about (b1 = s11*a1 + s12*a2) at the impedance discontinuity
that you don't accept? Or in ham radio terms, Vref1 = rho*Vfwd1 + tau*Vref2
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7218. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 07:26:11 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306232326.27d5f101@posting.google.com>
Source record: 114270

Pappy127@city.net wrote in message news:<3EF6F2BB.B325B868@city.net>...
> I am moving into a housing complex and that doesn't allow beams /
> verticals / satellite dishes. So I figured I would try a stealthy
> antenna like a wire that would work 40 - 10 meters. The darn contractor
> took down the trees that where on my plot of sand which I figured using
> to hook the wire too.
>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

Magnet wire is good if you want to make it hard to see. But being the contractor cut down the trees, I'm not sure what you can hook it to. You might end up having to use it indoors or in the attic like one suggested. But, I'd rather have it outside...Less noise usually. Maybe you could tack magnet wire to the eaves of the roof or something..Except for the line feeding it, would be fairly hard to see. Magnet wire is not real strong, and can break in heavy winds if it gets stretched, but it's no big deal. Just scrape the insulation off and tie it back together with a knot and add a dab of solder. A friend of mine has to run a magnet wire 80m dipole because of the yard nazi's in his area. They made him yank down his #14 gauge wire version. MK

7219. Re: Kenwood TS-50 tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 10:35:08 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <wPVJa.10260$FD2.1278925895@hebe.telenet-ops.be>
Source record: 114271

I read in a dutch newsgroup that a ham had also a problem with his at50 tuner.It turned out that the motor that drives the variable capasitor was stuck.He lubricated it and solved the problem.

And for anwering the original poster.Try to connect the tuner the wright way and see if it works.
Tuning power of the ts50 is 10W. Knowing that the tuner is capable of 100W,i think no damage is done (imo).

7220. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 12:53:20 UTC
From: richardharrison@webtv.net
Message-ID: <29599-3EF849C0-210@storefull-2312.public.lawson.webtv.net>
Source record: 114272

Cecil, W5DXP wrote:
"What happens at a load has nothing to do with wave cancellation."

What happens at a load has everything to do with wave disposition on a transmission line. Match at the load determines signal acceptance and rejaction.

From responses on this thread, Cecil has won few converts to his new religion. Is it a fault of content or presentation?

Cecil claims an optical web page proves his new belief. Visible light patterns help illustrate analogous radio propagation in space. Light waves are not traveling on wires in the analogies. Interference in free space can produce many more reinforcements and cancellations than interference causes on the wires.

In space, a wave may encounter a reflecting surface in many places and strike a glancing blow. Voila!, the reflection provides a second wave source. Two sources having alternations in their waves produce a pattern of standing waves with light and dark areas with spatial distribution. The pattern can be extensive, certianly not confined to the surface of wires. A light display may help explain spatial relations of radio waves in space, but I think it`s its a stretch to apply such interference to transmission lines.

Best regards, Richard Harrison, KB5WZI

7221. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 14:48:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF864B5.303@ieee.org>
Source record: 114274

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "What happens at a load has nothing to do with wave cancellation."
>
> What happens at a load has everything to do with wave disposition on a
> transmission line. Match at the load determines signal acceptance and
> rejaction.

Richard, you don't even need to know the value of the load to identify
the wave cancellation at the match point.

> From responses on this thread, Cecil has won few converts to his new
> religion. Is it a fault of content or presentation?

What I have presented are principles of physics from the field of
optics. Optical physicists would be surprised that you consider their
field of physics to be a religion.

> Cecil claims an optical web page proves his new belief.

It is old knowledge from the field of optics. It is only new to
the average ham. Instead of rejecting it out of hand, why not
take a look at it with an open mind?

> ... I think it`s its a stretch to apply such interference to
> transmission lines.

Interference in transmission lines is what causes standing waves.

Interference in a 3D environment can get pretty complicated. But
a transmission line is essentially a one dimensional environment.
Transmission line interference is therefore easier to understand
than light interference in free space. Here is a light example that
is pretty close to a transmission line example. The laser source
is single-frequency and coherent. Its angle of incidence is 90
degrees. IOR is the index of refraction (equivalent to characteristic
impedance). The IOR of air is 1.0

```
| thin-film |
laser-->--air-->--|--1/4WL IOR=1.225--|--Glass IOR=1.5-- ...
| |
```

Reflections back toward the laser are eliminated by wave cancellation
of two waves. One reflection is from the front of the thin-film and
one reflection is from the back of the thin-film. They cancel at the
front of the thin-film and eliminate glare. The same thing happens at
the match point in a transmission line with reflections.

--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7222. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 14:50:46 UTC
From: Bill Ogden <ogden@us.ibm.com>
Message-ID: <3EF86546.526C7732@us.ibm.com>
Source record: 114273

Thank you very much, I will do just that.

> Yes, provided that the feedline is positioned at a right angle to the
> antenna to minimize coupling. But for a coax coil over that frequency
> range I'd use the dimensions for a 21 MHz balun given in the ARRL
> Handbook - for RG-8 sized cable, 8 ft. of wire in a coil of 6-8 turns,
> or for RG-58, 6 ft. of wire in a coil of 8 turns.
>

I'll check the Handbook. 8 feet into 6-8 turns is a fairly tight coax coil, but I assume it will not hurt the coax (LM400 type).

Getting away at right angles to a quad is a little tricky. My feeds from the 5 quad elements go "up" to the boom and "over" to a coax switch. I plan to put the coax choke on the feedline to the coax switch. I realize this is not ideal, but it is probably better than nothing. I'll keep the plane of the coil at right angles to the plane of the quad elements.

Regards,

Bill
W2WO

7223. Antenna's and two rigs in a mobile

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 15:52:12 UTC
From: wess@gtii.com
Message-ID: <vfgsta2n06jb10@corp.supernews.com>
Source record: 114275

I have a new question. Just recieved my IC-706MKIIG and plan to put it in my truck this evening. I have a ft-8900r. I'd like to have the 8900 handle 2m and 440 which I can use my old mag mount on.

What I am concerned about is should I key up the IC-706 using the 70cm/2m/6m/10m antenna on rear fork pocket, can or could I hurt the other radio and vice a versa?

Any info on having multiple radios in a mobile would be welcome. I would like to be able to use the 8900 for cross band repeat using h/t when near truck and using the 8900 to keep track of what is going on on 2 meters as everyone works 6 meters ssb would be nice also. A lot of info on band openings gets passed on local 2 meter repeater during 6 meter band openings.

73, wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

7224. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 16:17:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF879B6.4B03D046@uci.edu>
Source record: 114280

W5DXP wrote:
>
> Richard Clark wrote:
> > Perhaps Cecil in Galileo drag (Cecilileo?) could find new backing from
> > the Vatican with a sweeps week special.
>
> I prefer "Cecileo". I notice that you haven't found anything technically
> inaccurate about my stuff, Richard, and are reduced to ridiculing something
> that you don't comprehend. It's an all too human trait.
>
> What is it about Vref1 = rho1*Vfwd1 + tau2*Vref2 that you find so
> distasteful? Does it follow that you find b1 = s11*a1 + s12*a2
> just as distasteful?

In the matched system described in your paper, what is the value of
Reflectivity at the impedance discontinuity? What is the value of Vref1
and b1 in that system?

jk

7225. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 16:29:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <keqgfvk9nvptr4dghgosqb762vqqdekvfq@4ax.com>
Source record: 114276

On Tue, 24 Jun 2003 07:53:20 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>From responses on this thread, Cecil has won few converts to his new
>religion. Is it a fault of content or presentation?
Yes.

Perhaps Cecil in Galileo drag (Cecilileo?) could find new backing from
the Vatican with a sweeps week special. This tie-in is celebrated by
Kurt Vonnegut's "Cat's Cradle" and the introduction of Bokononmism
where the reader is advised "Anyone unable to understand how a useful
religion can be founded on lies will not understand this book eitherï¿½"

73's
Richard Clark, KB7QHC

7226. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 17:25:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF88988.8070007@ieee.org>
Source record: 114277

Richard Clark wrote:
> Perhaps Cecil in Galileo drag (Cecilileo?) could find new backing from
> the Vatican with a sweeps week special.

I prefer "Cecileo". I notice that you haven't found anything technically inaccurate about my stuff, Richard, and are reduced to ridiculing something that you don't comprehend. It's an all too human trait.

What is it about Vref1 = rho1*Vfwd1 + tau2*Vref2 that you find so distasteful? Does it follow that you find b1 = s11*a1 + s12*a2 just as distasteful?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7227. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 17:28:49 UTC
From: stanb45@dial.pipex.com
Message-ID: <slrnbfg2ml.mqc.stanb45@citadel.metropolis.local>
Source record: 114278
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On Mon, 23 Jun 2003 22:09:25 GMT, James <jimbo@nospam.com> wrote:
>Would the interference from these broad banded power line signals
>disturb the digital signals as well as analog ?
>I know the hdtv is higher up the the analog tv signals.

If they're using a similar system to that in Europe, there's some
info here: http://www.qsl.net/rsgb_emc/

--
Cheers,
Stan Barr stanb .at. dial .dot. pipex .dot. com
(Remove any digits from the addresses when mailing me.)

The future was never like this!

7228. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 17:31:16 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0306240931.169d4638@posting.google.com>
Source record: 114279

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0306232326.27d5f101@posting.google.com>...
> Pappy127@city.net wrote in message news:<3EF6F2BB.B325B868@city.net>...
> > I am moving into a housing complex and that doesn't allow beams /
> > verticals / satellite dishes. So I figured I would try a stealthy
> > antenna like a wire that would work 40 - 10 meters. The darn contractor
> > took down the trees that where on my plot of sand which I figured using
> > to hook the wire too.
> >
> > I figure what they can't see they can't complain about.
> >
> > Any ideas would be appreciated.
>
> Magnet wire is good if you want to make it hard to see. But being the
> contractor cut down the trees, I'm not sure what you can hook it to.
> You might end up having to use it indoors or in the attic like one
> suggested. But, I'd rather have it outside...Less noise usually. Maybe
> you could tack magnet wire to the eaves of the roof or
> something..Except for the line feeding it, would be fairly hard to
> see.

Short runs of RG-174 for the low bands . . ?

> Magnet wire is not real strong, and can break in heavy winds if
> it gets stretched, but it's no big deal. Just scrape the insulation
> off and tie it back together with a knot and add a dab of solder. A
> friend of mine has to run a magnet wire 80m dipole because of the yard
> nazi's in his area. They made him yank down his #14 gauge wire
> version. MK

The Wireman sells #26 AWG "Invisible Toughcoat Silky" antenna wire
which is a stranded & coated copperweld type, his catalog #534. I
think Davis also stocks it. Amazingly strong for it's size, very
abrasion resistant and you have to go looking for it if you're more
than twenty feet away from the stuff. I guess there are some
resistance issues involved but it beats no wire and/or constantly
putting it back together.

w3rv

7229. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 17:40:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ir2hfv8qh9b8mq4hl9hthjv86p9a22iatv@4ax.com>
Source record: 114281

On Tue, 24 Jun 2003 12:25:28 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Perhaps Cecil in Galileo drag (Cecilileo?) could find new backing from
>> the Vatican with a sweeps week special.
>
>I prefer "Cecileo".

So be it.

> I notice that you haven't found anything technically
>inaccurate about my stuff, Richard,

As I have pointed out in the past, I am not responsible for your
disabilities nor shortfalls of perception. For your problems of
existence, consult Sartre.

>and are reduced to ridiculing something
>that you don't comprehend. It's an all too human trait.

You don't offer any other choices, Cecileo.

>
>What is it about Vref1 = rho1*Vfwd1 + tau2*Vref2 that you find so
>distasteful? Does it follow that you find b1 = s11*a1 + s12*a2
>just as distasteful?

Why is it you attempt to turn the study of simple electrical
characteristics into discussions of sensation? Distasteful? Having
you been putting your lips to this again?

I am sure many here can understand my not going THERE! ;-)

73's
Richard Clark, KB7QHC

7230. Re: Antenna's and two rigs in a mobile

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 18:03:44 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF89280.E6E913F0@cwis.net>
Source record: 114282

Wess,
While it's not certain that there would be damage done,
it is certain that there ~could~ be. I wouldn't think it's
the best idea in the world...
'Doc

7231. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 18:12:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vfh54tpibovgc2@corp.supernews.com>
Source record: 114283

If you have an antenna analyzer, connect the center conductor to the shield at both ends of a piece of coax. Wind the coax into a coil you think might do the job. Connect one end of the coax coil to the center conductor of the antenna analyzer, and the other to the analyzer connector shell. Adjust the coil to make the impedance as high as possible. Generally, 500 - 1000 ohms is adequate for good balun performance.

Roy Lewallen, W7EL

Bill Ogden wrote:
> Thank you very much, I will do just that.
>
>
>
>>Yes, provided that the feedline is positioned at a right angle to the
>>antenna to minimize coupling. But for a coax coil over that frequency
>>range I'd use the dimensions for a 21 MHz balun given in the ARRL
>>Handbook - for RG-8 sized cable, 8 ft. of wire in a coil of 6-8 turns,
>>or for RG-58, 6 ft. of wire in a coil of 8 turns.
>>
>
>
> I'll check the Handbook. 8 feet into 6-8 turns is a fairly tight coax coil, but I
> assume it will not hurt the coax (LM400 type).
>
> Getting away at right angles to a quad is a little tricky. My feeds from the 5 quad
> elements go "up" to the boom and "over" to a coax switch. I plan to put the coax
> choke on the feedline to the coax switch. I realize this is not ideal, but it is
> probably better than nothing. I'll keep the plane of the coil at right angles to the
> plane of the quad elements.
>
> Regards,
>
> Bill
> W2WO
>

7232. Mounting Height of 1/2 vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 18:28:04 UTC
From: w4fms <frank1.news.invalid@web2news.net>
Message-ID: <43930N884@web2news.com>
Source record: 114284

Does the mounting height of an HF half wave vertical affect its
performance? Will a Cushcraft R5 mounted at 6ft have similar
performance to one at 60ft? If mounting it at least 1/2 wavelenth high
does affect perfomance how much of an advantage does if offer?

Frank, W4FMS
--
Direct access to this group with http://web2news.com
http://web2news.com/?rec.radio.amateur.antenna
To contact in private, remove nnoos8p+-am

7233. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 19:41:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF8A970.E02F0075@uci.edu>
Source record: 114285

W5DXP wrote:
>
> Irv Finkleman wrote:
> > W5DXP wrote:
> >>Light is not slowing down - seconds are getting shorter. Light simply
> >>doesn't travel as far in a shorter second as it once did during a
> >>longer second.
> >
> > They just don't make it like they used to!
>
> If one examines Bristlecone Pine rings Vs Carbon 14 dating,
> one can actually detect the time drift.

Thereby proving the Earth was created about 6000 years ago.

7234. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 19:42:36 UTC
From: richardharrison@webtv.net
Message-ID: <22212-3EF8A9AC-467@storefull-2314.public.lawson.webtv.net>
Source record: 114286

Cecil, W5DXP wrote:
"Reflections back toward the laser are eliminated by wave cancellation of two waves. One reflection is from the front of the (1/4-wave) thin film and one reflection is from the back of the thin film. They cancel at the front of the thin film and eliminate glare."

As Cecil`s thin film "impedance" (IOR) figure is equal to the square root of the product of its input and output "impedances", the film would seem to correspond to a Q-section as used for matching impedances, if Cecil`s characterizations are true.

If so, glare would be eliminated at the glass surface as well as at the exterior surface of the thin film. Reflections would be constrained to the film by a match at both surfaces, though the film itself is intermediate to both air and glass.

If Cecil`s characterizations are true, no more than one incident wave and one reflected wave are needed to come together at the discontinuities at each end of the "Q-section". These confluences offset each other as far as it concerns the world outside the Q-section.

Looking into a proper matching section, from either end, you see a match.

Best regards, Richard Harrison, KB5WZI

7235. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 20:31:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qrchfvkfui5fqj2pljmuufvel8c4a1aqho@4ax.com>
Source record: 114287

On Tue, 24 Jun 2003 14:42:36 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>If so, glare would be eliminated at the glass surface as well as at the
>exterior surface of the thin film. Reflections would be constrained to
>the film by a match at both surfaces, though the film itself is
>intermediate to both air and glass.
>

Hi Richard,

This embodies the understanding of a naive paper solution believer.
The first interface ALWAYS presents a discontinuity for ALL impinging
radiation on BOTH sides. Glare can never be eliminated as my
reference has described and my experience has painfully confirmed at
the optics bench. The thin film can conspire to create an
interference that cancels, but that is NEVER complete and is often a
poor realization.

There is not even the respite of a perfect environment to rescue any
sense of totality. Besides, for the sake of argument, there are
simpler solutions of total, apparent transmission that I have already
described to this board.

73's
Richard Clark, KB7QHC

7236. antenna: phasing control

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 20:35:12 UTC
From: "Nic. Santean" <nic@csd.uwo.ca>
Message-ID: <3ef8b582@shknews01>
Source record: 114288

Could anybody please explain how this thing works
(and how effective is) :

Antenna's phasing control is used mainly for two reasons:
to "phase-out" unwanted signal and to decrease its Q for
a better tuning.

The phasing control for a tuned loop can be done by
bypassing the tuning VC with a 50Kohms potentiometer
- which will exercise phasing control (I have a picture of
such tuned loop in a book on antennas - without explanation).

Nic.

7237. Re: Mounting Height of 1/2 vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 21:13:38 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3ef8c087_4@news1.prserv.net>
Source record: 114289

Look, Frank;

There is no simple answer to that question. The shape and direction of the lobes changes with elevation, and it depends if the station you are trying to work is in a lobe at 6' or at 60'. Or, more likely in a null at some elevation. If Rose would get over his snit about software piracy and sell TA again, you could see the effects quickly and easily.

--
Crazy George
Remove NO and SPAM from return address
"w4fms" <frank1.news.invalid@web2news.net> wrote in message
news:43930N884@web2news.com...
> Does the mounting height of an HF half wave vertical affect its
> performance? Will a Cushcraft R5 mounted at 6ft have similar
> performance to one at 60ft? If mounting it at least 1/2 wavelenth high
> does affect perfomance how much of an advantage does if offer?
>
> Frank, W4FMS
> --
> Direct access to this group with http://web2news.com
> http://web2news.com/?rec.radio.amateur.antenna
> To contact in private, remove nnoos8p+-am

7238. Re: Mounting Height of 1/2 vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 21:27:00 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <p7ghfv4ft8oh96029f1d0k1jtm9shc1b4o@4ax.com>
Source record: 114290

On Tue, 24 Jun 2003 20:28:04 +0200, "w4fms"
<frank1.news.invalid@web2news.net> wrote:

>Does the mounting height of an HF half wave vertical affect its
>performance? Will a Cushcraft R5 mounted at 6ft have similar
>performance to one at 60ft? If mounting it at least 1/2 wavelenth high
>does affect perfomance how much of an advantage does if offer?
>
>Frank, W4FMS

I had an R5 mounted at about 15 feet (the base was at that height). A
huge pecan tree hovered over it. But it got out fine. Good antenna. I
don't think the mounting is all that critical. But certainly, there'd
be nothing wrong with it being 60 feet up.

Bob
k5qwg

7239. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 22:08:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF8CBEA.AF7C4F60@uci.edu>
Source record: 114291

W5DXP wrote:
> The intrinsic speed of light is not
> changing. Seconds are getting shorter and space is expanding.

Are there fewer periods in the Cesium 133 transition now than there used to be?

jk

7240. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-24 22:15:48 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <j44Ka.2968$OE2.428916@news20.bellglobal.com>
Source record: 114292

"Richard Clark"
> Glare can never be eliminated as my reference
> has described and my experience has painfully
> confirmed at the optics bench. The thin film
> can conspire to create an interference that
> cancels, but that is NEVER complete and is
> often a poor realization.

True of course, but...

Good telescopes and binoculars (for example) have antireflective coatings that are not just a simple quarter-lambda at one wavelength. The more advanced coatings are highly complex and include multiple compounds and multiple layers.

Here's one example:
http://www.meade.com/catalog/uhtc/
Note the graph at the top right.

I wonder if Cecil could model a transmission line equivalent.

7241. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:02:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8E6A9.1020808@ieee.org>
Source record: 114293

Jim Kelley wrote:
>
> W5DXP wrote:
>>What is it about Vref1 = rho1*Vfwd1 + tau2*Vref2 that you find so
>>distasteful? Does it follow that you find b1 = s11*a1 + s12*a2
>>just as distasteful?
>
> In the matched system described in your paper, what is the value of
> Reflectivity at the impedance discontinuity? What is the value of Vref1
> and b1 in that system?

"Value of Reflectivity" doesn't really mean anything according to the IEEE Dictionary so I don't understand what you are asking. "Reflectivity" doesn't appear in any of my reference books.

In the matched system in my paper, illustrated below, Vref1 is zero, so (rho1*Vfwd1 + tau2*Vref2) has to be zero. Therefore (rho1*Vfwd1 = -tau2*Vref2) and those two rearward-traveling waves engage in wave cancellation and are destroyed. The energy components in those two waves cannot be destroyed.
The power in (rho1*Vfwd1) is (rho1*Vfwd1)^2*Z01 = 25 watts
The power in (tau2*Vref2) is (tau2*Vref2)^2*Z01 = 25 watts

Port 1=> | <=Port 2
source-----50 ohm feedline----+----150 ohm feedline--------load
Pfwd1=110W, Pref1=0W Pfwd2=133.33W, Pref2=33.33W

The physical reflection coefficient, rho1, is 0.5 = (150-50)/(150+50)

The s-parameter equation is just another way of writing the above equation normalized to Z0. b1 also equals zero. s11 is also the physical reflection coefficient which equals (Z1-Z0)/(Z1+Z0)
--
73, Cecil http://www.qsl.net/w5dxp

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7242. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:04:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8E71B.8070301@ieee.org>
Source record: 114294

Richard Clark wrote:
> As I have pointed out in the past, I am not responsible for your
> disabilities nor shortfalls of perception.

Translation: I cannot find anything technically wrong with what
you say but I hate the way you say it. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7243. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:07:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8E7B8.60103@ieee.org>
Source record: 114295

Jim Kelley wrote:
>
> W5DXP wrote:
>>If one examines Bristlecone Pine rings Vs Carbon 14 dating,
>>one can actually detect the time drift.
>
> Thereby proving the Earth was created about 6000 years ago.

I knew there was something weird about you, Jim. My Mother
believes exactly as you do.

Seriously, which do you believe tells better time, a Bristlecone
Pine or Carbon 14?
--
73, Cecil http://www.qsl.net/w5dxp

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7244. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:11:05 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8E899.3070100@ieee.org>
Source record: 114296

Richard Harrison wrote:
> Looking into a proper matching section, from either end, you see a
> match.

Yep, and the cause of the match is wave cancellation between the
two rearward-traveling reflected waves.

For a variety of physical reasons, it is difficult to cancel all
the light reflections in a thin film. It is very easy to cancel
all the RF reflections in a transmission line.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7245. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:17:10 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <aS5Ka.88311$_w.4900895@twister.southeast.rr.com>
Source record: 114297

The time has come to "beautify" the neighborhood. Figure out the best distance for a very thin wire dipole and plant two very large trees to hold the ends of the dipole. Another possibility is one tall tree and a vertical using a PVC support (camouflage painted).

Another possibility would be Hamsticks on a camera tripod with four radials under it. Portable, easy to take down when done.

Good luck, and good DX.

Bill, W4WNT
<Pappy127@city.net> wrote in message news:3EF6F2BB.B325B868@city.net...
> I am moving into a housing complex and that doesn't allow beams /
> verticals / satellite dishes. So I figured I would try a stealthy
> antenna like a wire that would work 40 - 10 meters. The darn contractor
> took down the trees that where on my plot of sand which I figured using
> to hook the wire too.
>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

7246. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:26:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8EC1E.1040207@ieee.org>
Source record: 114298

Richard Clark wrote:
> The first interface ALWAYS presents a discontinuity for ALL impinging
> radiation on BOTH sides. Glare can never be eliminated as my
> reference has described and my experience has painfully confirmed at
> the optics bench. The thin film can conspire to create an
> interference that cancels, but that is NEVER complete and is often a
> poor realization.

Your references don't tell the whole story. Thin films cannot be had
with just any index of refraction. Transmission lines can be had with
just about any characteristic impedance within a useful 35-600 ohm range.

Most optics texts ignore the re-reflection at the front surface of the wave
reflected from the rear surface of the thin-film. They shouldn't do that.
I certainly don't do that in my magazine article.

For near perfect wave cancellation to occur, the source needs to be
a coherent single frequency. Difficult for white light - easy for
a ham transmitter.

Taking everything into account, the explanation for an RF transmission
line is mostly bulletproof. Your above objections, for instance, just
do not apply to an RF transmission line.

I read an interesting article in "American Scientist" today titled
"Quantum Erasure" having to do with EM interference. I will paraphrase
what the author said. "I don't know why it happens, I just know that
it does happen."
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7247. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:45:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8F0A8.6020006@ieee.org>
Source record: 114299

Jim Kelley wrote:
>
> W5DXP wrote:
>>The intrinsic speed of light is not
>>changing. Seconds are getting shorter and space is expanding.
>
> Are there fewer periods in the Cesium 133 transition now than there used
> to be?

No, while the second is getting shorter, the Cesium 133 transitions
are increasing because the Cesium 133 source is in the same space-time
as that shrinking second. The frequency remains constant while time is
relative, i.e. not constant. The same thing would happen on a starship
that is traveling at near the speed of light and then slows down.

That's why one needs something like Bristlecone Pine rings to bring
time measurements back to reality. Consider that if we are laying
present-day shortened seconds end-to-end to determine the age of the
universe, the universe is not nearly as old as we think. Seconds, in
the past, may have been an hour long, or 1000 years long, or ...
--
73, Cecil http://www.qsl.net/w5dxp

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7248. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:48:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8F176.9050307@ieee.org>
Source record: 114301

J. Harvey wrote:
> Good telescopes and binoculars (for example) have antireflective coatings
> that are not just a simple quarter-lambda at one wavelength. The more
> advanced coatings are highly complex and include multiple compounds and
> multiple layers.
>
> Here's one example:
> http://www.meade.com/catalog/uhtc/
> Note the graph at the top right.
>
> I wonder if Cecil could model a transmission line equivalent.

Don't have to. Transmission lines are extremely simple and easy
compared to optics. One coherent source, one-dimensional environment,
waves can only travel in one of two directions, Z0 selection is
very wide, impedance selection using a tuner is extremely wide, ...
--
73, Cecil http://www.qsl.net/w5dxp

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7249. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:50:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF8F1B9.F6802DC5@uci.edu>
Source record: 114300

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>If one examines Bristlecone Pine rings Vs Carbon 14 dating,
> >>one can actually detect the time drift.
> >
> > Thereby proving the Earth was created about 6000 years ago.
>
> I knew there was something weird about you, Jim. My Mother
> believes exactly as you do.

You're being presumtious, or as you would assert, omnicient.

> Seriously, which do you believe tells better time, a Bristlecone
> Pine or Carbon 14?

Interpretting Bristlecone Pine rings is one of the methods used to
calibrate Carbon 14 data.

jk

7250. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 00:52:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8F265.1000209@ieee.org>
Source record: 114302

W5DXP wrote:
> The power in (rho1*Vfwd1) is (rho1*Vfwd1)^2*Z01 = 25 watts
> The power in (tau2*Vref2) is (tau2*Vref2)^2*Z01 = 25 watts

Obviously should have been (rho1*Vfwd1)^2/Z01 and (tau2*Vref2)^2/Z01
--
73, Cecil http://www.qsl.net/w5dxp

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7251. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:05:54 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF8F572.87AAE9B6@uci.edu>
Source record: 114304

W5DXP wrote:
> "Value of Reflectivity" doesn't really mean anything according to the IEEE
> Dictionary so I don't understand what you are asking. "Reflectivity" doesn't
> appear in any of my reference books.

You need to rent Melles-Griot again.

> In the matched system in my paper, illustrated below, Vref1 is zero, so
> (rho1*Vfwd1 + tau2*Vref2) has to be zero. Therefore (rho1*Vfwd1 = -tau2*Vref2)
> and those two rearward-traveling waves engage in wave cancellation and are
> destroyed. The energy components in those two waves cannot be destroyed.

Conservation of energy requires only that Pi = Pf + Pr.

> The power in (rho1*Vfwd1) is (rho1*Vfwd1)^2*Z01 = 25 watts
> The power in (tau2*Vref2) is (tau2*Vref2)^2*Z01 = 25 watts

But if (rho1*Vfwd1 + tau2*Vref2) is equal to zero, why isn't
(rho1*Vfwd1)^2*Z01 + (tau2*Vref2)^2*Z01 equal to zero?

Seems like a math error to me.

jk

7252. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:08:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8F62B.8080506@ieee.org>
Source record: 114305

Jim Kelley wrote:
>
> W5DXP wrote:
>>I knew there was something weird about you, Jim. My Mother
>>believes exactly as you do.
>
> You're being presumtious, or as you would assert, omnicient.

My next word, "Seriously," should have given you a clue that I
was joking. I'll try to remember the smiley face next time.

>>Seriously, which do you believe tells better time, a Bristlecone
>>Pine or Carbon 14?
>
> Interpretting Bristlecone Pine rings is one of the methods used to
> calibrate Carbon 14 data.

Yes, Bristlecone Pine rings are used to correct Carbon 14 drift
errors because seconds today are shorter than they were in the
past. One can actually use the difference between the Bristlecone
Pine rings and Carbon 14 readings to calculate the decrease in
velocity of our region of space over the past 5000 years or so. As
our region of space decreases in velocity, our region of space also
increases in volume. Ergo, other stars get farther away without
moving. It's a double whammy for the Red Shift. Space volume
increases and seconds get shorter. Think about what that does
to light frequency measurements from outer space. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7253. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:09:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EF8F633.BCAF13F9@uci.edu>
Source record: 114303

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>The intrinsic speed of light is not
> >>changing. Seconds are getting shorter and space is expanding.
> >
> > Are there fewer periods in the Cesium 133 transition now than there used
> > to be?
>
> No, while the second is getting shorter, the Cesium 133 transitions
> are increasing because the Cesium 133 source is in the same space-time
> as that shrinking second. The frequency remains constant while time is
> relative, i.e. not constant. The same thing would happen on a starship
> that is traveling at near the speed of light and then slows down.

Actually, the fine structure constant appears to be changing - not the
speed of light, or units of time. Lends support to String Theory.

jk

7254. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:26:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8FA4E.3090504@ieee.org>
Source record: 114306

Jim Kelley wrote:
>
> W5DXP wrote:
>>"Value of Reflectivity" doesn't really mean anything according to the IEEE
>>Dictionary so I don't understand what you are asking. "Reflectivity" doesn't
>>appear in any of my reference books.
>
> You need to rent Melles-Griot again.

I didn't know Melles-Griot was for rent. I just did a search for "reflectivity"
on the Melles-Griot web page and that word does NOT appear on their web page.
So I still don't know what you mean by "reflectivity".

>>In the matched system in my paper, illustrated below, Vref1 is zero, so
>>(rho1*Vfwd1 + tau2*Vref2) has to be zero. Therefore (rho1*Vfwd1 = -tau2*Vref2)
>>and those two rearward-traveling waves engage in wave cancellation and are
>>destroyed. The energy components in those two waves cannot be destroyed.
>
> Conservation of energy requires only that Pi = Pf + Pr.

No, conservation of energy requires that all energy be conserved. That
includes the energy components in the two waves that cancel.

>>The power in (rho1*Vfwd1) is (rho1*Vfwd1)^2*Z01 = 25 watts
>>The power in (tau2*Vref2) is (tau2*Vref2)^2*Z01 = 25 watts
>
> But if (rho1*Vfwd1 + tau2*Vref2) is equal to zero, why isn't
> (rho1*Vfwd1)^2*Z01 + (tau2*Vref2)^2*Z01 equal to zero?

rho1*Vfwd1 is one rearward-traveling voltage wave. tau2*Vref2 is another
rearward-traveling voltage wave.

The intrinsic power in rho1*Vfwd1 is rho1*Vfwd1^2/Z01 = 25 watts
The intrinsic power in tau2*Vref2 is tau2*Vref2^2/Z01 = 25 watts

The two voltage waves are equal in magnitude and opposite in phase.
The two voltage waves cancel. Their energy components cannot cancel.
The wave cancellation event causes the photons to materialize in the
opposite direction as constructive interference. Their failure to
materialize in the rearward direction is caused by the destructive
interference event that Hecht says in _Optics_, is necessary to allow
the constructive interference event to exist.

> Seems like a math error to me.

Yes, there was a math error. V^2*Z0 is not power. V^2/Z0 is power.
Sorry for the typo.

--
73, Cecil http://www.qsl.net/w5dxp

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7255. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:32:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8FBB8.8080700@ieee.org>
Source record: 114308

Jim Kelley wrote:
> Actually, the fine structure constant appears to be changing - not the
> speed of light, or units of time.

How can you separate the two? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7256. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:32:45 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <31uhfvcvmnkke84agmag6doqqfjkb3k7dh@4ax.com>
Source record: 114307

On Tue, 24 Jun 2003 19:04:43 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> As I have pointed out in the past, I am not responsible for your
>> disabilities nor shortfalls of perception.
>
>Translation: I cannot find anything technically wrong with what
>you say but I hate the way you say it. :-)

You again fall back on sensation in the form of, guess what? Feelings
... of hate? more Virtual Soap Opera. I'm waiting for your Cecileo
to break out into the lush sobbing strains of Il Pagliacci.

I don't think anyone here asked about the Q of your love life either.
Can you keep it out of these threads?

73's
Richard Clark, KB7QHC

7257. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:36:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF8FC90.6010201@ieee.org>
Source record: 114309

Richard Clark wrote:
> You again fall back on sensation in the form of, guess what? Feelings
> ... of hate? more Virtual Soap Opera. I'm waiting for your Cecileo
> to break out into the lush sobbing strains of Il Pagliacci.
>
> I don't think anyone here asked about the Q of your love life either.
> Can you keep it out of these threads?

Thanks, Richard, you just proved my point. Exactly what is the technical
content of your above posting?
--
73, Cecil http://www.qsl.net/w5dxp

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7258. Re: antenna: phasing control

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:49:47 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4jvhfvs1k3fjo4kgohu85eio54vgveeohb@4ax.com>
Source record: 114310

On Tue, 24 Jun 2003 16:35:12 -0400, "Nic. Santean" <nic@csd.uwo.ca>
wrote:

>Could anybody please explain how this thing works
>(and how effective is) :
>
>Antenna's phasing control is used mainly for two reasons:
>to "phase-out" unwanted signal and to decrease its Q for
>a better tuning.
>
>The phasing control for a tuned loop can be done by
>bypassing the tuning VC with a 50Kohms potentiometer
>- which will exercise phasing control (I have a picture of
>such tuned loop in a book on antennas - without explanation).
>
>Nic.
>

Hi Nic,

Your set-up leaves much to be desired, like what is the control for
(aside from the literal marking of phase)? I can guess however (and
that is the danger, most advice will have the same quality of guess).

The Phase control shifts noise products in relation to the reference
signal so that they cancel. It is more a time shift, aka delay,
because the two signal paths differ in time which is not phase
constant for noise products; however, the distinction is slight.

73's
Richard Clark, KB7QHC

7259. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 01:53:06 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF90082.2A347B35@cwis.net>
Source record: 114311

Cecil,
Does that mean I have to worry about increasing the length
of my 80 meter antenna to keep it resonant? Will I have to
add that length any time soon?
'Doc

7260. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 02:20:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rv0ifv8hdcve06rk4s6gd7u6qtuss95umo@4ax.com>
Source record: 114312

On Tue, 24 Jun 2003 20:36:16 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Thanks, Richard, you just proved my point. Exactly what is the technical
>content of your above posting?

You have a point proven? What? Where? Just saying so hardly
qualifies for technical discourse - only opera criticism. If that is
your point, my criticism is that you are off key. What it proves is
you are tone deaf. Fortunately I didn't have to plunk down cash for
this symphony of noise (Cage does it better than you anyway).

Now when you manage to pull back onto course with some actual
technical discussion, you might then find technical objection. That
you might/not respond in kind without again falling off the wagon is
beyond my control. I am really not interested in your discussions
couched in sloppy sentimentalism.

73's
Richard Clark, KB7QHC

7261. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 02:39:47 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <fq2ifv4343bpgg3ctp0jg7a1sh8adst2th@4ax.com>
Source record: 114313

On Mon, 23 Jun 2003 08:29:47 -0400, Pappy127@city.net wrote:

>I am moving into a housing complex and that doesn't allow beams /
>verticals / satellite dishes. So I figured I would try a stealthy
>antenna like a wire that would work 40 - 10 meters. The darn contractor
>took down the trees that where on my plot of sand which I figured using
>to hook the wire too.
>
>I figure what they can't see they can't complain about.
>
>Any ideas would be appreciated.

If flag poles are legal in your neighborhood, try...

http://force12inc.com/

Bob
k5qwg

7262. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 02:45:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hs1ifv05dfip5b9vmkjf1j4hre0urj31ls@4ax.com>
Source record: 114314

On Tue, 24 Jun 2003 20:26:38 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>I didn't know Melles-Griot was for rent. I just did a search for "reflectivity"
>on the Melles-Griot web page and that word does NOT appear on their web page.
>So I still don't know what you mean by "reflectivity".

Dear Cecileo,

You could have as easily said you couldn't find it in the Berlin
yellow pages, or the Revised Code of American Samoa, or the Official
Minutes of the Meeting of the People's Party Congress in Havana. A
poor carpenter blames his tool.

We already doubt the quality of your efforts, and you feed them with
these non-sequitars you offer with a blank face.

You "suggest" you have legitimate optical references at hand, and you
don't seem motivated to examine further when you find the first,
cultured failure. The why of this serves your arguments.

Reflectivity is
((n1 - n2)/(n1 + n2))ï¿½

Transmissivity is
1 - Reflectivity

Your ignorance of these terms shows why your thin-film metaphors fail;
but that, again, is not where you want to go, and avoiding that path
finds you blundering on regardless.

In other threads you pine on about technical criticism; I can well
imagine you will rebut with an aria from the Barber of Seville and
then complain about your poor entertainment reviews. (Let's just get
that out of the way and say you can't carry a tune any better than you
can publish your myths as a vanity piece.)

73's
Richard Clark, KB7QHC

7263. Re: antenna: phasing control

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 02:53:28 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306241853.5c2f472a@posting.google.com>
Source record: 114315

"Nic. Santean" <nic@csd.uwo.ca> wrote in message news:<3ef8b582@shknews01>...
> Could anybody please explain how this thing works
> (and how effective is) :
>
> Antenna's phasing control is used mainly for two reasons:
> to "phase-out" unwanted signal and to decrease its Q for
> a better tuning.
>
> The phasing control for a tuned loop can be done by
> bypassing the tuning VC with a 50Kohms potentiometer
> - which will exercise phasing control (I have a picture of
> such tuned loop in a book on antennas - without explanation).
>
> Nic.

Nic
(my newby thoughts)
What it does is to broaden the bandwidth at the expense of gain.
If using a 20 thru 10 loop it gets quite tricky to tune a signal
as the loops bandwidth gets so narrow so the addition of the
resistance in the circuit will reduce the sensitivity of the
variable capacitor. The resistance addition becomes even more
important in the 80 metre area. I have not seen its
introduction in commercial loop antennas.
(I am referring to a variable resistor across
the variable capacitor which , in parallel,
lowers the Q of the antenna).
Look under complex circuits, IF radio circuit theory or inductive
coupling for further insights but do note that its use is
restricted to receiving antennas, plus it becomes mathematically
complex for the newcomer. Somebody else can probably give you
a more understandable explanation but this should give you a start.
Cheers
Art

7264. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 03:09:52 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF91280.3030100@ieee.org>
Source record: 114316

'Doc wrote:
> Cecil,
> Does that mean I have to worry about increasing the length
> of my 80 meter antenna to keep it resonant? Will I have to
> add that length any time soon?

As long as you and your antenna are bonded together in the same
space-time, you won't notice any difference because it's all
relative. Your antenna may be getting longer but so are you
and your ruler. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7265. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 03:11:53 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF912F9.6060304@ieee.org>
Source record: 114317

Richard Clark wrote:
> Now when you manage to pull back onto course with some actual
> technical discussion, you might then find technical objection.

What is it about (Vref1 = rho1*Vfwd1 + tau2*Vref2) that you
don't understand?
--
73, Cecil http://www.qsl.net/w5dxp

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7266. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 03:24:51 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1b5ifvgl4bijnk77ag8k0at999ofovitb3@4ax.com>
Source record: 114318

On Tue, 24 Jun 2003 22:11:53 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Now when you manage to pull back onto course with some actual
>> technical discussion, you might then find technical objection.
>
>What is it about (Vref1 = rho1*Vfwd1 + tau2*Vref2) that you
>don't understand?

See Cecileo,

You had two posts to respond to from me, and you chose to create
another emotional issue rather than respond to my technical criticism
in the other.

Let's see the quality of your effort in a venue you begged for rather
than your contrivance above.

73's
Richard Clark, KB7QHC

7267. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 03:45:33 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <o56ifvs189bce6kb8jpi419pcdkdh10q02@4ax.com>
Source record: 114219

On Tue, 24 Jun 2003 20:26:38 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>I didn't know Melles-Griot was for rent. I just did a search for "reflectivity"
>on the Melles-Griot web page and that word does NOT appear on their web page.
>So I still don't know what you mean by "reflectivity".
>

Well, I already offered to fill one of your short falls that I have
claimed is not my responsibility. It remains uncommented on as I post
this and the corollary observation posted elsewhere:
>On Tue, 24 Jun 2003 22:11:53 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>
>>Richard Clark wrote:
>>> Now when you manage to pull back onto course with some actual
>>> technical discussion, you might then find technical objection.
>>
>>What is it about (Vref1 = rho1*Vfwd1 + tau2*Vref2) that you
>>don't understand?
>
>See Cecileo,
>
>You had two posts to respond to from me, and you chose to create
>another emotional issue rather than respond to my technical criticism
>in the other.
>
>Let's see the quality of your effort in a venue you begged for rather
>than your contrivance above.
>
>73's
>Richard Clark, KB7QHC

Cecileo,

You are an unreliable correspondent as already evidenced by your
string of manipulative quotes, poor math, haphazard citations, ignored
errors and sloppy writing.

You lack a coherent document posted in one place for everyone to
observe, comment or criticize in the guise of it not being
providential pending "publication" which of course never arrives. An
excuse that has grown stale by 8 months of the last year of its use.

What if I were to deflect you demand for technical comment by using
the same cloak of invisibility? I haven't tried it, but the comedy of
your exhortations may make it worth the try. :-)

73's
Richard Clark, KB7QHC

7268. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 03:54:41 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF91D01.5040908@ieee.org>
Source record: 114220

Richard Clark wrote:
> You "suggest" you have legitimate optical references at hand, and you
> don't seem motivated to examine further when you find the first,
> cultured failure. The why of this serves your arguments.
>
> Reflectivity is
> ((n1 - n2)/(n1 + n2))ï¿½

Hmmmmmm, Hecht calls that term "reflectance", not "reflectivity".

> Transmissivity is
> 1 - Reflectivity

Hmmmmm, Hecht calls that term "transmittance", not "transmissivity".

> Your ignorance of these terms shows why your thin-film metaphors fail;

Why do you use terms different from the authors of physics textbooks?
Out of a dozen references I have, none define "reflectivity" the way
you define it.

The latest definition of "reflectivity" seems to be:
From the IEEE Dictionary: "reflectivity - The reflectance of the surface
of a material so thick that the reflectance does not change with increasing
thickness ..." What that has to do with your equation above is unclear.
--
73, Cecil http://www.qsl.net/w5dxp

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7269. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 04:07:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF91FF1.5020502@ieee.org>
Source record: 114221

Richard Clark wrote:
> Well, I already offered to fill one of your short falls that I have
> claimed is not my responsibility. It remains uncommented on as I post
> this and the corollary observation posted elsewhere:

Good Lord, Richard, you can't even wait 69 minutes for a reply?
--
73, Cecil http://www.qsl.net/w5dxp

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7270. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 05:17:20 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EF93060.7F6A6850@cwis.net>
Source record: 114222

Boy! Is that a relief, or what.
'Doc

7271. Re: Mounting Height of 1/2 vertical?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 05:35:29 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfid2d3ki7062c@corp.supernews.com>
Source record: 114223

The free demo version of Roy's program should show the lobes that result
with an elevated, vertical antenna.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
Office: JCM@McLMcL.Com
"Crazy George" <munschNO@attglobal.net.SPAM> wrote in message
news:3ef8c087_4@news1.prserv.net...
> Look, Frank;
>
> There is no simple answer to that question. The shape and direction
of the
> lobes changes with elevation, and it depends if the station you are
trying
> to work is in a lobe at 6' or at 60'. Or, more likely in a null at
some
> elevation. If Rose would get over his snit about software piracy and
sell
> TA again, you could see the effects quickly and easily.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "w4fms" <frank1.news.invalid@web2news.net> wrote in message
> news:43930N884@web2news.com...
> > Does the mounting height of an HF half wave vertical affect its
> > performance? Will a Cushcraft R5 mounted at 6ft have similar
> > performance to one at 60ft? If mounting it at least 1/2 wavelenth
high
> > does affect perfomance how much of an advantage does if offer?
> >
> > Frank, W4FMS
> > --
> > Direct access to this group with http://web2news.com
> > http://web2news.com/?rec.radio.amateur.antenna
> > To contact in private, remove nnoos8p+-am
>
>

7272. Re: MOXON Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 05:38:43 UTC
From: "Mike M." <>
Message-ID: <jrbifvsj15sssaha4ggr3qhidi7pklbeup@4ax.com>
Source record: 114224

On Mon, 23 Jun 2003 15:57:55 -0400, "Wayne" <n4gil@yahoo.com.nospam>
wrote:

>Anyone here using a Moxon antenna for vhf?
>
>I realize that they are essentially a 2 element beam. I have an antenna
>site where a rotor can not be used and wondered if the Moxon would work.
>
>Could 2 of these antennas be mounted in a back to back configuration to
>achieve somewhat of an omni-directional pattern?
>
>Has anyone experimented much with this antenna design?
>
I just finished building a 2M Moxon today. I haven't had time to mount
it and try it yet, but a quick check with an SWR meter shows a good
match in the upper half of the band. It was planned for 146 MHz, but
I built it out of 1/2" copper pipe and I wasn't sure how to measure
it. I measured to the outside corners the copper ells and it looks
like I came up a little short. Maybe it would have been better to
measure to the center of the ells. That may change when it is in its
final location. I checked it at ground level pointed up.

As James said, see L.B. Cebik's site and you might also want to
download the Moxon Generator from this site. Good luck.

http://www.qsl.net/ac6la/moxgen.html

7273. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 08:15:35 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nskifv82cn4h8miobb2enbmtdqcc6ngahb@4ax.com>
Source record: 114225

On Tue, 24 Jun 2003 22:54:41 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>
>Why do you use terms different from the authors of physics textbooks?
>Out of a dozen references I have, none define "reflectivity" the way
>you define it.

Cecil,

Your references barely skim the subject. There is a world more of named relationships than you imagine in your dreams of heaven and earth. There are very many different terms that all fall into several application groups that have defined transpositions to translate from one sphere of activity to the other. Some do not translate at all. Your sources are monocultural: academic and thus woefully inbred through repetition. There are probably 10 to 100 times as many users of the term Reflectivity than those who use the term reflectance. You simply have not been exposed to the scope of the Optics to have encountered this distribution.

Let us examine simply one term you take for granted: bright.

How bright is a 1mmï¿½ point cast against a standard gray target from a 10mW HeNe Laser? How bright is the sun in the same 1mmï¿½ dimension and within the same bandwidth? I seriously doubt you could come up with those values in engineering units within one order of magnitude of the correct value. Then convert them to Candela then to Candles then to Lumens. I guarantee you will compound the error with each transformation. All three units are "brightness" by the way, and could your render them in radiometric terms? You would be lucky to have started in radiometric terms, but do you know what the MKS version of those terms would be? The CGS version? Optics Scientists and Engineers move between these systems fluently through the course of their typical activities.

73's
Richard Clark, KB7QHC

7274. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 08:19:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <uhmifvof0hmjgirnhaa6ch9brd0q32s2t7@4ax.com>
Source record: 114226

On Tue, 24 Jun 2003 23:07:13 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Well, I already offered to fill one of your short falls that I have
>> claimed is not my responsibility. It remains uncommented on as I post
>> this and the corollary observation posted elsewhere:
>
>Good Lord, Richard, you can't even wait 69 minutes for a reply?

Are we playing out the clock? If I complain several hours later, now,
am I still pressing you too closely? A year of waiting for you to
spring loose with a document you would put your name to seems extreme,
and yet that has passed as well.

You are a dinosaur in internet time, buckaroo.

73's
Richard Clark, KB7QHC

7275. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 08:30:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ipmifv0dvj4t957pei75qaetm4khhn8o1p@4ax.com>
Source record: 114227

On Tue, 24 Jun 2003 22:54:41 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Reflectivity is
>> ((n1 - n2)/(n1 + n2))ï¿½
>
> What that has to do with your equation above is unclear.

You have Reflectivity clearly defined and you complain of clarity.
Simply put, you introduced the aberrant definition that does not
conform to the already expressed relationship and your state of
confusion follows. I am not responsible for your shortfall of
perceptions nor your itinerant logic in arriving at them.

73's
Richard Clark, KB7QHC

7276. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 08:51:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF96296.3070307@ieee.org>
Source record: 114228

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Why do you use terms different from the authors of physics textbooks?
>>Out of a dozen references I have, none define "reflectivity" the way
>>you define it.
>
> Let us examine simply one term you take for granted: bright.

Uhhhhhhh Richard, the subject is "reflectivity". Are you saying the
IEEE dictionary is wrong? Are you saying that Hecht is wrong?
--
73, Cecil http://www.qsl.net/w5dxp

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7277. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 08:56:27 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF963BB.5080507@ieee.org>
Source record: 114229

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:
>>>Reflectivity is ((n1 - n2)/(n1 + n2))ï¿½
>>
>> What (the IEEE definition) has to do with your equation above
>> is unclear.
>
> You have Reflectivity clearly defined and you complain of clarity.

What I have is a definition or a word (or both) apparently pulled
out of someone's posterior. Thanks for the laugh, Richard. Please
try again sometime.
--
73, Cecil http://www.qsl.net/w5dxp

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7278. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 09:02:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF96513.6080000@ieee.org>
Source record: 114230

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Good Lord, Richard, you can't even wait 69 minutes for a reply?
>
> Are we playing out the clock?

Maybe you should try downers next time. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7279. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 10:32:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdbto6$7f3$1@hercules.btinternet.com>
Source record: 114231

Throughout engineering design the objective is to minimise the total cost of ownership over the equipment's intended working life.

So DON'T bother painting the mast if it's needed only for field day.

And DO fit a choke balun only if the equipment won't work properly without it.

7280. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 11:16:49 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <xwfKa.3174$Fe3.582059@news20.bellglobal.com>
Source record: 114232

"Richard Clark"
> Then convert them to Candela then to Candles
> then to Lumens.

I've always liked the unit called "nits".

nits (or meter-lamberts) = candles per square meter

7281. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 11:53:39 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <qv2jfvcgqi5jtvpvmud6jl7nejjn70snof@4ax.com>
Source record: 114233

Jesus, its a thread that keeps going and going and going and going and going and going and going
and going and going and going and going and going and going and going and going and going and
going.
I think you have beat this horse carcass down to the bones. Can we move on? these post may be
debate on math and theory, I myself think it is spam to the NG. just milliseconds from hitting the
''plonk'' key.

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

7282. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 13:22:25 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdc7mg$h91$1@titan.btinternet.com>
Source record: 114234

Cecil wrote -
> EZNEC will indicate the magnitude of the current in the wire used to
> simulate the outside braid of the coax. It will also indicate the
> magnitude of the current in the antenna wire. What you will see is
> the simulated outside braid of the coax sucking up current that
> should be going into the antenna.

==========

Yes, Cec, it was I who originally described on this newsgroup how to model it. It is the same simple model as used in program FEEDPOWR (dated 25th March) which does calculate percentages. But only because "radiated power" is the (misleading) popular description of what is going on.

However the 'numbers' do allow one antenna+feedline to be compared almost instantaneously with another by sweeping any input parameter. Also, if you are a nit-picker, it will tell you the extremely few line lengths to avoid. If you search for the worst possible frequencies you will find you wouldn't use those particular combinations of frequency and dimensions for altogether different reasons.

Anybody who asks about accuracy in the midst of dozens of neglected sources of uncertainty can be considered to be a Joker.

As you say Cec, EZNEC will crudely estimate actual unbalance amps in the feedline. Current along a given length of conductor is what really matters and is much the best way of tackling a particular problem. Furthermore, feedline unbalance current is easily measured whereas radiated power is unmeasurable and is therefore a meaningless quantity in the present context. It's akin to saying most radiation is from the middle portion of a dipole.

And it must not be forgotten the current at the antenna end of a feedline may have a much smaller effect than that indoors at the transmitter end even if the top-end current is greater. It is further away from what is being interfered with.

What practical use is made of the value of the unbalance current depends entirely on the environment through which the feedline runs and the effects it has on other equipment or people in the vicinity. This defies exact analysis and comes under the heading of RF Compatibility. Of course, in the most simple of cases the coupling-coefficients with nearby conductors can be crudely estimated. Its near-field stuff.

But 'Suck-it-and-see' is a better and fastest way of doing things. Plus or minus a couple of decibels is not a "Life or Death" matter.

To gauge the magnitude of what the argument has all been about, use FEEDPOWR to model a 40m dipole fed via 50-ohm coax. Assume a ground connection resistance of 20 ohms at the Tx end of the coax Vary feeder length from 1 to 100 metres (300 feet). The maximum power 'radiated from the feedline' occurs at a line length of 1/2-wavelength and is 10.5 percent of total radiated power. The AVERAGE power over the whole length is about 2.5 percent. And I'm not going to lose much sleep over THAT!

==========

Regards from Reg, G4FGQ

For Free Radio Design Software

go to http://www.g4fgq.com

==========

7283. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 13:38:39 UTC
From: Pappy127@city.net
Message-ID: <3EF9A5DF.AF9372F5@city.net>
Source record: 114235

Bob Miller wrote:
>
> If flag poles are legal in your neighborhood, try...
>
> http://force12inc.com/
>
> Bob
> k5qwg

I find it very hard for any group, etc. in the USA to refuse the flying of our flag.

I will have our flag flying just as I do at my present home.

I have checked out the web site, it looks very interesting.

Thank you all for your suggestions. I know when I move into SC I will be on the air as usual.

7284. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 15:00:18 UTC
From: wp20032@aol.com
Message-ID: <20030625110018.20276.00001957@mb-m01.aol.com>
Source record: 114236

>Seconds, in
>the past, may have been an hour long, or 1000 years long, or ...
>--
>73, Cecil http://www.qsl.net/w5dxp
>
Ahh....I finally understand how the earth was created in only seven
days.....it's those long seconds!

--Wayne

7285. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 15:10:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9BB78.3080506@ieee.org>
Source record: 114237

Reg Edwards wrote:
> But 'Suck-it-and-see' is a better and fastest way of doing things. Plus or
> minus a couple of decibels is not a "Life or Death" matter.

Unless your feedline is running close to your wife's TV antenna. :-)

> The AVERAGE power over the whole length is about 2.5 percent. And I'm
> not going to lose much sleep over THAT!

Worst case is more than a magnitude worse than that and Murphey
never sleeps. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7286. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 15:12:13 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9BBCD.1020609@ieee.org>
Source record: 114238

WP20032 wrote:
>>Seconds, in
>>the past, may have been an hour long, or 1000 years long, or ...
>
> Ahh....I finally understand how the earth was created in only seven
> days.....it's those long seconds!

Could be. Did you know relativity is mentioned in The Bible?
--
73, Cecil http://www.qsl.net/w5dxp

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7287. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 15:17:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9BCF8.1070305@ieee.org>
Source record: 114239

Donnie wrote:
> Can we move on? these post may be
> debate on math and theory, I myself think it is spam to the NG.
> just milliseconds from hitting the ''plonk'' key.

You must be the Hindu Brahman religion - can't stand to see the
sacred cows slain. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7288. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 15:23:35 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306250723.178a52bf@posting.google.com>
Source record: 114240

>
> I trust that you find this topic worth discussing further.
>
> Regards,
> Jeff Harvey

Jef it is understandable your difficulty with respect to gain on the W8JK and Kraus did not help matters when he expanded on a previous thesis.
The problem is that amateur antennas are fixed on dipole lengths and thus are prevented from thinking otherwise except in the case of the magnetic loop antenna which is directly connected to the W8JK.Most amateurs have heard the radio blast louder when it comes near to power lines and even knowing that reprocity reins refuse to use the same principles for transmitting antennas.
Everybody knows that all conductive parts radiate regardles of length and if you couple two radiators in such a way that one driven element will pass on to
radiator(and here we come to the important point)a given frequency response
by INDUCTIVE coupling which thus realises gain lost in arrays because of phasing problems.
The loop does the same thing. We drive a small length of radiator (note the important thing is it is a RANDOM length and COUPLE it the a RESONANT
radiator which also impresses its frequency back to the original member.This coupling is such that phase differences are removed and the whole element radiates. For fear of upsetting experienced hams who are locked on to wavelengths we can vary the coupled radiator to the loop to a much
longer radiating length and better still, change the feeding method from an
"end" feed to a different type which makes for better impedance matching.
It can now be seen that the extra length provides more gain than a dipole alone
and to which I show as an equivalent loop/dipole. It is to be noted that some magnetic loop diagrams show the feed like a matching system which doesn,t radiate, this is because it is usual in complex coupling systems into one equivalent circuit to aid in solving various parameters.
When the amateaur community recognises the above facts and and not solely concentrate on wave length style of arrays we will make huge advances. If you are a guru maybe you can convince your fellows and

thus allow the enginneering professionals to see that amateurs can still make advances where it was thought everything was known. The trick is ofcourse, is to seduce experts to remove themselves from the box that they have enclosed themselves and to think in a more open 'out of the box' fashion which is in direct conflict to prior explanations given both in books and on this forum.

Best regards
Art Unwin KB9MZ.....XG

7289. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 16:05:30 UTC
From: Donnie <"look me up"@qrz.com>
Message-ID: <qqhjfv8sru86v5ovke8dbur1a8nmka58oe@4ax.com>
Source record: 114241

On Wed, 25 Jun 2003 10:17:12 -0500, W5DXP <Cecil.A.Moore@ieee.org> wrote:

>Donnie wrote:
>> Can we move on? these post may be
>> debate on math and theory, I myself think it is spam to the NG.
> > just milliseconds from hitting the ''plonk'' key.
>
>You must be the Hindu Brahman religion - can't stand to see the
>sacred cows slain. :-)

No, just tired of all the '' Is Cecil's Math a Blunder?'' spam on this NG.
please end this thread and move on to a new topic.
You have made it clear that you know your math.
I would hate to killfile you because you do offer some good ideas for antennas.

Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

7290. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 16:21:53 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdci71$b2a$1@sparta.btinternet.com>
Source record: 114242

Cecil sez -
> EZNEC will indicate the magnitude of the current in the wire used to
> simulate the outside braid of the coax. It will also indicate the
> magnitude of the current in the antenna wire. What you will see is
> the simulated outside braid of the coax sucking up current that
> should be going into the antenna.
==========
The current entering a radiating element (the braid) gives no indication of the power being radiated unless the radiation resistance of the braid is known. EZNEC is unable to tell you what braid radiation resistance is. And it's not the sort of thing which can be guessed at - specially when it's fed from the top.

But that's only half the story. The current leaving the other end of the braid is just as important. And so is the input impedance of the bottom end of the braid plus the impedance of whatever it is connected to. Again, EZNEC can't help you.

So forget about radiation from feedlines although I admit the description is in the right sort of ballpark. Just be satisfied with amps at a particular place over a particular length of braid and its geometrical relationship with what is being interfered with.

If my TV receiver is suffering the first thing I do is shift it a few feet. If that doesn't work I try a little ferrite choke in its power lead. The last thing I do is buy another 20 or 30 feet of coax, wind it in the scruffy form of a hank and suspend it 40 feet above ground from the centre of the dipole as described in the ARRL handbooks. ;o)

Yours, Reg, G4FGQ.

7291. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 16:53:29 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <z4ScneyN__IWTmSjXTWJhA@comcast.com>
Source record: 114243

Reg,

Lets take an example we can all relate to, and that gets away from high frequency effects. My Onkyo stereo has a per channel rating of:

Output impedance =0.16 Ohms
PO into 4 Ohms= 100 W
Po into 8 Ohms= 70W

Since the amp is essentially a voltage source, neglecting power supply regulation, we can deduce that the power supply voltage is +/- 33.5V, and PO into 16 Ohms would be about 37.5W. What if we wanted to get 100 W into a 16 Ohm speaker? Use your black box and put a 4:1 impedance ratio transformer in it. The reason the PO at 4 Ohms is not 140 W is due to a combination of power supply regulation/ripple, transistor beta, and thermal limits.

I am waiting for some conjugate match person to suggest a .16 Ohm speaker!

Tam/WB2TT

Tam/WB2TT
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bcd49r$p36$1@titan.btinternet.com...
> Thanks for replies. Made me think.
>
> Suppose you have a generator of some sort connected to a load. The load
> resistance and the volts across it can be measured. Hence the power
> dissipated in the load is also known.
>
> You are now given a Black Box. The black box is inserted between the
> generator and load - and the measured power dissipated in the load
greatly
> INCREASES. Let's say by 20 times.
>
> There has been a big, 13dB, Insertion Gain.
>
> You are asked what must be inside the black box. How many would
immediately
> cry it must be an amplifier?
>
> ---
> Reg, G4FGQ
>
>

7292. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 16:57:50 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9D426.5060709@attbi.com>
Source record: 114244

Quite a few Theologians with PhDs in Physics are pondering that very question!!!

Deacon Dave [Rev. Mr.], W1MCE

WP20032 wrote:
>>Seconds, in
>>the past, may have been an hour long, or 1000 years long, or ...
>>--
>>73, Cecil http://www.qsl.net/w5dxp
>>
>
> Ahh....I finally understand how the earth was created in only seven
> days.....it's those long seconds!
>
> --Wayne

7293. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:02:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u9ljfvcf4osb0521mbdgdtndi8lvm595c8@4ax.com>
Source record: 114245

On Wed, 25 Jun 2003 07:16:49 -0400, "J. Harvey"
<JM002.HarveyNOSPAM@Sympatico.ca> wrote:

>"Richard Clark"
>> Then convert them to Candela then to Candles
>> then to Lumens.
>
>I've always liked the unit called "nits".
>
>nits (or meter-lamberts) = candles per square meter
>
>
Puh-leeze Jeff,

Cecil is treading water unitless right now. Tossing him an anvil will
hurry things up however. :-)

73's
Richard Clark, KB7QHC

7294. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:05:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fcljfv8qvhusur33ioragui1ecu3o5u9l2@4ax.com>
Source record: 114246

On Wed, 25 Jun 2003 03:51:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Uhhhhhhh Richard, the subject is "reflectivity".

Well add inability to read to your list of shortcomings. The subject
is quite clearly stated in the message:
Is Cecil's Math a Blunder?

The consensus grows with your continued stumbling - a resounding YES!

About how bright is bright, no one really expects you to be able to do
it - even when I gave you the answer.

73's
Richard Clark, KB7QHC

7295. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:10:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pjljfv8rqo6us2is334koev3cn9pbv68r4@4ax.com>
Source record: 114247

On Wed, 25 Jun 2003 03:56:27 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>What I have is a definition or a word (or both) apparently pulled
>out of someone's posterior.

Are you putting your lips to it again? You should really choose your
references with more care - but ... it is your choice, as odd as the
rest of us might think it.

73's
Richard Clark, KB7QHC

7296. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:16:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9D8F1.2030800@ieee.org>
Source record: 114250

Donnie wrote:
> I would hate to killfile you because you do offer some good ideas for antennas.

It's an extremely simple thing to killfile any posting with "Cecil" in the title.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7297. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:16:48 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <35mjfv8afffk3tjkv352pn7oqouh0kqjvc@4ax.com>
Source record: 114248

On 25 Jun 2003 08:23:35 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>When the amateaur community recognises the above facts and and not
>solely concentrate on wave length style of arrays we will make

>huge advances.

Hi Art,

More than 1dB?

73's
Richard Clark, KB7QHC

7298. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:19:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <4amjfv48ij3d0t487ftitpqv1qegl2v00o@4ax.com>
Source record: 114249

On Wed, 25 Jun 2003 12:53:29 -0400, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:
>I am waiting for some conjugate match person to suggest a .16 Ohm speaker!

Hopefully you are listening to something while you wait.

73's
Richard Clark, KB7QHC

7299. Re: Open Wire with G5RV =RFI

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:26:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9DB45.7040901@ieee.org>
Source record: 114251

Reg Edwards wrote:
> The current entering a radiating element (the braid) gives no indication of
> the power being radiated unless the radiation resistance of the braid is
> known. EZNEC is unable to tell you what braid radiation resistance is. And
> it's not the sort of thing which can be guessed at - specially when it's
> fed from the top.

On the contrary, Reg, I'm surprised that you haven't written a program to
do just that. It is similar to the last half of a folded monopole.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7300. Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:40:34 UTC
From: henrikolofsson@yahoo.se
Message-ID: <bdcmqirgo1@xuxa.iecc.com>
Source record: 114252
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

I ordered stuff from them worth ?152. Payed with my VISA and the transaction was quick. Few days later I sent them a mail correcting my order but got no reply. Few days more and I sent to their second mail...no replay! now it's been 15 days and I have heard nothing from them! What should I do?? I thought Veronica FM was a reliable company! :(

Best Regards,

Henrik Olofsson
Sweden

7301. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:49:08 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9E094.3080709@ieee.org>
Source record: 114253

Dave Shrader wrote:
> Quite a few Theologians with PhDs in Physics are pondering that very
> question!!!

Do they explain how God created night and day on the 1st day but
didn't create the sun and stars until the 4th day? :-)

Do they explain why "giants" was changed back to "Nephilim"?

Do they explain why "Elohim" is plural?

Peter already knew about relativity almost two millennia before
Einstein. II Peter 3:8, "With the Lord a day is like a thousand years,
and a thousand years are like a day." From that, we should be able
to calculate the speed of the Nephilim's shem (boat of Heaven).
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7302. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 17:54:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EF9E1DA.9040005@ieee.org>
Source record: 114254

Richard Clark wrote:
> About how bright is bright, no one really expects you to be able to do
> it - even when I gave you the answer.

So you are using, "How bright is bright?", to try to introduce a
bafflegab word into a technical discussion? Richard, if we do not
share definitions, communications is impossible - which certainly
appears to be your diversionary agenda. Is there any technical
point upon which you disagree with me. I don't know of any.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7303. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 18:32:34 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <3fpjfvgmmj15ev6hmikdojj0d48ucfmq3g@4ax.com>
Source record: 114255

On Wed, 25 Jun 2003 12:54:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>So you are using, "How bright is bright?"

On Wed, 25 Jun 2003 03:51:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Uhhhhhhh Richard, the subject is "reflectivity".
Using the definition I provided or one you recognize that describes
the power reflected, use your reference to find:

Source: Incandescent Lamp of 80% radiation efficiency
Target: Standard Gray reflectance card located 10M from Source
the card is placed orthogonal to the unimpeded ray from the
Source.
ReflectedBrightnessOfSourceFromTarget = 6.29 ï¿½cd-sr/cMï¿½
where ï¿½cd-sr: is not a subtraction math operation,
but rather a compound term

What is the Source power in Total Watts radiated? Or Total Watts
applied? Any numeric answer correctly expressed in terms of Watts
within +100% to -50% of the correct value will be acceptable.

This value may be independently confirmed using an Incandescent Lamp
of common commercial availability (obtain from a drug store, super
market, department store, or home lighting outlet); where measures are
made with common 60Hz voltmeter & ammeter for the source excitation
and a photographic exposure meter (Gossen Luna-Pro being an example)
for the target illumination.

73's
Richard Clark, KB7QHC

7304. Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 18:44:12 UTC
From: jackinariz@webtv.net
Message-ID: <24581-3EF9ED7C-96@storefull-2134.public.lawson.webtv.net>
Source record: 114257

A newbie Ham question......Ghe fuy down the street,(antisocial),has an antenna atop his tower,(55 foot),I would like to know if any of you might recognize??....It is three verticles that rise from three horizontal booms equally spaced around the mast....Each vertical element rises about eight feet above and below the horizontal booms.....Wish I could give you more info.....But I do know it is at least 10 years old.....Anyone know?

7305. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 19:16:42 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9F4B1.6060605@attbi.com>
Source record: 114256

FYI the standard Grey Card is 18% reflective. :-)

Remember, if you want to run this experiment you need a black room to
eliminate all other reflective surfaces as sources of error.

Deacon Dave,

Richard Clark wrote:
> On Wed, 25 Jun 2003 12:54:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>>So you are using, "How bright is bright?"
>
>
> On Wed, 25 Jun 2003 03:51:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>>Uhhhhhhh Richard, the subject is "reflectivity".
>
> Using the definition I provided or one you recognize that describes
> the power reflected, use your reference to find:
>
> Source: Incandescent Lamp of 80% radiation efficiency
> Target: Standard Gray reflectance card located 10M from Source
> the card is placed orthogonal to the unimpeded ray from the
> Source.
> ReflectedBrightnessOfSourceFromTarget = 6.29 ï¿½cd-sr/cMï¿½
> where ï¿½cd-sr: is not a subtraction math operation,
> but rather a compound term
>
> What is the Source power in Total Watts radiated? Or Total Watts
> applied? Any numeric answer correctly expressed in terms of Watts
> within +100% to -50% of the correct value will be acceptable.
>
> This value may be independently confirmed using an Incandescent Lamp
> of common commercial availability (obtain from a drug store, super
> market, department store, or home lighting outlet); where measures are
> made with common 60Hz voltmeter & ammeter for the source excitation
> and a photographic exposure meter (Gossen Luna-Pro being an example)
> for the target illumination.
>
> 73's
> Richard Clark, KB7QHC

7306. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 19:47:38 UTC
From: wp20032@aol.com
Message-ID: <20030625154738.02020.00001672@mb-m23.aol.com>
Source record: 114258

>Quite a few Theologians with PhDs in Physics are pondering that very
>question!!!
>
>Deacon Dave [Rev. Mr.], W1MCE
>
>WP20032 wrote:
>>>Seconds, in
>>>the past, may have been an hour long, or 1000 years long, or ...
>>>--
>>>73, Cecil http://www.qsl.net/w5dxp
>>>
>>
>> Ahh....I finally understand how the earth was created in only seven
>> days.....it's those long seconds!
>>
>> --Wayne
>
Dave--
Yes, I would imagine that they are. We should have taken those long seconds
into consideration a couple of years ago, when we were working on aging tests
for S-band power splitters.
--Wayne

7307. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 19:49:30 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9FC61.9030306@attbi.com>
Source record: 114259

W5DXP wrote:
> Dave Shrader wrote:
>
>> Quite a few Theologians with PhDs in Physics are pondering that very
>> question!!!
>
>
> Do they explain how God created night and day on the 1st day but
> didn't create the sun and stars until the 4th day? :-)

[SNIP]

YEP! At the creation instant all matter is condensed into an infinitesimally small space [i.e. T= 0 + 10^-99 seconds] All is Chaos! The gravitational force exceeds that of a black hole!! Matter and Energy, including radio waves [this keeps the post radio related... :-)] are in constant transition due to the forces and temperatures involved. Light[energy] is created but can't escape the gravity, and is annihilated [transformed back into matter] only to be recreated again, etc., until the expansion of the universe is sufficient to decrease the gravity effects.[the 4th day].

Also, Jewish authors advise that 'night' and 'day' have an allegorical reference to: night = disorder [chaos]; day = order. So, the English translations of night/day should/can be understood as bringing order out of Chaos [Note: Violation of the Laws of Thermodynamics ... Hmmm. Therefore creation, not a cosmic accident]. Chaos is also consistent with the Law of Relativity at the creation event.

>
> Do they explain why "giants" was changed back to "Nephilim"?

[SNIP] What has this to do with Relativity/Physics? You have moved from Genesis 1 to Genesis 6. "Nephilim also has a second understanding: "the fallen ones".

>
> Do they explain why "Elohim" is plural?

[SNIP]

That's also outside the realm of Physics. However, ...

There are three philosophic/schools of jewish authorship in Genesis: the Yawhist, the Eloist, the Priestly. Three different schools of expression of the inexpressible!

Genesis 1:26 states "...let US [emphasis added] create man in OUR image..." Hmmm ... plural??

Christians have accepted one God in Three Persons ... does that qualify as Plural?

> Peter already knew about relativity almost two millennia before
> Einstein. II Peter 3:8, "With the Lord a day is like a thousand years,
> and a thousand years are like a day." From that, we should be able
> to calculate the speed of the Nephilim's shem (boat of Heaven).

[SNIP]

Is this where Albert Einstein got his inspiration? :-).

My original comment was/is an ad hoc response to an off topic comment.

Further comments are inappropriate for the r.r.a.a group... and should be moved to one of the bible discussion groups.

Sorry for the bandwidth on r.r.a.a. But I had to make a quick summary response. That's the Preacher in me!!!

Deacon Dave, W1MCE

7308. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 19:53:11 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9FD3E.8070308@attbi.com>
Source record: 114260

Tarmo Tammaru wrote:
> Reg,
>
> Lets take an example we can all relate to, and that gets away from high
> frequency effects. My Onkyo stereo has a per channel rating of:
>
> Output impedance =0.16 Ohms
> PO into 4 Ohms= 100 W
> Po into 8 Ohms= 70W
>
> Since the amp is essentially a voltage source, neglecting power supply
> regulation, we can deduce that the power supply voltage is +/- 33.5V, and PO
> into 16 Ohms would be about 37.5W. What if we wanted to get 100 W into a 16
> Ohm speaker? Use your black box and put a 4:1 impedance ratio transformer in
> it. The reason the PO at 4 Ohms is not 140 W is due to a combination of
> power supply regulation/ripple, transistor beta, and thermal limits.
>
> I am waiting for some conjugate match person to suggest a .16 Ohm speaker!
>
> Tam/WB2TT
>

But a conjugate match would really give the audiophiles some ringing
ears at 1753.5 watts output!!!!!

:-)

Deacon Dave

7309. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 19:54:11 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <1cvjfv8dtlf77j8tbgua4mo8eiapq6asnn@4ax.com>
Source record: 114261

On Wed, 25 Jun 2003 19:49:30 GMT, Dave Shrader
<david.shrader@attbi.com> wrote:

>[Note: Violation of the Laws of Thermodynamics ... Hmmm.
>Therefore creation, not a cosmic accident]

Requires Maxwell's Demon (keeping to the theology of it all and
retaining RF through a sly connection)

73's
Richard Clark, KB7QHC

7310. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:00:41 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306251200.66ce61c1@posting.google.com>
Source record: 114262

Pappy127@city.net wrote in message news:<3EF6F2BB.B325B868@city.net>...

>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

Pappy, I understand where you are coming from but may I suggest
a different aproach. When something is seen that seems to have
no explanation humans naturally becomes curious.
Engineering advertisers realise this aproach and thus when faced with
some thing undesirable make a feature of it.
If the feature is plausable then curiousity ceases.
A case in point was a terminal board that always bowed during
manufacture. The marketing people thus featured this as being
desirable because when mounted it became more secure!
In your case perhaps you could put a wire up ostensibly to
support a flower array or a creeping vine, clematus or ivy.
Another attention getter is a trellis in the shape of a christmas
tree where your antenna nested in the picture had neon lights
attached to it that blinked every time you keyed up the code!
So perhaps you should be bolder regarding the appearance of an
illegal antenna,draw attention to it and dull the observers
mind with respect to its actual use.
Food for thought, be origonal in your ideas. Many times I cannot
even see the salt on the table purely because of the bright
colour of something else clouding my thoughts, that has probably
happened to you so why not allow it to happen to others.
Good luck
Art

7311. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:02:22 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9FF65.3090104@attbi.com>
Source record: 114263

Well Wayne, you have hit a resonant chord! Since I have performed aging tests on S-band power splitters, that resulted in a redesign, I wonder if we know each other?

Deacon Dave, W1MCE

7312. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:04:55 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EF9FFFF.9020304@attbi.com>
Source record: 114264

It sounds like three horizontal beam antennas separated by 'your
approximate 8 feet'.

Knock on the door and introduce yourself. All hams love to ham it up!

Deacon Dave, W1MCE

jack D wrote:
> A newbie Ham question......Ghe fuy down the street,(antisocial),has an
> antenna atop his tower,(55 foot),I would like to know if any of you
> might recognize??....It is three verticles that rise from three
> horizontal booms equally spaced around the mast....Each vertical element
> rises about eight feet above and below the horizontal booms.....Wish I
> could give you more info.....But I do know it is at least 10 years
> old.....Anyone know?
>

7313. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:08:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA0150.3020303@ieee.org>
Source record: 114265

Richard Clark wrote:
> Source: Incandescent Lamp of 80% radiation efficiency

Sorry Richard, I only deal with single frequency coherent sources.
Your example is so far removed from a transmission line example
that it probably shouldn't even be on this newsgroup.
--
73, Cecil http://www.qsl.net/w5dxp

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7314. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:25:49 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA054D.3080406@psu.edu>
Source record: 114266

W5DXP wrote:
> Irv Finkleman wrote:
>
>> W5DXP wrote:
>>
>>> Light is not slowing down - seconds are getting shorter. Light simply
>>> doesn't travel as far in a shorter second as it once did during a
>>> longer second.
>>
>>
>> They just don't make it like they used to!
>
>
> If one examines Bristlecone Pine rings Vs Carbon 14 dating,
> one can actually detect the time drift.

I attended a great lecture on that subject. It is a different feature though. Days are lengthening, but it isn't because time is slowing down. The presenter was able to examine coral and stromatolite fossils, and identify growth rings down to the daily level, (he notes that this is the unproven part of his research) and along with other evidence, determine that days were quite a bit shorter at that time. So that is more likely a reason.

When you speak of time slowing down, aren't you referring to the relative slowing from doppler shift? On a local level, that would not mean anything.

- Mike KB3EIA -

7315. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:28:15 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA05DF.3010406@ieee.org>
Source record: 114268

Dave Shrader wrote:
> [SNIP] What has this to do with Relativity/Physics? You have moved from
> Genesis 1 to Genesis 6. "Nephilim also has a second understanding: "the
> fallen ones".

Literally, "Those who were cast upon" the earth, not necessarily "fallen".
They may have merely been drafted for whatever purpose, e.g. managing the
development of human civilization?

> Christians have accepted one God in Three Persons ... does that qualify
> as Plural?

Nope, that qualifies as rationalization of a contradiction by
Constantine's 4th century Christian committee that overhauled
and merged Christianity with uncircumcised paganism so it would
be acceptable to Romans. Saw that on The Discovery Channel. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7316. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:29:14 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA061A.70307@psu.edu>
Source record: 114170

Jim Kelley wrote:
>
> W5DXP wrote:
>
>>The intrinsic speed of light is not
>>changing. Seconds are getting shorter and space is expanding.
>
>
> Are there fewer periods in the Cesium 133 transition now than there used
> to be?

No, I'm certain that what he is referring to is how as objects red
shift, time slows down.

but then again.....

- Mike KB3EIA -

7317. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:29:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2s0kfv8au8iji2oivfvuh1ftkak9jb3hd0@4ax.com>
Source record: 114267

On Wed, 25 Jun 2003 15:08:49 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Sorry Richard, I only deal with single frequency coherent sources.

On Wed, 25 Jun 2003 12:54:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>So you are using, "How bright is bright?"

On Wed, 25 Jun 2003 03:51:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Uhhhhhhh Richard, the subject is "reflectivity".
Using the definition I provided or one you recognize that describes
the power reflected, use your reference to find:

Source: Argon Laser (555nM) 100% radiation efficiency
Target: Standard Gray reflectance card located 10cM from Source
the card is placed orthogonal to the unimpeded ray from the
Source.
ReflectedBrightnessOfSourceFromTarget = 0.218 ï¿½cd-sr/cMï¿½
where ï¿½cd-sr: is not a subtraction math operation,
but rather a compound term

What is the Source power in Total Watts radiated? Any numeric answer
correctly expressed in terms of Watts within +100% to -50% of the
correct value will be acceptable.

73's
Richard Clark, KB7QHC

7318. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:31:52 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA06B8.8020501@psu.edu>
Source record: 114172

W5DXP wrote:
> 'Doc wrote:
>
>> Cecil,
>> Does that mean I have to worry about increasing the length
>> of my 80 meter antenna to keep it resonant? Will I have to
>> add that length any time soon?
>
>
> As long as you and your antenna are bonded together in the same
> space-time, you won't notice any difference because it's all
> relative. Your antenna may be getting longer but so are you
> and your ruler. :-)

So eventually we will live forever, but not know it!

- Mike KB3EIA -

7319. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:32:36 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA06E4.2020804@psu.edu>
Source record: 114171

W5DXP wrote:
> WP20032 wrote:
>
>>> Seconds, in
>>> the past, may have been an hour long, or 1000 years long, or ...
>>
>>
>> Ahh....I finally understand how the earth was created in only seven
>> days.....it's those long seconds!
>
>
> Could be. Did you know relativity is mentioned in The Bible?

Book of Numbers?

- Mike KB3EIA -

7320. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:33:56 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA0734.2000208@psu.edu>
Source record: 114173

W5DXP wrote:
> Dave Shrader wrote:
>
>> Quite a few Theologians with PhDs in Physics are pondering that very
>> question!!!
>
>
> Do they explain how God created night and day on the 1st day but
> didn't create the sun and stars until the 4th day? :-)

Otherwise we would't be able to see to notice, silly ;^)

- Mike KB3EIA -

7321. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:36:22 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA07C6.3000300@psu.edu>
Source record: 114174

Dave Shrader wrote:
>
>
> W5DXP wrote:
>
>> Dave Shrader wrote:
>>
>>> Quite a few Theologians with PhDs in Physics are pondering that very
>>> question!!!
>>
>>
>>
>> Do they explain how God created night and day on the 1st day but
>> didn't create the sun and stars until the 4th day? :-)
>
>
> [SNIP]
>
> YEP! At the creation instant all matter is condensed into an
> infinitesimally small space [i.e. T= 0 + 10^-99 seconds] All is Chaos!
> The gravitational force exceeds that of a black hole!! Matter and
> Energy, including radio waves [this keeps the post radio related... :-)]
> are in constant transition due to the forces and temperatures involved.
> Light[energy] is created but can't escape the gravity, and is
> annihilated [transformed back into matter] only to be recreated again,
> etc., until the expansion of the universe is sufficient to decrease the
> gravity effects.[the 4th day].
>
> Also, Jewish authors advise that 'night' and 'day' have an allegorical
> reference to: night = disorder [chaos]; day = order. So, the English
> translations of night/day should/can be understood as bringing order out
> of Chaos [Note: Violation of the Laws of Thermodynamics ... Hmmm.
> Therefore creation, not a cosmic accident]. Chaos is also consistent
> with the Law of Relativity at the creation event.

That was one of the "variable time scenarios i was talking about
earlier. The neat thing is that with variable time, all things happen
exactly when you want them to.

I wonder if I can fit that into my workday? ;^)

- Mike KB3EIA -

7322. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:36:55 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA07E7.3020006@ieee.org>
Source record: 114176

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>Sorry Richard, I only deal with single frequency coherent sources.

What is it about the above statement that you do not understand?

Please feel free to provide an example with a single frequency
coherent source, e.g. a laser source normal to the thin-film
reflective plane. You might actually learn something useful
from such an example.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7323. Xnecview rocks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:37:13 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86u1adki6e.fsf@duchess.twilley.org>
Source record: 114169

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Whoever suggested Xnecview, thank you. It compiles cleanly under
FreeBSD and it works well. The controls are a little awkward, but a
few readings of the well-written manual page helped greatly.

One thing I wasn't able to figure out was the animation thing. Does
anyone have a sample NEC input file that will generate an output file
that Xnecview will animate?

Thanks!
Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE++gf+GPFSfAB/ezgRAuvFAKDkKnz2+dyuLkItE4QZ6/sy+bg4WACglNOV
jwKMFRj6Fe8jRnMt0SyvABQ=
=Abqg
-----END PGP SIGNATURE-----
```

7324. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:37:16 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <EvKcnV0Er69jmmejXTWJkw@comcast.com>
Source record: 114175

He said the three prongs are vertical. Sounds like either 3 phased verticals, or a vertical with three directors for omnidirectional coverage. My guess is the latter. Make it more like 12 feet instead of 8, and they would be for the VHF LOW Public Service band. . 12 ft would be a half wavelength at 39 MHz. I guess if they were longer yet, they could be for CB.

Tam/WB2TT

"Dave Shrader" <david.shrader@attbi.com> wrote in message news:3EF9FFFF.9020304@attbi.com...
> It sounds like three horizontal beam antennas separated by 'your
> approximate 8 feet'.
>
> Knock on the door and introduce yourself. All hams love to ham it up!
>
> Deacon Dave, W1MCE
>
> jack D wrote:
> > A newbie Ham question......Ghe fuy down the street,(antisocial),has an
> > antenna atop his tower,(55 foot),I would like to know if any of you
> > might recognize??....It is three verticles that rise from three
> > horizontal booms equally spaced around the mast....Each vertical element
> > rises about eight feet above and below the horizontal booms.....Wish I
> > could give you more info.....But I do know it is at least 10 years
> > old.....Anyone know?
> >
>

7325. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:38:37 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA084D.10603@psu.edu>
Source record: 114177

Richard Clark wrote:
> On Mon, 23 Jun 2003 16:53:23 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>>We noticed that you didn't even attempt to explain your equations
>>copied out of a book, Richard. You *discussed* absolutely nothing.
>
>
> Cecil, Cecil, Cecil,
>
> Given the quality of your discussion, it is obvious that I am ahead of
> the curve without trying. ;-)
>
> If someone else asks, to clarify their confusion (or for any reason),
> I will respond to them. I have already demonstrated that my notice of
> these issues clearly pre-date your inferior material. I have also
> supplied general equations that solve all problems you have posed and
> you claim ignorance of these as it suits your agenda. Thus repetition
> hardly bodes any new developments and certainly no better quality of
> discussion to return to my old postings yet again.
>
> However, to respond directly to your complaint, the material you
> snipped to leverage the argument of lack of demonstration was in fact
> a clipping from that very demonstration entitled "The Color of Glare"
> which you left undisputed. This posting was in fact a repeat of
> earlier discussion (Mike, these peregrinations have been going on more
> than 5 years).

If I had known this, I would have become a ham earlier.

- Mike KB3EIA -

7326. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:41:54 UTC
From: for-sale <nospam@spam.net>
Message-ID: <e12kfvcvs0n5gdrfvd6nlgl7ms46gtv2jd@4ax.com>
Source record: 114178

If the vertical elements are spaced in a circle around the mast, like spokes on a wheel, it is a CB antenna. I'll think of the name of it after I hit the send button, but can't remember it right now. It uses lengths of coax going to each dipole that can be switched in or out. This changes the phase of the signal going to each dipole, thus making the antenna directional (3 directions) or omni-directional.

73
otr

On Wed, 25 Jun 2003 11:44:12 -0700 (MST), jackinariz@webtv.net (jack D) wrote:

>A newbie Ham question......Ghe fuy down the street,(antisocial),has an
>antenna atop his tower,(55 foot),I would like to know if any of you
>might recognize??....It is three verticles that rise from three
>horizontal booms equally spaced around the mast....Each vertical element
>rises about eight feet above and below the horizontal booms.....Wish I
>could give you more info.....But I do know it is at least 10 years
>old.....Anyone know?

7327. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:47:43 UTC
From: "R. Scott" <washingtonham@yahoo.com>
Message-ID: <3EFA0A6F.B1DA830F@yahoo.com>
Source record: 114186

3 verticle elements and 3 Horizontal Booms ???

Are they horizontal elements (IE the same as the Verticles).
If so that sounds like a CB MoonRaker. So he might not be a ham.

Scotty N7HJ

jack D wrote:
>
> A newbie Ham question......Ghe fuy down the street,(antisocial),has an
> antenna atop his tower,(55 foot),I would like to know if any of you
> might recognize??....It is three verticles that rise from three
> horizontal booms equally spaced around the mast....Each vertical element
> rises about eight feet above and below the horizontal booms.....Wish I
> could give you more info.....But I do know it is at least 10 years
> old.....Anyone know?

7328. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:47:47 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA0A73.60307@psu.edu>
Source record: 114179

Donnie wrote:
> Jesus, its a thread that keeps going and going and going and going and going and going and going
> and going and going and going and going and going and going and going and going and going and
> going.
> I think you have beat this horse carcass down to the bones. Can we move on? these post may be
> debate on math and theory, I myself think it is spam to the NG. just milliseconds from hitting the
> ''plonk'' key.
>
>
>
>
> Momma Always Said:"Life is like a box of chocolates, Forrest. You never know what you're gonna get"

Don't worry Donnie. When confronted with great art in this endless loop mode, there are often the moments of frustration where ya just wanna scream and tear your hair out. This is kind of like one of those old Andy Warhol movies where the star of the movie takes an hour to eat one bean. Just keep reading, and eventually you get over the frustration, and can appreciate it again......

Just hang in there!

- Mike KB3EIA -

7329. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:49:04 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA0AC0.7060409@psu.edu>
Source record: 114180

Richard Clark wrote:
> On Wed, 25 Jun 2003 07:16:49 -0400, "J. Harvey"
> <JM002.HarveyNOSPAM@Sympatico.ca> wrote:
>
>
>>"Richard Clark"
>>
>>>Then convert them to Candela then to Candles
>>>then to Lumens.
>>
>>I've always liked the unit called "nits".
>>
>>nits (or meter-lamberts) = candles per square meter
>>
>>
>
> Puh-leeze Jeff,
>
> Cecil is treading water unitless right now. Tossing him an anvil will
> hurry things up however. :-)

Aww Richard, You just have to rephrase that.....

- Mike KB3EIA -

7330. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:50:35 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3EFA0B1B.2000100@psu.edu>
Source record: 114181

What s the original theme of this argument?

- Mike KB3EIA -

7331. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:54:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7t2kfvcp2agfrigd7rbe2bqk4d5ibdl18r@4ax.com>
Source record: 114182

On Wed, 25 Jun 2003 15:36:55 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Sorry Richard, I only deal with single frequency coherent sources.
>
>What is it about the above statement that you do not understand?
>
>Please feel free to provide an example with a single frequency
>coherent source, e.g. a laser source normal to the thin-film
>reflective plane. You might actually learn something useful
>from such an example.

REPOST of original with Cecileo's deletions returned:

>On Wed, 25 Jun 2003 15:08:49 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>>Sorry Richard, I only deal with single frequency coherent sources.
>
>On Wed, 25 Jun 2003 12:54:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>>So you are using, "How bright is bright?"
>
>On Wed, 25 Jun 2003 03:51:34 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>wrote:
>>Uhhhhhhh Richard, the subject is "reflectivity".
>Using the definition I provided or one you recognize that describes
>the power reflected, use your reference to find:
>
> Source: Argon Laser (555nM) 100% radiation efficiency
> Target: Standard Gray reflectance card located 10cM from Source
> the card is placed orthogonal to the unimpeded ray from the
> Source.
> ReflectedBrightnessOfSourceFromTarget = 0.218 ï¿½cd-sr/cMï¿½
> where ï¿½cd-sr: is not a subtraction math operation,
> but rather a compound term
>
>What is the Source power in Total Watts radiated? Any numeric answer
>correctly expressed in terms of Watts within +100% to -50% of the
>correct value will be acceptable.
>
>73's
>Richard Clark, KB7QHC

7332. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 20:58:59 UTC
From: kenfowler@attbi.com
Message-ID: <n2oKa.18581$Ab2.38849@sccrnsc01>
Source record: 114183

On 25-Jun-2003, aunwin@insightbb.com (Art Unwin KB9MZ) wrote:

> >
> > I trust that you find this topic worth discussing further.
> >
> > Regards,
> > Jeff Harvey
>
> Jef it is understandable your difficulty with respect to gain on the
> W8JK and Kraus did not help matters when he expanded on a previous
> thesis.
> The problem is that amateur antennas are fixed on dipole lengths and
> thus are prevented from thinking otherwise except in the case of the
> magnetic loop antenna which is directly connected to the W8JK.Most
> amateurs have heard the radio blast louder when it comes near to power
> lines and even knowing that reprocity reins refuse to use the same
> principles for transmitting antennas.
> Everybody knows that all conductive parts radiate regardles of length
> and if you couple two radiators in such a way that one driven element
> will pass on to
> radiator(and here we come to the important point)a given frequency
> response
> by INDUCTIVE coupling which thus realises gain lost in arrays
> because of phasing problems.
> The loop does the same thing. We drive a small length of radiator
> (note the important thing is it is a RANDOM length and COUPLE it the a
> RESONANT
> radiator which also impresses its frequency back to the original
> member.This coupling is such that phase differences are removed and
> the whole element radiates. For fear of upsetting experienced hams who
> are locked on to wavelengths we can vary the coupled radiator to the
> loop to a much
> longer radiating length and better still, change the feeding method
I've had enough.....

P L O N K !

> from an
> "end" feed to a different type which makes for better impedance
> matching.
> It can now be seen that the extra length provides more gain than a
> dipole alone
> and to which I show as an equivalent loop/dipole. It is to be noted
> that some magnetic loop diagrams show the feed like a matching system
> which doesn,t radiate, this is because it is usual in complex coupling

> systems into one equivalent circuit to aid in solving various
> parameters.
> When the amateaur community recognises the above facts and and not
> solely concentrate on wave length style of arrays we will make huge
> advances. If you are a guru maybe you can convince your fellows and
> thus allow the enginneering professionals to see that amateurs can
> still make advances where it was thought everything was known. The
> trick is ofcourse, is to seduce experts to remove themselves from the
> box that they have enclosed themselves and to think in a more open
> 'out of the box' fashion which is in direct conflict to prior
> explanations given both in books and on this forum.
>
> Best regards
> Art Unwin KB9MZ.....XG

7333. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:00:21 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <9JOdndVRa8T7kGejXTWJkQ@comcast.com>
Source record: 114184

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EF9FD3E.8070308@attbi.com...
> But a conjugate match would really give the audiophiles some ringing
> ears at 1753.5 watts output!!!!!
>
> :-)
>
> Deacon Dave

Just in case somebody thinks you meant that, there is the problem about drawing 104 Amps from a 5A power supply, and the 2400 W transistor dissipation.

Tam/WB2TT
>

7334. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:10:07 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <MlqdnehjCL1ikmejXTWJhQ@ctc.net>
Source record: 114185

> If the vertical elements are spaced in a circle around the mast, like
> spokes on a wheel, it is a CB antenna. I'll think of the name of it
> after I hit the send button, but can't remember it right now. It uses
> lengths of coax going to each dipole that can be switched in or out.
> This changes the phase of the signal going to each dipole, thus making
> the antenna directional (3 directions) or omni-directional.
>

Sounds like one called a Scanner CB antenna. The thing is suspose to work
as you describe. They date back to atleast the late 60's.
It might have another name by now.

7335. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:20:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <013kfvodknrrifjo1tjrg9pmchemaghq9d@4ax.com>
Source record: 114187

On Wed, 25 Jun 2003 16:50:35 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>What s the original theme of this argument?
>
> - Mike KB3EIA -

Hi Mike,

Cecil challenged me to present a technical point of my objection to his presentations. I have responded recently to the specific of the subject of this thread:
Is Cecil's Math a Blunder?

Cecil has used the term "bright" in reference to rings of interference that alternate in "brightness" expressed in rather academic terms that bear little relation (except through transforms of course) to those used by practioners in the arts of Optics (real people). Cecil has also objected that my criticism must be couched in terms of reflection (I've allowed using any of several definitions to suit his limited resources). Cecil may substitute the word "Intensity" if he wishes, or any other term consistent with the magnitude expression of power from a radiative source. Historically, Cecil has misused math terms to these issues of Intensity, Brightness, interference; and re-defined them to suit his argument. This is basically a problem not of deceit, merely ignorance.

The simple question is: describe the brightness of a known source (I have provided several in these recent posts) in terms of Watts radiated when given the brightness of that radiation reflected from a known target (I have provided that too, and Dan has amplified the characteristics). Cecil's lacking an answer for what amounts to Power In transformed to Power Out reveals that ignorance in that he has no experience in the field.

This is no easy challenge for the neophyte as it involves a string of conversions from one sphere of discussion (Optics) to another (RF). Actually, the two disciplines are identical, Maxwell's equations work for both and require no modification nor apology. In the field of Optics this is simply conversion from Photometric Units to Radiometric Units and back to suit the question; an otherwise common activity for those versed in the practice.

I could impose the hell of demanding him to state the Power Radiated from the example source(s) in his Academic terms! I seriously doubt we will find him offering even a guess, much less an accurate evaluation (accurate being within an order of 2 - twice or half

actual).

73's
Richard Clark, KB7QHC

7336. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:22:27 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pi4kfvgcf9ul1u7fg60d4oa7jji3ajl1ac@4ax.com>
Source record: 114188

On Wed, 25 Jun 2003 16:49:04 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>Richard Clark wrote:
>> On Wed, 25 Jun 2003 07:16:49 -0400, "J. Harvey"
>> <JM002.HarveyNOSPAM@Sympatico.ca> wrote:
>>
>>
>>>"Richard Clark"
>>>
>>>>Then convert them to Candela then to Candles
>>>>then to Lumens.
>>>
>>>I've always liked the unit called "nits".
>>>
>>>nits (or meter-lamberts) = candles per square meter
>>>
>>>
>>
>> Puh-leeze Jeff,
>>
>> Cecil is treading water unitless right now. Tossing him an anvil will
>> hurry things up however. :-)
>
>Aww Richard, You just have to rephrase that.....
>
>
> - Mike KB3EIA -

Hi Mike,

You are right.

He should be tossed an anchor to extend the metaphor.

73's
Richard Clark, KB7QHC

7337. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:29:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFA1425.A83AD9C5@uci.edu>
Source record: 114189

I should never try to type and talk on the phone at the same time.
Disregard the whole thing - it's an abortion.

7338. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:46:23 UTC
From: "J. Harvey" <JM002.HarveyNOSPAM@Sympatico.ca>
Message-ID: <IKoKa.3976$iM4.577398@news20.bellglobal.com>
Source record: 114190

"Richard Clark"
> Puh-leeze...

He he he... <evil laugh> ;-)

Just FYI and for any that might notice and care, I'm just minutes from pulling the DSL plug and QSYing millions of meters. I'll be back in a few weeks with a different ISP.

Bring it back 'on topic' (sort of), my destination has 3.5 acres for antennas.

CUL, 73

7339. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 21:58:10 UTC
From: richardharrison@webtv.net
Message-ID: <5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net>
Source record: 114191

Art, KB9MZ wrote:
"---Kraus did not help matters when he expounded on a previous thesis."

Kraus is a famed professor and author. I doubt he muddied the water for most people.

Another thing, antenna resonances are merely a means to get current into standing-wave antennas. Dipole lengths predict resonances.

A magnetic loop directly connected to the W8JK? Sounds Unwinesque and a shove on the thread toward a pet of Art`s. Pity, Art has contributed little evidence for his pet ideas beyond the claims.

"---INDUCTIVE coupling which thus realises gain lost in arrays because of phasing problems."

Oh my! Phasing is adjusted by changing element lengths, phasing stub lengths, or adjusting lumped capacitance and inductance. Though the space between elements be fixed, there are many other ways to vary the phasing between array elements, especially in a W8JK as both elements are driven.

"This coupling is such (inductive) that the phase differences are removed and the whole element radiates."

Surely, an antenna element which is significant in terms of wavelength can`t be said to have a uniphase throughout, even as an approximation. So, Art may mean to claim that the phase between elements in an array is somehow optimized. As usual, Art gives no details of how inductive coupling improves over other means. As for more of the radiator radiating?

"It can now be seen that the extra length provides more gain than a dipole alone and to which I (Art) show as an equivalent loop/dipole."

All the modeler`s reports I`ve seen so-far dispute Art`s claim. Configuration of the wire added to a dipole affects dipole gain.

Last week Art slammed me for verbosity. Please note that in my response I used less words than Art used in his posting.

Best regards, Richard Harrison, KB5WZI

7340. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 22:25:19 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA214F.9000206@ieee.org>
Source record: 114192

Mike Coslo wrote:
> What's the original theme of this argument?

Are the s-parameter equations valid?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7341. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 22:27:20 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA21C8.6010501@ieee.org>
Source record: 114193

Richard Clark wrote:
> REPOST of original with Cecileo's deletions returned:

Repost irrelevant stuff to your heart's content, Richard.
Nowhere in any of my math was anything like the example
you are proposing so it is off topic.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7342. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 22:30:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA22A0.1030209@ieee.org>
Source record: 114194

Richard Clark wrote:
> Cecil challenged me to present a technical point of my objection to
> his presentations.

And so far you have not done so. There's nothing in your
challenge that remotely resembles anything I have said.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7343. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 22:56:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <p0akfvkdc7g75ui44t78omvlpai9bq9kis@4ax.com>
Source record: 114195

On Wed, 25 Jun 2003 17:27:20 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> REPOST of original with Cecileo's deletions returned:
>
>Repost irrelevant stuff to your heart's content, Richard.
>Nowhere in any of my math was anything like the example
>you are proposing so it is off topic.

That's OK, Cecileo,

No one expected you could perform these transformations.

73's
Richard Clark, KB7QHC

7344. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:00:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <q4akfvgctdcc67vhohc9ufqp5s6deh4ak7@4ax.com>
Source record: 114196

On Wed, 25 Jun 2003 17:30:56 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Cecil challenged me to present a technical point of my objection to
>> his presentations.
>
>And so far you have not done so. There's nothing in your
>challenge that remotely resembles anything I have said.

Again, I am not responsible for your disability to discern
resemblance(s). Your inability to respond to the challenge
independent of that lack is also telling, but comes as no surprise to
anyone who has held more than two rounds of correspondence with you.

Like beating a dead horse - have you buried him yet? :-)

73's
Richard Clark, KB7QHC

7345. Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:05:18 UTC
From: Firefighter Matt <mrb188@bellsouth.net>
Message-ID: <uJpKa.12237$XR4.4486@fe03.atl2.webusenet.com>
Source record: 114197

I am interested in anyone that climbs towers as a partime or fulltime job. Specifically about rates per foot, insurance info, and etc. I am doing this as a partime job(I am a career firefighter-emt) and would like info from someone with experience.

73's
Matt KB3EGW

7346. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:08:33 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA2B71.4060502@ieee.org>
Source record: 114198

Richard Clark wrote:
> Historically, Cecil has misused math terms
> to these issues of Intensity, Brightness, interference; and re-defined
> them to suit his argument. This is basically a problem not of deceit,
> merely ignorance.

According to Hecht in _Optics_, "intensity" is an obsolete term and
therefore has no technical meaning. "Brightness" is not a technical
term at all. Interference is already well defined and I haven't
re-defined it in any way. Do you agree with Hecht that constructive
interference is impossible without an equal magnitude of destructive
interference?

> The simple question is: describe the brightness of a known source (I
> have provided several in these recent posts) in terms of Watts
> radiated when given the brightness of that radiation reflected from a
> known target (I have provided that too, and Dan has amplified the
> characteristics).

How is your giving yet another complicated example related to a
technical disagreement that you have with something I have said
in the past? If you have a technical disagreement with something
I have said, please present it. Your new example is absolutely
irrelevant to everything I have previously said.

> This is no easy challenge for the neophyte ...

The challenge for you is to produce one technical statement of
mine with which you disagree. A new irrelevant example by you
doesn't accomplish anything like that.

> I could impose the hell of demanding ...

Skip the demands, Richard. Time to put up or shut up. I
seriously doubt that you can produce a point of technical
disagreement with me since you have carefully avoided doing
so for weeks now.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7347. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:12:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA2C78.1020609@ieee.org>
Source record: 114199

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:
>>>REPOST of original with Cecileo's deletions returned:
>>
>>Repost irrelevant stuff to your heart's content, Richard.
>>Nowhere in any of my math was anything like the example
>>you are proposing so it is off topic.
>
> That's OK, Cecileo,
> No one expected you could perform these transformations.

Richard, the onus is upon you to provide a single point of
disagreement with any technical statement that I have made
in the past. You have been avoiding doing that for weeks and
you are still avoiding it. I suspect you agree with me and
that is why you have produced zero technical objections.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7348. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:15:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA2D2A.60508@ieee.org>
Source record: 114200

Richard Clark wrote:
> Again, I am not responsible for your disability to discern
> resemblance(s). Your inability to respond to the challenge
> independent of that lack is also telling, but comes as no surprise to
> anyone who has held more than two rounds of correspondence with you.

Anyone following this thread knows that you are avoiding the original
challenge which is to produce a single point of disagreement with
anything technical that I have said. I challenged first, Richard.
Why are you unable or unwilling to respond? Second challenges are
not allowed until the first challenge is cleared.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7349. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:26:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <bnbkfvkn568gad4qhpk926imcsok75iuh1@4ax.com>
Source record: 114201

On Wed, 25 Jun 2003 18:12:56 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard, the onus is upon you to provide a single point of
>disagreement with any technical statement that I have made
>in the past.

Just as I thought, several disqualify me. :-)

>You have been avoiding doing that for weeks and
>you are still avoiding it. I suspect you agree with me and
>that is why you have produced zero technical objections.

Let's see now, your chorus must be down to
1 denial left on the wall;
1 denial that's all;
take it down and post it around;
300 denials left on the wall!

(I hope you change key this time around.)

73's
Richard Clark, KB7QHC

7350. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:27:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFA2FEC.EEBCCBA4@uci.edu>
Source record: 114202

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>"Value of Reflectivity" doesn't really mean anything according to the IEEE
> >>Dictionary so I don't understand what you are asking. "Reflectivity" doesn't
> >>appear in any of my reference books.
> >
> > You need to rent Melles-Griot again.
>
> I didn't know Melles-Griot was for rent. I just did a search for "reflectivity"
> on the Melles-Griot web page and that word does NOT appear on their web page.
> So I still don't know what you mean by "reflectivity".

Should have read "you need to rent Born and Wolf again", i.e. go to the
library. There's an interesting expression for the reflectivity for
layered dielectrics.

> >>In the matched system in my paper, illustrated below, Vref1 is zero, so
> >>(rho1*Vfwd1 + tau2*Vref2) has to be zero. Therefore (rho1*Vfwd1 = -tau2*Vref2)
> >>and those two rearward-traveling waves engage in wave cancellation and are
> >>destroyed. The energy components in those two waves cannot be destroyed.
> >
> > Conservation of energy requires only that Pi = Pf + Pr.

> No, conservation of energy requires that all energy be conserved.

So you disagree with Born and Wolf. Well, that's been apparent for a
while. The equation above does represent ALL the energy, and it's a
direct quote.

> rho1*Vfwd1 is one rearward-traveling voltage wave. tau2*Vref2 is another
> rearward-traveling voltage wave.

Please define tau2, if you wouldn't mind.

> The intrinsic power in rho1*Vfwd1 is rho1*Vfwd1^2/Z01 = 25 watts
> The intrinsic power in tau2*Vref2 is tau2*Vref2^2/Z01 = 25 watts

It's a simple matter to show that 25 watts is not being reflected from
the discontinuity. The calculation appears to be invalid.

> The wave cancellation event causes the photons to materialize in the
> opposite direction as constructive interference.

I need a reference for materialization and dematerialization of photons

> Yes, there was a math error. V^2*Z0 is not power. V^2/Z0 is power.
> Sorry for the typo.

Seems we were both doing it yesterday.

73, ac6xg

7351. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:33:57 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3efa32ee_1@news1.prserv.net>
Source record: 114203

I'm still trying to get past Ghe fuy..... Anything like feng shui?

--
Crazy George
Remove NO and SPAM from return address
"jack D" <jackinariz@webtv.net> wrote in message
news:24581-3EF9ED7C-96@storefull-2134.public.lawson.webtv.net...
> A newbie Ham question......Ghe fuy down the street
<snip>

7352. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:35:20 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3efa32ef_1@news1.prserv.net>
Source record: 114204

Used to be $1 a foot plus $25 an hour, but that was 20 years ago. Adjust
for inflation and insurance increases.

--
Crazy George
Remove NO and SPAM from return address
"Firefighter Matt" <mrb188@bellsouth.net> wrote in message
news:uJpKa.12237$XR4.4486@fe03.atl2.webusenet.com...
> I am interested in anyone that climbs towers as a partime or fulltime job.
> Specifically about rates per foot, insurance info, and etc. I am doing
this
> as a partime job(I am a career firefighter-emt) and would like info from
> someone with experience.
>
> 73's
> Matt KB3EGW
>
>
>

7353. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:42:34 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfkcv3gjssarda@corp.supernews.com>
Source record: 114205

see below...

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net...
> Art, KB9MZ wrote:
> "---Kraus did not help matters when he expounded on a previous
thesis."
>
> Kraus is a famed professor and author. I doubt he muddied the water
for
> most people.
>
---No literate person could read his books and be anything but satisfied
with his clarity of expression. ...but, one needs to read Antennas in
order to understand...

<snip>

>
> Last week Art slammed me for verbosity. Please note that in my
response
> I used less words than Art used in his posting.
>
> Best regards, Richard Harrison, KB5WZI
>
---Since words, in this context, are able to be counted (with integers),
I submit that you used fewer words. ...sorry, but I am editing a
wonderful book (written by an extra class colleague) that will run to
about 2600 pages and I am in "nit-pick" mode... Everyone on this news
group will want to have, or have their library have, a copy of this
book.
73 Mac N8TT

7354. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:46:01 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfkcv465so8add@corp.supernews.com>
Source record: 114206

see below...

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net...
> Art, KB9MZ wrote:
> "---Kraus did not help matters when he expounded on a previous
thesis."
>
> Kraus is a famed professor and author. I doubt he muddied the water
for
> most people.
>
---No literate person could read his books and be anything but satisfied
with his clarity of expression. ...but, one needs to read Antennas in
order to understand...

<snip>

>
> Last week Art slammed me for verbosity. Please note that in my
response
> I used less words than Art used in his posting.
>
> Best regards, Richard Harrison, KB5WZI
>
---Since words, in this context, are able to be counted (with integers),
I submit that you used fewer words. ...sorry, but I am editing a
wonderful book (written by an extra class colleague) that will run to
about 2600 pages and I am in "nit-pick" mode... Everyone on this news
group will want to have, or have their library have, a copy of this
book.
73 Mac N8TT

7355. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:46:10 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfkcvc5t8gprdf@corp.supernews.com>
Source record: 114207

see below...

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net...
> Art, KB9MZ wrote:
> "---Kraus did not help matters when he expounded on a previous
thesis."
>
> Kraus is a famed professor and author. I doubt he muddied the water
for
> most people.
>
---No literate person could read his books and be anything but satisfied
with his clarity of expression. ...but, one needs to read Antennas in
order to understand...

<snip>

>
> Last week Art slammed me for verbosity. Please note that in my
response
> I used less words than Art used in his posting.
>
> Best regards, Richard Harrison, KB5WZI
>
---Since words, in this context, are able to be counted (with integers),
I submit that you used fewer words. ...sorry, but I am editing a
wonderful book (written by an extra class colleague) that will run to
about 2600 pages and I am in "nit-pick" mode... Everyone on this news
group will want to have, or have their library have, a copy of this
book.
73 Mac N8TT

7356. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:46:23 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfkcvpj33c9ue5@corp.supernews.com>
Source record: 114208

see below...

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net...
> Art, KB9MZ wrote:
> "---Kraus did not help matters when he expounded on a previous
thesis."
>
> Kraus is a famed professor and author. I doubt he muddied the water
for
> most people.
>
---No literate person could read his books and be anything but satisfied
with his clarity of expression. ...but, one needs to read Antennas in
order to understand...

<snip>

>
> Last week Art slammed me for verbosity. Please note that in my
response
> I used less words than Art used in his posting.
>
> Best regards, Richard Harrison, KB5WZI
>
---Since words, in this context, are able to be counted (with integers),
I submit that you used fewer words. ...sorry, but I am editing a
wonderful book (written by an extra class colleague) that will run to
about 2600 pages and I am in "nit-pick" mode... Everyone on this news
group will want to have, or have their library have, a copy of this
book.
73 Mac N8TT

7357. Re: Gain in a Tuner ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:46:56 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306251546.73c87ecc@posting.google.com>
Source record: 114209

I may be way off beat but I believe Reg is introducing
complex circuitry to this group where it is easy
to supply additional gain with a passive network
containing reactive components.
Even tho he may show all where the liquid is he will not
be able to persuade them to drink!

Regards
Art
Bill Turner <noway@nohow.com> wrote in message
news:<Xns939D90CDE3AD5pookster@129.250.170.84>...
> Dave Shrader <david.shrader@attbi.com> wrote in news:3EECBE85.5090101
> @attbi.com:
>
> > The math is correct. The circuit can be built! 100 volts can be measured
> > from a 1 Vrms source driving a 1 ohm load!
> >
> ----------
>
> You're missing the point, Dave. Your original post claimed a 40 db "gain".
> I pointed out that db is a measurement of power, not voltage. You may
> indeed have a voltage gain of 40 times but that is not power gain.
>
> A simple transformer can give you a voltage gain, but not a power gain. In
> any circuit of only passive elements, if you increase the available voltage
> by X amount, you also divide the available current by X amount, or more.
> Even if you try pulsing the circuit in some manner, the overall long-term
> power remains no more than what you put into it.
>
> No free lunch. :-(

7358. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-25 23:53:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ffckfv4kjbibk3av4hhcukpvv5o8d2p33k@4ax.com>
Source record: 114210

On Wed, 25 Jun 2003 18:08:33 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>
>According to Hecht in _Optics_, "intensity" is an obsolete term and
>therefore has no technical meaning. "Brightness" is not a technical
>term at all.

On Mon, 13 Jan 2003 17:25:14 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:

> You simply cannot increase the brightness
>(intensity of illumination) at one point beyond the sum of the available energy
>components without decreasing the brightness at another point. If you can
>demonstrate constructive interference of light where the brightness is brighter
>than the average energy available without a corresponding region where the
>brightness is less bright than the average energy available, please do so.

YOW!

Hi Mike,

You might observe the post date to observe that this goes waaaay back.
Back when brightness and intensity must've been technical terms ;-)

>brightness is brighter
YOWï¿½
>brightness is less bright
YOWï¿½

73's
Richard Clark, KB7QHC

7359. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 00:22:58 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EFA3C79.9010402@attbi.com>
Source record: 114211

I'm 65 years young. Retired. and 70 pounds overweight.

I pay $135 per hour, one hour minimum guarantee, plus portal to portal
time for to have professional tower climbing.

Deacon Dave, W1MCE

Firefighter Matt wrote:
> I am interested in anyone that climbs towers as a partime or fulltime job.
> Specifically about rates per foot, insurance info, and etc. I am doing this
> as a partime job(I am a career firefighter-emt) and would like info from
> someone with experience.
>
> 73's
> Matt KB3EGW
>
>
>

7360. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 01:48:44 UTC
From: richardharrison@webtv.net
Message-ID: <19574-3EFA50FC-34@storefull-2317.public.lawson.webtv.net>
Source record: 114213

Mac, N8TT wrote:
"---I subscribe that you used fewer words."

I used less and shorter words. Less has four letters. Fewer has five.

Best regards, Richard Harrison, KB5WZI

7361. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:16:44 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EFA578C.94CA571@cwis.net>
Source record: 114212

...Sounds like an old CB "SuperScanner" antenna.
'Doc

7362. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:22:23 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <bddlcv$i06$1@xuxa.iecc.com>
Source record: 114214
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

```
call visa and tell them of your problem. they should be able to cancel the
payment which should get the companies attention.
```

"Henrik" <henrikolofsson@yahoo.se> wrote in message
news:bdcmqirgo1@xuxa.iecc.com...
> I ordered stuff from them worth ?152. Payed with my VISA and the
> transaction was quick. Few days later I sent them a mail correcting my
> order but got no reply. Few days more and I sent to their second
> mail...no replay! now it's been 15 days and I have heard nothing from
> them! What should I do?? I thought Veronica FM was a reliable company!
> :(
>
> Best Regards,
>
> Henrik Olofsson
> Sweden
>

7363. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:22:26 UTC
From: PM <pm@mail.com>
Message-ID: <bddld2$i13$1@xuxa.iecc.com>
Source record: 114215
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

It is better give them a call +44-1535603915 their web address is:
http://www.veronica.co.uk . I have heard that if you order assimbled
product take about one month to process.

"Henrik" <henrikolofsson@yahoo.se> wrote in message
news:bdcmqirgo1@xuxa.iecc.com...
> I ordered stuff from them worth £152. Payed with my VISA and the
> transaction was quick. Few days later I sent them a mail correcting my
> order but got no reply. Few days more and I sent to their second
> mail...no replay! now it's been 15 days and I have heard nothing from
> them! What should I do?? I thought Veronica FM was a reliable company!
> :(
>
> Best Regards,
>
> Henrik Olofsson
> Sweden
>

7364. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:22:28 UTC
From: PM <pm@mail.com>
Message-ID: <bddld4$i22$1@xuxa.iecc.com>
Source record: 114216
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

Give them a call their phone number is on their website
http://www.veronica.co.uk

"Henrik" <henrikolofsson@yahoo.se> wrote in message
news:bdcmqirgo1@xuxa.iecc.com...
> I ordered stuff from them worth ?152. Payed with my VISA and the
> transaction was quick. Few days later I sent them a mail correcting my
> order but got no reply. Few days more and I sent to their second
> mail...no replay! now it's been 15 days and I have heard nothing from
> them! What should I do?? I thought Veronica FM was a reliable company!
> :(
>
> Best Regards,
>
> Henrik Olofsson
> Sweden
>

7365. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:22:30 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <bddld6$i2s$1@xuxa.iecc.com>
Source record: 114217
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

```
Contact VISA and have VISA credit your account!!

Deacon Dave, W1MCE
```

Henrik wrote:
> I ordered stuff from them worth ?152. Payed with my VISA and the
> transaction was quick. Few days later I sent them a mail correcting my
> order but got no reply. Few days more and I sent to their second
> mail...no replay! now it's been 15 days and I have heard nothing from
> them! What should I do?? I thought Veronica FM was a reliable company!
> :(
>
> Best Regards,
>
> Henrik Olofsson
> Sweden
>

7366. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:36:32 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306251836.651974fe@posting.google.com>
Source record: 114218

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<5537-3EFA1AF2-65@storefull-2315.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "---Kraus did not help matters when he expounded on a previous thesis."
>
> Kraus is a famed professor and author. I doubt he muddied the water for
> most people.
>
> Another thing, antenna resonances are merely a means to get current into
> standing-wave antennas. Dipole lengths predict resonances.
>
> A magnetic loop directly connected to the W8JK? Sounds Unwinesque and a
> shove on the thread toward a pet of Art`s. Pity, Art has contributed
> little evidence for his pet ideas beyond the claims.
>
> Last week Art slammed me for verbosity. Please note that in my response
> I used less words than Art used in his posting.
>
> Best regards, Richard Harrison, KB5WZI
Richard some people as they get older reject change, and I understand
that as well I understand peoples reliance on books instead of
thinking things out for themselves. If you were back in a working
environment you would be challenged regarding your responses because
they do not reflect the positive and concentrate on the negative. A
case in point(sample) is the Henke article
printed by the ARRL in a compendium some ten years ago where he
ostensibly
reviews the myths around the magnetic loop. His article was so sound
in its aproach that I felt sure he was going to migrate to what I was
working on.
That was not to be when he pointed at "Q" being the devil when
coupling two circuits. He concentrated so much on proving the loops
poor features that he totally ignored its good features even tho he
named 'Q' where it was inadequate
and then waffled on.If he had decided to build on the good he was in
an excellent position when pointing to "Q" to solve the bad points
while retaining the good i.e by altering the "Q" via changing the feed
circuit such that it provided a positive addition to the coupling
since the loop impresses its frequency back via EMF(i.e.a formidable
radiator).It is easy to sneer but now you see a sample of coupling in
a book. Now I leave you to contribute to explain reprocity with regard
to the momentary radio gain as a vehicle nears a power line in not
only with your own thoughts but will also allow you to quote
from one of your books .

I would remind you that no one, even the most prolific of posters
have offered not one piece of reliable technical basis that
two radiators coupled together via inductive means does not provide
superior gains to any other combination in an array, NOT ONE. Could
you be the first, after all I gave you the Henke book reference which
should give you a shoulder to lean on?
You tell me what happens when the feed portion of a loop is extended
to a longer length which changes the "Q" and because of the longer
length impressed with the loops frequency provides more gain. But then
you would probably be advised to deflect the debate and restrict
yourself from the danger of the magnifying glass. Actually you would
make friends as many now desire
the more less technical subjects to debate as in a bar room discussion
where loudness reinforces what is correct. Seems like this is a repeat
of my previous posting so I suspect I will get the same ofbeat
response
that does not add up as a centerally focussed technical discussion
Regards
Art

7367. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:54:07 UTC
From: richardharrison@webtv.net
Message-ID: <19574-3EFA604F-38@storefull-2317.public.lawson.webtv.net>
Source record: 114126

Jim Kelley wrote:
"Conservation of energy requires only that

Pi = Pf + Pr."

That`s something I can agree with if the subscripts mean the right things.. My Bird Mod. 43 Manual says:

Watts into loads = Wf - Wr.

Rearranged:

Wf = Wl + Wr

Wf is the incident power.
Wl is the actual power delivered by the generator to the load (same as watts into loads).
Wr is the power reflected by the load.

Kirchoff said total current into a junction equals the total current out of the junction. The power division at the junction of a transmission line and its load is analogous to the summation of currents at a junction and is based on the rules of arithmetic and energy conservation, I believe.

Best regards, Richard Harrison, KB5WZI

7368. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:58:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA616E.3040800@ieee.org>
Source record: 114121

Jim Kelley wrote:
> Should have read "you need to rent Born and Wolf again", i.e. go to the
> library. There's an interesting expression for the reflectivity for
> layered dielectrics.

I have _University Physics_ by Young and Freedman. There's no mention of "reflectivity". Richard's equation is for "reflectance", not "reflectivity". The IEEE gives two definitions for "reflectivity": (1) The reflectance of the surface of a material so thick that the reflectance does not change with increasing thickness; (2) The reflectance of an opaque, optically smooth, clean portion of material" I don't see how "reflectivity" applies at all to the present subject matter. I suspect both you and Richard really meant "reflectance" instead of "reflectivity".

>>No, conservation of energy requires that all energy be conserved.
>
> So you disagree with Born and Wolf.

Probably not. Does Born and Wolf say certain energy doesn't have to be conserved? I probably disagree with your interpretation of Born and Wolf. Do they say the energy in a battery, which has nothing to do with Pi, Pf, & Pr, doesn't have to be conserved?

Do they say that the energy in a speeding bullet, which has nothing to do with Pi, Pf, and Pr doesn't have to be conserved? I repeat my assertion. *Conservation of energy requires that all energy be conserved.* I'm amazed that you don't accept that statement.

> Please define tau2, if you wouldn't mind.

tau2 is the voltage transmission coefficient looking into port 2. It is equal to 2*Z01/(Z02+Z01) and is what allows some of the voltage reflected from the load to flow through the impedance discontinuity toward the source. tau2 is related to s12 like rho1 is related to s11.

>>The intrinsic power in rho1*Vfwd1 is rho1*Vfwd1^2/Z01 = 25 watts
>>The intrinsic power in tau2*Vref2 is tau2*Vref2^2/Z01 = 25 watts
>
> It's a simple matter to show that 25 watts is not being reflected from
> the discontinuity. The calculation appears to be invalid.

You seem to be questioning the validity of the s-parameter equations again. s11*a1 is the source voltage reflected from the impedance discontinuity. |s11|^2 is the ratio of power reflected from port 1 to the power incident upon port 1. |a1|^2 is the power incident upon port 1.

So use your "simple matter" to show that (|s11|^2 * |a11|^2)
is not 25 watts, the power reflected from port 1. Millions of engineers
will be surprised to discover that their s-parameter equations are invalid.

> I need a reference for materialization and dematerialization of photons

In Quantum Physics, fields and waves don't exist. They are replaced
by photons that have a probability of materializing. Section 4.11.1
in _Optics_, by Hecht touches on the subject.
--
73, Cecil http://www.qsl.net/w5dxp

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7369. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:59:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <7aokfvgkoq1gipocumg3tb0kmtqhb8tsme@4ax.com>
Source record: 114119

On 25 Jun 2003 19:36:32 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>I would remind you that no one, even the most prolific of posters
>have offered not one piece of reliable technical basis that
>two radiators coupled together via inductive means does not provide
> superior gains to any other combination in an array, NOT ONE.

Hi Art,

Presumably this includes yourself as well.

If not, does it amount to more than 1dB?

73's
Richard Clark, KB7QHC

7370. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 02:59:45 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306251859.23c5311b@posting.google.com>
Source record: 114120

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<1b5ifvgl4bijnk77ag8k0at999ofovitb3@4ax.com>...
> On Tue, 24 Jun 2003 22:11:53 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
> >Richard Clark wrote:
> >> Now when you manage to pull back onto course with some actual
> >> technical discussion, you might then find technical objection.
> >
> >What is it about (Vref1 = rho1*Vfwd1 + tau2*Vref2) that you
> >don't understand?
>
> See Cecileo,
>
> You had two posts to respond to from me, and you chose to create
> another emotional issue rather than respond to my technical criticism
> in the other.
>
> Let's see the quality of your effort in a venue you begged for rather
> than your contrivance above.

I can understand why Cecil refrains from answering you since I have
the same attitude.
When you contribute to a discussion rather than interspacing nasty
comments with quotes from Oscar Wilde it would be an advantage to
respond to gain further understanding of the subject at hand. Since
you continue to act as if
you are on stage with the lights focussed solely upon you it is better
to place ones focus elsewhere
Art

> 73's
> Richard Clark, KB7QHC

7371. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:02:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA622E.3080308@ieee.org>
Source record: 114122

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>You simply cannot increase the brightness
>>(intensity of illumination) at one point beyond the sum of the available energy
>>components without decreasing the brightness at another point. If you can
>>demonstrate constructive interference of light where the brightness is brighter
>>than the average energy available without a corresponding region where the
>>brightness is less bright than the average energy available, please do so.
>
> You might observe the post date to observe that this goes waaaay back.
> Back when brightness and intensity must've been technical terms ;-)

They are not technical terms and I didn't use them in a technical manner.
If you think "brightness is brighter" is technical talk, I feed sorry
for you.
--
73, Cecil http://www.qsl.net/w5dxp

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7372. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:07:59 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030625230759.20722.00000858@mb-m22.aol.com>
Source record: 114123

bla, bla, bla......

>The
>trick is ofcourse, is to seduce experts to remove themselves from the
>box that they have enclosed themselves and to think in a more open
>'out of the box' fashion which is in direct conflict to prior
>explanations given both in books and on this forum.
>
>Best regards
>Art Unwin KB9MZ.....XG
>
>

It is getting more and more annoying to read musings of F. Art ex G man.
Must be reincarnation of ancient freaktalental.

Some smart man said, that more you learn, the more you find how little you know
(or something like that).

Now he is dumping on Kraus, hams who can only use dipole, while he is
reflecting with directors.

For your edification, hams (VE3BMV) used small shielded loop antenna coupled to
beverage antenna and the result was beverage directivity and suppression of
local QRN. This was described in Radiosporting Magazine in late 80s. Lot of
things were tried, described and used by hams and/or professionals that you
might be ignorant of.

Looks like limited horizons are affecting the reasoning and spelling faculties
of this unrecognized shining star on ham radio antenna sky.

Bada Boxed BUm

7373. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:11:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA644B.8090108@ieee.org>
Source record: 114124

Art Unwin KB9MZ wrote:
> Richard Clark <kb7qhc@attbi.com> wrote:
>>You had two posts to respond to from me, and you chose to create
>>another emotional issue rather than respond to my technical criticism
>>in the other.

> I can understand why Cecil refrains from answering you since I have
> the same attitude.

I *did* answer him, Art, 69 minutes after he posted the question,
but a 69 minute response was not quick enough for Richard's taste.
--
73, Cecil http://www.qsl.net/w5dxp

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7374. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:18:40 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <9rokfv0vb4ns692t8fipvu4v0ouq3es3ap@4ax.com>
Source record: 114125

On Wed, 25 Jun 2003 22:02:06 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>You simply cannot increase the brightness
>>>(intensity of illumination) at one point beyond the sum of the available energy
>>>components without decreasing the brightness at another point. If you can
>>>demonstrate constructive interference of light where the brightness is brighter
>>>than the average energy available without a corresponding region where the
>>>brightness is less bright than the average energy available, please do so.
>>
>> You might observe the post date to observe that this goes waaaay back.
>> Back when brightness and intensity must've been technical terms ;-)
>
>They are not technical terms and I didn't use them in a technical manner.
>If you think "brightness is brighter" is technical talk, I feed sorry
>for you.

Sooo, then. What were you writing about? :-)

Whenever I respond to your demand to exhibit something you wrote that
I have issue with, it turns out your discussion was about the weather?

However, it does amuse me how you will dispute your own authorities
and reject your own comments to suit your logic. I don't know how you
come by the impression I agree with you when you don't agree with
yourself, OM; but then feelings is your department....

Or am I mistaken?
> I feed sorry for you.
I will pass, thank you.

73's
Richard Clark, KB7QHC

7375. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:30:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <nhpkfv4oqd64gs22oslc3appkkolejgo85@4ax.com>
Source record: 114127

On 25 Jun 2003 19:59:45 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
> I can understand why Cecil refrains from answering you since I have
>the same attitude.
>When you contribute to a discussion rather than interspacing nasty
>comments with quotes from Oscar Wilde it would be an advantage to
>respond to gain further understanding of the subject at hand. Since
>you continue to act as if
>you are on stage with the lights focussed solely upon you it is better
>to place ones focus elsewhere
>Art
>

Hi Art,

So then, are you here auditioning for the stagecraft too?

NEXT!

73's
Richard Clark, KB7QHC

p.s. you had a choice of responding to my simple questions to your
claims, or mincing around the stage like Peter Pan. If you object so
much, why are you wearing tights instead of working your slip-stick?

I enjoy your fey impressions, but we are casting for Hamlet.

7376. Re: Xnecview rocks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:31:46 UTC
From: Jim Richardson <warlock@eskimo.com>
Message-ID: <226qs-kaj.ln1@grendel.myth>
Source record: 114128

On Wed, 25 Jun 2003 13:37:13 -0700,
Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Whoever suggested Xnecview, thank you. It compiles cleanly under
> FreeBSD and it works well. The controls are a little awkward, but a
> few readings of the well-written manual page helped greatly.
>
> One thing I wasn't able to figure out was the animation thing. Does
> anyone have a sample NEC input file that will generate an output file
> that Xnecview will animate?
>

Something like this?

```
CM NEC Input File for J pole.
CM Setup for 2M, with bare wire.
CE
GW 1 11 0 0 46.9 0 0 1409.7 .8
GW 2 11 9.525 0 46.9 9.525 0 571.5 .8
GW 3 1 0 0 46.9 9.525 0 46.9 .8
GW 4 1 0 0 0 9.525 0 0 .8
GW 5 5 0 0 0 0 0 46.9 .8
GW 6 5 9.525 0 0 9.525 0 46.9 .8
GS 0 0 .001
GM 0 0 0 0 0 0 0 1
GE 1
GN 1 0 0 0 0 0 0 0 0 0
FR 0 8 0 0 144 .5 0 0 0 0
EX 0 3 1 0 1 0 0 0 0 0
RP 0 120 120 1001 -90 0 3 3 1.00E+04 0
EN
```

The animation is set up by calculating over a frequency spread, rather
than for a fixe freq.

Other than that, it's a pretty lame j-pole, I am still tinkering with
J-poles, I eventually need to build one for marine band vhf.

--
Jim Richardson http://www.eskimo.com/~warlock

Linux, because eventually, you grow up enough to be trusted with a fork()

7377. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 03:54:57 UTC
From: jackinariz@webtv.net
Message-ID: <1671-3EFA6E91-161@storefull-2136.public.lawson.webtv.net>
Source record: 114133

Thanks all you guys for the excellent response...And for those with critisisum.....I expected that also....Jack D....KD7RUF

7378. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:00:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA6FC3.6070109@ieee.org>
Source record: 114129

Richard Clark wrote:
> Whenever I respond to your demand to exhibit something you wrote that
> I have issue with, it turns out your discussion was about the weather?

It seems you are objecting to my conversational style and not to
anything technical that I have written. Whenever possible, I have
tried to keep the language at a level where most people can
understand it. "Bright" and "dark" are descriptive conversational
terms, not technical terms. How about picking one of my equations
with which you disagree and discussing it?
--
73, Cecil http://www.qsl.net/w5dxp

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7379. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:01:31 UTC
From: richardharrison@webtv.net
Message-ID: <8678-3EFA701B-210@storefull-2312.public.lawson.webtv.net>
Source record: 114132

Art Unwin wrote:
"---posters have offered not one piece of reliable technical basis that two radiators coupled together via inductive means does not provide superior gains to any other combination in an array."

I am tempted to borrow Richard Clark`s question here: "More than 1 db?"

Why would inductive coupling provide superior gains to any other combination in an array?

Proof of such a claim is an onus on Art, the proponent, in this case. Prove it and naysayers will fade away. I won`t lecture anyone on how antenna gain works. Art`s made it clear that he doesn`t want to hear it.

It is up to Art to prove a coupling loop works best.

Best regards, Richard Harrison, KB5WZI

7380. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:04:35 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA70D3.8040406@ieee.org>
Source record: 114131

Richard Harrison wrote:
> Jim Kelley wrote:
> "Conservation of energy requires only that
>
> Pi = Pf + Pr."
>
> That`s something I can agree with if the subscripts mean the right
> things.

Think about what you are saying, Richard. I responded that the
conservation of energy principle requires that *all* energy be
conserved. Jim objected to that statement of mine and accused
me of disagreeing with his physics book.

Seems you had better find out exactly what energy Jim thinks
doesn't have to be conserved before you go agreeing with him.
--
73, Cecil http://www.qsl.net/w5dxp

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7381. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:05:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2rrkfvo0gd87lum0dcdmqu53k8v0dg80f3@4ax.com>
Source record: 114130

On Wed, 25 Jun 2003 22:11:07 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>
>> I can understand why Cecil refrains from answering you since I have
>> the same attitude.
>
>I *did* answer him, Art, 69 minutes after he posted the question,
>but a 69 minute response was not quick enough for Richard's taste.

Hmm,

You just put Art into the back seat of a 2 door conundrum. Does he
really understand? Does he share the same attitude? Who's the
designated driver?

73's
Richard Clark, KB7QHC

7382. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:26:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <c4tkfvo2cbt5v435450tgg24chsuvksnrr@4ax.com>
Source record: 114134

On Wed, 25 Jun 2003 23:00:03 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Whenever I respond to your demand to exhibit something you wrote that
>> I have issue with, it turns out your discussion was about the weather?
>
>It seems you are objecting to my conversational style and not to
>anything technical that I have written.

Cecil,

You have been the one searching for additional qualifiers for
Resistance, Capacitance and Inductance. Do you have an approved list
of challengeable posts? You have deflected criticism for every facet
of your writing such that you have become an unreliable correspondent.

Just look at your treatment of Jim. You solicited him, or accepted
him, as your manuscript reviewer; and you claim he is a fool. This
speaks either to the quality of your work, or your poor choices, and
poorer judgement. With that document in a vacuum of a year's distant
promise of publication, poor is attached to it too.

Again, these are your issues and problems, not mine.

73's
Richard Clark, KB7QHC

7383. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:54:19 UTC
From: richardharrison@webtv.net
Message-ID: <19575-3EFA7C7B-21@storefull-2317.public.lawson.webtv.net>
Source record: 114136

Cecil, W5DXP wrote:
"Think about what you are saying."

Oh, dang me! I thought saying I agree if the subscripts meant what I thought, covered me. I presumed total energy was contained in the equation. Now I plead guilty to naivete`. Nits are big here. Maybe Cecil`s posting inoculated me!

Best regards, Richard Harrison, KB5WZI

7384. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 04:58:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFA7D6E.7000008@ieee.org>
Source record: 114135

Richard Clark wrote:
> Just look at your treatment of Jim. You solicited him, or accepted
> him, as your manuscript reviewer; and you claim he is a fool.

Not true, Richard. Jim has made some foolish statements just as all
of us humans do, including you and I. That doesn't make Jim a fool.

I said the conservation of energy principle requires that all energy
be conserved. Jim claims that his physics book differs from my assertion.
I'm sorry, that is a foolish claim but it doesn't make Jim a fool, just
human.

> With that document in a vacuum of a year's distant
> promise of publication, poor is attached to it too.

The first article, part1.doc, will be available for downloading
from my web page by next week. I am still having trouble converting
Word files to HTML files in a reliable manner that preserves the
graphics.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7385. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 05:29:07 UTC
From: richardharrison@webtv.net
Message-ID: <19573-3EFA84A3-145@storefull-2317.public.lawson.webtv.net>
Source record: 114138

I wrote:
"I thought saying I agree if the subscripts meant what I thought,
covered me."

I should come clean. I thought there was a mistake in sign in Jim`s
posting and sought to correct it by assigning what I thought were the
correct signs. Bird is correct and I think is correctly quoted.

Best regards, Richard Harrison, KB5WZI

7386. Re: Be SURE to oppose Broadbanded Crap Over Power Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 05:38:23 UTC
From: robkemp90210@hotmail.com
Message-ID: <6114e4af.0306252138.778b5ceb@posting.google.com>
Source record: 114137
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Comments are due on or before July 7, 2003. The FCC now is accepting
electronically filed comments via its Electronic Comment Filing
System (ECFS).

http://gullfoss2.fcc.gov/prod/ecfs/upload_v2.cgi

In the "Proceeding" field, enter "03-104" and complete the required
fields. Comments may be typed into a form or you may attach a file
containing your comments.

Many good comments have been filed, one you may like to review is
here;
http://makeashorterlink.com/?C5C931A05

"Alan" <abs@hotmail.com> wrote in message
news:<e05ec31df3dd61a4d7c523044050e184@news.meganetnews.com>...
> 1. Limbaugh IS on XM - speak of what you know
> 2. Limbaugh ABHORS big government, so you're a little askew in
> trashing him. Clearly you 'know what you know but have never listened'
> If he had his way in the issue, the FCC would be abolished.
> 3. Get over it.
>
>
> "Shephed" <roll1up@smkey.com> wrote in message
> news:7ALJa.229917$VP.48434664@twister.neo.rr.com...
> >
> > "Bis Wichy" <wd0hco@ev1.net> wrote in message
> > news:BB1CB7BE.4496%wd0hco@ev1.net...
> > >
> > > >> Why bother? Unless you are a billionaire lining Powell's pockets, he
> is
> > > >> not going to listen.
> > > >>
> > > > Same reason for voting, if you don't vote, you got no chance and no
> > > > squawk no matter what happens. If you vote at least you got a chance.
> > > > NEVER GIVE UP!!!!!
> > >
> > > I love it! You guys don't see the FCC's plan do you?
> > >
> > > This stuff is so incredibly broad banded that it will also affect
> Standard
> > > AM Broadcast, shortwave as well as over the air TV Broadcasts.
> > >
> > > Ahhh, but if your rich, you can afford to buy a new Digital AM DAB

> receiver
> > > or XM Satellite receiver to listen to that dimwit Rush Limburger... and
> of
> > > course.....
> > >
> > > We ALL have to buy that Digital HDTV if you wanna watch TV over the air
> or
> > > keep your old NTSC TV and pay for a Satellite or cable TV hookup.
> > >
> > > Either way, you gonna have to spend money to keep what you got now!
> > >
> > > See the plan now ???
> > >
> > > No wonder Commissioner Powell jr is getting a big woody over this!
> > >
> > > This one technology alone will FORCE everyone to go digital. Like it or
> not.
> > >
> > > So just sit there, take it and don't say anything.
> > >
> > > It's what they are hoping for.
> > >
> > > - WDï¿½HCO -
> > >
> > Still sore about the 2000 election I see. :-)
> >
> >

7387. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 06:10:16 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <c7wKa.20046$Bg.12518@rwcrnsc54>
Source record: 114139

If sunlight is a problem in the attic, he has more problems than just
building antenna.
"David G. Nagel" <nagel@core.com> wrote in message
news:3EF1C684.7040806@core.com...
> Becarefull about using the plastic retainers from six packs. The plastic
> is formulated to self destruct when exposed to ultraviolet from sunlight.
>
> Dave WD9BDZ
>
> 'Doc wrote:
> >
> > G. Doughty,
> > As long as the wood's moisture content is very low
> > it should work okay. Another handy (and cheap) insulator
> > is the plastic 'rings' from a 6-pack of beverage. Double
> > them a couple of times and they'll be strong enough to
> > hold a 10 meter dipole just fine. Or how about cutting
> > the 'necks' off of plastic bottles? Or plastic bottle
> > caps? Plenty of insulators floating around out there, not
> > always hi-tech or pretty, but they work just fine...
> > 'Doc
>

7388. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 06:21:58 UTC
From: CW <clinton.magers@attbi.com>
Message-ID: <aiwKa.22899$nG.26041@rwcrnsc51.ops.asp.att.net>
Source record: 114140

It is a CB antenna. I don't remember what they call this one but it is
stearable by phasing.
"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EF9FFFF.9020304@attbi.com...
> It sounds like three horizontal beam antennas separated by 'your
> approximate 8 feet'.
>
> Knock on the door and introduce yourself. All hams love to ham it up!
>
> Deacon Dave, W1MCE
>
> jack D wrote:
> > A newbie Ham question......Ghe fuy down the street,(antisocial),has an
> > antenna atop his tower,(55 foot),I would like to know if any of you
> > might recognize??....It is three verticles that rise from three
> > horizontal booms equally spaced around the mast....Each vertical element
> > rises about eight feet above and below the horizontal booms.....Wish I
> > could give you more info.....But I do know it is at least 10 years
> > old.....Anyone know?
> >
>

7389. AS-390A/SRC Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 07:09:57 UTC
From: NFG <nospam@nospam.com>
Message-ID: <bde68c02gio@enews2.newsguy.com>
Source record: 114141

I was wondering if anyone uses the AS-390A/SRC antenna?
Any opinions?

http://www.columbiaelectronics.com/as_390a_src_uhf_antenna.htm

7390. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 09:00:10 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFAB61A.3030801@ieee.org>
Source record: 114142

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Think about what you are saying."
>
> Oh, dang me! I thought saying I agree if the subscripts meant what I
> thought, covered me. I presumed total energy was contained in the
> equation. Now I plead guilty to naivete`. Nits are big here. Maybe
> Cecil`s posting inoculated me!

Jim said: "Conservation of energy requires only that Pi = Pf + Pr."

If he had left out the "only", there would be nothing wrong with
the statement. Conservation of energy does require that Pi = Pf + Pr.
But that is not the only thing that the conservation of energy
requires. As stated on the Melles-Griot web page, the conservation
of energy requires that zero energy be lost in any wave cancellation
event.

For cancellation of glare in thin-films, the "lost" energy in the
the canceled reflected waves must join the forward wave.

For cancellation of reflections at a match point in a transmission
line, the "lost" energy in the canceled reflected waves must join
the forward wave.

Jim is again trying to sneak in his argument that canceled waves never
possessed any energy to begin with which has been proven to be false
using the s-parameter equations.

If s11*a1 = -s12*a2 then b1 = 0. But |s11|^2*|a1|^2 does not equal
zero and |s12|^2*|a2|^2 does not equal zero. Those are the component
energies associated with s11*a1 and s12*a2 and they cannot be
destroyed.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7391. Limbaugh on XM?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 09:16:50 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bdeh5q$48m$1@bob.news.rcn.net>
Source record: 114143
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

> "Alan" <abs@hotmail.com> wrote in message
news:<e05ec31df3dd61a4d7c523044050e184@news.meganetnews.com>...
> > 1. Limbaugh IS on XM - speak of what you know

Which channel is he on?

I haven't found mention of him on the XM web site. I've found the listings
for what seems to be the righty-talk channel and he's not in the schedule
contained therein.

I surfed for quite a while and found many, many messages saying that
Limbaugh is NOT on XM, and only one that said he is. No details were given.

7392. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 11:37:20 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bdelth$2ab$1@slb9.atl.mindspring.net>
Source record: 114144

Richard:

[snip]
> If not, does it amount to more than 1dB?
>
> 73's
> Richard Clark, KB7QHC
[snip]

Or... for that matter "a hill of beans"!

--
Peter K1PO

7393. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 11:41:34 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bdem5fgcg1@slb9.atl.mindspring.net>
Source record: 114145

Thread:

I don't know about ya'll, and I don't know if it's related to the current slowing of the speed of light ya'll have observed, but I notice that I have been slowing down over the years. And Viagara does not seem to speed me up, only hardens. What?

--
Peter K1PO

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EF7A1C5.3020803@ieee.org...
> Irv Finkleman wrote:
> > W5DXP wrote:
> >>Light is not slowing down - seconds are getting shorter. Light simply
> >>doesn't travel as far in a shorter second as it once did during a
> >>longer second.
> >
> > They just don't make it like they used to!
>
> If one examines Bristlecone Pine rings Vs Carbon 14 dating,
> one can actually detect the time drift.
> --
> 73, Cecil, W5DXP
>

7394. Want to monitor satellites but cant mount an antenna! Help ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 12:58:29 UTC
From: Digitalebola <administrator@digitalsignals.org.NOSPAM>
Message-ID: <3efaedf3@dnews.tpgi.com.au>
Source record: 114146

Im in a spot of bother, I really want to monitor satellite transmissions, but i cant mount an antenna! My "StepDad" who is a complete tosser (besides the point) wont let me put up my scanner antenna's just because he's on some power trip..

Anyways, is there any kind of antenna i can build that dosnt have to be mounted, that i can have inside my room to allow satellite reception ?

Thanks!!!

Anthony

pls reply also to : administrator@digitalsignals.org.nospam

take off the .nospam

7395. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 12:58:38 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <j3rlfv8skjcchgoq1atg5el3rilk6tqo3k@4ax.com>
Source record: 114147

On Wed, 25 Jun 2003 19:05:18 -0400, "Firefighter Matt"
<mrb188@bellsouth.net> sent into the ether:

>I am interested in anyone that climbs towers as a partime or fulltime job.
>Specifically about rates per foot, insurance info, and etc. I am doing this
>as a partime job(I am a career firefighter-emt) and would like info from
>someone with experience.
>
>73's
>Matt KB3EGW
>
>
Geez, just the ins. cost alone should show you where to start. I
would charge at least your hourly rate as a firefighter +25% +the
insurance cost (divided by how many times you estimate you will climb
in a year), and them double it.

Then you could call a company that does this and ask the hourly rate
and charges to see how close you are.

Don't do it like a guy I know that is also a firefighter. He uses an
OLD leather safety harness with a leather strap seat built into it. I
would not go 1 foot off the ground in that rig. And this guy is not a
light weight guy either.
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

7396. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 13:23:21 UTC
From: richardharrison@webtv.net
Message-ID: <19573-3EFAF3C9-173@storefull-2317.public.lawson.webtv.net>
Source record: 114148

Art, KB9MZ wrote:
"It is easy to sneer but now you see a sample of coupling in a book."

Pages 26-8 and 26-9 of the 19th edition of the "ARRL Antenna Book" contain samples of "delta" and "T" matches for a dipole. These matches are configured as "loops", joining a dipole.

Why can`t radiation from these "loops" add to dipole gain? Simple. The small loop has a null perpendicular to its plane. That`s the dipole`s best direction. So, the loop radiates at cross-purpose with the dipole for directional gain.

This is a repeat from me, and Art doesn`t want to hear it, but some readers may be unaware of the prologue.

Best regards, Richard Harrison, KB5WZI

7397. 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 13:51:03 UTC
From: h4mb0ne@hotmail.com
Message-ID: <b0a445bd.0306260551.4fdd87c9@posting.google.com>
Source record: 114149

I am looking to put a 6m antenna in a 3rd story attic. It is totaly unfinished with no aluminum siding and no metal roof. Am currently using a W3FF Buddipole setup in my 30 x 30 living room and when 6 is open I have no problem making contacts. Using an FT-817/Tokyo Hy-Power HL50-B but never usually use more than 25 watts. Does anyone have any real world use on 6 with the antennas listed in subject?
Thanks in advance,
Hambone

7398. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 14:08:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFAFE5D.6020209@ieee.org>
Source record: 114150

Peter Brackett wrote:
> I don't know about ya'll, and I don't know if it's related to the current
> slowing of the speed of light ya'll have observed, but I notice that I have
> been slowing down over the years.

So have I and that just proves my point. Those seconds are getting so
short that I hardly ever have time to get anything important done. I
wish I had those long seconds back when I was a bored teenager. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7399. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 14:35:09 UTC
From: richardharrison@webtv.net
Message-ID: <19573-3EFB049D-181@storefull-2317.public.lawson.webtv.net>
Source record: 114151

Richard Clark wrote:
"Requires Maxwell`s Demon (keeping the theology of it all and retaining RF through a sly connection)"

Maxwell`s demon was proved impractical around 1950 by a French physicist, Leon Brillouin. Brillouin showed the demon`s entropy reduction actions would be exceeded by increased entropy from the process of picking faster gas molecules from the slower ones.

Even with Maxwell`s demon, separation of religion and science is a losing proposition.

Don`t worry about prayer in schools so long as there are exams.

Best regards, Richard Harrison, KB5WZI

7400. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 14:55:18 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <pfGcnf87RYXFlGajXTWJiA@comcast.com>
Source record: 114152

I used to have a Hygain 3 El beam, sitting on top of a cardboard box in the attic of a one story house. Did get out. Rotation was by the armstrong method.

Tam/WB2TT
"h4mb0ne" <h4mb0ne@hotmail.com> wrote in message
news:b0a445bd.0306260551.4fdd87c9@posting.google.com...
> I am looking to put a 6m antenna in a 3rd story attic. It is totaly
> unfinished with no aluminum siding and no metal roof. Am currently
> using a W3FF Buddipole setup in my 30 x 30 living room and when 6 is
> open I have no problem making contacts. Using an FT-817/Tokyo Hy-Power
> HL50-B but never usually use more than 25 watts. Does anyone have any
> real world use on 6 with the antennas listed in subject?
> Thanks in advance,
> Hambone

7401. Re: Limbaugh on XM?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 15:13:20 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <u93mfvsu6rr5bkfij8b2s44t246krc1h5m@4ax.com>
Source record: 114153

On Thu, 26 Jun 2003 05:16:50 -0400, "R J Carpenter"
<rcarpen@erols.com> wrote:

>
>> "Alan" <abs@hotmail.com> wrote in message
>news:<e05ec31df3dd61a4d7c523044050e184@news.meganetnews.com>...
>> > 1. Limbaugh IS on XM - speak of what you know
>
>Which channel is he on?
>
>I haven't found mention of him on the XM web site. I've found the listings
>for what seems to be the righty-talk channel and he's not in the schedule
>contained therein.
>
>I surfed for quite a while and found many, many messages saying that
>Limbaugh is NOT on XM, and only one that said he is. No details were given.
>

Mr. L. aint my cup o' tea, but you could probably check his web site
for that info on XM.

Bob
k5qwg

7402. Re: AS-390A/SRC Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 15:22:31 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <3EFB0F99.63D69B3@shaw.ca>
Source record: 114154

NFG wrote:
>
> I was wondering if anyone uses the AS-390A/SRC antenna?
> Any opinions?
>
> http://www.columbiaelectronics.com/as_390a_src_uhf_antenna.htm

We used them on the ships (Canadian Navy) back in the 50's. Bear
in mind that they cover the 225-400 meg band (the allocated
Military 'UHF' band) and may not cover anything ham related.

--

Diagnosed Type II Diabetes March 5 2001
Beating it with diet and exercise!
297/215/210 (to be revised lower)
58"/43"(!)/44" (already lower too!)

Visit my HomePage at http://members.shaw.ca/finkirv/
Visit my very special website at http://members.shaw.ca/finkirv4/
Visit my CFSRS/CFIOG ONLINE OLDTIMERS website at http://members.shaw.ca/finkirv5/

Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

7403. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 15:36:44 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EFB1201.C233ECF8@gte.net>
Source record: 114155

h4mb0ne wrote:

> I am looking to put a 6m antenna in a 3rd story attic. It is totaly
> unfinished with no aluminum siding and no metal roof. Am currently
> using a W3FF Buddipole setup in my 30 x 30 living room and when 6 is
> open I have no problem making contacts. Using an FT-817/Tokyo Hy-Power
> HL50-B but never usually use more than 25 watts. Does anyone have any
> real world use on 6 with the antennas listed in subject?
> Thanks in advance,
> Hambone

Please see ther Omnianagles at:
http://www.universal-radio.com/catalog/hamants/4465.html

Dale W4OP

7404. Re: Antenna??

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 15:47:03 UTC
From: "R. Scott" <washingtonham@yahoo.com>
Message-ID: <3EFB1577.D6DE9327@yahoo.com>
Source record: 114157

jack D wrote:
>
> Thanks all you guys for the excellent response...And for those with
> critisisum........I expected that also....Jack D....KD7RUF

Yep gotta expect that. BTW, My moonraker theroy was wrong but here is
some manuals that may point to which one. If its any of these its CB and
not likely to be receptive to Complaints :)

http://dxcorner.s5.com/photo3.html

Scotty N7HJ
Everett, Washington

7405. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:15:06 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bdf63j$et7$1@slb6.atl.mindspring.net>
Source record: 114156

Years ago I lived in a house with an attic that you describe. It was large enough to put a short spaced 4 element yagi in it.

I got one of those Rat Shack flat bottomed rotars. Set it on the floor and had a ball with the beam.

Dan/W4NTI

"h4mb0ne" <h4mb0ne@hotmail.com> wrote in message news:b0a445bd.0306260551.4fdd87c9@posting.google.com...
> I am looking to put a 6m antenna in a 3rd story attic. It is totaly
> unfinished with no aluminum siding and no metal roof. Am currently
> using a W3FF Buddipole setup in my 30 x 30 living room and when 6 is
> open I have no problem making contacts. Using an FT-817/Tokyo Hy-Power
> HL50-B but never usually use more than 25 watts. Does anyone have any
> real world use on 6 with the antennas listed in subject?
> Thanks in advance,
> Hambone

7406. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:33:41 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfm80f5k1k0ce0@corp.supernews.com>
Source record: 114158

Wow! That is inexpensive. It cost me about 3k just to get riggers
here. Once upon a time before cable TV and satellite TV, it was
possible to find competent local persons. Today, such work appears to
be performed by traveling riggers.
It would be a great service to report here when one finds persons
who will do such work - whether they are willing to travel significant
distances or not.
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EFA3C79.9010402@attbi.com...
> I'm 65 years young. Retired. and 70 pounds overweight.
>
> I pay $135 per hour, one hour minimum guarantee, plus portal to portal
> time for to have professional tower climbing.
>
> Deacon Dave, W1MCE
>

7407. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:35:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB20CD.FF8A0223@uci.edu>
Source record: 114160

W5DXP wrote:
>
> Richard Harrison wrote:
> > Jim Kelley wrote:
> > "Conservation of energy requires only that
> >
> > Pi = Pf + Pr."
> >
> > That`s something I can agree with if the subscripts mean the right
> > things.
>
> Think about what you are saying, Richard. I responded that the
> conservation of energy principle requires that *all* energy be
> conserved. Jim objected to that statement of mine and accused
> me of disagreeing with his physics book.

Nice try at revisionist history. You're disagreeing with the basic
statement of conservation of energy. Those three terms DO account for
all energy.

7408. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:38:57 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306260838.253248e6@posting.google.com>
Source record: 114159

Richard, go back to the thread where you state verbosity was
questioned
Count the number of postings made before phase removal was accepted,
at least as far as that particular subject went.
What should have been accepted pretty much without comment went on an
on
in a similar way that the experts deal with conjugate matches.(The
most prominant subject discussed on radio and in print by newbies and
experts alike
where the hope is it will be picked up by CNN.)
Since nobody on this newsgroup apparently is conversant with complex
style
circuits it would take a thread of several hundred postings to get
thru just one page of a text book while you would keep quoting from
this obscure book about T.V.antennas which very few people have.For
you I would even resort to
computor modelling discussion but I know computors is not a path that
you are interested in. If you want to join the Clerk group be my
guest. I give the opportunity to all to follow the principles of
coupled antennas but if it is needed that I must provide exact proof
with every exact detail together with the mathematical formulae used
together with all the actual figures so that all can build it without
thought the moment that the likes of Lewellen and Clark
give the world hobby their stamp of approval then you must be crazy.
Both of these people have shown that they have no knoweledge of
complex circuitry and how such circuits are replaced by one equivalent
circuit to solve various parameters. Added to this both are prone to
emphasising the bad and ignoring the good plus be as nasty as I. Clark
who is a veteran of note ,the very modern model of a modern major
general,the inventor of the
worlds aviation ' black box', the final arbiter of Worlds time
measurement, the most sort after 'engineering consultant' from
entrepreneurs for advice as to where to invest their money, famed
patent developer whose submission to the PTO was so large and volumous
that the patent office had no space available in draws so it got
subsequently lost e.t.c, e.t.c..He has never stated what is many
docturates or degress are.!!!... Tho I am sure he is a regular guest
at the White House. Richard, if you really want to get some of your
jollies back maybe you should climb that famous tower again at Terra
del Feugo and take with you a good book on electrical mathematics with
respect to complex circuitry so that you can converse on a personal
technical basis. Where you would not have the need to lean on
shoulders or paste comments from books.
Note that Yuri infers that he has the knoweledge to converse

technically on the subject so he may well be the soul mate you are
looking for.
On the other hand, we could have a specific technical discussion for
point and counterpoint as Cecil is having with many posters where
personal animosity can be placed aside. For the record I KNOW IM RIGHT
WITH RESPECT TO MY ANTENNA and when it is accepted by the Patent
office(and proof read by Uri) I expect all will join the bandwaggon
and hope that the archives of this newsgroup will somehow disapear
instead of being constantly resurrected .
I repeat again, respectfull discussion breeds respectfull
discussion,snide or
nasty comments also breeds distastfull discussions. I like the first
method
but have to deal with the hand presented. No hard feelings retained
Regards
Art KB9MZ.....XG

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<8678-3EFA701B-210@storefull-2312.public.lawson.webtv.net>...
> Art Unwin wrote:
> "---posters have offered not one piece of reliable technical basis that
> two radiators coupled together via inductive means does not provide
> superior gains to any other combination in an array."
>
> I am tempted to borrow Richard Clark`s question here: "More than 1 db?"
>
> Why would inductive coupling provide superior gains to any other
> combination in an array?
>
> Proof of such a claim is an onus on Art, the proponent, in this case.
> Prove it and naysayers will fade away. I won`t lecture anyone on how
> antenna gain works. Art`s made it clear that he doesn`t want to hear it.
>
> It is up to Art to prove a coupling loop works best.
>
> Best regards, Richard Harrison, KB5WZI

7409. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:46:35 UTC
From: h4mb0ne@hotmail.com
Message-ID: <b0a445bd.0306260846.4150f106@posting.google.com>
Source record: 114161

I am trying to stay with a omnidirectional, horizontally polarized antenna.
I also am looking at the PAR Electronics OA-50's.
Mark

"Tarmo Tammaru" <t-tammaru@home.com> wrote in message
news:<pfGcnf87RYXFlGajXTWJiA@comcast.com>...
> I used to have a Hygain 3 El beam, sitting on top of a cardboard box in the
> attic of a one story house. Did get out. Rotation was by the armstrong
> method.
>
> Tam/WB2TT
> "h4mb0ne" <h4mb0ne@hotmail.com> wrote in message
> news:b0a445bd.0306260551.4fdd87c9@posting.google.com...
> > I am looking to put a 6m antenna in a 3rd story attic. It is totaly
> > unfinished with no aluminum siding and no metal roof. Am currently
> > using a W3FF Buddipole setup in my 30 x 30 living room and when 6 is
> > open I have no problem making contacts. Using an FT-817/Tokyo Hy-Power
> > HL50-B but never usually use more than 25 watts. Does anyone have any
> > real world use on 6 with the antennas listed in subject?
> > Thanks in advance,
> > Hambone

7410. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 16:54:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB253C.4CBB1F3E@uci.edu>
Source record: 114162

W5DXP wrote:
>
> Richard Harrison wrote:
> > Cecil, W5DXP wrote:
> > "Think about what you are saying."
> >
> > Oh, dang me! I thought saying I agree if the subscripts meant what I
> > thought, covered me. I presumed total energy was contained in the
> > equation. Now I plead guilty to naivete`. Nits are big here. Maybe
> > Cecil`s posting inoculated me!
>
> Jim said: "Conservation of energy requires only that Pi = Pf + Pr."
>
> If he had left out the "only", there would be nothing wrong with
> the statement. Conservation of energy does require that Pi = Pf + Pr.
> But that is not the only thing that the conservation of energy
> requires. As stated on the Melles-Griot web page, the conservation
> of energy requires that zero energy be lost in any wave cancellation
> event.

"Lost" energy is a misnomer. Energy is not "lost" in wave cancellation. Energy is not transferred by waves that cancel. That means that waves V3 and V4 do not represent a transfer of energy from one place to another. Their fields cancel, the Poynting vector is zero. Their energies do not 'subtract' from the energy in the system. As a result they do not need to be "accounted for" or "turned around" as your paper suggests. Energy in the system is transferred by the forward moving waves, V1 and V2. Constructive interference between those two waves accounts for all energy being tranferred from the source to the load. There is no "other" energy in the system.

> For cancellation of glare in thin-films, the "lost" energy in the
> the canceled reflected waves must join the forward wave.

So to speak. It is a metaphorical statement - not a scientific phenomenological description. It is not a mathematically or physically viable mechanicm.

> For cancellation of reflections at a match point in a transmission
> line, the "lost" energy in the canceled reflected waves must join
> the forward wave.

The fact of the matter is that the _energy_ never leaves the forward moving waves. Energy is neither reflected by the discontinuity, nor by the load. That's why is called an impedance match (or, an antireflective coating.)

> Jim is again trying to sneak in his argument that canceled waves never
> possessed any energy to begin with which has been proven to be false
> using the s-parameter equations.

Cecil does not understand the argument. He cannot mathematically define
what "possess" means. And I have never commented one way or the other
on whether waves "possess" energy. I don't know what it means.

> If s11*a1 = -s12*a2 then b1 = 0. But |s11|^2*|a1|^2 does not equal
> zero and |s12|^2*|a2|^2 does not equal zero. Those are the component
> energies associated with s11*a1 and s12*a2 and they cannot be
> destroyed.

When Cecil's argument fails in terms of Vfwd and Vref, he changes to
s-parameters in order to try to "sneak" an argument through.

ac6xg

7411. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:05:48 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306260905.6b6590a0@posting.google.com>
Source record: 114163

Richard, you are really being silly now.
Get yourself a antenna optimiser program such as AO
which is still available.
Put in a design that couples a square loop to a random
dipole length and let the program choose the desired
figures for maximum gain. (I have shown the diagram many times)
Then you come forward as having proof that I am wrong
and you or your computor is correct.
It is that simple!
I know that all have some loyalty to Roys EZNEC program
because that is how he earns his living and he would not
touch a competitors product, a theme that seems to be
followed by others in the group (One self styled expert
refused to look at AO because he said it was old!!!!)

The above is that simple Richard. You could gloat for ever
and place me personally under the black spot light for ever
or I must slink away in shame.
Why do you think that as yet NOT ONE PERSON has shown
he can 'walk the walk' choosing instead to doing just the talk?

Regards
Art

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19573-3EFAF3C9-173@storefull-2317.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "It is easy to sneer but now you see a sample of coupling in a book."
>
> Pages 26-8 and 26-9 of the 19th edition of the "ARRL Antenna Book"
> contain samples of "delta" and "T" matches for a dipole. These matches
> are configured as "loops", joining a dipole.
>
> Why can`t radiation from these "loops" add to dipole gain? Simple. The
> small loop has a null perpendicular to its plane. That`s the dipole`s
> best direction. So, the loop radiates at cross-purpose with the dipole
> for directional gain.
>
> This is a repeat from me, and Art doesn`t want to hear it, but some
> readers may be unaware of the prologue.
>
> Best regards, Richard Harrison, KB5WZI

7412. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:34:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB2E9C.9F79E5B5@uci.edu>
Source record: 114166

W5DXP wrote:
> I have _University Physics_ by Young and Freedman. There's no mention of
> "reflectivity". Richard's equation is for "reflectance", not "reflectivity".

Did I mention Born and Wolf?

> The IEEE gives two definitions for "reflectivity": (1) The reflectance of the
> surface of a material so thick that the reflectance does not change with
> increasing thickness; (2) The reflectance of an opaque, optically smooth,
> clean portion of material" I don't see how "reflectivity" applies at all
> to the present subject matter. I suspect both you and Richard really
> meant "reflectance" instead of "reflectivity".

:-) There are explicit equations for reflectivity. And there are
network equations for the coefficient of reflectivity (not exactly the
same thing) of the network. The network equations take into
consideration all of the reflective coefficients in the network.
Decomposing a network into it's constituent elements, and analysing each
element as if the other components in circuit don't exist can be a
dangerous enterprise if the solutions are not applied correctly, as we
have seen.

> >>No, conservation of energy requires that all energy be conserved.
> >
> > So you disagree with Born and Wolf.

> Does Born and Wolf say certain energy doesn't have to
> be conserved? I probably disagree with your interpretation of Born
> and Wolf. Do they say the energy in a battery, which has nothing to
> do with Pi, Pf, & Pr, doesn't have to be conserved?

When all else fails, build a strawman. Do you disagree that
conservation of energy in optics is defined as Pi = Pf + Pr? You argued
with me about it. That's what is says in Born and Wolf, and it is
univerally accepted as the law of conservation of energy. If you
disagree, then you are disagreeing with Born and Wolf. Do you disagree
that forward energy is the difference between incident and reflected
energy? Do you think something is missing from that equation?

> > Please define tau2, if you wouldn't mind.

> tau2 is the voltage transmission coefficient looking into port 2.
> It is equal to 2*Z01/(Z02+Z01) and is what allows some of the voltage
> reflected from the load to flow through the impedance discontinuity
> toward the source. tau2 is related to s12 like rho1 is related to s11.

Interesting that you know that relation, and yet you ignore the other relevant relations which describe the network transmission and reflection characteristics. Again, might I suggest Born and Wolf as being useful. That's what Melles-Griot (and everyone else) uses as their reference.

> >>The intrinsic power in rho1*Vfwd1 is rho1*Vfwd1^2/Z01 = 25 watts
> >>The intrinsic power in tau2*Vref2 is tau2*Vref2^2/Z01 = 25 watts
> >
> > It's a simple matter to show that 25 watts is not being reflected from
> > the discontinuity. The calculation appears to be invalid.

> You seem to be questioning the validity of the s-parameter equations
> again.

I question your use of the s-parameter equations. If you're showing power being reflected from the discontinuity, then you're getting the wrong answer. A simple measurement verifies this.

> > I need a reference for materialization and dematerialization of photons

> In Quantum Physics, fields and waves don't exist.

So, in other words your wave analysis is insufficient to prove your point. That's exactly what I've been trying to tell you since the beginning.

> They are replaced
> by photons that have a probability of materializing. Section 4.11.1
> in _Optics_, by Hecht touches on the subject.

Without actually working through those probabilities, it's just so much hand waving. Working them through could lend some support to your assertion.

73, AC6XG

7413. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:36:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB2F03.5070602@ieee.org>
Source record: 114165

Jim Kelley wrote:
>>>Jim Kelley wrote:
>>>"Conservation of energy requires only that Pi = Pf + Pr."

> Nice try at revisionist history. You're disagreeing with the basic
> statement of conservation of energy. Those three terms DO account for
> *all* energy.

I'm sorry, Jim, but that equation is wrong for an general
impedance discontinuity in a transmission line where there are
FOUR measurable energy components. You are quoting that
equation OUT OF CONTEXT. It applies to a load, not an impedance
discontinuity. Born and Wolf probably know that, even if you
don't.

source-----Z01-----+-------Z02-------load
Pfwd1--> Pfwd2-->
<--Pref1 <--Pref2

See the four components? Three terms just won't hack it.
The correct conservation of energy equation at an impedance
discontinuity is:

Pfwd1 + Pref2 = Pref1 + Pfwd2

The two energy components flowing into the impedance discontinuity
must equal the two energy components flowing out of the impedance
discontinuity (in a lossless system). There are *TWO* powers incident
upon the impedance discontinuity, not one. There are *TWO* reflected
powers, not one. There are *TWO* forward powers, not one. Your
equation simply is not applicable to an impedance discontinuity.
You show one incident power - there are actually two. You show one
forward power - there are actually two. You show one reflected
power - there are actually two.

You really should try to understand the s-parameter equations.
The *FOUR* energy components are readily apparent in those equations.

b1 = s11*a1 + s12*a2 b2 = s21*a1 + s22*a2

The *FOUR* energy components are: |b1|^2, |a1|^2, |a2|^2, |b2|^2

|a1|^2 + |a2|^2 = |b1|^2 + |b2|^2 where

|a1|^2 = Pfwd1, |a2|^2 = Pref2, |b1|^2 = Pref1, |b2|^2 = Pfwd2
--
73, Cecil, W5DXP

7414. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:36:10 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ebamfvk3qlq4bf6ms70tl9uhm59iamnuou@4ax.com>
Source record: 114164

On Thu, 26 Jun 2003 12:33:41 -0400, "J. McLaughlin"
<JCM@Power-Net.Net> wrote:

>Wow! That is inexpensive. It cost me about 3k just to get riggers
>here. Once upon a time before cable TV and satellite TV, it was
>possible to find competent local persons. Today, such work appears to
>be performed by traveling riggers.
> It would be a great service to report here when one finds persons
>who will do such work - whether they are willing to travel significant
>distances or not.
> 73 Mac N8TT
>

Hi Mac,

You must live in country without trees. Here in the Great Northwest, kids do this before they get into school (at least apple trees). I've had tree pruners scramble four of my 80' Maples like monkeys with chainsaws to lean out the excess branches (Maple grows like weed here, seedlings climb 6' in a summer).

We also have another benefit in being the home to REI (Recreational Equipment Inc) which houses a 4 story climbing wall in their front lobby (test your climbing equipment on the spot). A work mate (RF designer) of mine once chimney climbed the air exhaust stacks over the UW's "Red Square" parking garage. These are a triple column of brick climbing 200' up. This was his warm-up for Yosemite.

Firemen are frequently reliable sources of competent climbers, and my buddy has employed them at a moment's notice (a Ham moment albeit). I don't think he has ever spent more than $100 for a 60' climb. On the other hand, we have a complex 4 band repeater system located on a 120' free-standing tubular tower that scares the willies out of ALL of the pro's. They absolutely refuse to scale it with another person aloft. As near as I can tell, it is difficult to both build a connector out in a 3 foot sway and maintain sphincter control.

Of all the tales I've heard - foot complaints are the most numerous (tired, aching feet).

73's
Richard Clark, KB7QHC

7415. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:49:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB3224.D9A20D7E@uci.edu>
Source record: 114168

W5DXP wrote:
> I'm sorry, Jim, but that equation is wrong for an general
> impedance discontinuity in a transmission line where there are
> *FOUR* measurable energy components. You are quoting that
> equation OUT OF CONTEXT.

Then please quote the correct equation for conservation of energy.
Thanks.

jk

> It applies to a load, not an impedance
> discontinuity.

It is universally applicable to optics and analogous systems.
(Otherwise, it would be called a Law.)

> source-----Z01-----+-------Z02-------load
> Pfwd1--> Pfwd2-->
> <--Pref1 <--Pref2
>
> See the four components?

I see. So it's just like Ohms Three Laws. Please explain how the above
violates Pi = Pf + Pr. Thanks.

jk

7416. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:50:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <52cmfvks2528nkojbausns6o95knvd534c@4ax.com>
Source record: 114167

On 26 Jun 2003 09:46:35 -0700, h4mb0ne@hotmail.com (h4mb0ne) wrote:

>I am trying to stay with a omnidirectional, horizontally polarized antenna.
>I also am looking at the PAR Electronics OA-50's.
>Mark

Hi Mark,

At first glance, your specification for omni-horizontal is a self contradiction. A second glance offers that you simply take the standard dipole and fold it into an open loop. That is, wrap it into a square until the ends "almost" meet (do not connect). Lengthen or trim to resonance.

Another design that gives you full hemispherical coverage is found in the Inverted-F. Consult the bottom of page:
http://www.qsl.net/kb7qhc/
I am not sure about the polarization, however. Use the description and the free version of EZNEC to evaluate. If you are not proficient, build one and try.

73's
Richard Clark, KB7QHC

7417. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 17:58:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB3455.3020708@ieee.org>
Source record: 114069

Jim Kelley wrote:
> Energy is not "lost" in wave cancellation.

That's what I have been trying to tell you for weeks, Jim.
The direction of the energy is reversed in wave cancellation
exactly as explained on the Melles-Griot web page.

> Energy is not transferred by waves that cancel.

You must wake up in a new world every morning. I proved that
statement of yours wrong last week and you got so mad you
withdrew from the newsgroup.

>>For cancellation of glare in thin-films, the "lost" energy in the
>>the canceled reflected waves must join the forward wave.
>
> So to speak. It is a metaphorical statement - not a scientific
> phenomenological description. It is not a mathematically or physically
> viable mechanicm.

The s-parameter equations prove you wrong. There is energy associated
with a1 and a2 even when b1 = 0. You are just beating a dead horse
until you recognize that fact.

> The fact of the matter is that the _energy_ never leaves the forward
> moving waves. Energy is neither reflected by the discontinuity, nor by
> the load.

Well, you just put your foot in it, Jim. Waves are reflected from a
mismatched load. For no energy to be reflected, the reflected waves
have to carry zero energy, an obvious contradiction. I thought we
already agreed that waves cannot exist without any associated energy.
Again you are reduced to arguing that waves are smart enough to
know whether to carry energy or not. Here are two examples:

Source1----------1/2WL 150 ohm feedline--------50 ohm load

Source2----------1/2WL 150 ohm feedline--------50 ohm load

The forward power is 133.33 watts and the reflected power is 33.33 watts
in both examples. The voltages are identical in both examples and the
currents are identical in both examples.

One source is not dissipating any reflected power and one source
is dissipating 25 watts of reflected power. So in one example,
according to you, the reflected wave possesses 25 watts and
in the other example, the reflected wave possesses zero watts.
Which example is which, Jim? How do you tell them apart? Hint:

You cannot tell them apart with the information given. Therefore,
the reflected waves in both examples are associated with the same
amount of energy. When that energy is delivered to a circulator
load resistor, it is dissipated. When that energy is delivered to
a wave cancellation event, it changes its direction of travel as
explained on the Melles-Griot web page. There is simply no other
possibility.

>>Jim is again trying to sneak in his argument that canceled waves never
>>possessed any energy to begin with which has been proven to be false
>>using the s-parameter equations.
>
> Cecil does not understand the argument. He cannot mathematically define
> what "possess" means.

Of course I can and have done so, Jim. The energy possessed by a
wave in a Z0 environment is P = |V*I|. You cannot have a traveling
wave in a transmission line without that amount of associated power.

> When Cecil's argument fails in terms of Vfwd and Vref, he changes to
> s-parameters in order to try to "sneak" an argument through.

I switch to s-parameters so that everyone who understands s-parameters
will understand what I am saying. You really should learn to understand
the s-parameter equations and stop arguing that they are invalid.
--
73, Cecil, W5DXP

7418. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:02:59 UTC
From: dplatt@radagast.org
Message-ID: <vfmdajrgroio31@corp.supernews.com>
Source record: 114070

In article <52cmfvks2528nkojbausns6o95knvd534c@4ax.com>,
Richard Clark <kb7qhc@attbi.com> wrote:

>Hi Mark,
>
>At first glance, your specification for omni-horizontal is a self
>contradiction. A second glance offers that you simply take the
>standard dipole and fold it into an open loop. That is, wrap it into
>a square until the ends "almost" meet (do not connect). Lengthen or
>trim to resonance.
>
>Another design that gives you full hemispherical coverage is found in
>the Inverted-F. Consult the bottom of page:
>http://www.qsl.net/kb7qhc/
>I am not sure about the polarization, however. Use the description
>and the free version of EZNEC to evaluate. If you are not proficient,
>build one and try.

How about a horizontal turnstile antenna, such as the one pictured at
http://www.cebik.com/a10/ant34.html rescaled for 6 meters? They
aren't strictly omnidirectional but come pretty close (within a dB or
so).

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

7419. Re: Need "STEALTH" Antenna Ideas

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:09:00 UTC
From: randy_NO_SPAM_PLEASE_@murs-usa.com
Message-ID: <36117900.0306261009.33f60951@posting.google.com>
Source record: 114072

Pappy127@city.net wrote in message news:<3EF6F2BB.B325B868@city.net>...
> I am moving into a housing complex and that doesn't allow beams /
> verticals / satellite dishes. So I figured I would try a stealthy
> antenna like a wire that would work 40 - 10 meters. The darn contractor
> took down the trees that where on my plot of sand which I figured using
> to hook the wire too.
>
> I figure what they can't see they can't complain about.
>
> Any ideas would be appreciated.

Either don't move into the complex or if you do, obey the CC&R's!

Randy

7420. AB-577 and HF Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:09:02 UTC
From: Bob Schreibmaier <k3ph@ptd.net>
Message-ID: <2FGKa.326$_k2.41784@nnrp1.ptd.net>
Source record: 114071

I would like to contact anyone who has used an AB-577
military tower with an HF beam antenna and a rotator.
I have some questions. 8^)

Thanks in advance.

73,
Bob
K3PH

--
+---+
| Bob Schreibmaier K3PH | E-mail: k3ph@ptd.net |
| Kresgeville, PA 18333 | http://home.ptd.net/~k3ph |
+---+

7421. Re: Replacing rubber ducky antennas on 2m handhelds...?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:13:42 UTC
From: randy_NO_SPAM_PLEASE_@murs-usa.com
Message-ID: <36117900.0306261013.26ab2a2f@posting.google.com>
Source record: 114073

achilles03@hotmail.com (David Harper) wrote in message
news:<fef44ceb.0306222257.5a978a28@posting.google.com>...
> I was hoping to increase the efficiency of my 2m handheld, and I know
> that rubber ducky antennas are a compromise between design and
> ergonomics.
>
> What can I replace the rubber ducky antenna with to get a couple more
> dB out of my transmitter?
>
> Any insight or knowledge is greatly appreciated!
> Thanks!
> Dave

http://www.htantennas.com/2meter.htm

Randy

7422. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:15:12 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030626141512.27374.00002104@mb-m03.aol.com>
Source record: 114074

So they do sell smaller yagis. I am in a condo. I use a discone in the attic for scanner, a dipole in attic for 10m listening, but come October, after the upgrade test, I will be looking to get a wide coverage rig and upgrade to a yagi. Where would I look to find a small 4 element?
My only suggestion for h4mb0ne would be a dipole. Sorry about that. Limited experience.

G. Doughty
KI4BBL
remove nojunk to email

7423. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:16:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB3873.7DC94234@uci.edu>
Source record: 114076

W5DXP wrote:
> The two energy components flowing into the impedance discontinuity
> must equal the two energy components flowing out of the impedance
> discontinuity (in a lossless system).

Exactly right, since in the matched case P3 transfers no energy AWAY from the impedance discontinuity, and P4 transfers none toward it. From an energy standpoint, all of the energy entering the discontinuity from the left, exits the discontinuity to the right.

The problem is, your analysis invents energy moving to the left and then can't explain how it turns around without relying on allagorical prose from a web page. The simple, and correct explanation is that energy isn't reflected in an impedance matched or an antireflective system. It's the whole point of creating such a system in the first place!

The energy analysis does however overlay well with the wave analysis when constructive and destructive interference are employed properly - as I (and perhaps Steve Best) have shown. I haven't seen Dr. Best's QEX article to know for sure.

73, ac6xg

7424. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:16:52 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030626141652.27374.00002105@mb-m03.aol.com>
Source record: 114075

Thanks. Went to a farm store and picked up some insulators. How I found a farm store in the city is beyond me though!

G Doughty
KI4BBL
remove nojunk to email

7425. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:21:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB39BF.3000000@ieee.org>
Source record: 114077

Jim Kelley wrote:
> :-) There are explicit equations for reflectivity.

Not in any of my dozen or so references. Would you care to
share an equation for "reflectivity"? Richard's equation was
wrong according to _Optics_, by Hecht.

> When all else fails, build a strawman.

No, just point out the obvious. Why do you leave some of the
energy components out of your energy equation?

> Do you disagree that
> conservation of energy in optics is defined as Pi = Pf + Pr?

I disagree that your three term equation is applicable to
a four-term condition at an impedance discontinuity in a
transmission line. You cannot apply that equation to bullet
ballistics and you cannot apply that equation to an impedance
discontinuity. At an impedance discontinuity, there are *TWO*
incident waves. Which one do you use? Which one do you leave
out? There are *TWO* forward waves. Which one do you use? Which
one do you leave out? There are *TWO* reflected waves. Which one
do you use? Which one do you leave out? Why would you choose to
leave any terms out of a conservation of energy equation?

I defined the square of the s-parameters for you and the square of
the 'a' and 'b' signals. If you don't accept those definitions straight
out of the HP Ap Note 95-1, I don't think I can do anything else for
you.

> I question your use of the s-parameter equations. If you're showing
> power being reflected from the discontinuity, then you're getting the
> wrong answer. A simple measurement verifies this.

|s11*a1|^2 is *defined* in HP Ap Note 95-1 as the power reflected
from the impedance discontinuity. I don't know what else to say.
If you don't accept HP's Ap Note 95-1, our discussion is over.

> So, in other words your wave analysis is insufficient to prove your
> point. That's exactly what I've been trying to tell you since the
> beginning.

Well, you are wrong. Wave analysis has proved my point. I just thought
a statement from quantum physics would help you to better understand.
It appears nothing will help. Have you considered a pre-frontal lobe
transplant? :-)

--
73, Cecil, W5DXP

7426. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:39:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB3DC4.9FBDC075@uci.edu>
Source record: 114079

W5DXP wrote:
> > Energy is not transferred by waves that cancel.
>
> You must wake up in a new world every morning. I proved that
> statement of yours wrong last week and you got so mad you
> withdrew from the newsgroup.

The statement remains correct, independent of what happens in a
newsgroup.

> >>For cancellation of glare in thin-films, the "lost" energy in the
> >>the canceled reflected waves must join the forward wave.

> > So to speak. It is a metaphorical statement - not a scientific
> > phenomenological description. It is not a mathematically or physically
> > viable mechanicm.

> The s-parameter equations prove you wrong.

Bad math proves only the incompetance of the "mathematician". Why not
take up your argument up with the wattemeter. No energy or power is
reflected from the match point, as measured by the wattmeter - in direct
contradiction to your s-parameter 'calculations'.

73 ac6xg

7427. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:43:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB3EE2.92A15CFD@uci.edu>
Source record: 114080

W5DXP wrote:
>
> Jim Kelley wrote:
> > :-) There are explicit equations for reflectivity.
>
> Not in any of my dozen or so references. Would you care to
> share an equation for "reflectivity"?

Would it make a difference? Would you suddenly take a realistic outlook on physics? Would you become a civil human being?

> > So, in other words your wave analysis is insufficient to prove your
> > point. That's exactly what I've been trying to tell you since the
> > beginning.
>
> Well, you are wrong. Wave analysis has proved my point.

No it didn't, and I showed you exactly why. You screwed up the irradiance equations!

> I just thought
> a statement from quantum physics would help you to better understand.

I understand that unless you provide some numbers, it's just more hand waving.

> It appears nothing will help. Have you considered a pre-frontal lobe
> transplant? :-)

Have you considered a personality transplant? :-)

7428. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:46:02 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <hmcmfvgrkknqm61uk9otor2p3p0m2aceak@4ax.com>
Source record: 114078

On 26 Jun 2003 09:38:57 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>He has never stated what is many
>docturates or degress are

No Doctorates at all, Bloke. My degrees are in English (the language
you cannot spell, the words you cannot understand, the sentences you
cannot write, the authors you hate) and Cinema (I've probably seen
more English film than you and Reg). I have never read two more rabid
anglo-phobes in my life - you guys act like you personally lost the
Boer War.

>.!!!... Tho I am sure he is a regular guest
>at the White House.

How bourgeois.

* * * * * * * * *

Art, you can tempt providence.

OR

You could simply answer a technical question:

Does it amount to more than 1dB?

88's,
Richard Clark, KB7QHC

7429. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:52:22 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u1gmfvod26qca6752gm6s5m0dqlpvd399m@4ax.com>
Source record: 114081

On Thu, 26 Jun 2003 18:02:59 -0000, dplatt@radagast.org (Dave Platt)
wrote:

>In article <52cmfvks2528nkojbausns6o95knvd534c@4ax.com>,
>Richard Clark <kb7qhc@attbi.com> wrote:
>
>>Hi Mark,
>>
>>At first glance, your specification for omni-horizontal is a self
>>contradiction. A second glance offers that you simply take the
>>standard dipole and fold it into an open loop. That is, wrap it into
>>a square until the ends "almost" meet (do not connect). Lengthen or
>>trim to resonance.
>>
>>Another design that gives you full hemispherical coverage is found in
>>the Inverted-F. Consult the bottom of page:
>>http://www.qsl.net/kb7qhc/
>>I am not sure about the polarization, however. Use the description
>>and the free version of EZNEC to evaluate. If you are not proficient,
>>build one and try.
>
>How about a horizontal turnstile antenna, such as the one pictured at
>http://www.cebik.com/a10/ant34.html rescaled for 6 meters? They
>aren't strictly omnidirectional but come pretty close (within a dB or
>so).

Hi Dave,

I've lost the head of this thread, so I was responding to what I
thought were the confines of an attic installation where full size
dipole elements might bang into things. Otherwise, it looks to be a
good choice.

73's
Richard Clark, KB7QHC

7430. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:54:11 UTC
From: wp20032@aol.com
Message-ID: <20030626145411.03096.00001645@mb-m14.aol.com>
Source record: 114082

>Well Wayne, you have hit a resonant chord! Since I have performed aging
>tests on S-band power splitters, that resulted in a redesign, I wonder
>if we know each other?
>
>Deacon Dave, W1MCE
>
Yes, we do Dave. I will respond offline.
--Wayne

7431. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 18:56:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t7gmfv8mgqbivq5ummau2i4418i3vh2o98@4ax.com>
Source record: 114083

On 26 Jun 2003 18:16:52 GMT, nightowls627@aol.comnojunk (G. Doughty)
wrote:

>Thanks. Went to a farm store and picked up some insulators. How I found a
>farm store in the city is beyond me though!
>
>G Doughty
>KI4BBL
>remove nojunk to email

Groucho Marx:
On safari I once shot an elephant in my pajamas.
How he got into my pajamas, I will never know.

7432. Re: an irrelevant monkey wrench

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 19:22:35 UTC
From: wp20032@aol.com
Message-ID: <20030626152235.06490.00001628@mb-m17.aol.com>
Source record: 114084

>>Well Wayne, you have hit a resonant chord! Since I have performed aging
>>tests on S-band power splitters, that resulted in a redesign, I wonder
>>if we know each other?
>>
>>Deacon Dave, W1MCE
>>
>Yes, we do Dave. I will respond offline.
>--Wayne
>
Dave--
I sent you an email which was returned with an address error message. Yes, I was tweaking you about the power splitter project :)). Variable seconds would have been useful for the aging tests! I worked on the "customer" side of the fence from here in San Bernardino.

73
--Wayne
W5GIE

7433. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 19:24:30 UTC
From: dplatt@radagast.org
Message-ID: <vfmi3e41u79ve9@corp.supernews.com>
Source record: 114085

In article <u1gmfvod26qca6752gm6s5m0dqlpvd399m@4ax.com>,
Richard Clark <kb7qhc@attbi.com> wrote:

>Hi Dave,
>
>I've lost the head of this thread, so I was responding to what I
>thought were the confines of an attic installation where full size
>dipole elements might bang into things. Otherwise, it looks to be a
>good choice.

Ah - I didn't catch the possibility of a length limitation. That could be an issue, I suppose. However, for 6-meter operation that's only 9 feet (total) per dipole - I'd think it ought to be possible to put a crossed pair of 9-foot dipoles into most attics.

If the space is even more confined than this, then perhaps a pair of shortened dipoles (using loading coils at the feedpoint or partway out, and/or wire capacitance hats at the ends) would do. I expect you could fit a very effective 6-meter shortened turnstile into a 5' square without much trouble at all.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

7434. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 19:32:47 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfmig95q1g1917@corp.supernews.com>
Source record: 114086

> You must live in country without trees.

Dear Richard: That is just about true. Within a 1km radius there is hardly 1 meter of relief - leaving out drainage ditches. A small woods is about a third mile away, but it has no tall trees. Makes for predictable patterns. It also necessitates increasing the required wind load. The typical "roughness" of most places dramatically reduces the wind loads for towers up to around 25 meters. (I am excluding the case where spacing of major structures can actually concentrate loads.)

The towers are self supporting, which, again, helps with the cleanliness of patterns. However, they sure do not sway anything like 3 feet! Ouch! Tall buildings with a smaller amount of sway can cause people to get sick. Huge counterweights are used to compensate.

There are few disadvantages, and many advantages, to living in Michigan. A lack of home grown antenna workers seems to be one of the disadvantages.

Most interesting to learn how things are in your area

73 Mac N8TT
--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net

"Richard Clark" <kb7qhc@attbi.com> wrote in message
>
> Hi Mac,
>
> You must live in country without trees. Here in the Great Northwest,
> kids do this before they get into school (at least apple trees). I've
> had tree pruners scramble four of my 80' Maples like monkeys with
> chainsaws to lean out the excess branches (Maple grows like weed here,
> seedlings climb 6' in a summer).
>
> We also have another benefit in being the home to REI (Recreational
> Equipment Inc) which houses a 4 story climbing wall in their front
> lobby (test your climbing equipment on the spot). A work mate (RF
> designer) of mine once chimney climbed the air exhaust stacks over the
> UW's "Red Square" parking garage. These are a triple column of brick
> climbing 200' up. This was his warm-up for Yosemite.
>
> Firemen are frequently reliable sources of competent climbers, and my
> buddy has employed them at a moment's notice (a Ham moment albeit). I
> don't think he has ever spent more than $100 for a 60' climb. On the

> other hand, we have a complex 4 band repeater system located on a 120'
> free-standing tubular tower that scares the willies out of ALL of the
> pro's. They absolutely refuse to scale it with another person aloft.
> As near as I can tell, it is difficult to both build a connector out
> in a 3 foot sway and maintain sphincter control.
>
> Of all the tales I've heard - foot complaints are the most numerous
> (tired, aching feet).
>
> 73's
> Richard Clark, KB7QHC

7435. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 20:04:47 UTC
From: richardharrison@webtv.net
Message-ID: <19426-3EFB51DF-70@storefull-2316.public.lawson.webtv.net>
Source record: 114088

Art, KB9MZ wrote:
"Count the number of postings made before phase removal was accepted---."

Reading between the lines, I infer Art means removal of reactance to increase antenna current. I agree this deserves acceptance as it is easy and it works.

Conjugate matching is, the experts agree, the way to get maximum power transfer. Maybe the argument is over who needs it.

Complex circuits more accurately represent the world around us, but a qualitative understanding of antennas can be had without the math (enter Reg on cue).

It is too bad Arnold B. Bailey`s book is not readily available, I think. Richard Clark had a copy and may have a different opinion. Bailey`s book is about antenna theory. The title, "TV and Other Receiving Antennas" was, I think, meant to sell it during a period when the growth of TV was exploding. The name was sexy then.

Equivalent circuits facilitate grasp of circuit action. Clark and Lewallen are surely familiar with all manner of circuits.

Coupling of circuits is described in many texts. What`s wrong with direct coupling antennas? Other means are convenient but unlikely to couple any tighter.

If you can get as much antenna gain using one feedpoint as using many, why use more? Parasitic antennas are popular.

Coupled circuits are one way to extend bandwidth. Obviously they can be tuned off-resonance slightly (stagger-tuned). Stubs can parallel an antenna feedpoint and these can have a reactive shift which compliments the reactive shift in the antenna, and this widens the antenna bandpass. I pointed to King, Mimno, and Wing in an earlier posting. They are more prominent than Bailey, but they`re no more useful to me than is Bailey.

Art would like to send me back to Tierra del Fuego. Winter just kicked off there now. It`s cold and it`s dark. I don`t want to go. Surely I`m offensive to Art. I did it without really trying.

Art writes: "I know I am right with respect to my antenna."

Start by telling us how it beats the antennas and matching systems pictured on pages 26-8 and 26-9 of the ARRL Antenna Book.

Best regards, Richard Harrison, KB5WZI

7436. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 20:12:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB53B0.9060301@ieee.org>
Source record: 114087

Jim Kelley wrote:
> W5DXP wrote:
>>The two energy components flowing into the impedance discontinuity
>>must equal the two energy components flowing out of the impedance
>>discontinuity (in a lossless system).
>
> Exactly right, since in the matched case P3 transfers no energy AWAY
> from the impedance discontinuity, and P4 transfers none toward it. From
> an energy standpoint, all of the energy entering the discontinuity from
> the left, exits the discontinuity to the right.

Yes, partly because of the energy reflection associated with the two
rearward-traveling canceled waves. The energy in those waves cannot
cancel so it can do nothing except change direction.

> The problem is, your analysis invents energy moving to the left and then
> can't explain how it turns around without relying on allagorical prose
> from a web page.

The point is that if b1=0, then s11*a1 + s12*a2 = 0 but |s11*a1|^2 is
the source power reflected from the impedance discontinuity. |s12*a2|^2
is the power reflected from the load that is not re-reflected. We have
already been through the s-parameter math that proves you wrong.

Once again, s11*a1 is reflected from the impedance discontinuity. For
b1 to be zero, something has to cancel that wave. The wave reflected
from the mismatched load cancels that wave. The only way for b1 to
be zero is for s11*a1 + s12*a2 to equal zero. s11 does NOT equal
zero. a1 does NOT equal zero. s12 does NOT equal zero. a2 does NOT
equal zero.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7437. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 20:16:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB54A4.9080400@ieee.org>
Source record: 114089

Jim Kelley wrote:
> W5DXP wrote:
>>The s-parameter equations prove you wrong.
>
> Bad math proves only the incompetance of the "mathematician". Why not
> take up your argument up with the wattemeter. No energy or power is
> reflected from the match point, as measured by the wattmeter - in direct
> contradiction to your s-parameter 'calculations'.

We've been through all this before, Jim. The wattmeter reads zero
because b1 = s11*a1 + s12*a2 = 0. |b1|^2 is the reflected power
so the wattmeter reads zero. s11 is NOT zero. a1 is NOT zero.
s12 is NOT zero. a2 is NOT zero. |s11*a1|^2 is the power in one
of the rearward-traveling reflected waves and it is NOT zero.
|s12*a2|^2 is the power in the other rearward-traveling reflected
wave and it is NOT zero. Energy cannot be destroyed.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7438. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 20:21:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB55B8.10202@ieee.org>
Source record: 114090

Jim Kelley wrote:
>
> W5DXP wrote:
>>Not in any of my dozen or so references. Would you care to
>>share an equation for "reflectivity"?
>
> Would it make a difference? Would you suddenly take a realistic outlook
> on physics? Would you become a civil human being?

When are you going to become a civil human being and share your
equation with us? Why are you hiding it from us? What is your
agenda in withholding information?

> No it didn't, and I showed you exactly why. You screwed up the
> irradiance equations!

Jim, it was you who confused interference with irradiance. Of course,
you would want us to forget that blunder. I don't remember me screwing
up the irradiance equations and neither do you.

> Have you considered a personality transplant? :-)

Six personalities are already hard enough to manage.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7439. QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 21:07:04 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8bnmfvg2d1mhbcuvc9pligeouq2cbhcofc@4ax.com>
Source record: 114091
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Act before July 1st to preserve your privacy.

Hi All,

Subject: Your Credit: Personal Information goes public

Starting July 1st, 2003, the four major credit bureaus in the US
(Equifax,etc) will be allowed to release credit info, mailing
addresses, phone numbers, etc., to ANYONE who requests it. If you
do not want to be included in this release of your personal
information,

you can call 1-888-567-8688.

Once the message starts
you will want option #2 - wait for the long silence to offer it!!!!!
(even though option #1 refers to this email, push #2)

Be sure to listen closely, the first option is only for a two-year
period.

Make sure you wait until they prompt for the option which opts you out
FOREVER.

PRACTICE this call at least once to hear the whole ball of wax
through. The message menuing is designed to obscure your options and
to muddy the water in their favor. It is heavily designed so that you
take the first less protective path (note, they approach this with
your ignorance giving them everything). Nothing will happen until you
are prompted to speak your name, and punch in your street address to
put the gears into place. PRACTICE this call to that point until you
are satisfied.

You should receive their paperwork in the mail confirming the "opting
out" in less than one week after making the call.

Then write your congresspeople and thank them for entitling these
agencies to stream your private information to ANYONE (not just
creditors).

73's
Richard Clark, KB7QHC

7440. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 21:31:42 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <01pmfvobnimfusoulnsqgj6qc966espmve@4ax.com>
Source record: 114092

On Thu, 26 Jun 2003 15:04:47 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>
>It is too bad Arnold B. Bailey`s book is not readily available, I think.
>Richard Clark had a copy and may have a different opinion. Bailey`s book
>is about antenna theory. The title, "TV and Other Receiving Antennas"
>was, I think, meant to sell it during a period when the growth of TV was
>exploding. The name was sexy then.

Hi Richard,

The title is actually not too hard to obtain. Consulted one vendor:
http://www.bookfinder.com
to find prices varying around $20-$30

There are many other book vendors that fill the gaps that Amazon
simply can't match. Write or Post me here for more links.

I suggested it to Roy a couple weeks back for its 60 page treatment of
propagation and local characteristics (how trees affect RF).

Even with the TV slant, it has considerable material down into the AM
bands and between. Bailey is easily one of the most readable authors
covering the tough stuff of design and the nuances of theory. For
this alone it deserves Classic status in the field of technical
writing (If you've waded through Cecileo's drek, why not step up to
the fresh breeze of real explanations for real techs?)

73's
Richard Clark, KB7QHC

7441. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 21:47:29 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB69F1.B1496E32@uci.edu>
Source record: 114093

W5DXP wrote:
> |b1|^2 is the reflected power
> so the wattmeter reads zero.

And in fact, no power or energy is reflected from the discontinuity. Your V3^2/Z0 calculation indicates 25 Joules per second is reflected from it. You claim that 25 watts is reflected from it. That claim is obviously in error. Your claim is that that 25 watts turns around and heads toward the load, but you provide no physical mechanism for such a reversal. That's because none exists. (V3 - V4)^2/Z0 is what the transmission line sees; it doesn't see V3^2/Z0 and V4^2/Z0. Squaring first conveniently disquises the fact that the two waves are out of phase with one another. The transmission line isn't fooled in the way you're hoping we will be.

Now we find the name "Quantum Physics" has been dropped. Feynman talks about the connection between quantum physics and the reflection and transmission of light in his book, QED. But the probabilities still go as the percentage of reflected and transmitted light. Only with regard to tunneling do we see the (small) probabilities Cecil has refered to. And even still, no mechanism for such an occurance (reversal in direction other than by reflection) is provided. As bizarre as quantum electrodynamics seems, a mechanism is still required in order for there to exist a significant probability of occurance. Your claim would be that interference provides that mechanism. Maybe so. It could provide an elegant solution. I await the proof.

> s11 is NOT zero. a1 is NOT zero.

That's true. I had that wrong. The reflective coefficient of the network and load is zero. I will supply you with the equations from Born and Wolf if you ask nicely enough. ;-) Interestingly, just as with irradiance equations, phase is not ignored in these equations. Ignoring relative phase seems a prerequisite for success among some of your key calculations.

> s12 is NOT zero. a2 is NOT zero. |s11*a1|^2 is the power in one
> of the rearward-traveling reflected waves and it is NOT zero.

Since there is no rearward traveling energy in a matched system, your figures are somewhat less than useful. Let's see; how would Cecil say this: "You have been seduced by the notion that power actually flows in a transmission line." Power within a transmission line is as virtual as any other virtual commodity in transmission line theory. This discussion is particularly illustrative of the kinds of analytical problems one can encounter when that fact is overlooked. One is forced

to invent epicycles and invoke poetic license in order to prove an invalid theory.

> Energy cannot be destroyed.

And so we see how one can effectively validate any remarks by concluding them with a truism. And by the same token, one can invalid someone else's remarks by simply implying they contradict the truism. Both techinques and others, ably employed by my correspondent.

73, Jim AC6XG

7442. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 22:40:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB7645.7BE801B9@uci.edu>
Source record: 114094

W5DXP wrote:
> The energy in those waves cannot
> cancel so it can do nothing except change direction.

And yet, there is no way FOR it to change direction. Fact is, the energy you refer to never goes in the reverse direction to begin with.

> We have
> already been through the s-parameter math that proves you wrong.

The s-parameters prove what is wrong? What exactly are you refering to? They certainly don't show any energy being reflected. You're the one who says that energy is reflected in a matched system. The s-parameters show the same thing your other analysis shows, and that analysis doesn't prove anything I've said to be wrong. I used that same analysis to show you where you made your mistake(s).

> Once again, s11*a1 is reflected from the impedance discontinuity. For
> b1 to be zero, something has to cancel that wave. The wave reflected
> from the mismatched load cancels that wave.

The waves cancel in the reverse direction at every instant after the transient period. No energy goes in the reflected direction after the transient period. We've been through this before.

73, AC6XG

7443. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 22:47:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB781A.7000208@ieee.org>
Source record: 114095

Jim Kelley wrote:
> W5DXP wrote:

>>|b1|^2 is the reflected power so the wattmeter reads zero.
>
> And in fact, no power or energy is reflected from the discontinuity.

You are wrong. In fact, s11*a1 is reflected from the discontinuity
and the associated power is |s11*a1|^2 according to HP AN 95-1.
Sorry, you lose again.

> Your V3^2/Z0 calculation indicates 25 Joules per second is reflected
> from it. You claim that 25 watts is reflected from it. That claim is
> obviously in error.

Nope, the claim is obviously correct. |s11*a1|^2 = 25 watts.
Sorry, you lose again.

> Your claim is that that 25 watts turns around and
> heads toward the load, but you provide no physical mechanism for such a
> reversal.

Huhhhhhhh???????? 'a11' is the physical mechanism. What is it about
reflection coefficients that you do not understand?

> As bizarre as quantum
> electrodynamics seems, a mechanism is still required in order for there
> to exist a significant probability of occurance. Your claim would be
> that interference provides that mechanism. Maybe so. It could provide
> an elegant solution. I await the proof.

Wave cancellation is a special form of wave interference. It would result
in a probability of zero of photons materializing in the rearward direction.
Thus they materialize in the forward direction. That is obviously what
happens since reflected power equals zero. That's all the proof I need.

> The reflective coefficient of the > network and load is zero.

You are just digging your hole deeper and deeper. 'a11' is the reflection
coefficient and it is NOT zero. It is (Z02-Z01)/(Z02+Z01) which is
definitely NOT zero. In the earlier example a11 = 0.5. Sorry, you lose
again.

> Since there is no rearward traveling energy in a matched system, your
> figures are somewhat less than useful.

There is no rearward-traveling energy because the two rearward-traveling
waves engage in wave cancellation. Their energy components cannot continue

traveling rearward. The energy components in those two canceled waves cannot
be destroyed and there is only one other direction available. DUUUUHHHHHH!!!!
Jim, it ain't rocket science.
--
73, Cecil http://www.qsl.net/w5dxp

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7444. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 22:53:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB7953.467098FA@uci.edu>
Source record: 114097

W5DXP wrote:
> I don't remember me screwing
> up the irradiance equations and neither do you.

:-) Maybe your other personality forgot to tell this personality about
the invalid substitution and arbitrarily dropping the phase term.

> Six personalities are already hard enough to manage.

Maybe somebody could take 'em in trade for one good one. :-)

73, AC6XG

7445. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 22:57:41 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pbumfv8org8f0ig0g084kunq8e5i997ilh@4ax.com>
Source record: 114096

On Thu, 26 Jun 2003 17:47:54 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>photons materializing

Cecileo,

Is this another one of your non-reproachable subjects that you will
later dismiss as being irrelevant if I were to object?

73's
Richard Clark, KB7QHC

7446. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:00:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB7B14.6060303@ieee.org>
Source record: 114099

Jim Kelley wrote:
>
> W5DXP wrote:
>>The energy in those waves cannot
>>cancel so it can do nothing except change direction.
>
> And yet, there is no way FOR it to change direction.

And yet, it does change direction, so your statement is false. We know for certain that energy (a2) is reflected from the mismatched load and some of it (a12*a2) makes it through the impedance discontinuity flowing rearward toward the source. There's only one thing that can stop that energy from reaching the source and that's a wave also traveling rearward with the same amplitude and opposite phase. That wave is a11*a1, the wave reflected from the source wave, a1, encountering the physical impedance discontinuity.

> The s-parameters prove what is wrong? What exactly are you refering
> to? They certainly don't show any energy being reflected.

Of course they do, Jim. |s11*a1|^2 is reflected power. You really need to read HP's AN 95-1 and try to understand it.

> The waves cancel in the reverse direction at every instant after the
> transient period.

Yes, they do. Where does the energy in those waves go? Waves cannot exist without energy. Canceled waves give up their energy components in the opposite direction, the only other direction available.

> No energy goes in the reflected direction after the
> transient period. We've been through this before.

Yes, we have. If no energy goes in the reflected direction after the transient period, then all the energy from the rearward wave cancellation event must reverse direction and flow in the forward direction which is what I have been saying for weeks and is explained on the Melles-Griot web page.

Jim, one wonders why you avoid the tough questions that I ask you like they were the plague? What are you afraid of?
--
73, Cecil http://www.qsl.net/w5dxp

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7447. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:02:23 UTC
From: Phil Stripling <phil_stripling@cieux.zzn.com>
Message-ID: <3qr85gtpc0.fsf@shell4.tdl.com>
Source record: 114098
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Richard wrote, in error:
> Act before July 1st to preserve your privacy.
>SNIP<

Hi, Richard. Please make snopes.com a regular part of your reading day. Here's a particular URL:
http://www.snopes.com/inboxer/pending/credit.htm
with a particular quote:
Claim: The four major U.S. credit bureaus will be allowed to share your private information with anyone who requests it as of 1 July 2003 unless you specifically request them not to.

Status: False.

Example: [Collected on the Internet, 2001]

Just wanted to let everyone know who hasn't already heard, the four major credit bureaus in the US. will be allowed, starting July 1, to release your credit info, mailing addresses, phone numbers etc. to anyone who requests it. If you would like to 'opt out' of this release of info, you can call 1-888-567-8688. It only takes a couple of minutes to do, and you can take care of anyone else in the household while making only one call, you'll just need to know their social security number. Be sure to listen closely, the first opt out is only for two years, make sure you wait until they prompt you to press '3' on your keypad to opt out for good.

Origins:
...
However, it is not true that consumers must call this number before 1 July 2003, nor is it true that recent legislation allows credit bureaus to share private information with "anyone who requests it." This misinformation has been circulating since 2001, and the same message keeps getting get dusted off and sent around every year with an updated deadline. (In fact, if you call the number listed above, the first option you're presented is to listen to a message explaining why the e-mail quoted above is false.)

The entire page explains what the problem is and how the hoax keeps getting sent around. By the way, have you sent your business card to that poor boy in England who wants to have the biggest collection before he dies of a brain tumor? :-)
--
Philip Stripling | email to the replyto address is presumed
Legal Assistance on the Web | spam and read later. email to philip@

http://www.PhilipStripling.com/ | civex.com is read daily.

7448. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:03:36 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB7BC8.6050101@ieee.org>
Source record: 114100

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>
>>photons materializing

> Is this another one of your non-reproachable subjects that you will
> later dismiss as being irrelevant if I were to object?

Have you never heard of photons materializing, Richard? How would
an antenna ever radiate if the photons never materialized?
--
73, Cecil http://www.qsl.net/w5dxp

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7449. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:04:51 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB7C13.3050306@ieee.org>
Source record: 114101

Jim Kelley wrote:
> :-) Maybe your other personality forgot to tell this personality about
> the invalid substitution and arbitrarily dropping the phase term.

I don't remember doing any of that, Jim. Would an iota of proof be
too much to ask?
--
73, Cecil http://www.qsl.net/w5dxp

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7450. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:21:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB8013.4683B657@uci.edu>
Source record: 114102

W5DXP wrote:
>
> Jim Kelley wrote:
> > :-) Maybe your other personality forgot to tell this personality about
> > the invalid substitution and arbitrarily dropping the phase term.
>
> I don't remember doing any of that, Jim. Would an iota of proof be
> too much to ask?

Do the words "Cecil's Math Error" ring a bell?

73, Jim AC6XG

7451. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-26 23:33:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3EFB82D8.2B5D3E6E@uci.edu>
Source record: 114103

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>The energy in those waves cannot
> >>cancel so it can do nothing except change direction.
> >
> > And yet, there is no way FOR it to change direction.
>
> And yet, it does change direction, so your statement is false.

Or, the more correct view, energy wasn't conducted in that direction to
begin with. All evidence indicates that is the case.

We
> know for certain that energy (a2) is reflected from the mismatched load
> and some of it (a12*a2) makes it through the impedance discontinuity
> flowing rearward toward the source. There's only one thing that can stop
> that energy from reaching the source and that's a wave also traveling
> rearward with the same amplitude and opposite phase. That wave is
> a11*a1, the wave reflected from the source wave, a1, encountering the
> physical impedance discontinuity.
>
> > The s-parameters prove what is wrong? What exactly are you refering
> > to? They certainly don't show any energy being reflected.
>
> Of course they do, Jim. |s11*a1|^2 is reflected power. You really
> need to read HP's AN 95-1 and try to understand it.
>
> > The waves cancel in the reverse direction at every instant after the
> > transient period.

> Yes, they do. Where does the energy in those waves go?

What waves? The ones that cancelled? They never went anywhere, Cecil.
That's the point you can't seem to grasp. They never "contained"
energy, because they weren't allowed to form or propagate, or anything.
They're just a computation of what would have happened if one or the
other reflections was NOT there.

> If no energy goes in the reflected direction after the
> transient period, then all the energy from the rearward wave cancellation
> event must reverse direction and flow in the forward direction which is
> what I have been saying for weeks and is explained on the Melles-Griot
> web page.

Sorry, OM. You're just not making any sense. I can't parse nonsense.
Cancellation means no waves. No waves means no energy. All of the
energy from the source is delivered to the load.

> Jim, one wonders why you avoid the tough questions that I ask you like
> they were the plague?

One wonders why you haven't stopped beating your neice?

ac6xg

7452. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 00:02:33 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <k62nfvk4a6dk7okrc8mhqnthrgt74hn80v@4ax.com>
Source record: 114104

On Wed, 25 Jun 2003 20:48:44 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Mac, N8TT wrote:
>"---I subscribe that you used fewer words."
>
>I used less and shorter words. Less has four letters. Fewer has five.
>
>Best regards, Richard Harrison, KB5WZI

Of course, fewer is syntactically correct. If the items in question
csn be counted, use "fewer". If the item is a single thing in bulk,
use "less". I'll give an example. I have fewer radios that most
hams. There is less sand in that pile than in the one over there.

Russ, whose XYL is the grammar Nazi

7453. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 00:19:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB8DA1.1070503@ieee.org>
Source record: 114105

Jim Kelley wrote:
>
> W5DXP wrote:
>>I don't remember doing any of that, Jim. Would an iota of proof be
>>too much to ask?
>
> Do the words "Cecil's Math Error" ring a bell?

Yep, but all your "proofs" were baffllegab about phantom waves that
exist without energy.

Let's distill our disagreement down to that one subject. I say
an EM wave cannot exist without energy. You say it can. So please
present an example of an EM wave without any associated energy.
--
73, Cecil http://www.qsl.net/w5dxp

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7454. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 00:27:24 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFB8F6C.3090707@ieee.org>
Source record: 114106

Jim Kelley wrote:
> Or, the more correct view, energy wasn't conducted in that direction to
> begin with.

Admitting that you have been seduced by the steady-state model doesn't help your argument, Jim. Please prove that standing waves are possible without energy-driven reflected waves. You are just digging your hole deeper and deeper.

It's a very simple yes/no question. Can an EM wave exist without energy?

>>Where does the energy in those waves go?
>
> What waves? The ones that cancelled?

Yes!!!! The waves that existed, were driven by intrinsic energy, and disappeared during wave cancellation. What happened to the intrinsic energy in those waves?

> Cancellation means no waves.

You are obviously confusing cause and effect. Cancellation means waves that cancel. You cannot have wave cancellation without the existence of waves and waves cannot exist without energy. What happens to the energy in the canceled waves. Please demonstrate your supernatural magic energy disappearing act?
--
73, Cecil, W5DXP

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7455. Re: MA5B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:00:09 UTC
From: Gilbert Baron <gbaron@myrealbox.com>
Message-ID: <q89nfv80f0bm1247f8jd3mr3vgopvvvub7@4ax.com>
Source record: 114107

I am tempted top buy this antenna. I am worried that it will not
perform 4 feet above my roof and that it cannot really take 1.2 Kw. I
have the AL800H. Will that blow it?
It is rated 800 Watts PEP.

I am also leery of Cushcraft. I was ripped off by the R7000 vertical
which in my opinion is a piece of junk.

On Wed, 14 May 2003 22:03:09 GMT, "Robert A Meyer"
<w8dq@earthlink.net> wrote:

>I am getting ready to install MA5B,I have it on ground doing final
>measurements and testing.I would like to hear from anyone who is using this
>beam.
>
> Bob Meyer W8DQ
> Lawrenceburg,IN
>

7456. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:22:53 UTC
From: richardharrison@webtv.net
Message-ID: <11356-3EFBAA7D-330@storefull-2318.public.lawson.webtv.net>
Source record: 114112

Russ wrote:
"If the items in question can be counted, use fewer."

Thank you for the advice.

Russ, and Mac, N8TT, both advise fewer for a word count. Both Russ and Mac are right on target.

Mac gave an example of fewer ice cubes and less water. Seens to me Mac doesn`t want his scotch over watered.

I`ll try to mend my ways and splurge on the 5-letter word fewer instead of incorrectly skimping with the 4-letter word less.

Thank you all for your advice.

Best regards, Richard Harrison, KB5WZI

7457. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:24:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kp9nfv4sib2acrv8rmjsotfcdjav582sgu@4ax.com>
Source record: 114108
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On 26 Jun 2003 16:02:23 -0700, Phil Stripling
<phil_stripling@cieux.zzn.com> wrote:

> (In fact, if you call the number listed above, the first
> option you're presented is to listen to a message explaining why the
> e-mail quoted above is false.)

This fact is NOT a fact at all.

There is NO explanation at all. the FIRST option is, just I
described, an offer to allow you to withdraw for 2 years.

The SECOND option comes after some great length of dead air, long
enough to give every appearance of the first being the ONLY option.
The operator (a mechanical voice actually) zips through this quickly
to then offer:

The THIRD option is for you to RESCIND your opt-out, or to SIGN UP for
this benefit! It comes expressed in language tailored for your choice
over the quick skim of the second option.

It is quite obvious that if one were to follow the instructions, now
perpetuated by you, at the page you offer without regard to what was
being said, the individual would be blowing off their privacy. HENCE
my caution about LISTENing closely and doing it more than once!

Industry shills are working overtime, and I can see the makings of an
Option Roulette being played to good advantage - even here.

forgive me for the lack of a warm closing, you don't seem to have a
call, and you certainly don't have the facts nor the experience.

7458. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:25:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFBAB18.5090107@ieee.org>
Source record: 114109

Jim Kelley wrote:
> W5DXP wrote:
>>I'm sorry, Jim, but that equation is wrong for an general
>>impedance discontinuity in a transmission line where there are
>>*FOUR* measurable energy components. You are quoting that
>>equation OUT OF CONTEXT.
>
> Then please quote the correct equation for conservation of energy.

I already did, Jim, for an impedance discontinuity in a transmission line. Why did you delete it? Here it is again.

Pfwd1 + Pref2 = Pref1 + Pfwd1 Note there are 4 terms, not 3 terms.

Our disagreements seem to boil down to a couple of issues which you can resolve by answering the following questions (which you have refused to answer in the past).

1. Can an EM wave exist without intrinsic energy?

If your answer is 'yes', please provide an example.

2. Can standing waves exist without reflected waves in a single source, single feedline, single load system?

If your answer is 'yes', please provide an example.
--
73, Cecil http://www.qsl.net/w5dxp

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7459. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:40:16 UTC
From: phamilton@cellsource.com
Message-ID: <3EFBAE90.F7D15A0B@cellsource.com>
Source record: 114110

Matt,

It cost me every year at the beginning of the year approximately $125,000 to insure a professional 4 man tower crew. This is before salaries, per diem, vehicles, winches, expensive specialized tools. I have to budget for OSHA rules adherence, a full time certified safety man, project manager, and so many hidden costs - I can't remember.

I was a career paramedic/ firefighter for 20 yrs, went to med school, got the diploma, and started a cellular engineering and construction company after school. I am also a ham radio op, had previous experience as a TV and AM radio broadcast engineer and saw an opportunity to get paid to do what I did for a hobby - play radio......bad decision. I have never played radio less and had so many headaches.

We have lost in the last year alone 5-10 tower climbers in the industry, falls being the most prevalent cause. Some from 800-1000 feet, some from 30 feet - all caused death! The tower industry has consolidated so much in the last 5 years, that if you were not a known quantity before consolidation, it will be real hard to garner enough work to pay for the insurance alone. I have had as many as 4 (4) man crews on the road as recently as 2 summers ago. I am now down to (1) 4 man crew and (1) 2 man crew.

If I could gracefully get out of the business of towers - I would! I have a 0.73 workers comp mod rating - it doesn't get much better than this, and I still pay 36 cents on every dollar paid to employees to workers comp. Even the big tower companies are closing offices all over the country as we speak.

The first 2 quarters this year put several small tower companies out of business. The reason is that to get any real quantity of work, to pay the bills, you have to work for the big guys. They withheld payment to most tower vendors the first and second quarters to make their stocks look good on wall street (cash reserves). I had to fund the cash flow through the middle of second quarter out of my own pocket. By the time you look at all costs to operate, be prepared at a minimum for $100,000 float budget, this will last only 60-90 days and doesn't include all of the start up costs, which at a minimum would be ~$250,000 - if you have been around long enough to know which corners you can SAFELY trim. It will take you on average 60-90 days if you are lucky, to get paid.

OSHA will be your constant companion, and help you empty your pockets of cash in a heart beat. I go through two full body harnesses per man per year. If one essential thread is bare in the stitching, you have to paint the harness red and cut it up. Then tool damage and constant loss.

Test gear will run you 10-$20k to start and need yearly calibration.

Become a member of NATE (the National Assn. of Tower Erectors), It is costly but well worth the membership dues for all of the OSHA related help they provide.

Didn't mean to sound so negative, but wanted to give you a taste of the truth. Unless you have 2 million handy and really know the current issues in the industry, you will remain a POOR man.

My suggestion would be to go to college, get an Electrical Engineering degree and go to work making $60-$100k to start depending on your skills base and specialization.

I currently make 1/2 of what I would make as a graduate physician, and 1/4 if I were an attending physician. I'm 47 and currently thinking about retirement cash reserves. Just like EMS and Fire, I am still looking at the reality of retiring to the poor house. That was why I went to grad school...to have a livable retirement plan....I'm not laughing!

Matt,

Good luck in your endeavors, what ever they may be!

Regards,

Phillips

Firefighter Matt wrote:
>
> I am interested in anyone that climbs towers as a partime or fulltime job.
>
--
Phillips Hamilton, Pres.
RF Engineer
http://www.cellsource.com

Ofc. 706-364-5001
Fax 706-364-0642
Cell 706-831-7215

"Put none but Americans on guard tonight." --George Washington

7460. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 02:45:56 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306261845.3a8d9ecf@posting.google.com>
Source record: 114111

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<19426-3EFB51DF-70@storefull-2316.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "Count the number of postings made before phase removal was
> accepted---."
>
> Reading between the lines, I infer Art means removal of reactance to
> increase antenna current. I agree this deserves acceptance as it is easy
> and it works.
>
> Conjugate matching is, the experts agree, the way to get maximum power
> transfer. Maybe the argument is over who needs it.
>
> Complex circuits more accurately represent the world around us, but a
> qualitative understanding of antennas can be had without the math (enter
> Reg on cue).
>
> It is too bad Arnold B. Bailey`s book is not readily available, I think.
> Richard Clark had a copy and may have a different opinion. Bailey`s book
> is about antenna theory. The title, "TV and Other Receiving Antennas"
> was, I think, meant to sell it during a period when the growth of TV was
> exploding. The name was sexy then.
>
> Equivalent circuits facilitate grasp of circuit action. Clark and
> Lewallen are surely familiar with all manner of circuits.
>
> Coupling of circuits is described in many texts. What`s wrong with
> direct coupling antennas? Other means are convenient but unlikely to
> couple any tighter.
>
> If you can get as much antenna gain using one feedpoint as using many,
> why use more? Parasitic antennas are popular.
>
> Coupled circuits are one way to extend bandwidth. Obviously they can be
> tuned off-resonance slightly (stagger-tuned). Stubs can parallel an
> antenna feedpoint and these can have a reactive shift which compliments
> the reactive shift in the antenna, and this widens the antenna bandpass.
> I pointed to King, Mimno, and Wing in an earlier posting. They are more
> prominent than Bailey, but they`re no more useful to me than is Bailey.
>
> Art would like to send me back to Tierra del Fuego. Winter just kicked
> off there now. It`s cold and it`s dark. I don`t want to go. Surely I`m
> offensive to Art. I did it without really trying.

Now thats more like it, a reasonable contact without slurs
and I will repeat in kind.

>
> Art writes: "I know I am right with respect to my antenna."
>
> Start by telling us how it beats the antennas and matching systems
> pictured on pages 26-8 and 26-9 of the ARRL Antenna Book.

But Richard we went thru this before when you inferred I was breaking
the laws of nature. So at that point I started to go thru it point by
point
which you withdrew from because you didn't want to answer questions as
to your understandings as we went along! This discussion has gone on
for years when I disclosed what the patent office had accepted.Wasn't
it about a year ago that I offered a detractor not only access to an
existing antenna but also access to the latest (newer) patent I was
preparing and who then declined.
It was less than a year ago that I offered to BUY a program for one to
which I would supply input figures.....he also declined. Clark who is
a genius in so many areas , in his own mind at least, even refused to
accept any information provided from my particular purchased program
as it was "old". Since he studied under the "new math" procedures
which do not require learning multiplication tables I can only assume
that the newer programs can give the multiple of 2X4 to more than six
decimal places ! Another person also states that I have no
credability and why not,it is so easy to say on the net. Most people
know that it is not necessary to use computors if the answers are
already known.
And most computor experts know all there is to know anyway.
I'll tell you what Richard, at the end of this summer I will share
all with you privately, both past and present designs with copies of
any references, calculations, pretty computor pictures of results and
personal photo's of actual antennas.(remember those pictures of the
20M 13 element on a 80 foot boom I shared with you) If you wish to
pursue it for yourself using an optimizer program I will also provide
any assistance. (EZNEC systems are not capable to duplicate in so
many areas) All of this based ofcourse on reasonable conversations
which from past experience I know you can satisfy easily and is your
norm.
Speaking your mind ofcourse but without personal slander
Regards
Art

>
> Best regards, Richard Harrison, KB5WZI

7461. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 03:01:24 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <tlbnfv8s091m4338rqi7ri6ro8qcbcj78v@4ax.com>
Source record: 114113

On Thu, 26 Jun 2003 18:03:36 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

****

See, Cecileo, it takes very little effort to show your insincerity.
Your report of a part one of your paper is just as untrustworthy.
Let's simply roll back to:

On Wed, 25 Jun 2003 23:58:22 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
> I am still having trouble converting
>Word files to HTML files in a reliable manner that preserves the
>graphics.

to compare to 6 months before:

On Thu, 30 Jan 2003 09:53:19 -0600, OC_CAM's Razor
<Cecil.A.Moore@ieee.org> wrote:
>It takes a lot of time and effort to convert
>from Microsoft Word to HTML and get everything right. For instance, I
>cannot find the greek letter 'Rho' using HTML so I have to convert stuff
>like that by hand. Please be patient.

And this was after being put off for 6 months to that point. The
snake oil sideshows continue because there is nothing under the big
tent.

7462. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 03:22:36 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ssdnfvghofnq6j64b6e4o8bqv46ussbgnb@4ax.com>
Source record: 114114

On 26 Jun 2003 19:45:56 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>Clark who is
>a genius in so many areas , in his own mind at least, even refused to
>accept any information provided from my particular purchased program
>as it was "old". Since he studied under the "new math" procedures
>which do not require learning multiplication tables I can only assume
>that the newer programs can give the multiple of 2X4 to more than six
>decimal places !

Hi Art,

To one place, six, or sixteen; does it make more than 1dB difference?

73's
Richard Clark, KB7QHC

7463. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 04:04:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <0agnfvgp2lu9i01ee5pikv9dvik5v5esbt@4ax.com>
Source record: 114115

On Fri, 27 Jun 2003 03:22:36 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On 26 Jun 2003 19:45:56 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
>wrote:
>
>>Clark who is
>>a genius in so many areas , in his own mind at least, even refused to
>>accept any information provided from my particular purchased program
>>as it was "old". Since he studied under the "new math" procedures
>>which do not require learning multiplication tables I can only assume
>>that the newer programs can give the multiple of 2X4 to more than six
>>decimal places !
>
>Hi Art,
>
>To one place, six, or sixteen; does it make more than 1dB difference?
>
>73's
>Richard Clark, KB7QHC

Hi Art,

If you are incapable of doing the new/old math yourself, you can
simply say:

Yes
or
No

Which of course, Old Man, has always been your option.

73's
Richard Clark, KB7QHC

7464. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 04:20:48 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFBC620.5040301@ieee.org>
Source record: 114116

Richard Clark wrote:
> And this was after being put off for 6 months to that point. The
> snake oil sideshows continue because there is nothing under the big
> tent.

Richard, I offered to send you a copy of the article last year. All
you had to do was agree not to publish it before I did. You refused.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7465. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 04:28:48 UTC
From: gmz79@aol.comnospam
Message-ID: <20030627002848.07323.00001599@mb-m22.aol.com>
Source record: 114117

Three moxons at 120deg's and a coax switch.
Gain and simplicity.

K*VIF

Greg Z
to thine own sound be true

7466. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 04:30:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <h2infvgr9kh9t7b2qsborjsinm1hlcm84j@4ax.com>
Source record: 114118

On Thu, 26 Jun 2003 23:20:48 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> And this was after being put off for 6 months to that point. The
>> snake oil sideshows continue because there is nothing under the big
>> tent.
>
>Richard, I offered to send you a copy of the article last year. All
>you had to do was agree not to publish it before I did. You refused.

Another answer to a different question. You remain the unreliable
correspondent as ever.

On Thu, 26 Jun 2003 18:03:36 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

7467. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 04:47:28 UTC
From: Phil Stripling <phil_stripling@cieux.zzn.com>
Message-ID: <3qhe6c5dpb.fsf@shell4.tdl.com>
Source record: 114019
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Richard Clark <kb7qhc@attbi.com> writes:

> On 26 Jun 2003 16:02:23 -0700, Phil Stripling
> <phil_stripling@cieux.zzn.com> wrote:
>
> > (In fact, if you call the number listed above, the first
> > option you're presented is to listen to a message explaining why the
> > e-mail quoted above is false.)
>
> This fact is NOT a fact at all.

That's a quote from snopes.com, your friend.

>SNIP<
> forgive me for the lack of a warm closing, you don't seem to have a
> call, and you certainly don't have the facts nor the experience.

No problem for me, Dick. The fact remains, it's a long time hoax and totally wrong. And you've passed it on. So what about the poor kid with the brain tumor? Have you sent in your business card yet?

Your pal,
Phil

--
Philip Stripling | email to the replyto address is presumed
Legal Assistance on the Web | spam and read later. email to philip@
http://www.PhilipStripling.com/ | civex.com is read daily.

7468. Re: Xnecview rocks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 08:17:46 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86wuf8exxx.fsf@duchess.twilley.org>
Source record: 114020

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I was able to process this file with nec2dx, but I wasn't able to
figure out how to animate the output. Can you provide more
assistance?

Thanks for all your help so far!

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE++/2xGPFSfAB/ezgRAhBWAJ4pNwSwOw4DVhnOoav5+hZKStMqYACguyYa
Zu/HVSipzXivgC87Z0R7iHU=
=pTMW
-----END PGP SIGNATURE-----
```

7469. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 09:59:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFC1574.5020406@ieee.org>
Source record: 114021

W5DXP wrote:
> Pfwd1 + Pref2 = Pref1 + Pfwd1 Note there are 4 terms, not 3 terms.

Typo! Should have been: Pfwd1 + Pref2 = Pref1 + Pfwd2

In s-parameter terms: |a1|^2 + |a2|^2 = |b1|^2 + |b2|^2 where

|a1|^2 is power incident upon port 1
|a2|^2 is power incident upon port 2
|b1|^2 is power reflected from port 1
|b2|^2 is power reflected from port 2
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7470. FA: MVT 9000 NO GAPS!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 11:24:15 UTC
From: Digitalebola <administrator@digitalsignals.org.NOSPAM>
Message-ID: <3efc2959$1@dnews.tpgi.com.au>
Source record: 114022

http://cgi.ebay.com.au/ws/eBayISAPI.dll?ViewItem&item=3032763192

7471. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 12:10:03 UTC
From: Bob Miller <bxmiller@texas.netNOSPAM>
Message-ID: <2vcofv429nerrbdi3805r2ll5cpo70j3jm@4ax.com>
Source record: 114023

On Thu, 26 Jun 2003 21:07:04 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>Act before July 1st to preserve your privacy.

Any idea, what entities, currently, that can ask for my credit report?

Bob
k5qwg

>
>Hi All,
>
>Subject: Your Credit: Personal Information goes public
>
>Starting July 1st, 2003, the four major credit bureaus in the US
>(Equifax,etc) will be allowed to release credit info, mailing
>addresses, phone numbers, etc., to ANYONE who requests it. If you
>do not want to be included in this release of your personal
>information,
>
>you can call 1-888-567-8688.
>
>Once the message starts
>you will want option #2 - wait for the long silence to offer it!!!!!
>(even though option #1 refers to this email, push #2)
>
>Be sure to listen closely, the first option is only for a two-year
>period.
>
>Make sure you wait until they prompt for the option which opts you out
>FOREVER.
>
>PRACTICE this call at least once to hear the whole ball of wax
>through. The message menuing is designed to obscure your options and
>to muddy the water in their favor. It is heavily designed so that you
>take the first less protective path (note, they approach this with
>your ignorance giving them everything). Nothing will happen until you
>are prompted to speak your name, and punch in your street address to
>put the gears into place. PRACTICE this call to that point until you
>are satisfied.
>
>You should receive their paperwork in the mail confirming the "opting
>out" in less than one week after making the call.
>

>Then write your congresspeople and thank them for entitling these
>agencies to stream your private information to ANYONE (not just
>creditors).
>
>73's
>Richard Clark, KB7QHC

7472. Re: MA5B

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 12:42:04 UTC
From: Craig Buck <k4ia@cox.net>
Message-ID: <BYWKa.32255$VQ6.8168@lakeread01>
Source record: 114024

Your are correct. Given Cushcraft's tendency to overstate their power handling ability (I too blew up an R7000) your amp will fry that MA5B probably with 500 watts. I wouldn't buy another Cushcraft either after my R7000 experience.

I am now using a TGM mini Hybrid Quad and find it very satisfactory. I run a KW into it on CW and so far no problems. Check out the perfect 5 score from 24 reviewers on eHam and the website at http://www3.sympatico.ca/tgmc/
--
Radio K4ia
Craig "Buck"
Fredericksburg, VA USA
FISTS 6702 cc 788 Diamond 64
"Gilbert Baron" <gbaron@myrealbox.com> wrote in message
news:q89nfv80f0bm1247f8jd3mr3vgopvvvub7@4ax.com...
> I am tempted top buy this antenna. I am worried that it will not
> perform 4 feet above my roof and that it cannot really take 1.2 Kw. I
> have the AL800H. Will that blow it?
> It is rated 800 Watts PEP.
>
>
> I am also leery of Cushcraft. I was ripped off by the R7000 vertical
> which in my opinion is a piece of junk.
>
>
>
> On Wed, 14 May 2003 22:03:09 GMT, "Robert A Meyer"
> <w8dq@earthlink.net> wrote:
>
> >I am getting ready to install MA5B,I have it on ground doing final
> >measurements and testing.I would like to hear from anyone who is using
this
> >beam.
> >
> > Bob Meyer W8DQ
> > Lawrenceburg,IN
> >
>

7473. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 14:07:29 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFC4FA1.4030105@ieee.org>
Source record: 114025

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "What happens at a load has nothing to do with wave cancellation."
>
> What happens at a load has everything to do with wave disposition on a
> transmission line.

What I meant by that statement is that wave cancellation doesn't
happen at a load. It happens at an impedance discontinuity in
the transmission line where we have one incident wave coming from
the source direction and another incident wave coming from the load
direction. It is akin to having two sources and is much more
complicated than happenings at the load.
--
73, Cecil, W5DXP

7474. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 14:24:19 UTC
From: richardharrison@webtv.net
Message-ID: <2658-3EFC5393-294@storefull-2313.public.lawson.webtv.net>
Source record: 114027

Cecil, W5DXP wrote:
"Pfwd1 + Pref2 = Pref1 + Pfwd1"

Whoa. Did I read right? Subtract Pfwd1 from both sides of the equation and you have neither 4 terms nor 3. You have only two.

Best regards, Richard Harrison, KB5WZI

7475. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 14:48:05 UTC
From: Walt <walter_reed@nospammersallowed.net>
Message-ID: <3EFC5923.5350CD98@nospammersallowed.net>
Source record: 114026

hello,

check this link:

http://www.cebik.com/6m.html

you can use wire #12 thhn and operate cw or ssb if you want upper part
of 6m use tubing.
cheap to build and put in the attic.
gain similar to yagi but smaller space as end of elements folded

walt

greg z wrote:

> Three moxons at 120deg's and a coax switch.
> Gain and simplicity.
>
> K*VIF
>
> Greg Z
> to thine own sound be true

7476. Re: Tower Climbing Info

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 15:13:07 UTC
From: "Dan, danl, danny boy, Redbeard, actually Greybeard now" <danlx@execpc.com>
Message-ID: <6gnofv8qsuuekd7chg8dhqqkrhjglev3qc@4ax.com>
Source record: 114028

On Thu, 26 Jun 2003 22:40:16 -0400, phamilton@cellsource.com sent into the ether:

>Matt,
>
>It cost me every year at the beginning of the year approximately
>$125,000 to insure a professional 4 man tower crew. This is before
>salaries, per diem, vehicles, winches, expensive specialized tools. I
>have to budget for OSHA rules adherence, a full time certified safety
>man, project manager, and so many hidden costs - I can't remember.
Giant Snip for brevity<<<

I thought he was looking to do it more as a hobby/part time for amateurs. Maybe I misunderstood?

I am in construction safety and am amazed there have not been more advances in tower safety equipment. Am I out of date here or not, it is not my specialty? Are there still as many macho attitudes toward tower safety out there as there used to be?
Dan, N9JBF
Amateur radio - What a hobby!
Remove left x for direct reply

7477. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 15:25:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFC61DC.2030005@ieee.org>
Source record: 114029

Richard Harrison wrote:
> Cecil, W5DXP wrote:
> "Pfwd1 + Pref2 = Pref1 + Pfwd1"
>
> Whoa. Did I read right? Subtract Pfwd1 from both sides of the equation
> and you have neither 4 terms nor 3. You have only two.

You did read right. Unfortunately, you read a typo corrected in the follow-up posting which you no doubt read after you read this one. The last 'Pfwd1' term should have been 'Pfwd2'. In other words, the conservation of energy principle requires that the RF energy flow in joules/sec into an impedance discontinuity point must equal the energy flow in joules/sec out of the impedance discontinuity point.

Since Pfwd1 = Pfwd1(rho^2) + Pfwd1(1-rho^2) and
Pref2 = Pref2(rho^2) + Pref2(1-rho^2), we can rewrite the conservation of energy equation as:

Pfwd1(rho^2) + Pfwd1(1-rho^2) + Pref2(rho^2) + Pref2(1-rho^2) = Pref1 + Pfwd1

Collecting all the rearward-traveling terms:

Pref1 = Pfwd1(rho^2) + Pref2(1-rho^2) +or- [interference]

Collecting all the forward-traveling terms:

Pfwd2 = Pfwd1(1-rho^2) + Pref2(rho^2) -or+ [interference]

Note that if the interference is destructive, the sign of the interference is negative. If the interference is constructive, the sign of the interference is positive. Destructive interference can occur on either side of the impedance discontinuity. Whichever side it is gets a negative sign and constructive interference will occur on the other side of the impedance discontinuity. Constructive interference will always equal destructive interference.

In the case of a matched system where Pref1 = 0, the interference will always equal -[Pfwd1(rho^2) + Pref2(1-rho^2)], i.e. destructive as the two rearward-traveling waves engage in 100% wave cancellation.
--
73, Cecil, W5DXP

7478. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 17:31:55 UTC
From: SFM <k9po@amsat.org>
Message-ID: <bdhv4j$96m$1@newshost.mot.com>
Source record: 114039
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Here Richard will this help you to understand??

CREDIT REPORTING INDUSTRY ONCE AGAIN WARNS CONSUMERS ABOUT FALSE E-MAIL

Atlanta, April 16, 2003 Consumers are once again being advised by the credit reporting industry to be wary of a false e-mail circulating the Internet regarding the information handling practices of consumer credit reporting companies.

The false e-mail reads:

"Just wanted to let everyone know who hasn't already heard, the four major credit bureaus in the U.S. will be allowed, starting July 1, to release your credit info, mailing addresses, phone numbers... to anyone who requests it. If you would like to "opt out" of this release of info., you can call 1-888-567-8688. It only takes a couple of minutes to do, and you can take care of anyone else in the household while making only one call, you'll just need their social security number."

Contrary to claims made in the e-mail, credit-reporting companies do not provide personal consumer data to "anyone who requests it." Federal law prohibits such a practice. Consumer credit reports are only provided to legitimate businesses that have a permissible purpose under the law. Such permissible purposes typically involve the extension of credit, insurance, employment, or government benefit.

The toll-free number included in the e-mail is valid only for consumers who want to remove their names from mailing lists for pre-approved offers of credit lawfully generated by the major credit reporting companies. That opt-out number has been in effect and available to consumers since 1997.

The Consumer Data Industry Association issued three previous news releases noting the e-mail was false and misleading. Consumers can access the original release sent out in July of 2001 by clicking on "Media Room" at www.cdiaonline.org. The Federal Trade Commission (FTC) also issued a consumer alert in 2001 when this message first circulated to advise consumers.

--Source: Consumer Data Industry Association, April 9, 2003

And here is the link from where this info came from
http://www.equifax.com/corp/pressroom/pressreleases/2003/2003_04_16.shtml

Good luck too on getting all that money from Nigerian nephew of the former President that only required your bank acount number.

Scott
--

Scott F. Migaldi, K9PO
IDCS-150972
PP-ASEL
**"A long time ago being crazy meant something, nowadays everyone is
crazy" -- Charles Manson**

"Phil Stripling" <phil_stripling@cieux.zzn.com> wrote in message
news:3qhe6c5dpb.fsf@shell4.tdl.com...
> Richard Clark <kb7qhc@attbi.com> writes:
>
> > On 26 Jun 2003 16:02:23 -0700, Phil Stripling
> > <phil_stripling@cieux.zzn.com> wrote:
> >
> > > (In fact, if you call the number listed above, the first
> > > option you're presented is to listen to a message explaining why the
> > > e-mail quoted above is false.)
> >
> > This fact is NOT a fact at all.
>
> That's a quote from snopes.com, your friend.
>
> >SNIP<
> > forgive me for the lack of a warm closing, you don't seem to have a
> > call, and you certainly don't have the facts nor the experience.
>
> No problem for me, Dick. The fact remains, it's a long time hoax and
> totally wrong. And you've passed it on. So what about the poor kid with
the
> brain tumor? Have you sent in your business card yet?
>
> Your pal,
> Phil
>
> --
> Philip Stripling | email to the replyto address is presumed
> Legal Assistance on the Web | spam and read later. email to philip@
> http://www.PhilipStripling.com/ | civex.com is read daily.

7479. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 17:32:47 UTC
From: SFM <k9po@amsat.org>
Message-ID: <bdhv66$96o$1@newshost.mot.com>
Source record: 114038
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:kp9nfv4sib2acrv8rmjsotfcdjav582sgu@4ax.com...
> On 26 Jun 2003 16:02:23 -0700, Phil Stripling
> <phil_stripling@cieux.zzn.com> wrote:
>
> > (In fact, if you call the number listed above, the first
> > option you're presented is to listen to a message explaining why the
> > e-mail quoted above is false.)
>
> This fact is NOT a fact at all.
>
> There is NO explanation at all. the FIRST option is, just I
> described, an offer to allow you to withdraw for 2 years.

It is to withdraw from snail mail offers!!!

7480. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 18:30:36 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u82pfvo63cr5ctlfiio979btfqq0p901p0@4ax.com>
Source record: 114030

On Fri, 27 Jun 2003 07:10:03 -0500, Bob Miller
<bxmiller@texas.netNOSPAM> wrote:

>On Thu, 26 Jun 2003 21:07:04 GMT, Richard Clark <kb7qhc@attbi.com>
>wrote:
>
>>Act before July 1st to preserve your privacy.
>
>Any idea, what entities, currently, that can ask for my credit report?
>
>Bob
>k5qwg

Hi Bob,

Given Phil's pointer, I investigated where he dare not trod, the
actual corpus of law (imagine a lawyer going there!). Having noted
his complete absence of "Legal Assistance on the Web" which must mean
solely for pay (can't argue with that) I also noted the complete
absence of any advice - except that which perpetuates the loss of your
privacy.

So, to set the record straight, there is NO DROP-DEAD DATE as
expressed by my earlier posting.

All other material quoted below (as edited by me) is from actual
experience (going on 2 days ago) and not as a function of stale
mis-information tailored to confuse you into surrendering your rights
to privacy. Please observe my cautions to PRACTICE!

varying by degrees of depth of discussion are the following sources of
CURRENT and historical discussion:
http://www.privacyrights.org/
http://www.consumer-action.org/
http://www.epic.org/

PUBLIC LAW 106ï¿½102ï¿½NOV. 12, 1999
http://www.pirg.org/consumer/privacy/glb.htm
from the link above:
"The bill, numbered S. 900, and called the Gramm-Leach-Bliley
Financial Services Modernization Act, unfortunately legalizes
Orwellian privacy intrusions into our daily financial lives, with
virtually no consumer protections. ...
"Under the law, companies can share all your experience and
transaction information from your account relationship, with any
of their affiliates, even if you say no. The law even allows

companies to share this information with some third parties, as if
they were affiliates, even if you say no. The law gives you only a
limited right to "opt-out" or say no to information sharing with
non-affiliated third parties, such as some telemarketers.
Nevertheless, opting-out is still worth doing to prevent
telemarketers from ruining your life."

>
>
>>
>>Hi All,
>>
>>Subject: Your Credit: Personal Information goes public
>>
>>The four major credit bureaus in the US
>>(Equifax,etc) are allowed to release credit info, mailing
>>addresses, phone numbers, etc., to ANYONE who requests it. If you
>>do not want to be included in this release of your personal
>>information,
>>
>>you can call 1-888-567-8688.
>>
>>Once the message starts
>>you will want option #2 - wait for the long silence to offer it!!!!!
>>(even though option #1 refers to this email, push #2)
>>
>>Be sure to listen closely, the first option is only for a two-year
>>period.
>>
>>Make sure you wait until they prompt for the option which opts you out
>>FOREVER.
>>
>>PRACTICE this call at least once to hear the whole ball of wax
>>through. The message menuing is designed to obscure your options and
>>to muddy the water in their favor. It is heavily designed so that you
>>take the first less protective path (note, they approach this with
>>your ignorance giving them everything). Nothing will happen until you
>>are prompted to speak your name, and punch in your street address to
>>put the gears into place. PRACTICE this call to that point until you
>>are satisfied.
>>
>>You should receive their paperwork in the mail confirming the "opting
>>out" in less than one week after making the call.
>>
>>Then write your congresspeople and thank them for entitling these
>>agencies to stream your private information to ANYONE (not just
>>creditors).
>>
>>73's
>>Richard Clark, KB7QHC

7481. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 18:40:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f22pfvs4lubv6pvu4abgflkefjbrdmffmb@4ax.com>
Source record: 114031
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On 26 Jun 2003 21:47:28 -0700, Phil Stripling
<phil_stripling@cieux.zzn.com> wrote:

>Richard Clark <kb7qhc@attbi.com> writes:
>
>> On 26 Jun 2003 16:02:23 -0700, Phil Stripling
>> <phil_stripling@cieux.zzn.com> wrote:
>>
>> > (In fact, if you call the number listed above, the first
>> > option you're presented is to listen to a message explaining why the
>> > e-mail quoted above is false.)
>>
>> This fact is NOT a fact at all.
>
>That's a quote from snopes.com, your friend.

I saw your law reference library, bucko. A website devoted to "Urban
Myths" - impressive stuff to base your practice against.

I see the quality of your "Legal Assistance on the Web" and note you
have actually done nothing but bait the trap to snare the unwary, ripe
for unscrupulous Credit Bureau practices.

7482. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 18:49:58 UTC
From: kludge@panix.com
Message-ID: <bdi3kmjlj1@panix2.panix.com>
Source record: 114032
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Richard Clark <kb7qhc@attbi.com> wrote:
>
>I saw your law reference library, bucko. A website devoted to "Urban
>Myths" - impressive stuff to base your practice against.

In actuality, your credit records pretty much _are_ available to everyone.
It might be illegal to look them up or to use them, but it happens all the
time, to the point where one company I can think of does a credit check on
potential employees. Just because it's illegal doesn't mean that it does
not happen regularly.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

7483. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 19:23:59 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bdi5ho$ck6$1@slb9.atl.mindspring.net>
Source record: 114033

How about building one? Not all that difficult. Check the internet for basic info/plans.

MFJ make a small 3 element 6m yagi.

Dan/W4NTI

"G. Doughty" <nightowls627@aol.comnojunk> wrote in message news:20030626141512.27374.00002104@mb-m03.aol.com...
> So they do sell smaller yagis. I am in a condo. I use a discone in the attic
> for scanner, a dipole in attic for 10m listening, but come October, after the
> upgrade test, I will be looking to get a wide coverage rig and upgrade to a
> yagi. Where would I look to find a small 4 element?
> My only suggestion for h4mb0ne would be a dipole. Sorry about that. Limited
> experience.
>
> G. Doughty
> KI4BBL
> remove nojunk to email

7484. Re: 6 meter attic recommendation... Isotron, Isoloop, M2, Slinky, Wire? PAR?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 19:26:14 UTC
From: Dan/W4NTI <w4nti@NOSPAMmindspring.com>
Message-ID: <bdi5ov$7h9$1@slb5.atl.mindspring.net>
Source record: 114034

A turnstile will also meet those specs. Basically two crossed dipoles fed
out of phase. Easy to do with a coaxial balun.

Dan/W4NTI

"Richard Clark" <kb7qhc@attbi.com> wrote in message
news:52cmfvks2528nkojbausns6o95knvd534c@4ax.com...
> On 26 Jun 2003 09:46:35 -0700, h4mb0ne@hotmail.com (h4mb0ne) wrote:
>
> >I am trying to stay with a omnidirectional, horizontally polarized
antenna.
> >I also am looking at the PAR Electronics OA-50's.
> >Mark
>
> Hi Mark,
>
> At first glance, your specification for omni-horizontal is a self
> contradiction. A second glance offers that you simply take the
> standard dipole and fold it into an open loop. That is, wrap it into
> a square until the ends "almost" meet (do not connect). Lengthen or
> trim to resonance.
>
> Another design that gives you full hemispherical coverage is found in
> the Inverted-F. Consult the bottom of page:
> http://www.qsl.net/kb7qhc/
> I am not sure about the polarization, however. Use the description
> and the free version of EZNEC to evaluate. If you are not proficient,
> build one and try.
>
> 73's
> Richard Clark, KB7QHC

7485. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 19:42:48 UTC
From: Phil Stripling <phil_stripling@cieux.zzn.com>
Message-ID: <3qy8znfgsn.fsf@shell4.tdl.com>
Source record: 114035
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

Richard Clark <kb7qhc@attbi.com> writes:

> I saw your law reference library, bucko. A website devoted to "Urban
> Myths" - impressive stuff to base your practice against.
>
> I see the quality of your "Legal Assistance on the Web" and note you
> have actually done nothing but bait the trap to snare the unwary, ripe
> for unscrupulous Credit Bureau practices.

:-> Whoa, Dick! You are on a _rant_!

The URL again is http://www.snopes.com/inboxer/pending/credit.htm
and I have nothing to do with snopes.com -- it's an excellent resource for reading about hoaxes such as the false claim that credit bureaus can sell all our private information unless we opt out. In fact, the Fair Credit Reporting Act of 1997 contains limitations on who may request the information and for what purposes. The link I provide to snopes.com explains it all in plain English for those not so angry they've lost the ability to read.

And while you're (well, not you, Dick, but the other readers) at snopes.com, browse around and read about the online myths that a tooth left in Coke will dissolve overnight, the _true_ story of a medical student who discovers that an anatomy class cadaver is the body of his relative, the unfortunate hoaxes about children sick with cancer who will receive money/accolades/fame for every business card/email/birthday card/whatever that is sent to someone who is now being buried by unwanted mail or email. And be sure to search snopes.com for ManBeef. Or maybe not.

I also invite one and all to drop by my Website at
http://www.PhilipStripling.com/
and see if I've baited the trap for the unwary. :-> I'm sorry to tell you (well, not you, Dick, but you know that already) that it's not nearly as entertaining as snopes.com, but who knows you (er...) might find something interesting or educational.

Buh-bye, Dick. I'm sorry you're so freaked out over being led astray by the email hoax. You're not alone, though.

73, Dick!
Your pal,
Phil
--
Philip Stripling | email to the replyto address is presumed

Legal Assistance on the Web | spam and read later. email to philip@
http://www.PhilipStripling.com/ | civex.com is read daily.

7486. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 19:46:29 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <2c7pfv8ehjhio4s9u0paigtiv10kqbtbt8@4ax.com>
Source record: 114036
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On 27 Jun 2003 14:49:58 -0400, kludge@panix.com (Scott Dorsey) wrote:

>Richard Clark <kb7qhc@attbi.com> wrote:
>>
>>I saw your law reference library, bucko. A website devoted to "Urban
>>Myths" - impressive stuff to base your practice against.
>
>In actuality, your credit records pretty much _are_ available to everyone.
>It might be illegal to look them up or to use them, but it happens all the
>time, to the point where one company I can think of does a credit check on
>potential employees. Just because it's illegal doesn't mean that it does
>not happen regularly.
>--scott

Hi Scott,

Reptilian Lawyers find ways to both scout out the loopholes and to
perpetuate myths couched in the expression of "serving the public."
The links I supplied to Bob:

varying by degrees of depth of discussion are the following sources of
CURRENT and historical discussion:
http://www.privacyrights.org/
http://www.consumer-action.org/
http://www.epic.org/
and especially
http://www.pirg.org/consumer/privacy/glb.htm

list a number of deceptions practiced that lead to legislation
relating to this act of congress (remember to thank your
representatives).

73's
Richard Clark, KB7QHC

7487. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 19:49:55 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <et7pfvk7or3c4j5jfvo3buvo5jp7me71g7@4ax.com>
Source record: 114037
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On 27 Jun 2003 12:42:48 -0700, Phil Stripling
<phil_stripling@cieux.zzn.com> wrote:

>Buh-bye, Dick. I'm sorry you're so freaked out over being led astray by the
>email hoax. You're not alone, though.
>
>73, Dick!
>Your pal,
>Phil

Write when you find work.

7488. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 22:03:45 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFCBF41.3030902@ieee.org>
Source record: 114040

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>>Richard Clark wrote:
>>>And this was after being put off for 6 months to that point. The
>>>snake oil sideshows continue because there is nothing under the big
>>>tent.
>>
>>Richard, I offered to send you a copy of the article last year. All
>>you had to do was agree not to publish it before I did. You refused.
>
> Another answer to a different question. You remain the unreliable
> correspondent as ever.

Maybe this will help your angst, Richard. Worldradio has told me that my article is "too technical" for their average reader. Too bad my article was either "not extensive enough" or "too long" for QEX. In any case, my part 1 article is available on my web page. Supporting data will follow. In the meantime, the following seems to support my position:

The conservation of energy principle supports the following equation:

Source-----Z01 feedline----+----Z02 feedline---------load
Pfwd1, Pref1 Pfwd2, Pref2

Pfwd1 + Pref2 = Pref1 + Pfwd2

The energy incident upon the impedance discontinuity must equal the energy exiting the impedance discontinuity (assuming lossless lines).

The wave reflection model tells us that Pfwd1 = Pfwd1(rho^2) + Pfwd1(1-rho^2) and Pref2 = Pref2(rho^2) + Pref2(1-rho^2). After all, rho^2 + (1-rho^2) = 1.

So the conservation of energy equation becomes:

Pfwd1(rho^2) + Pfwd1(1-rho^2) + Pref2(rho^2) + Pref2(1-rho^2) = Pref1 + Pfwd2

There are two possible directions of energy flow, rearward and forward. Logic tells us that the sum of the rearward-flowing waves must equal the resulting rearward-flowing wave. And the sum of the forward-flowing waves must equal the forward-flowing wave. But something is wrong. What are we missing? The answer is that we are missing the interference energy. Taking the interference energy into account solves all the problems. Most readers haven't comprehended that fact yet, but they will. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7489. Re: QST cancel the "right" of Equifax to reveal your credit to EVERYONE

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 23:19:58 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <t6kpfv4pjt3tv0qla5u9o65fsm8vh5h827@4ax.com>
Source record: 114041
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

On Fri, 27 Jun 2003 12:31:55 -0500, "SFM" <k9po@amsat.org> wrote:

>Consumers are once again being advised by the credit
>reporting industry

Another Shill.

7490. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-27 23:23:18 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <takpfv4fv640miopr685ggcijlb6n1i5m9@4ax.com>
Source record: 114042

On Fri, 27 Jun 2003 17:03:45 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>
>>>Richard Clark wrote:
>>>>And this was after being put off for 6 months to that point. The
>>>>snake oil sideshows continue because there is nothing under the big
>>>>tent.
>>>
>>>Richard, I offered to send you a copy of the article last year. All
>>>you had to do was agree not to publish it before I did. You refused.
>>
>> Another answer to a different question. You remain the unreliable
>> correspondent as ever.
>
> Most readers
>haven't comprehended that fact yet, but they will. :-)

Another answer to a different question. You remain the unreliable
correspondent as ever.

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

7491. Rptr Antenna for 440?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:09:04 UTC
From: Mike S <m614fs@yahoo.com>
Message-ID: <bdiprfaii1@news.cis.ohio-state.edu>
Source record: 114043

This is a new band for me but my club has a repeater system with problems I hoped to help solve. Their older Motorola machine was re-crystaled from commercial service along with its antenna. They are looking at replacing it because it seems to be near the end of its useful life.

My question is: Does anybody out there have information on using a homebrew colinear array for a repeater application? I understand one can be constructed fairly inexpensively with a gain of 9 dB using 8 sections or a 12 dB gain with 16 sections. Basically, is this a good idea and does anyone know of another club that has done this successfully?

Mike KI8KF

7492. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:10:16 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFCEAF8.80201@ieee.org>
Source record: 114044

Richard Clark wrote:
> Another answer to a different question. You remain the unreliable
> correspondent as ever.

Uhhhhh Richard, your brain seems to be stuck in a loop. :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7493. Re: Rptr Antenna for 440?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:33:28 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <lfrpfvslnsv0hcuje1a324mre96ddg9kpd@4ax.com>
Source record: 114045

On Fri, 27 Jun 2003 21:09:04 -0400, "Mike S" <m614fs@yahoo.com> wrote:

>This is a new band for me but my club has a repeater system with problems I
>hoped to help solve. Their older Motorola machine was re-crystaled from
>commercial service along with its antenna. They are looking at replacing it
>because it seems to be near the end of its useful life.
>
>My question is: Does anybody out there have information on using a homebrew
>colinear array for a repeater application? I understand one can be
>constructed fairly inexpensively with a gain of 9 dB using 8 sections or a
>12 dB gain with 16 sections. Basically, is this a good idea and does
>anyone know of another club that has done this successfully?
>
>Mike KI8KF
>

Hi Mike,

Are you actually talking about 8 bays and 16 bays? (frequently they
are folded dipoles) They are not collinear at all.

If so, you should mount one (if it is not strapped into a harness, or
sacrifice one and rebuild the line) and test its SWR on your frequency
assignment. The commercial models are gargantuan in comparison to
retail models, and cover a fair amount of spectrum as they are sold.

If they do not fit into your frequency, you might have to cut them
down to size or build them out (by proportion of where they worked to
where you want them to work). For commercial grade, this may need the
services of a metal shop. This, too, is not always an option if you
don't know what service they came out of.

Another issue of 8/16 bay harnesses is that they may come with phase
delays to impose a "downtilt." If you do not have height (talking
real height, not just tower installations), you might be warming the
ground. Measure all lines (physical length) and trust to simple
ratiometric analysis to come to a first approximation over this.

73's
Richard Clark, KB7QHC

7494. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:36:15 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <l3spfvkurkv7j0tqur1fpsh99l1dadf9sn@4ax.com>
Source record: 114046

On Fri, 27 Jun 2003 20:10:16 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Another answer to a different question. You remain the unreliable
>> correspondent as ever.
>
>Uhhhhh Richard, your brain seems to be stuck in a loop. :-)

Not an answer at all to the original question. You remain the
unreliable correspondent as ever.

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

7495. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:41:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFCF242.4070802@ieee.org>
Source record: 114047

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
10 >> Uhhhhh Richard, your brain seems to be stuck in a loop. :-)

20 > You remain the unreliable correspondent as ever.

30 GOTO 10 :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7496. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:51:49 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <u4tpfvckmmv8i8jpgnovjutbiu0lp1o88l@4ax.com>
Source record: 114048

On Fri, 27 Jun 2003 20:41:22 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>10 >> Uhhhhh Richard, your brain seems to be stuck in a loop. :-)
>
>20 > You remain the unreliable correspondent as ever.
>
>30 GOTO 10 :-)

Not an answer at all to the original question. You remain the
unreliable correspondent as ever.

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

7497. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 01:59:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFCF672.5090104@ieee.org>
Source record: 114049

Richard Clark wrote:
> Not an answer at all to the original question. You remain the
> unreliable correspondent as ever.

It has been a lot longer than 69 minutes since I posted my magazine
article, Richard. Why haven't you read it yet? :-)
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7498. Re: Rptr Antenna for 440?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 02:01:13 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3efcf825_2@news1.prserv.net>
Source record: 114050

Richard:

I think what Mike is talking about are the transposed coax designs.

Mike: Yes, but there are two tricks. One is the radome. Prodelin or Comm Products, I forget which, used to build these antennas with wax as the packing material, so you could build a trough, fill it with water and heat it and melt out the old antenna. This produced an empty radome, as well as their antenna, examination of which will show you the necessary technique to build one which actually works. The other trick is the designs in the handbooks are not quite as good as theory predicts for several reasons which I don't want to take the time to detail at this point. Most clubs have gone ahead and bought commercial antennas after calculating the man hours necessary to build, test, package, retest, and fairly quickly replace a home made antenna when it flexes in the wind more than expected.

--
Crazy George
Remove NO and SPAM from return address

7499. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 02:53:57 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <8p0qfvcg5hau7h99te6goqn2n0ro28kt0c@4ax.com>
Source record: 114051

On Fri, 27 Jun 2003 20:59:14 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> Not an answer at all to the original question. You remain the
>> unreliable correspondent as ever.
>
>It has been a lot longer than 69 minutes since I posted my magazine
>article, Richard. Why haven't you read it yet? :-)

Not an answer at all to the original question. You remain the
unreliable correspondent as ever.

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>photons materializing
>
>> Is this another one of your non-reproachable subjects that you will
>> later dismiss as being irrelevant if I were to object?
>
>Have you never heard of photons materializing, Richard? How would
>an antenna ever radiate if the photons never materialized?

Another answer to a different question. You remain the unreliable
correspondent as ever.

7500. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 03:10:10 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <nn1qfv8mihuacuik1jtto9flv9e23cqvup@4ax.com>
Source record: 114052

I think that putting the T directly on the cavity will work better. It
should provide a deeper notch. Adjust the coupling loop for maximum
coupling to the cavity for the deepest notch.

73
Gary K4FMX

On Sat, 21 Jun 2003 13:14:13 -0700, "Eric C. Weaver" <weav@sigma.net>
wrote:

>
>I have recently come to work for an outfit that does a fair bit of
>public-safety RF stuff, and might get the use of a pass cavity for around 152
>MHz.
>
>What I'd really like is a notch for 152.48, where a pager transmitter causes
>my little V/U handheld all manner of grief when on the outdoor antenna at home.
>
>Is there any simple way to take a pass cavity and make it reject? Tee it onto
>the line and leave the output port open, perhaps? I'd like this to be
>"transparent" except for the vicinity of the notch.
>
>Thanks for whatever you can tell me.

7501. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 04:47:58 UTC
From: Philip de Cadenet <Philstheboss@thebbc.fslife.co.uk>
Message-ID: <bdj6luhvl1@xuxa.iecc.com>
Source record: 114053
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

Henrik,

>call visa and tell them of your problem. they should be able to cancel the
>payment which should get the companies attention.

It'll get them more than a slapped wrist.

They can have their merchants facility pulled.

Give them a final warning by snail mail and send it registered so it
will have to be signed for.

Good luck
--
Philip de Cadenet
Transmitters 'R' Us
http://www.transmittersrus.com

7502. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 04:48:02 UTC
From: henrikolofsson@yahoo.se
Message-ID: <bdj6m2$i17$1@xuxa.iecc.com>
Source record: 114054
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

I finally got in touch with someone at Veronica and they will cancel my order and repay me 80% of the value. Ordered the stuff from NRJ yesterday and my order is on it's way!

Dave Shrader <david.shrader@attbi.com> wrote in message news:<bddld6$i2s$1@xuxa.iecc.com>...
> Contact VISA and have VISA credit your account!!
>
> Deacon Dave, W1MCE
>
> Henrik wrote:
> > I ordered stuff from them worth €152. Payed with my VISA and the
> > transaction was quick. Few days later I sent them a mail correcting my
> > order but got no reply. Few days more and I sent to their second
> > mail...no replay! now it's been 15 days and I have heard nothing from
> > them! What should I do?? I thought Veronica FM was a reliable company!
> > :(
> >
> > Best Regards,
> >
> > Henrik Olofsson
> > Sweden
> >

7503. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 06:22:54 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306272222.347eef26@posting.google.com>
Source record: 114055

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0306260905.6b6590a0@posting.google.com>...
> Richard, you are really being silly now.
> Get yourself a antenna optimiser program such as AO
> which is still available.

My faith in "optimiser" programs for such a scenario is fairly weak.
Never forget what all good airline pilots remember when programming
their autopilots.
GARBAGE IN = GARBAGE OUT.

> Put in a design that couples a square loop to a random
> dipole length and let the program choose the desired
> figures for maximum gain. (I have shown the diagram many times)
> Then you come forward as having proof that I am wrong
> and you or your computor is correct.
> It is that simple!

Letting a puter program "optimise" such a thing and expecting accurate
answers is not really simple.

> I know that all have some loyalty to Roys EZNEC program
> because that is how he earns his living and he would not
> touch a competitors product, a theme that seems to be
> followed by others in the group (One self styled expert
> refused to look at AO because he said it was old!!!!)

Huh??? I've never bought ANY antenna programs. I doubt Roy considers
my non buying status as any great show of loyalty. Not that I don't
like EZNEC, I'm just cheap, and can do much of what I want to do with
the demo's. For your info, I used MMANA when I modeled your antenna
about 9 or so months ago. Thats a freeware antenna program made by a
guy in Japan. He also does SSTV, RRTY, DSP, and lord knows what else.
But that program uses the older mininec engine. Being EZNEC uses the
newer NEC2 engine, it should be superior in many respects. BTW, MMANA
has an "optimiser" section. I've tried it, and overall found it to be
about as useful as tits on a boar hog. In other "normal" aspects, it
works about the same as ELNEC. They both use the same engine.
I've found over and over again, I can manually optimise an antenna
much better than most of these so called "optimiser" programs. You
want max gain from a yagi? No problem. Max f/b? No problem. Mix of
both ? No problem. 50 ohm feedpoint? No problem. I've got scads of
yagi files where I've manaully tweaked beams. I can make them do
anything I want them to. Don't need no stinkin optimiser program to
spit out goofball and unrealistic results. I'm not saying your program
is doing that, but I'd dang sure be wary.

>
> The above is that simple Richard. You could gloat for ever
> and place me personally under the black spot light for ever
> or I must slink away in shame.

Get a grip Art. I doubt he is gloating, and I doubt he owns any black spot lights.
This whiny ass "poor ole Art" crap is making me sick to my stomach. Stick to antenna talk please, so I don't upchuck my pizza and other assorted foods recently consumed. Have you ever seen a pukish mix of one hour old cherry/chocolate chunk ice cream mixed with two hour old partly digested pizza, and then topped off with fizzling acidic froth of about four Dr. Peppers all splattered across my puter and radios? I don't want to go there, if you please. But if you continue to where I reach that ugly point, I'm going to mail you a "doggy bag" of it, just so I won't feel like the lone ranger. By the time it gets up there to Yankee land via the sluggish postal service, it should be good and ripe. :(

> Why do you think that as yet NOT ONE PERSON has shown
> he can 'walk the walk' choosing instead to doing just the talk?

Well Art, I did as you suggested about 9 months ago, "excluding the optimiser deal", but being my results evidentally didn't fit the "program", I'm not sure if I'm walking or talking. Maybe both. Maybe neither.
Gee Davie...Why is the sky blue?

I'll be walking and talking tommorrow at "Yard Day" as W5DPA. We won't have much in the way of fields at our location at a fireman training facility. We will have three separate towers and tri-banders just for 20-10, so we should be browning the food on those bands at least. We don't use any small or gimmick antennas. Nothing but the biggest, baddest, and most pain in the rear to haul and install for us...:/
I'm loaded and ready to go. I've got my tower and beam strapped down on a motorcycle trailer I'm taking this year, since I have a camper shell on the back of the truck now, and didn't want it all in there this time. MK

7504. Re: Here is the monkey wrench to Cecil's et al

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 09:49:18 UTC
From: icycalmca@yahoo.com
Message-ID: <c70365ef.0306280149.194caf3@posting.google.com>
Source record: 114056

W5DXP <Cecil.A.Moore@ieee.org> wrote in message news:<3EF71179.4050705@ieee.org>...

> The water of the great flood came from the Aegean Sea after the
> last ice age melted and caused the sea levels to rise. It went
> into the Black Sea at the rate of about six inches per day and
> is still there. Noah's house is still under water.
>
> http://www.nationalgeographic.com/blacksea/

Sorry, but the only "habitation site" reported was a roughly
rectangular low pile of sicks and mud that yielded a date from
Napoleon's time
(that was from Ballard's expedition, near Sinop on the Black Sea coast
of Turkey).
There have been no human habitations clearly shown to have dated
from the time of the supposed inundation
(which has itself not been proven).

Alas, Ryan and Pitman were wrong, and there was no "Noachian" Black
Sea Flood.
There is evidence that there was an outflow southward through
the Bosphorus into the Mediterranean from more than 10000 years ago
(well before Ryan and Pitman's initial 7150 BP flood date),
continuously until the present day.
And evidence from the south shore of the Black sea shows that the
level of the Black Sea was only 18 m below the present level at the
time of the supposed flood.
A more recent claim by Ryan puts the flood date at 8400 BP, but
then the "floodwaters" through the Bosphorus channel would have been
only about 5 metres deep.

Check this out, for a layman-friendly synopsis of the refutation:

http://www.glenn.morton.btinternet.co.uk/bseaflod.htm

And here's a fairly recent news item (use either URL; they're for
the same
article):

http://www.newsday.com/news/health/ny-hsnoah14,0,2079747.story

http://makeashorterlink.com/?T22812913

<BEGIN QUOTE>
January 14, 2003

Scientists are seriously challenging a recent, fascinating proposal that Noah's epic story -- setting sail with an ark jam-full of animal couples -- was based on an actual catastrophic flood that suddenly filled the Black Sea 7,500 years ago, forcing people to flee.

In a detailed new look at the rocks, sediments, currents and seashells in and around the Black Sea, an international research team pooh-poohs the Noah flood idea, arguing that all the geologic, hydrologic and biologic signs are wrong.

Little that the earth can tell us seems to fit the Noah story, they say. The new research takes direct aim at the work of two Columbia University geologists -- William Ryan and Walter Pitman -- whose proposal in 1997 ignited much new interest, and much new research, into Middle East history and geology.

<END QUOTE>

And here are a couple of scientific papers:

"Is the abrupt drowning of the Black Sea shelf at 7150 yr BP a myth?"

http://lava.tamu.edu/courses/geol101/herbert/docs/BlackSeaFloodCritique.pdf

"Persistent Holocene Outflow from the Black Sea to the Eastern Mediterranean Contradicts Noah's Flood Hypothesis"

http://www.geosociety.org/pubs/gsatoday/toc0205.htm

And there's lots more, but you'd need access to scientific journals to read it, but you could ask me for more details if you want them.

Sorry to splash water in the frying pan.

Daryl Krupa

7505. Re: Rptr Antenna for 440?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 10:25:05 UTC
From: Mike S <m614fs@yahoo.com>
Message-ID: <bdjqei$3d$1@news.cis.ohio-state.edu>
Source record: 114057

I guess what I was asking was whether anyone else was happy using a hbrew 440 antenna for a repeater application. Wind flexing and resulting joint failure are the biggest concerns. The colinear design is constructed of a series of eight half wave lengths of coax alternately connected shield to braid with a ferrite choke on the feed end. The location is very high and there should be a means to mount something fairly sturdy. My thought was to encase the array inside of sch80 pvc pipe for rigidity to prvent flexing.

Mike KI8KF

7506. Random Length Longwire Directionality Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 12:52:13 UTC
From: Robert11 <rgsrose@tiac.net>
Message-ID: <bdk315$3p7$1@slb1.atl.mindspring.net>
Source record: 114058

Hello:

Thinking of putting up about a 100-150 foot "random length" longwire in my backyard.
Do general listening only; few hundred kc to 30 MC

Can someone please summarize for me the directionality aspects for such a listening wire vs approx. freq. ?

e.g., if I'm most interested in Europe, do I want to point the end of the wire, or the length, due East (from Boston) ?
How does this answer change with freq. ?

Should the main run be purely horizontal, or, perhaps, sloped ?
What's the best compromise; want only one antenna.

How does the vertical run length, in this case only about 15 feet, contribute ?

Thanks,
Bob

7507. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 13:00:28 UTC
From: Russ <carlzomer@hotmail.com>
Message-ID: <b54rfv41bi2tc1evr6i5640ajmmii11m12@4ax.com>
Source record: 114059

On Thu, 26 Jun 2003 21:22:53 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Russ wrote:
>"If the items in question can be counted, use fewer."
>
>Thank you for the advice.
>
>Russ, and Mac, N8TT, both advise fewer for a word count. Both Russ and
>Mac are right on target.
>
>Mac gave an example of fewer ice cubes and less water. Seens to me Mac
>doesn`t want his scotch over watered.
>
>I`ll try to mend my ways and splurge on the 5-letter word fewer instead
>of incorrectly skimping with the 4-letter word less.
>
>Thank you all for your advice.
>
>Best regards, Richard Harrison, KB5WZI

Richard,

It was offered in the spirit of clear and concise communication.
Thanks for taking it that way and you're welcome. I like the "fewer
ice cubes and less water" analogy. It works perfectly and is more
clear than my efforts.

Russ

7508. t tuner suggestions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 13:00:48 UTC
From: Jerry <jerryaa@fbx.com>
Message-ID: <3efd9187@news.lh.net>
Source record: 114060

I own an MFJ 969 tuner. I have tried using a random length end fed, but at certain frequencies it just refuses to tune. I am thinking of homebrewing a tuner[or modifying the 969].

What values of variable caps would I need to tune 4.5k of reactance at the HF frequencies. In theory at 80 meters it would take a very small value of cap. Most of the designs for t tuner I have seen use two 250 pf variables. Would their be any advantage to putting let s say a 250 pf fixed cap in parallel with the variables so I could switch in and out for extra range? I mainly operate qrp.

--
Jerry
"Vi Minore, Plus Gaudium"
"Pluralitas non est ponenda
sine necessitate".

7509. Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 13:21:11 UTC
From: MCB <a@c.com>
Message-ID: <yHgLa.44251$9C6.2089660@wards.force9.net>
Source record: 114061
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

I would be very grateful if someone could answer the following question:

For an antenna operating in receive - What field strength present on the antenna will result in an power output of 3W? The gain of the antenna is 1 (0dBi) and perfectly matched into 50ohms.

7510. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 13:39:34 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <qUgLa.31296$pH3.26123@news2.east.cox.net>
Source record: 114062

I could be wrong, but I think the coupling loop would look
like a slightly reactive shunt at all frequencies except where the
cavity has resonances... i.e. it would bandpass what he
wants to notch?

Pete

"Gary Schafer" <gaschafer@attbi.com> wrote in message
news:nn1qfv8mihuacuik1jtto9flv9e23cqvup@4ax.com...
> I think that putting the T directly on the cavity will work better. It
> should provide a deeper notch. Adjust the coupling loop for maximum
> coupling to the cavity for the deepest notch.
>
> 73
> Gary K4FMX
>
>
> On Sat, 21 Jun 2003 13:14:13 -0700, "Eric C. Weaver" <weav@sigma.net>
> wrote:
>
> >
> >I have recently come to work for an outfit that does a fair bit of
> >public-safety RF stuff, and might get the use of a pass cavity for around
152
> >MHz.
> >
> >What I'd really like is a notch for 152.48, where a pager transmitter
causes
> >my little V/U handheld all manner of grief when on the outdoor antenna at
home.
> >
> >Is there any simple way to take a pass cavity and make it reject? Tee it
onto
> >the line and leave the output port open, perhaps? I'd like this to be
> >"transparent" except for the vicinity of the notch.
> >
> >Thanks for whatever you can tell me.
>

7511. Re: Random Length Longwire Directionality Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 14:20:23 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <U7udnTbrc-K3OWCjRTvU2Q@crocker.com>
Source record: 114063

"Robert11" <rgsrose@tiac.net> wrote in message
news:bdk315$3p7$1@slb1.atl.mindspring.net...
> Hello:
>
> Thinking of putting up about a 100-150 foot "random length" longwire in my
> backyard.
> Do general listening only; few hundred kc to 30 MC
>
> Can someone please summarize for me the directionality aspects for such a
> listening wire vs approx. freq. ?
>

if it is not terminated it is generally bi-directional with lobes off each
end of the wire. the higher the frequency the more lobes there are and the
narrower they get.

> e.g., if I'm most interested in Europe, do I want to point the end of the
> wire, or the length, due East (from Boston) ?

generally north-east would probably be the best. east is more toward
southern europe and africa.

> How does this answer change with freq. ?

not much, the higher the frequency the more loss there is 'behind' you. so
for best reception of europe you would want the wire to run north-east from
the feed point.

>
> Should the main run be purely horizontal, or, perhaps, sloped ?

whatever you can do, sloping it will make it slightly less directional.

> What's the best compromise; want only one antenna.
>
> How does the vertical run length, in this case only about 15 feet,
> contribute ?

if not shielded it will contribute an omnidirectional component to the
pattern making it less directional. a vertical run that long may dominate
the pattern above 20m or so.

>
> Thanks,
> Bob
>

7512. Re: Rptr Antenna for 440?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 14:27:16 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <rq8rfvs65g2e17q5trkb4anf6mj9e1v384@4ax.com>
Source record: 114064

On Sat, 28 Jun 2003 06:25:05 -0400, "Mike S" <m614fs@yahoo.com> wrote:

>I guess what I was asking was whether anyone else was happy using a hbrew
>440 antenna for a repeater application. Wind flexing and resulting joint
>failure are the biggest concerns. The colinear design is constructed of a
>series of eight half wave lengths of coax alternately connected shield to
>braid with a ferrite choke on the feed end. The location is very high and
>there should be a means to mount something fairly sturdy. My thought was to
>encase the array inside of sch80 pvc pipe for rigidity to prvent flexing.
>
>Mike KI8KF
>

Hi Mike,

If your interest is in antennas, you will be kept busy with antennas,
If your interest is in repeaters, it will be a nuisance.

The difference is: how often are you willing to go aloft?

Double that.

73's
Richard Clark, KB7QHC

7513. Re: t tuner suggestions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 14:35:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <dDadnYwW48g2OmCjXTWJkA@comcast.com>
Source record: 114065

You might try changing the length of the antenna, or changing the length of the feedline slightly. Easiest thing would be to patch another 30 or 40 feet of coax in line.

Tam/WB2TT
"Jerry" <jerryaa@fbx.com> wrote in message news:3efd9187@news.lh.net...
> I own an MFJ 969 tuner. I have tried using a random length end fed, but at
> certain frequencies it just refuses to tune. I am thinking of homebrewing
a
> tuner[or modifying the 969].
>
> What values of variable caps would I need to tune 4.5k of reactance at
the
> HF frequencies. In theory at 80 meters it would take a very small value
of
> cap. Most of the designs for t tuner I have seen use two 250 pf
variables.
> Would their be any advantage to putting let s say a 250 pf fixed cap in
> parallel with the variables so I could switch in and out for extra range?
I
> mainly operate qrp.
>
>
> --
> Jerry
> "Vi Minore, Plus Gaudium"
> "Pluralitas non est ponenda
> sine necessitate".
>
>
>

7514. Re: t tuner suggestions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 14:37:49 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFDA83D.7000407@ieee.org>
Source record: 114066

Jerry wrote:
> I own an MFJ 969 tuner. I have tried using a random length end fed, but at
> certain frequencies it just refuses to tune. I am thinking of homebrewing a
> tuner[or modifying the 969].

Hi Jerry, trying to match impedances outside the range of an
MFJ 969 is a good way to lose most of your power as heat in
the tuner components. How about fixing the actual problem?
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7515. Re: Random Length Longwire Directionality Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 14:54:56 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5i9rfvoh0jmnbedmecidshvc57o39sjgj4@4ax.com>
Source record: 114067

On Sat, 28 Jun 2003 08:52:13 -0400, "Robert11" <rgsrose@tiac.net>
wrote:

>Hello:
>
>Thinking of putting up about a 100-150 foot "random length" longwire in my
>backyard.
>Do general listening only; few hundred kc to 30 MC
>
>Can someone please summarize for me the directionality aspects for such a
>listening wire vs approx. freq. ?
>
>e.g., if I'm most interested in Europe, do I want to point the end of the
>wire, or the length, due East (from Boston) ?
>How does this answer change with freq. ?
>
>Should the main run be purely horizontal, or, perhaps, sloped ?
>What's the best compromise; want only one antenna.
>
>How does the vertical run length, in this case only about 15 feet,
>contribute ?
>
>Thanks,
>Bob

Hi Bob,

Where the 100-150 foot length at 15 feet high represents what would be described a Beverage antenna, useful in the 20M to 40M band for that purpose; then you would want to point the major axis (along its length) at the region you want to listen to.

For higher frequencies, it is getting a little tall for a Beverage (which is not a liability, just different), and the same advice would still be operative (the vertical section will fill in the sides making it more broadly covering). For lower frequencies it will become more like a short, heavily top loaded vertical with an oval field of sensitivity. There will be no appreciable point of the compass that is treated better (on paper perhaps, but you will never know the difference). In other words, it will be an inverted-L.

If you have anything but the best of receivers, the length will be an AM magnet (not in the good sense for HF) and you will need a tuner to eliminate the problems of Intermodulation Products that will be created in your set's front-end. Save money and build your own from two junk box AM tuning Capacitors and a variable (tapped) coil of

20-30 turns (maybe half a dozen taps). If you want to buy a solution, buy the cheapest (Ham low power) used tuner. You can spend more, but then why did you skimp on a less than best receiver?

By the way, most of Europe is not due east of Boston. Grab a globe and a string. Connect the two points with the shortest amount of string and THEN consult the compass rose. I am west of Boston, and Europe is North of me. If you have no globe, look for Great Circle calculators (with map generators) on the Web.

Have fun listening & 73's
Richard Clark, KB7QHC

7516. Re: t tuner suggestions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 15:03:50 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g3brfv8om9h5s4kitb853a53uq53337sgr@4ax.com>
Source record: 114068

On Sat, 28 Jun 2003 08:00:48 -0500, "Jerry" <jerryaa@fbx.com> wrote:

>I own an MFJ 969 tuner. I have tried using a random length end fed, but at
>certain frequencies it just refuses to tune. I am thinking of homebrewing a
>tuner[or modifying the 969].
>
>What values of variable caps would I need to tune 4.5k of reactance at the
>HF frequencies. In theory at 80 meters it would take a very small value of
>cap. Most of the designs for t tuner I have seen use two 250 pf variables.
>Would their be any advantage to putting let s say a 250 pf fixed cap in
>parallel with the variables so I could switch in and out for extra range? I
>mainly operate qrp.

Hi Jerry,

Find your solution by paralleling the random wire with another length
tuned near the bad band (probably as easy as running half the length
of the original wire along-side). Use a spreader of a foot or two at
the end of the shorter.

Your idea of a switched cap may work, it may not. It would be simple
enough to try one or the other or both; depending on what you call
simple. Don't fall for the trap logic of the guy who lost his keys
outside at night and searched only under street lights.

73's
Richard Clark, KB7QHC

7517. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 15:09:16 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <1marfv0m2fsu4vsl556o1ii9vnm0sb49fu@4ax.com>
Source record: 113969

On 26 Jun 2003 10:05:48 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

[snip]

|I know that all have some loyalty to Roys EZNEC program
|because that is how he earns his living and he would not
|touch a competitors product, a theme that seems to be
| followed by others in the group (One self styled expert
|refused to look at AO because he said it was old!!!!)

It would be an unwise man who *did not* "touch" his competitor's
products. I'm sure Roy understands all of the competition very well.

That he remains available to the ham community to support his product
despite some of the crap spewed in this forum baffles me. I believe
that Brian (AO) long since gave up selling and supporting his product.

Perhaps the reason EZNEC continues to be popular is the fact that it
is still available and the customer support is superb.

7518. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 15:27:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <kjbrfvkumht4me1h2gis7upqn3qkta9h0q@4ax.com>
Source record: 113970
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

On Sat, 28 Jun 2003 14:21:11 +0100, "MCB" <a@c.com> wrote:

>I would be very grateful if someone could answer the following question:
>
>
>
>For an antenna operating in receive - What field strength present on the
>antenna will result in an power output of 3W? The gain of the antenna is 1
>(0dBi) and perfectly matched into 50ohms.
>
Hi OM,

Looks like you should be consulting the work of Tesla. Be warned he
went mad and broke (don't know which order) trying to fill a load with
significant power transmitted cross town (Colorado Springs).

Now, I only start with this presumption because the wording of your
question lacks a significant amount of detail.
How tall the antenna?
What frequency of operation?
What separation of transmitter from receiver?
What power in transmitter?

Field strength is specified in volts/meter and you already know how
many volts you need for 50Ohms to render 3W, it remains to be seen if
the structures and frequency support that value.

One does not ordinarily speak of power OUTPUT from a receiving antenna
(true, that is what is available and sought, but typical antennas
rarely offer anything but milliWatts at very close range). If you
wanted 3W from a 3W transmitter, you would use direct connection (skip
antennas altogether). If you wanted 3W from a 6W transmitter, you
need a similar antenna within the space that one would knock down the
other if it fell. A direct connection is simpler still. If you
wanted 3W from a 60W transmitter, you will still need to be quite
close and it would be hard to not extend that direct connection
instead. Square-Law is going to kill you unless you are next door to
a half-megaWatt VOA site.

73's
Richard Clark, KB7QHC

7519. Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 16:15:59 UTC
From: DOUGLAS SNOWDEN <SNOWDEN@peoplepc.com>
Message-ID: <vfrfq1lnjp6v08@corp.supernews.com>
Source record: 113971

I will be moving into a home in a couple of months that
has a fair amount of property to the back. I am planning
on putting all or most of my antennas back several hundred feet from the
house and radio equipment. Due to the high cost of Heliax, I am looking for
ideas on what
methods to use to get the RF to the antennas. Openwire
feeder that goes to some sort of termination box that
converts to shorter coax runs? Ways to feed the openwire, if that is the
way I go? Maybe there are cheaper sources of Heliax (hardline) I have seen?

Doug N4IJ
Central VA

7520. Re: t tuner suggestions

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 16:18:01 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdkf3p$t9b$1@titan.btinternet.com>
Source record: 113972

Jerry,

Download in a few seconds program ENDFEED from website below and run immediately.

Enter length, height and wire diameter of your antenna and a few approximate details of your ground system. Have a guess at what your garden soil is. And that's all there is to it.

At a given frequency the program will calculate the component values of 3 different matching networks with some other details like radiating efficiency. The program automatically increases the size of the coil to limit the size of either of the capacitors to a maximum of 300 pF (or it might be 350pF)

Don't expect exact tuner agreement with what you acually have. You won't know the characteristics of your system as accurately as you might think. You will be able to investigate awkward antenna lengths and frequencies and how to manage or avoid them. You will also get to know the values of the small L's and C's needed for the 10m band.

It is imposssible to design a tuner which covers 160 to 10 meters on a so-called random long or short wire.

To cover 160 meters with a T-network you need at least 2 x 500pF capacitors with a roller-coaster of 60uH. When these are set to minimum the stray capacitance and inductance can be much too large for 10 meters. That's why tuners you buy in the shops are usually specified as 80m to 10m and are often not good enough that. Ideally there could be 2 tuners - 160m to 40m and 40m to 10m. There's no need to put them in boxes

Somebody says if you can't tune up just change the antenna length. That's quite right. But the same effect can be acheived by adding in series with the antenna a fixed or variable capacitor, or fixed coils wound on toilet roll tubes. Or anything. Use alligator clips. Keep the bits and pieces in a shoe box on the window ledge near the tuner.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

"Jerry" <jerryaa@fbx.com> wrote in message news:3efd9187@news.lh.net...
> I own an MFJ 969 tuner. I have tried using a random length end fed, but at
> certain frequencies it just refuses to tune. I am thinking of homebrewing
a

> tuner[or modifying the 969].
>
> What values of variable caps would I need to tune 4.5k of reactance at
the
> HF frequencies. In theory at 80 meters it would take a very small value
of
> cap. Most of the designs for t tuner I have seen use two 250 pf
variables.
> Would their be any advantage to putting let s say a 250 pf fixed cap in
> parallel with the variables so I could switch in and out for extra range?
I
> mainly operate qrp.
>
>
> --
> Jerry
> "Vi Minore, Plus Gaudium"
> "Pluralitas non est ponenda
> sine necessitate".
>
>
>

7521. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 16:20:30 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <qrfrfvk66ca815cp800qouc8sa6u9jjjvk@4ax.com>
Source record: 113973

On Sat, 28 Jun 2003 12:15:59 -0400, "DOUGLAS SNOWDEN"
<SNOWDEN@peoplepc.com> wrote:

>I will be moving into a home in a couple of months that
>has a fair amount of property to the back. I am planning
>on putting all or most of my antennas back several hundred feet from the
>house and radio equipment. Due to the high cost of Heliax, I am looking for
>ideas on what
>methods to use to get the RF to the antennas. Openwire
>feeder that goes to some sort of termination box that
>converts to shorter coax runs? Ways to feed the openwire, if that is the
>way I go? Maybe there are cheaper sources of Heliax (hardline) I have seen?
>
>Doug N4IJ
>Central VA
>

Hi Doug,

1. Run exciters to remote amps through cheap cable.

2. Build the shack several hundred feet from the house.

3. Combine 1. & 2. by building a remote base with link.

73's
Richard Clark, KB7QHC

7522. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 16:48:46 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <94adnd6nrKFsW2CjRTvU2Q@crocker.com>
Source record: 113974

"DOUGLAS SNOWDEN" <SNOWDEN@peoplepc.com> wrote in message
news:vfrfq1lnjp6v08@corp.supernews.com...
> I will be moving into a home in a couple of months that
> has a fair amount of property to the back. I am planning
> on putting all or most of my antennas back several hundred feet from the
> house and radio equipment. Due to the high cost of Heliax, I am looking
for
> ideas on what
> methods to use to get the RF to the antennas. Openwire
> feeder that goes to some sort of termination box that
> converts to shorter coax runs? Ways to feed the openwire, if that is the
> way I go? Maybe there are cheaper sources of Heliax (hardline) I have
seen?
>
> Doug N4IJ
> Central VA
>
>

cable tv hardline can often be picked up cheap or free. ends of rolls can
often be a couple hundred feet long and are almost worthless to cable
companies who must often pay to have them trashed. it is all 75 ohm, but
don't worry about the mismatch, for hf it won't cause any problems.
connectors are easy to make out of standard plumbing fittings.

7523. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:00:48 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306280900.38f6d140@posting.google.com>
Source record: 113975

nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0306272222.347eef26@posting.google.com>...
> aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0306260905.6b6590a0@posting.google.com>...
> > Richard, you are really being silly now.
> > Get yourself a antenna optimiser program such as AO
> > which is still available.
>
> My faith in "optimiser" programs for such a scenario is fairly weak.
> Never forget what all good airline pilots remember when programming
> their autopilots.
> GARBAGE IN = GARBAGE OUT.

>
Thats O.K. Mark. You are in very good company. Over about 10 years I
have noted that there are a lot of "names" in this group None have
agreed with my assertions and none will use the AO program as I
suggest even tho I offered to
pick up the cost of one for you. Ham radio has been hit with what
appears to be false claims about antennas even to the point of
mathematical analysis to disprove those claims so now it is natural
for reflex actions with out study
to debumk anything new, and people are comfortable about that.
As far as my efforts go there has been no mathematical analysis to
debunk what I state ,albiet I am a poor communicator. Apparently none
have used the particular program either to debunk me yet the most
successfull new antenna on the block 'SteppIR antenna' used the same
program to validate its findings.
Mark, this is the Internet and this group is a part of it. If you
agree with the many antenna experts of this group that I have no
credability then block me out by not reading my comments.
It is your right, as is mine to share my efforts with those who are
interested in antennas and experimentation.I see now there are
complaints that some of the postings are getting too technical, they
to can ignore and provide postings of the level that they are happy
with. So lighten up, you are in the company of many well known
'antenna' names or experts with respect to AO and also my
observations.
I will be silly and continue to swim upstream for inexplicable reasons
just like a salmon where, when I reach the end I will write it up
purely for my sole contentment. If you are the type that shoot salmon
when they rise up on the impossible challenge then such action will
not stop me in what I do other than just block the random firing in
the same way I suggest to you and others.

Have a great weekend with field day and enjoy the mutual conversations
of others
with a smile on your face. I see no reason to respond on the rest of
your posting

As always, no ill will is kept for ever.
Best regards to my fellow hams

Art Unwin KB9MZ.....XG

7524. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:05:03 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFDCABF.4030807@ieee.org>
Source record: 113976

DOUGLAS SNOWDEN wrote:
> I will be moving into a home in a couple of months that
> has a fair amount of property to the back. I am planning
> on putting all or most of my antennas back several hundred feet from the
> house and radio equipment. Due to the high cost of Heliax, I am looking for
> ideas on what
> methods to use to get the RF to the antennas. Openwire
> feeder that goes to some sort of termination box that
> converts to shorter coax runs? Ways to feed the openwire, if that is the
> way I go? Maybe there are cheaper sources of Heliax (hardline) I have seen?

It would be hard to beat the low loss performance of 600 ohm balanced
feedline for that application. That's what I would do. But if your
antennas are multi-band, you would need to know a thing or two about
matching, e.g. switching in stubs as needed.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7525. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:16:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <rYGcnWVdXMjIUGCjU-KYvA@comcast.com>
Source record: 113977

Doug,

If you have multiple antennas, first I would get a remote antenna switch that lets you switch between multiple antennas and a common feedline. I think Ameritron makes one. I don't tknow where you looked at for Heliax, but try Cablexperts, RadioWorks, and Texas Towers; actually, you best bet might be if you can get some 75 Ohm CATV line cheap. Also, at 30 MHz LMR400 would only have 1.6db loss for 200 feet, and only costs slightly more than RG213.

Tam/WB2TT
"DOUGLAS SNOWDEN" <SNOWDEN@peoplepc.com> wrote in message
news:vfrfq1lnjp6v08@corp.supernews.com...
> I will be moving into a home in a couple of months that
> has a fair amount of property to the back. I am planning
> on putting all or most of my antennas back several hundred feet from the
> house and radio equipment. Due to the high cost of Heliax, I am looking
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> ideas on what
> methods to use to get the RF to the antennas. Openwire
> feeder that goes to some sort of termination box that
> converts to shorter coax runs? Ways to feed the openwire, if that is the
> way I go? Maybe there are cheaper sources of Heliax (hardline) I have
seen?
>
> Doug N4IJ
> Central VA
>
>
>

7526. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:37:26 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdkjomjkl1@sparta.btinternet.com>
Source record: 113978

Over a length of several hundred feet, for a given cost and low attenuation you will be limited to open wire line. But you will end up with a very nice and efficient system.

Example: 330 feet of 600-ohm open-wire line, 14 AWG wires spaced 5 inches apart, overall attenuation at 10 MHz is 0.27 dB.

Construction costs include cost of supporting posts.

For single-band working, standard impedance transforming networks can used at both ends.

For multi-band working you may end up wandering around the backyard in the dark with alligator clips and a lantern.

Reg

7527. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:46:26 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <evkrfvgdibm69e96dc2vqhdcp7a6b17d7v@4ax.com>
Source record: 113979

On 28 Jun 2003 10:00:48 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:
> Ham radio has been hit with what
>appears to be false claims about antennas

Hi Art,

Do your claims exceed the significance of 1dB?

73's
Richard Clark, KB7QHC

7528. Re: Random Length Longwire Directionality Questions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 17:50:01 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <aoKdnXuUI6PRSGCjXTWJhg@comcast.com>
Source record: 113980

Bob,

I took a quick look at a globe, and a NS antenna would give you central Africa and New Zealand. an EW antenna would give you China and South America. There is no antenna that would cover the frequency range you want, but if it was me, I would put up a dipole for 6 MHz (78 feet long). Even at 15 feet it is slightly directional, favoring broadside to the wire. So, you would have the wire running NW to SE, since virtually all of Europe and the Middle East is on a heading of 45 degrees from Boston. I did not look at intermediate frequencies, but at 18 MHz the pattern is a cloverleaf, with nuls at N, E, S, and W. Unless you get a trap dipole, the impedance is going to vary all over the place (50 to several thousand Ohms), so you might as well feed it with 300 Ohm twin lead. Use center feed, and get away from the ground issue. No HF antenna is going to be particularly good below the broadcast band, and in the worst case you might want to use a preamp and low pass filter.

Most SW broadcast stations run enough power, that getting enough signal is not a problem. Interference from other stations is. What you need is a radio with good selectivity and freedom from overload. A good radio and a piece of junk antenna (20 feet of bell wire) will run circles around a piece of junk radio and a good antenna.

You really need to experiment. That means don't take down the old antenna when you put up a new one, or you can't do a comparison. Keep in mind that propagation can change in a few minutes.

Tam/WB2TT
"Robert11" <rgsrose@tiac.net> wrote in message
news:bdk315$3p7$1@slb1.atl.mindspring.net...
> Hello:
>
> Thinking of putting up about a 100-150 foot "random length" longwire in my
> backyard.
> Do general listening only; few hundred kc to 30 MC
>
> Can someone please summarize for me the directionality aspects for such a
> listening wire vs approx. freq. ?
>
> e.g., if I'm most interested in Europe, do I want to point the end of the
> wire, or the length, due East (from Boston) ?
> How does this answer change with freq. ?
>
> Should the main run be purely horizontal, or, perhaps, sloped ?
> What's the best compromise; want only one antenna.

>
> How does the vertical run length, in this case only about 15 feet,
> contribute ?
>
> Thanks,
> Bob
>

7529. Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 18:32:11 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFDDF2B.5070006@ieee.org>
Source record: 113981

```
source----------Z01--------+----------Z02------------load
Pfwd1--> RHO Pfwd2-->
<--Pref1 <--Pref2
```

The Conservation of Energy principle indicates that the energy flowing into the impedance discontinuity must equal the energy flowing out of the impedance discontinuity. Therefore:

Pfwd1 + Pref2 = Pref1 + Pfwd2

RHO^2 is the power reflection coefficient and equals [(Z02ï¿½Z01)/(Z02+Z01)]^2. (1ï¿½RHO^2) is the power transmission coefficient, i.e. the power that is not reflected from the impedance discontinuity is transmitted through the impedance discontinuity.

Pfwd1(RHO^2) is the power reflected back toward the source by the physical impedance discontinuity. This power component is associated with a rearward-traveling wave component.

Pfwd1(1ï¿½RHO^2) is the power transmitted through the physical impedance discontinuity, i.e. not reflected, and is associated with a forward-traveling wave component.

Pref2(RHO^2) is the power reflected from the load that is re-reflected back toward the load by the impedance discontinuity and is associated with a forward-traveling wave component.

Pref2(1ï¿½RHO^2) is the power reflected from the load that is not re-reflected back toward the load and is instead transmitted through the impedance discontinuity as a rearward-traveling wave component.

It should be obvious that:

Pfwd1 = Pfwd1(RHO^2) + Pfwd1(1-RHO^2) and Pref2 = Pref2(RHO^2) + Pref2(1-RHO^2)

and we can substitute these values into the previous equation to obtain:

Pfwd1(RHO^2) + Pfwd1(1ï¿½RHO^2) + Pref2(RHO^2) + Pref2(1ï¿½RHO^2) = Pref1 + Pfwd2

The above equation is still a valid representation of the Conservation of Energy principle. Now let's do something that may not make sense at first. Let's group the rearward-traveling components on the left side of the equation and group the forward-traveling components on the right side of the equation. The result is:

ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½ Pref2(RHO^2)

Note that the above equation is still based on the original Conservation of Energy equation. What physical meaning can we draw from the terms on the left side and the terms on the right side of the equation? What we are looking at in the above equation are the interference terms. The left side of the equation represents the interference term at the impedance discontinuity looking toward the source. The right side of the equation represents the interference term at the impedance discontinuity looking toward the load.

If the sign of the interference term is negative, then that interference is destructive.

If the sign of the interference term is positive, then that interference is constructive.

If destructive interference exists on the source side of the impedance discontinuity, then an equal magnitude of constructive interference will exist on the load side of the impedance discontinuity.

If constructive interference exists on the source side of the impedance discontinuity, then an equal magnitude of destructive interference will exist on the load side of the impedance discontinuity.

The absolute magnitude of the terms on the left side of the equation must equal the absolute magnitude of the terms on the right side of the equation, i.e. the constructive interference is always equal in magnitude to the destructive interference. The sign associated with the left side of the equation will always be the opposite to the sign associated with the right side of the equation.

For one boundary condition, both sides of the equation can equal zero and there is no transfer of energy across the impedance discontinuity due to interference.

Conclusion at this point: Interference energy exists at an impedance discontinuity in a transmission line and the Conservation of Energy principle says that *all* energy must be conserved.

Quoting from Optics, by Hecht: "The principle of Conservation of Energy makes it clear that if there is constructive interference at one point, the 'extra' energy at that location must have come from elsewhere. There must therefore be destructive energy somewhere else."

Quoting from the Melles-Griot web page at:

http://www.mellesgriot.com/products/optics/oc_2_1.htm

"In the absence of absorption or scatter, the principle of conservation of energy indicates all 'lost' reflected intensity will appear as enhanced intensity in the transmitted beam."

"'Lost' *reflected* intensity" appearing as "enhanced intensity in the *transmitted* beam" certainly appears (to me) to be a change in direction of the interference energy flow.

I am in the process of posting information to my web page concerning impedance discontinuities in transmission lines. Part-1 of my article (rejected by QEX) is already posted there.
--
73, Cecil http://www.qsl.net/w5dxp

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7530. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 20:58:09 UTC
From: MCB <a@c.com>
Message-ID: <bonLa.44312$9C6.2096962@wards.force9.net>
Source record: 113982
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

Thanks Richard

More information: The antenna is an active dipole. There is a 3W RF limiter on the output which connects directly to a low noise amplifier (LNA). So the antenna can cope with up to 3W on its output before any damage to the limiter or LNA. I need to know the field strength as I have a transmitter within 10 metres transmitting 100W into another dipole at the same frequency as the RX !! (the receiver is isolated).

So I need to know what the field strength in V/m will produce 3W on the output of the antenna?..... Anyone know how to tackle this problem?

Thanks

"Richard Clark" <kb7qhc@attbi.com> wrote in message news:kjbrfvkumht4me1h2gis7upqn3qkta9h0q@4ax.com...
> On Sat, 28 Jun 2003 14:21:11 +0100, "MCB" <a@c.com> wrote:
>
> >I would be very grateful if someone could answer the following question:
> >
> >
> >
> >For an antenna operating in receive - What field strength present on the
> >antenna will result in an power output of 3W? The gain of the antenna is
1
> >(0dBi) and perfectly matched into 50ohms.
> >
> Hi OM,
>
> Looks like you should be consulting the work of Tesla. Be warned he
> went mad and broke (don't know which order) trying to fill a load with
> significant power transmitted cross town (Colorado Springs).
>
> Now, I only start with this presumption because the wording of your
> question lacks a significant amount of detail.
> How tall the antenna?
> What frequency of operation?
> What separation of transmitter from receiver?
> What power in transmitter?
>
> Field strength is specified in volts/meter and you already know how
> many volts you need for 50Ohms to render 3W, it remains to be seen if
> the structures and frequency support that value.
>

> One does not ordinarily speak of power OUTPUT from a receiving antenna
> (true, that is what is available and sought, but typical antennas
> rarely offer anything but milliWatts at very close range). If you
> wanted 3W from a 3W transmitter, you would use direct connection (skip
> antennas altogether). If you wanted 3W from a 6W transmitter, you
> need a similar antenna within the space that one would knock down the
> other if it fell. A direct connection is simpler still. If you
> wanted 3W from a 60W transmitter, you will still need to be quite
> close and it would be hard to not extend that direct connection
> instead. Square-Law is going to kill you unless you are next door to
> a half-megaWatt VOA site.
>
> 73's
> Richard Clark, KB7QHC

7531. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 21:17:23 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <aq0sfvc9bki896do7ia9ltucejkikneabd@4ax.com>
Source record: 113983
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

On Sat, 28 Jun 2003 21:58:09 +0100, "MCB" <a@c.com> wrote:

>Thanks Richard
>
>More information: The antenna is an active dipole. There is a 3W RF limiter
>on the output which connects directly to a low noise amplifier (LNA). So the
>antenna can cope with up to 3W on its output before any damage to the
>limiter or LNA. I need to know the field strength as I have a transmitter
>within 10 metres transmitting 100W into another dipole at the same frequency
>as the RX !! (the receiver is isolated).
>
>So I need to know what the field strength in V/m will produce 3W on the
>output of the antenna?..... Anyone know how to tackle this problem?
>
>Thanks
>

Hi OM,

You still have a lot of unknowns.
What frequency?
Are the antennas in the same polarization (horiz/vert)?
What is the gain of the "active dipole" amplifier?
Is the LNA the active part of the "active dipole?"
(It doesn't seem to be so by your description.)

This may be academic because you say the output is limited to 3W.
What is the power input limit of the LNA?

If you are operating HF,
Why are you using an LNA?

If you are not operating HF, but rather VHF (2M) you are probably OK,
but in all reality that is an issue with the input power ability of
the "active dipole" amplifier, not its output.

73's
Richard Clark, KB7QHC

7532. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 21:45:02 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306281345.6abc57a3@posting.google.com>
Source record: 113984

aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0306280900.38f6d140@posting.google.com>...
> nm5k@wt.net (Mark Keith) wrote in message
news:<25eb70d7.0306272222.347eef26@posting.google.com>...
> > aunwin@insightbb.com (Art Unwin KB9MZ) wrote in message
news:<85ed38d.0306260905.6b6590a0@posting.google.com>...
> > > Richard, you are really being silly now.
> > > Get yourself a antenna optimiser program such as AO
> > > which is still available.
> >
> > My faith in "optimiser" programs for such a scenario is fairly weak.
> > Never forget what all good airline pilots remember when programming
> > their autopilots.
> > GARBAGE IN = GARBAGE OUT.
>
>
> >
> Thats O.K. Mark. You are in very good company. Over about 10 years I
> have noted that there are a lot of "names" in this group None have
> agreed with my assertions and none will use the AO program as I
> suggest even tho I offered to
> pick up the cost of one for you.

I didn't need it for what I was doing. What are your assertions? This
is not a trick question. I really don't have any idea what your
assertions are being as you don't stick with any one antenna for too
long, or use just a general example of a method of feeding, etc.

Ham radio has been hit with what
> appears to be false claims about antennas even to the point of
> mathematical analysis to disprove those claims so now it is natural
> for reflex actions with out study
> to debumk anything new, and people are comfortable about that.

What false claims? I see many, but I have no idea which you refer to
in particular. And so far, nothing I've seen you doing is really new.
Maybe not commonly used, but not new by any means.

> As far as my efforts go there has been no mathematical analysis to
> debunk what I state ,albiet I am a poor communicator.

What do you state? What is being debunked? You need to be specific. I
have no idea what you refer to.

Apparently none
> have used the particular program either to debunk me yet the most

> successfull new antenna on the block 'SteppIR antenna' used the same
> program to validate its findings.

So? I could use any number of programs to do the same thing.

> Mark, this is the Internet and this group is a part of it. If you
> agree with the many antenna experts of this group that I have no
> credability then block me out by not reading my comments.

Have I ever said you have no credibility? I don't recall ever making
any such remark. I just comment on your antenna schemes. Whether or
not you have any credibility is not really a concern of mine.

> It is your right, as is mine to share my efforts with those who are
> interested in antennas and experimentation.

I don't see how I can share your efforts. I can only comment on them.

I see now there are
> complaints that some of the postings are getting too technical, they
> to can ignore and provide postings of the level that they are happy
> with.

I've seen none of these postings myself, but I agree with your
assessment of the situation.

So lighten up, you are in the company of many well known
> 'antenna' names or experts with respect to AO and also my
> observations.

Whith respect to AO??? I've never used the program. How can I be in
company with respect to it? Also, I don't need to lighten up any more
than I am now. If anything, I probably need to gain a few pounds.

> I will be silly and continue to swim upstream for inexplicable reasons
> just like a salmon where, when I reach the end I will write it up
> purely for my sole contentment. If you are the type that shoot salmon
> when they rise up on the impossible challenge then such action will
> not stop me in what I do other than just block the random firing in
> the same way I suggest to you and others.

Why would I shoot a salmon? I'm not even that crazy about the fish. If
I'm going to shoot something , it will probably be a halibut.

> Have a great weekend with field day and enjoy the mutual conversations
> of others
> with a smile on your face.

So far no rain. I'm back home farting off for a while. All the beams
and other antennas have been set up, and others are pounding away. I'm
not really that crazy about operating, so I don't do much in the day.
Too dang hot too. I'll go back this evening and work some low band CW
after it chills down a bit.

I see no reason to respond on the rest of
> your posting

Why not? Cat got your tongue?
>
> As always, no ill will is kept for ever.

My will is not ill.

MK

7533. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 22:00:47 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306281400.43c54818@posting.google.com>
Source record: 113985

Wes
One could have bet that you would show up at this time after all you
are
the one that states that I and my work are not credible. An expert in
the
field analysis that should not be ignored since it is known that he
has experience in walking the walk(past printed works e.t.c.)

Well regarding Roy's program versus AO, I believe he has already
stated to all
that his programs cannot compete in some areas with AO. Who knows what
he states now.

Regarding his use of AO I believe Roy stated only a short time ago he
had no personal familiarity with the AO program but did kindly display
the address where follow up could be made.
Who knows what he states now.

Regarding Roy still being on the scene where you had personal
inferences about Beezley. Roy full well knows what happened to Beezely
years ago perhaps he will bring you up to date on the side.Who knows
what he states now but he certainly
will not come forth about the values of a competitors product or
defend against improper remarks made about it because it could affect
the money he gets.

But as I said who know what he will state now or more important, how
indirectly he will state it.

There is no question in my mind that Roy is a good business man but I
am a bit bemused why you still complain when all are fully aware of
your prior judgement of me,(absolutely no credability) when so many
taking their cue from you,are taking it in turns to complain and doing
it very well.

When I mention Roy in the future you can emerge on cue as always and
we can continue with this chat......that is until Clark arrives and
we both sneak away..

Have a great weekend talking to the hams this weekend.
Regards
Art KB9MZ....XG

Wes Stewart <n7ws@_arrl.net> wrote in message
news:<1marfv0m2fsu4vsl556o1ii9vnm0sb49fu@4ax.com>...
> On 26 Jun 2003 10:05:48 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
> wrote:

>
> [snip]
>
> |I know that all have some loyalty to Roys EZNEC program
> |because that is how he earns his living and he would not
> |touch a competitors product, a theme that seems to be
> | followed by others in the group (One self styled expert
> |refused to look at AO because he said it was old!!!!)
>
> It would be an unwise man who *did not* "touch" his competitor's
> products. I'm sure Roy understands all of the competition very well.
>
> That he remains available to the ham community to support his product
> despite some of the crap spewed in this forum baffles me. I believe
> that Brian (AO) long since gave up selling and supporting his product.
>
> Perhaps the reason EZNEC continues to be popular is the fact that it
> is still available and the customer support is superb.

7534. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 22:11:00 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5h4sfvgj0jtko9u4dhq0lc1prs5366nemr@4ax.com>
Source record: 113986

On 28 Jun 2003 15:00:47 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

>that is until Clark arrives and
>we both sneak away..

Hi Art,

Will it amount to more than 1dB?

73's
Richard Clark, KB7QHC

7535. VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 22:34:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFE17DF.5090000@ieee.org>
Source record: 113987

I have measured the VF of 300 ohm twinlead and 450 ohm window-line.
Has anyone measured the VF of open-wire ladder-line using insulated
wires? I'm assuming about 0.92. Is that about right?
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7536. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 23:17:03 UTC
From: Marvin Rosen <puns@att.net>
Message-ID: <PlpLa.26748$0v4.2027685@bgtnsc04-news.ops.worldnet.att.net>
Source record: 113988

Please explain how your equations & quotation from "Hecht" assist 90% of us amateurs in experimenting
with antennas?
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFDDF2B.5070006@ieee.org...
> source----------Z01--------+----------Z02------------load
> Pfwd1--> RHO Pfwd2-->
> <--Pref1 <--Pref2
>
> The Conservation of Energy principle indicates that the energy flowing
> into the impedance discontinuity must equal the energy flowing out of
> the impedance discontinuity. Therefore:
>
> Pfwd1 + Pref2 = Pref1 + Pfwd2
>
> RHO^2 is the power reflection coefficient and equals
[(Z02 Z01)/(Z02+Z01)]^2.
> (1 RHO^2) is the power transmission coefficient, i.e. the power that is
not
> reflected from the impedance discontinuity is transmitted through the
> impedance discontinuity.
>
> Pfwd1(RHO^2) is the power reflected back toward the source by the physical
> impedance discontinuity. This power component is associated with a
> rearward-traveling wave component.
>
> Pfwd1(1 RHO^2) is the power transmitted through the physical impedance
> discontinuity, i.e. not reflected, and is associated with a
> forward-traveling wave component.
>
> Pref2(RHO^2) is the power reflected from the load that is re-reflected
> back toward the load by the impedance discontinuity and is associated
> with a forward-traveling wave component.
>
> Pref2(1 RHO^2) is the power reflected from the load that is not
> re-reflected back toward the load and is instead transmitted through
> the impedance discontinuity as a rearward-traveling wave component.
>
> It should be obvious that:
>
> Pfwd1 = Pfwd1(RHO^2) + Pfwd1(1-RHO^2) and Pref2 = Pref2(RHO^2) +
Pref2(1-RHO^2)
>

> and we can substitute these values into the previous equation to obtain:
>
> Pfwd1(RHO^2) + Pfwd1(1 RHO^2) + Pref2(RHO^2) + Pref2(1 RHO^2) = Pref1 +
Pfwd2
>
> The above equation is still a valid representation of the Conservation of
> Energy principle. Now let's do something that may not make sense at first.
> Let's group the rearward-traveling components on the left side of the
equation
> and group the forward-traveling components on the right side of the
equation.
> The result is:
>
> [Pref1 Pfwd1(RHO^2) Pref2(1 RHO^2)] = Pfwd2 Pfwd1(1 RHO^2)
Pref2(RHO^2)
>
> Note that the above equation is still based on the original Conservation
of
> Energy equation. What physical meaning can we draw from the terms on the
left
> side and the terms on the right side of the equation? What we are looking
at
> in the above equation are the interference terms. The left side of the
equation
> represents the interference term at the impedance discontinuity looking
toward
> the source. The right side of the equation represents the interference
term at
> the impedance discontinuity looking toward the load.
>
> If the sign of the interference term is negative, then that interference
is destructive.
>
> If the sign of the interference term is positive, then that interference
is constructive.
>
> If destructive interference exists on the source side of the impedance
discontinuity,
> then an equal magnitude of constructive interference will exist on the
load side of
> the impedance discontinuity.
>
> If constructive interference exists on the source side of the impedance
discontinuity,
> then an equal magnitude of destructive interference will exist on the load
side of
> the impedance discontinuity.
>
> The absolute magnitude of the terms on the left side of the equation must

equal the
> absolute magnitude of the terms on the right side of the equation, i.e.
the constructive
> interference is always equal in magnitude to the destructive interference.
The sign
> associated with the left side of the equation will always be the opposite
to the sign
> associated with the right side of the equation.
>
> For one boundary condition, both sides of the equation can equal zero and
there is no
> transfer of energy across the impedance discontinuity due to interference.
>
> Conclusion at this point: Interference energy exists at an impedance
discontinuity in
> a transmission line and the Conservation of Energy principle says that
all energy must
> be conserved.
>
> Quoting from Optics, by Hecht: "The principle of Conservation of Energy
makes it clear
> that if there is constructive interference at one point, the 'extra'
energy at that
> location must have come from elsewhere. There must therefore be
destructive energy
> somewhere else."
>
> Quoting from the Melles-Griot web page at:
>
> http://www.mellesgriot.com/products/optics/oc_2_1.htm
>
> "In the absence of absorption or scatter, the principle of conservation of
energy
> indicates all 'lost' reflected intensity will appear as enhanced intensity
in the
> transmitted beam."
>
> "'Lost' *reflected* intensity" appearing as "enhanced intensity in the
transmitted
> beam" certainly appears (to me) to be a change in direction of the
interference
> energy flow.
>
> I am in the process of posting information to my web page concerning
impedance
> discontinuities in transmission lines. Part-1 of my article (rejected by
QEX) is
> already posted there.
> --

> 73, Cecil http://www.qsl.net/w5dxp
>
>
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7537. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 23:26:04 UTC
From: MCB <a@c.com>
Message-ID: <DypLa.44340$9C6.2100370@wards.force9.net>
Source record: 113989
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

Sorry If things look a little confusing....

=> The active dipole consists of a RF limiter and LNA all in one package. The maximum input power to the LNA is 100mW before damage. The limiter limits power levels between (50mW and 3W) to 50mW - which is fed into the LNA. The RF limiter can withstand 3W before damage. To solve my problem all you need to know is that more than 3W will damage the antenna.

So looking at it a different way I wish to know what is the maximum field strength that can be applied to the antenna before damage? (with the TX and RX antennas copolar (vertically polarised) at 2m).

How do I calculate the field strength, knowing the gain of the antenna (0dBi), the output power from the dipole (3W), if I assume that the impedance is 50ohms? Are there any other quantities that I am not taking into account? Does the impedance of free space (377ohms) come into it?

"Richard Clark" <kb7qhc@attbi.com> wrote in message news:aq0sfvc9bki896do7ia9ltucejkikneabd@4ax.com...
> On Sat, 28 Jun 2003 21:58:09 +0100, "MCB" <a@c.com> wrote:
>
> >Thanks Richard
> >
> >More information: The antenna is an active dipole. There is a 3W RF limiter
> >on the output which connects directly to a low noise amplifier (LNA). So the
> >antenna can cope with up to 3W on its output before any damage to the
> >limiter or LNA. I need to know the field strength as I have a transmitter
> >within 10 metres transmitting 100W into another dipole at the same frequency
> >as the RX !! (the receiver is isolated).
> >
> >So I need to know what the field strength in V/m will produce 3W on the
> >output of the antenna?....... Anyone know how to tackle this problem?
> >
> >Thanks
> >
>
> Hi OM,
>
> You still have a lot of unknowns.
> What frequency?

> Are the antennas in the same polarization (horiz/vert)?
> What is the gain of the "active dipole" amplifier?
> Is the LNA the active part of the "active dipole?"
> (It doesn't seem to be so by your description.)
>
> This may be academic because you say the output is limited to 3W.
> What is the power input limit of the LNA?
>
> If you are operating HF,
> Why are you using an LNA?
>
> If you are not operating HF, but rather VHF (2M) you are probably OK,
> but in all reality that is an issue with the input power ability of
> the "active dipole" amplifier, not its output.
>
> 73's
> Richard Clark, KB7QHC

7538. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-28 23:32:24 UTC
From: 128 <jtf66674@hotmal.com>
Message-ID: <dApLa.3652$MO2.1272@newsfep4-winn.server.ntli.net>
Source record: 113990

Hello,

For what reason have you copied all of that out of a book ? I doubt you
even have the faintest idea what any of it means or what to do with it!

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFDDF2B.5070006@ieee.org...
> source----------Z01--------+----------Z02------------load
> Pfwd1--> RHO Pfwd2-->
> <--Pref1 <--Pref2
>
--
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>

7539. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 00:09:16 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0306281609.13c45ec4@posting.google.com>
Source record: 113991

Richard Clark <kb7qhc@attbi.com> wrote in message
news:<evkrfvgdibm69e96dc2vqhdcp7a6b17d7v@4ax.com>...
>
>
> Do your claims exceed the significance of 1dB?
>
> 73's
> Richard Clark, KB7QHC

ok, can you hear me now?

ok, can you hear me now?

ok, can you hear me now?

ok, can you hear me now?

7540. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 00:10:58 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdlaqhmkk1@titan.btinternet.com>
Source record: 113992

Use ordinary enamel-insulated, annealed, 14 AWG copper wire, spaced 5 or 6 inches. Spacers spaced every 1 or 2 feet or more. Spaced every 20 feet if you run it on posts. I'll have a guess at VF = 0.98 or 0.99, a non-critical parameter at that high value.

Use 1/4" diameter polyethylene insulation wire if you like and it won't come down very much. It can be calculated but it isn't worth the trouble of taking your slide rule out of its holster.

0.97 is on the low side unless your spacers make it look like ladder line.

Take the view that if you can't measure how much smaller than 1.0 it is then it can't matter very much anyway so stop worrying. Are you trying to determine the velocity of light. ;o)

Reg

7541. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 01:14:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFE3D91.90902@ieee.org>
Source record: 113993

Reg Edwards wrote:
> Use ordinary enamel-insulated, annealed, 14 AWG copper wire, spaced 5 or 6
> inches. Spacers spaced every 1 or 2 feet or more. Spaced every 20 feet if
> you run it on posts. I'll have a guess at VF = 0.98 or 0.99, a non-critical
> parameter at that high value.
>
> Use 1/4" diameter polyethylene insulation wire if you like and it won't come
> down very much. It can be calculated but it isn't worth the trouble of
> taking your slide rule out of its holster.
>
> 0.97 is on the low side unless your spacers make it look like ladder line.
>
> Take the view that if you can't measure how much smaller than 1.0 it is then
> it can't matter very much anyway so stop worrying. Are you trying to
> determine the velocity of light. ;o)

Nope, just trying to determine the VF of open-wire line. Remember, the
VF difference between bare wire and insulated wire is about 5% so I figured
insulated transmission wire must have a VF less than 0.95.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
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7542. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 01:16:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFE3DFB.7020407@ieee.org>
Source record: 113994

Marvin Rosen wrote:
> Please explain how your equations & quotation from "Hecht" assist 90% of us
> amateurs in experimenting with antennas?

That's not what my posting is all about, Marvin. If you're not interested
in the topic, please feel free to ignore the thread.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

7543. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 01:19:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFE3EA6.6080807@ieee.org>
Source record: 113995

128 wrote:
> For what reason have you copied all of that out of a book ? I doubt you
> even have the faintest idea what any of it means or what to do with it!

Actually, if there's a book with that stuff in it, I would be pleased to
quote it. The problem is, I can't find that information in any book that
I know of. It probably exists in a Master's Thesis somewhere but I don't
know where.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7544. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 01:52:59 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <65gsfvgmuuv811vhcbiq7jps34bbth1fi8@4ax.com>
Source record: 113996

On 28 Jun 2003 15:00:47 -0700, aunwin@insightbb.com (Art Unwin KB9MZ)
wrote:

|Wes
|One could have bet that you would show up at this time after all you
|are
|the one that states that I and my work are not credible. An expert in
|the
|field analysis that should not be ignored since it is known that he
|has experience in walking the walk(past printed works e.t.c.)

I have tried in a civilized manner to understand your claims. Alas, I
do not. Perhaps that is my failing, perhaps not.

|
|Well regarding Roy's program versus AO, I believe he has already
|stated to all
|that his programs cannot compete in some areas with AO. Who knows what
|he states now.

One thing I'm sure of; he will be consistent.

|
|Regarding his use of AO I believe Roy stated only a short time ago he
|had no personal familiarity with the AO program but did kindly display
|the address where follow up could be made.
|Who knows what he states now.

One thing I'm sure of; he will be consistent.
|
|Regarding Roy still being on the scene where you had personal
|inferences about Beezley. Roy full well knows what happened to Beezely
|years ago perhaps he will bring you up to date on the side.Who knows
|what he states now but he certainly
|will not come forth about the values of a competitors product or
|defend against improper remarks made about it because it could affect
|the money he gets.

You read something I didn't write. The only "inference about Beezley"
that I make is that he probably got tired of dealing with foolish hams
and went on to better things. However, I don't know him, never used
his products, except for a crippled version furnished with some ARRL
book or another, and I could be all wet. Which means I'll be in good
company.
|
|But as I said who know what he will state now or more important, how

|indirectly he will state it.

One thing I'm sure of; he will be consistent.
|
|There is no question in my mind that Roy is a good business man but I
|am a bit bemused why you still complain when all are fully aware of
|your prior judgement of me,(absolutely no credability) when so many
|taking their cue from you,are taking it in turns to complain and doing
|it very well.

I didn't know that I had such a following.

|
|When I mention Roy in the future you can emerge on cue as always and
|we can continue with this chat......that is until Clark arrives and
|we both sneak away..

I wish I knew what you mean by this but alas....

|
|Have a great weekend talking to the hams this weekend.

Actually, I just took a break to refuel the generator and have a cold one to soothe my sore throat. Our usual FD site has burned to a crisp, so I'm running a home station on emergency power. So far, I've held a frequency on 20 meters for four and 1/2 hours and made 539 Q's, with callers about 6 deep while running 100W. BTW, the antenna is my 3el Yagi, designed using EZNEC.

See you in the pileup.

7545. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 02:16:11 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <4uisfvc1uqueia0o5ohl7nbi9v8o44s75@4ax.com>
Source record: 113997

Just using a T on one of the pass loops of a pass band cavity will provide a notch. Nothing connected to the other loop. This is the simplest way to get going with it. I believe that this will look somewhat like a low pass filter with the notch above the pass part. Just what is needed to pass 2 meters and reject 152 mhz.

Note that the pass will be very broad. Not really a pass band as we usually think of one. The main thing is that the frequencies above the notch in this case will have more (pass insertion) loss than the frequencies below the notch.

The tighter the loop is coupled to the cavity the deeper the notch. Also the tighter coupling will increase the insertion loss of the wanted frequencies.
The base of the notch gets wider. So the closer the wanted frequency is to the notch frequency the more pronounced is the insertion loss as you increase the loop coupling. You should see around 25 to 30 db of notch attenuation.

On some cavities like those from Sinclair, Telewave, TXRX, the coupling can be varied by loosening the screws that hold the loop mounting plate in place and rotating the loop. Some have a calibrated insertion loss scale marked by the loop.

Adding a 1/4 wave cable between the T and the cavity will move the pass to the high side of the notch.

Using an 1/8 wave cable will provide a symmetrical pass on each side of the notch.

You can join two or more cavities together to increase the amount of rejection. With two cavities you can get a little better than twice the rejection that one will provide. The interconnecting cable comes into play and provided a few db of help.
The cavities are connected together with a quarter wave cable between them. Each cavity is set up with its own T as it would be if you were using a single cavity on its own. The quarter wave cable is connected from one T to the other.

With multiple cavities you can slightly stagger tune them to obtain a wider notch if you have more than one frequency inter fearing. Each notch can also be tuned to specific frequencies that may be causing problems.

Here are a couple of links that explain pretty much what you are wanting to do.

http://iwce-mrt.com/ar/radio_vhf_cavities_overthecounter/

http://www.emrcorp.com/images/tech_papers/tech_cover/cavity_resonators(54-67).pdf

73
Gary K4FMX

On Sat, 28 Jun 2003 13:39:34 GMT, " Uncle Peter"
<radioconnectionNO@cox.netSPAM> wrote:

>I could be wrong, but I think the coupling loop would look
>like a slightly reactive shunt at all frequencies except where the
>cavity has resonances... i.e. it would bandpass what he
>wants to notch?
>
>Pete
>
>
>"Gary Schafer" <gaschafer@attbi.com> wrote in message
>news:nn1qfv8mihuacuik1jtto9flv9e23cqvup@4ax.com...
>> I think that putting the T directly on the cavity will work better. It
>> should provide a deeper notch. Adjust the coupling loop for maximum
>> coupling to the cavity for the deepest notch.
>>
>> 73
>> Gary K4FMX
>>
>>
>> On Sat, 21 Jun 2003 13:14:13 -0700, "Eric C. Weaver" <weav@sigma.net>
>> wrote:
>>
>> >
>> >I have recently come to work for an outfit that does a fair bit of
>> >public-safety RF stuff, and might get the use of a pass cavity for around
>152
>> >MHz.
>> >
>> >What I'd really like is a notch for 152.48, where a pager transmitter
>causes
>> >my little V/U handheld all manner of grief when on the outdoor antenna at
>home.
>> >
>> >Is there any simple way to take a pass cavity and make it reject? Tee it
>onto
>> >the line and leave the output port open, perhaps? I'd like this to be
>> >"transparent" except for the vicinity of the notch.
>> >
>> >Thanks for whatever you can tell me.
>>
>

7546. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 02:22:23 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdligu$5tg$1@titan.btinternet.com>
Source record: 113998

> VF difference between bare wire and insulated wire is about 5% so I
figured
> insulated transmission wire must have a VF less than 0.95.
==========

No, it musn't !

7547. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 02:34:54 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <ifsLa.33879$pH3.566@news2.east.cox.net>
Source record: 113999

Gary

I've seen the technique you're referring too, but I believe there's
a series loop tuning capacitor to set the notch frequency for the
coupling loop assemby, while the cavity tuning sets the bandpass.
At least that's way I've seen it done in the Sinclair cavities we
used in an inband VHF mobile pac/rt repeater setup.

Pete

"Gary Schafer" <gaschafer@attbi.com> wrote in message
news:4uisfvc1uquueia0o5ohl7nbi9v8o44s75@4ax.com...
> Just using a T on one of the pass loops of a pass band cavity will
> provide a notch. Nothing connected to the other loop. This is the
> simplest way to get going with it. I believe that this will look
> somewhat like a low pass filter with the notch above the pass part.
> Just what is needed to pass 2 meters and reject 152 mhz.
>
> Note that the pass will be very broad. Not really a pass band as we
> usually think of one. The main thing is that the frequencies above the
> notch in this case will have more (pass insertion) loss than the
> frequencies below the notch.
>
> The tighter the loop is coupled to the cavity the deeper the notch.
> Also the tighter coupling will increase the insertion loss of the
> wanted frequencies.
> The base of the notch gets wider. So the closer the wanted frequency
> is to the notch frequency the more pronounced is the insertion loss as
> you increase the loop coupling. You should see around 25 to 30 db of
> notch attenuation.
>
> On some cavities like those from Sinclair, Telewave, TXRX, the
> coupling can be varied by loosening the screws that hold the loop
> mounting plate in place and rotating the loop. Some have a calibrated
> insertion loss scale marked by the loop.
>
> Adding a 1/4 wave cable between the T and the cavity will move the
> pass to the high side of the notch.
>
> Using an 1/8 wave cable will provide a symmetrical pass on each side
> of the notch.
>
> You can join two or more cavities together to increase the amount of
> rejection. With two cavities you can get a little better than twice
> the rejection that one will provide. The interconnecting cable comes

> into play and provided a few db of help.
> The cavities are connected together with a quarter wave cable between
> them. Each cavity is set up with its own T as it would be if you were
> using a single cavity on its own. The quarter wave cable is connected
> from one T to the other.
>
> With multiple cavities you can slightly stagger tune them to obtain a
> wider notch if you have more than one frequency inter fearing. Each
> notch can also be tuned to specific frequencies that may be causing
> problems.
>
> Here are a couple of links that explain pretty much what you are
> wanting to do.
>
>
> http://iwce-mrt.com/ar/radio_vhf_cavities_overthecounter/
>
>
http://www.emrcorp.com/images/tech_papers/tech_cover/cavity_resonators(54-67).pdf
>
>
> 73
> Gary K4FMX
>
>
> On Sat, 28 Jun 2003 13:39:34 GMT, " Uncle Peter"
> <radioconnectionNO@cox.netSPAM> wrote:
>
> >I could be wrong, but I think the coupling loop would look
> >like a slightly reactive shunt at all frequencies except where the
> >cavity has resonances... i.e. it would bandpass what he
> >wants to notch?
> >
> >Pete
> >
> >
> >"Gary Schafer" <gaschafer@attbi.com> wrote in message
> >news:nn1qfv8mihuacuik1jtto9flv9e23cqvup@4ax.com...
> >> I think that putting the T directly on the cavity will work better. It
> >> should provide a deeper notch. Adjust the coupling loop for maximum
> >> coupling to the cavity for the deepest notch.
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> >> 73
> >> Gary K4FMX
> >>
> >>
> >> On Sat, 21 Jun 2003 13:14:13 -0700, "Eric C. Weaver" <weav@sigma.net>
> >> wrote:
> >>
> >> >

> >> >I have recently come to work for an outfit that does a fair bit of
> >> >public-safety RF stuff, and might get the use of a pass cavity for
around
> >152
> >> >MHz.
> >> >
> >> >What I'd really like is a notch for 152.48, where a pager transmitter
> >causes
> >> >my little V/U handheld all manner of grief when on the outdoor antenna
at
> >home.
> >> >
> >> >Is there any simple way to take a pass cavity and make it reject? Tee
it
> >onto
> >> >the line and leave the output port open, perhaps? I'd like this to be
> >> >"transparent" except for the vicinity of the notch.
> >> >
> >> >Thanks for whatever you can tell me.
> >>
> >
>

7548. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 02:55:46 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306281855.4477a53f@posting.google.com>
Source record: 114000

Roy Lewallen <w7el@eznec.com> wrote in message news:<vf4psblrf4373f@corp.supernews.com>...
> J. Harvey wrote:
> > "Roy Lewallen"
> >
> >>Consider a W8JK antenna...
> >>...this antenna has a gain of about 4 dB
> >>relative to a single isolated element...
snip
>
> Only if the feedpoint resistance is lowered by increasing the antenna's
> current. (Or, if you wish, if lowering the resistance results in
> increased current. You choose.) And, sorry, J, try as you might, you
> won't be able to do that. At least without a creative marketing department.
>
> > I always assumed that gain could be derived from phase and geometry (Moirï¿½
> > patterns to put it simply).
> >
> > I didn't think that Zo had anything to do with gain.

Harvey
I have no idea either why Roy would make such a statement unless he is
playing with words again.
If anybody reviewed how a reciever works all must have seen how the
bandpass
changes in the I.F. section due to variation in transitory inductive
coupling. It is also seen that the current can INCREASE with coupling.
This is not a marketing myth.
Roy is correct to concentrate on radiation via current but that is
where the validity of his statement ends. Since I am a total newby
surrounded by experts
I cannot comment on the Moire part, but there is no doubt that
coupling can produce higher current but not create extra energy. It
can be easily seen that the area under such a current curve is not
increased because of consequent
decrease in bandwidth. Stated another way, current and consequently
gain can be increased, energy dissipation cannot be increased. I
believe that Cecil has been quite eloquent with respect to the law
that 'energy cannot be created or destroyed' no matter Roy plays with
words. It should also be seen that in "coupled" radiators (the term
coupling seems to vary on this newsgroup
coupled resistance!!!!) it is not unusual for figure 8 patterns to be
maintained when changing frequency purely by varying a REACTIVE
component together with INCREASED current gain.
Please don't take my word for it since the experts state that I have

no credability to 'question' their response.
Regards
Art KB9MZ...XG

snip.
>
> Roy Lewallen, W7EL

7549. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 03:00:16 UTC
From: 128 <jtf66674@hotmal.com>
Message-ID: <bdlko0$l5r$1@xuxa.iecc.com>
Source record: 114002
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

hello,

Forget only 80% - you should claim the lot back via VISA.

"Henrik" <henrikolofsson@yahoo.se> wrote in message
news:bdj6m2$i17$1@xuxa.iecc.com...
> I finally got in touch with someone at Veronica and they will cancel
> my order and repay me 80% of the value. Ordered the stuff from NRJ
> yesterday and my order is on it's way!
>
> Dave Shrader <david.shrader@attbi.com> wrote in message
news:<bddld6$i2s$1@xuxa.iecc.com>...
> > Contact VISA and have VISA credit your account!!
> >
> > Deacon Dave, W1MCE
> >
> > Henrik wrote:
> > > I ordered stuff from them worth ¤152. Payed with my VISA and the
> > > transaction was quick. Few days later I sent them a mail correcting my
> > > order but got no reply. Few days more and I sent to their second
> > > mail...no replay! now it's been 15 days and I have heard nothing from
> > > them! What should I do?? I thought Veronica FM was a reliable company!
> > > :(
> > >
> > > Best Regards,
> > >
> > > Henrik Olofsson
> > > Sweden
> > >
>

7550. Re: Don't send money to Veronica FM! They seem dead!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 03:00:18 UTC
From: nunya <nobody@spamcop.net>
Message-ID: <bdlko2$l6m$1@xuxa.iecc.com>
Source record: 114001
Cross-posted to: alt.radio.pirate,rec.radio.amateur.antenna,rec.radio.broadcasting

"repay"???

WTF

You got nothing and only 80%??

sounds like a call to Visa to collect 100%

"Henrik" <henrikolofsson@yahoo.se> wrote in message
news:bdj6m2$i17$1@xuxa.iecc.com...
> I finally got in touch with someone at Veronica and they will cancel
> my order and repay me 80% of the value. Ordered the stuff from NRJ
> yesterday and my order is on it's way!
>
> Dave Shrader <david.shrader@attbi.com> wrote in message
news:<bddld6$i2s$1@xuxa.iecc.com>...
> > Contact VISA and have VISA credit your account!!
> >
> > Deacon Dave, W1MCE
> >
> > Henrik wrote:
> > > I ordered stuff from them worth £152. Payed with my VISA and the
> > > transaction was quick. Few days later I sent them a mail correcting my
> > > order but got no reply. Few days more and I sent to their second
> > > mail...no replay! now it's been 15 days and I have heard nothing from
> > > them! What should I do?? I thought Veronica FM was a reliable company!
> > > :(
> > >
> > > Best Regards,
> > >
> > > Henrik Olofsson
> > > Sweden
> > >
>

7551. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 03:32:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFE5DEB.5080706@ieee.org>
Source record: 114003

W5DXP wrote:
> There must therefore be destructive energy somewhere else."

Darn, I typed this quotation wrong. It should have been:
"There must therefore be destructive interference somewhere else."
Sorry.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7552. Will the FC-20 tune a G5RV?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 03:59:07 UTC
From: vhfradiobuff@aol.comspamme
Message-ID: <20030628235907.00333.00001762@mb-m12.aol.com>
Source record: 114004

I was wondering if anyone uses a Yaesu FC-20 to tune a G5RV? I have a half size G5RV for 40 - 10m.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

73! de Andy KC2SSB (ex: KF4KHC/HL9HCT)
Beachwood, NJ USA! Grid FM29vw
http://vhfradiobuff.tripod.com
Fight Spam! http://spamcop.net
National "Do Not Call" Registry: http://donotcall.gov

7553. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 04:20:09 UTC
From: richardharrison@webtv.net
Message-ID: <21660-3EFE68F9-23@storefull-2311.public.lawson.webtv.net>
Source record: 114005

Art, KB9MZ wrote:
"(the term coupling seems to vary on this newsgroup coupled
resistance!!!!)"

Coupling is defined the same as mutual impedance. Please see Terman`s
1955 edition, page 894:

"An antenna carrying current will induce a voltage in another antenna in
the vicinity; i.e., two nearby antennas act as though they were coupled.

Z12 = E2 / I1 "

Mutual impedance = 2nd ant.V over 1st ant. I

Best regards, Richard Harrison, KB5WZI

7554. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 05:02:24 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bdlrt0$5e8$0@208.207.71.139>
Source record: 114006

Art Unwin KB9MZ wrote:

>Ham radio has been hit with what

> appears to be false claims about antennas even to the point of
> mathematical analysis to disprove those claims

Art are you sure which end of the horse you have attached the cart?
Most operatives would seem to prefer to use the math to *prive* claims. Some correspondents here even assert that one
can not prove a negative.

> so now it is natural
> for reflex actions with out study
> to debumk anything new, and people are comfortable about that.
> As far as my efforts go there has been no mathematical analysis to
> debunk what I state ,albiet I am a poor communicator. Apparently none
> have used the particular program either to debunk me

Again, I'd suggest you check the direction of your effort. Perhaps you can get Ol' Bessie to run in reverse?

7555. Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 09:47:16 UTC
From: R <who@where.net>
Message-ID: <sfdtfvkumquso7qqfa6g0bktkcr26l9tmm@4ax.com>
Source record: 114007

Hello! I was pointed here by a storm chase forum I subscribe to, i.e., "Go ye forth and seek Gary Coffman, for surely he must know that which ye inquire!"

I've done a bit of back research on my question, and I think I have much of it answered. Mainly, I'm concerned that I may be introducing a lightning hazard into the passenger compartment of my car by using a magmount scanner antenna. The antenna is mounted to the trunk of my car and the coax is run through through the rear truck gap, into the trunk, up through a gap at the edge of the rear seat upholstery, along the floorwell, and to a handheld scanner attached via velcro to the dash on the passenger side.

From what I've read, it seems that this pretty much defeats the Faraday's cage, as I'd feared. Since I primarily use the scanner to find severe storms which usually contain awe-inspiring displays of CG lightning, this is a disconcerting thing to discover.

But I still wonder: how much of a risk is it to have this set up? Assuming for a moment that the mag mount antenna is directly struck, what is the most likely effect? Would the bulk of the current follow the coax into the passenger compartment, or would the current likely jump at some point from the coax to the car body? Seeing as my handheld scanner is not grounded, whereas my car body sort of is, I would hope so -- but part of me fears that by the time the actual discharge is occuring, the charge may simply go as far as it can along a conductive path (i.e., to my handheld scanner) and then find a new path -- even if that means arcing around in the inside of my car and blowing a hole through something not normally conductive.

Honsetly, I could give a flip if the scanner was damaged or destroyed. What I'm worried about is getting zapped. Is internal arcing a reasonable possibilty if my mag mount is directly struck? Is there any way to minimize the danger? Mostly you seem to reccomend using polyphasers at the drilled coax entry point in order to give the lightning enough resistance to cause it to opt to follow the body of the car instead of the coax. But I'm not so keen on drilling holes in the car body; if there were a way to effectively use a polyphaser without drilling holes in the body, I'd do it in a heartbeat.

I thought about trying a glass mount antenna, but then I figured that that would be just as bad; I'm guessing lightning can easily jump through a fourth inch of glass to get to a highly conductive coax cable, and that's probably preferable to jumping a good foot through

air to get to the car body.

Thanks for any help!

-R

7556. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 10:02:18 UTC
From: R <who@where.net>
Message-ID: <o5etfvskpv14rosmdcgu6ni3nepfthnqtj@4ax.com>
Source record: 114008

On Sun, 29 Jun 2003 09:47:16 GMT, R <who@where.net> wrote:

> Hello! I was pointed here by a storm chase forum I subscribe to,
>i.e., "Go ye forth and seek Gary Coffman, for surely he must know that
>which ye inquire!"
>

>magmount scanner antenna. The antenna is mounted to the trunk of my
>car and the coax is run through through the rear truck gap, into the
^^^^^
|||||

should say "trunk". Please forgive my late night spelling snafus. :)

-R

7557. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 10:09:02 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EFEBABE.4D93BEA@cwis.net>
Source record: 114009

'R',
I think worrying about a scanner antenna (or any kind of
mobile antenna) increasing the lightning hazard of your car
is a waste of good worrying time. I seriously doubt if it
would increase the likelyhood of your car being struck by
lightning. And if struck by lightning, the scanner and it's
antenna will probably make absolutely no difference in the
out come. 'Storm chasing' is a greater hazard than the antenna.
'Doc

7558. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 10:37:27 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <3ZSdnQI_pfP2XGOjRTvU2Q@crocker.com>
Source record: 114010

"R" <who@where.net> wrote in message
news:sfdtfvkumquso7qqfa6g0bktkcr26l9tmm@4ax.com...
> Hello! I was pointed here by a storm chase forum I subscribe to,
> i.e., "Go ye forth and seek Gary Coffman, for surely he must know that
> which ye inquire!"
>
> I've done a bit of back research on my question, and I think I have
> much of it answered. Mainly, I'm concerned that I may be introducing
> a lightning hazard into the passenger compartment of my car by using a
> magmount scanner antenna. The antenna is mounted to the trunk of my
> car and the coax is run through through the rear truck gap, into the
> trunk, up through a gap at the edge of the rear seat upholstery, along
> the floorwell, and to a handheld scanner attached via velcro to the
> dash on the passenger side.

cars are good cages even with that kind of hole, most older cars had a whip antenna for broadcast reception and they were safe. probably the only thing that may be a help is to ground the case of the scanner to the body, then any charge that comes in on the coax will either fry the innards of the scanner or go back out to the body.

7559. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 11:06:58 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EFEC7E0.5060602@attbi.com>
Source record: 114011
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

Assuming you get an answer to your first question, I am going to jump to
the second which you have not yet asked!

Where do I get a calibrated [accurate] field intensity meter? BTW, they
are moderately expensive.

Deacon Dave, W1MCE

MCB wrote:
> Sorry If things look a little confusing....
>
> => The active dipole consists of a RF limiter and LNA all in one package.
> The maximum input power to the LNA is 100mW before damage. The limiter
> limits power levels between (50mW and 3W) to 50mW - which is fed into the
> LNA. The RF limiter can withstand 3W before damage. To solve my problem all
> you need to know is that more than 3W will damage the antenna.
>
> So looking at it a different way I wish to know what is the maximum field
> strength that can be applied to the antenna before damage? (with the TX and
> RX antennas copolar (vertically polarised) at 2m).
>
> How do I calculate the field strength, knowing the gain of the antenna
> (0dBi), the output power from the dipole (3W), if I assume that the
> impedance is 50ohms? Are there any other quantities that I am not taking
> into account? Does the impedance of free space (377ohms) come into it?
>
> "Richard Clark" <kb7qhc@attbi.com> wrote in message
> news:aq0sfvc9bki896do7ia9ltucejkikneabd@4ax.com...
>
>>On Sat, 28 Jun 2003 21:58:09 +0100, "MCB" <a@c.com> wrote:
>>
>>
>>>Thanks Richard
>>>
>>>More information: The antenna is an active dipole. There is a 3W RF
>>
> limiter
>
>>>on the output which connects directly to a low noise amplifier (LNA). So
>>
> the
>
>>>antenna can cope with up to 3W on its output before any damage to the
>>>limiter or LNA. I need to know the field strength as I have a

>>
> transmitter
>
>>>within 10 metres transmitting 100W into another dipole at the same
>>
> frequency
>
>>>as the RX !! (the receiver is isolated).
>>>
>>>So I need to know what the field strength in V/m will produce 3W on the
>>>output of the antenna?....... Anyone know how to tackle this problem?
>>>
>>>Thanks
>>>
>>
>>Hi OM,
>>
>>You still have a lot of unknowns.
>>What frequency?
>>Are the antennas in the same polarization (horiz/vert)?
>>What is the gain of the "active dipole" amplifier?
>>Is the LNA the active part of the "active dipole?"
>>(It doesn't seem to be so by your description.)
>>
>>This may be academic because you say the output is limited to 3W.
>>What is the power input limit of the LNA?
>>
>>If you are operating HF,
>>Why are you using an LNA?
>>
>>If you are not operating HF, but rather VHF (2M) you are probably OK,
>>but in all reality that is an issue with the input power ability of
>>the "active dipole" amplifier, not its output.
>>
>>73's
>>Richard Clark, KB7QHC
>
>
>

7560. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 11:11:53 UTC
From: Duane Allen <computeruser@sprintmail.com>
Message-ID: <3EFECA14.5010301@sprintmail.com>
Source record: 114012

W5DXP wrote:
> source----------Z01--------+----------Z02------------load
> Pfwd1--> RHO Pfwd2-->
> <--Pref1 <--Pref2
>
<<snipped>>
> The result is:
>
> ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½
> Pref2(RHO^2)
>
> Note that the above equation is still based on the original Conservation of
> Energy equation. What physical meaning can we draw from the terms on the
> left
> side and the terms on the right side of the equation? What we are
> looking at
> in the above equation are the interference terms. The left side of the
> equation
> represents the interference term at the impedance discontinuity looking
> toward
> the source. The right side of the equation represents the interference
> term at
> the impedance discontinuity looking toward the load.
>
> If the sign of the interference term is negative, then that interference
> is destructive.
>
> If the sign of the interference term is positive, then that interference
> is constructive.

It seems to me that the value on both sides of your equation is zero.
Does that mean that there is no interference?

<<snipped>>

Duane Allen
N6JPO

7561. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 12:12:46 UTC
From: Mike S <m614fs@yahoo.com>
Message-ID: <bdml6arme1@news.cis.ohio-state.edu>
Source record: 114013

Putting holes in car bodies and running wires in from the outside may tend to weaken the faraday cage effect for its occupants. But, to totally defeat any protection afforded by a car body, someone would have to be in contact with both the wire and part of the car body when struct. Lightning, like electricity in general, seeks the path of least resistance. An aerial high enough to attract a lightning strike to a car should not endanger its occupants, except from flying pieces of its radio from absorbing some of the energy.

Mike

7562. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 12:15:56 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <U-CdnfzldYQdRWOjRTvU2Q@crocker.com>
Source record: 114014

"Duane Allen" <computeruser@sprintmail.com> wrote in message
news:3EFECA14.5010301@sprintmail.com...
> W5DXP wrote:
> > source----------Z01--------+----------Z02----------load
> > Pfwd1--> RHO Pfwd2-->
> > <--Pref1 <--Pref2
> >
> <<snipped>>
> > The result is:
> >
> > [Pref1 Pfwd1(RHO^2) Pref2(1RHO^2)] = Pfwd2 Pfwd1(1RHO^2)
> > Pref2(RHO^2)
> >
> > Note that the above equation is still based on the original Conservation
of
> > Energy equation. What physical meaning can we draw from the terms on the
> > left
> > side and the terms on the right side of the equation? What we are
> > looking at
> > in the above equation are the interference terms. The left side of the
> > equation
> > represents the interference term at the impedance discontinuity looking
> > toward
> > the source. The right side of the equation represents the interference
> > term at
> > the impedance discontinuity looking toward the load.
> >
> > If the sign of the interference term is negative, then that interference
> > is destructive.
> >
> > If the sign of the interference term is positive, then that interference
> > is constructive.
>
>
> It seems to me that the value on both sides of your equation is zero.
> Does that mean that there is no interference?
>
i think he just proved that:
if a=b and c=d then a-c=b-d which can be rearranged into a-b=c-d which
after you substitued back in the original values becomes 0=0

7563. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 13:09:21 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306290509.1f1dbf04@posting.google.com>
Source record: 114015

They advised you well to seek out Gary, he was a
regular in this group years ago but alas no more
Suggest you review the archives to get hold of
his E mail address
Good luck
Art

<who@where.net> wrote in message news:<o5etfvskpv14rosmdcgu6ni3nepfthnqtj@4ax.com>...
> On Sun, 29 Jun 2003 09:47:16 GMT, R <who@where.net> wrote:
>
> > Hello! I was pointed here by a storm chase forum I subscribe to,
> >i.e., "Go ye forth and seek Gary Coffman, for surely he must know that
> >which ye inquire!"
> >
>
> >magmount scanner antenna. The antenna is mounted to the trunk of my
> >car and the coax is run through through the rear truck gap, into the
> ^^^^^
> |||||
>
> should say "trunk". Please forgive my late night spelling snafus. :)
>
> -R

7564. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 13:09:53 UTC
From: Jimmy <Gfender@carolina.rr.com>
Message-ID: <ByBLa.136948$nr.6915771@twister.southeast.rr.com>
Source record: 114016

Since you have a patent on this antenna design and it according to you is the greatest thing since sliced bread, why not just build and market the antenna, get rich and make everyone eat their words. I for one would be glad to buy it if you can demonstrate that works anywhere nearly as great as you claim. As a matter of fact I would gladly put up funding to market this antenna if you can demonstrate it.You have built and tested a proto-type by now havent you???

"Art Unwin KB9MZ" <aunwin@insightbb.com> wrote in message news:85ed38d.0306261845.3a8d9ecf@posting.google.com...
> richardharrison@webtv.net (Richard Harrison) wrote in message news:<19426-3EFB51DF-70@storefull-2316.public.lawson.webtv.net>...
> > Art, KB9MZ wrote:
> > "Count the number of postings made before phase removal was
> > accepted---."
> >
> > Reading between the lines, I infer Art means removal of reactance to
> > increase antenna current. I agree this deserves acceptance as it is easy
> > and it works.
> >
> > Conjugate matching is, the experts agree, the way to get maximum power
> > transfer. Maybe the argument is over who needs it.
> >
> > Complex circuits more accurately represent the world around us, but a
> > qualitative understanding of antennas can be had without the math (enter
> > Reg on cue).
> >
> > It is too bad Arnold B. Bailey`s book is not readily available, I think.
> > Richard Clark had a copy and may have a different opinion. Bailey`s book
> > is about antenna theory. The title, "TV and Other Receiving Antennas"
> > was, I think, meant to sell it during a period when the growth of TV was
> > exploding. The name was sexy then.
> >
> > Equivalent circuits facilitate grasp of circuit action. Clark and
> > Lewallen are surely familiar with all manner of circuits.
> >
> > Coupling of circuits is described in many texts. What`s wrong with
> > direct coupling antennas? Other means are convenient but unlikely to
> > couple any tighter.
> >
> > If you can get as much antenna gain using one feedpoint as using many,
> > why use more? Parasitic antennas are popular.
> >
> > Coupled circuits are one way to extend bandwidth. Obviously they can be

> > tuned off-resonance slightly (stagger-tuned). Stubs can parallel an
> > antenna feedpoint and these can have a reactive shift which compliments
> > the reactive shift in the antenna, and this widens the antenna bandpass.
> > I pointed to King, Mimno, and Wing in an earlier posting. They are more
> > prominent than Bailey, but they`re no more useful to me than is Bailey.
> >
> > Art would like to send me back to Tierra del Fuego. Winter just kicked
> > off there now. It`s cold and it`s dark. I don`t want to go. Surely I`m
> > offensive to Art. I did it without really trying.
>
> Now thats more like it, a reasonable contact without slurs
> and I will repeat in kind.
>
> >
> > Art writes: "I know I am right with respect to my antenna."
> >
> > Start by telling us how it beats the antennas and matching systems
> > pictured on pages 26-8 and 26-9 of the ARRL Antenna Book.
>
> But Richard we went thru this before when you inferred I was breaking
> the laws of nature. So at that point I started to go thru it point by
> point
> which you withdrew from because you didn't want to answer questions as
> to your understandings as we went along! This discussion has gone on
> for years when I disclosed what the patent office had accepted.Wasn't
> it about a year ago that I offered a detractor not only access to an
> existing antenna but also access to the latest (newer) patent I was
> preparing and who then declined.
> It was less than a year ago that I offered to BUY a program for one to
> which I would supply input figures......he also declined. Clark who is
> a genius in so many areas , in his own mind at least, even refused to
> accept any information provided from my particular purchased program
> as it was "old". Since he studied under the "new math" procedures
> which do not require learning multiplication tables I can only assume
> that the newer programs can give the multiple of 2X4 to more than six
> decimal places ! Another person also states that I have no
> credability and why not,it is so easy to say on the net. Most people
> know that it is not necessary to use computors if the answers are
> already known.
> And most computor experts know all there is to know anyway.
> I'll tell you what Richard, at the end of this summer I will share
> all with you privately, both past and present designs with copies of
> any references, calculations, pretty computor pictures of results and
> personal photo's of actual antennas.(remember those pictures of the
> 20M 13 element on a 80 foot boom I shared with you) If you wish to
> pursue it for yourself using an optimizer program I will also provide
> any assistance. (EZNEC systems are not capable to duplicate in so
> many areas) All of this based ofcourse on reasonable conversations
> which from past experience I know you can satisfy easily and is your
> norm.

> Speaking your mind ofcourse but without personal slander
> Regards
> Art
>
> >
> > Best regards, Richard Harrison, KB5WZI

7565. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 13:41:51 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdmqav$89l$1@hercules.btinternet.com>
Source record: 114017

Cec,

With considerable labour I've just calculated an exact value of a Velocity Factor for you. It was necessary first of all to derive from first principles a complicated formula which has now been recorded in my notebook. It will not be found anywhere else - not even in Terman.

Given an (almost) open wire line of the following characteristics -

Wire diameter = 1mm.

Center-to-center wire spacing = 100mm.

Diameter over wire insulation = 2mm.

Permittivity of wire insulation = 3.

This line, of typical dimensions, has a Zo of 623 ohms.

Attenuation = 0.118 dB per 100 feet.

HF VELOCITY FACTOR = 0.9798

which is what I guessed to be a typical value.

It is smaller than the VF of an isolated antenna wire of the same wire dimensions.

As I said before, enamelled wire would have a VF even nearer to unity.

Reg.

7566. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:06:56 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFEF280.3010405@ieee.org>
Source record: 113919

Duane Allen wrote:
> It seems to me that the value on both sides of your equation is zero.
> Does that mean that there is no interference?

There is one case where the value on both sides of the equation is zero.
It happens when the source wave is orthogonal to the reflected wave
from the mismatched load.

In _Optics_, by Hecht, the total irradiance is given by equation (9.14).

I = I1 + I2 + 2*Sqrt(I1*I2)cos(theta)

where 2*Sqrt(I1*I2)cos(theta) is known as the "interference term".

When the source wave is orthogonal to the reflected wave, cos(theta)
equals zero and therefore the interference term equals zero. Instead
of saying "there is no interference" it might be better to say the
interference is orthogonal.

Quoting from "Wave Mechanics of Transmission Lines, Part 3" in QEX
Nov/Dec 2001: "When the voltages V1 and V2 are exactly 90 degrees
out of phase, the total power can be determined as follows:
PFtotal = P1 + P2 (Eq 14)

The generalized (Eq 12) is: PFtotal = P1 + P2 + 2*Sqrt(P1*P2)cos(theta)

where the resemblance to the light irradiance equation is obvious
and 2*Sqrt(P1*P2)cos(theta) is the interference term which is equal
to the interference in my earlier Conservation of Energy equation.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7567. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:07:05 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <gmSdnUbpXcQRb2OjU-KYvA@comcast.com>
Source record: 114018

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFE3D91.90902@ieee.org...
> VF difference between bare wire and insulated wire is about 5% so I
figured
> insulated transmission wire must have a VF less than 0.95.
> --
> 73, Cecil http://www.qsl.net/w5dxp

Cecil,

What is your source for that? I would believe the 5% if the spacing were 0.1
inch, but not 6 inches.

Tam/WB2TT

7568. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:19:50 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFEF586.6060209@ieee.org>
Source record: 113920

David Robbins wrote:
>>It seems to me that the value on both sides of your equation is zero.
>>Does that mean that there is no interference?

> i think he just proved that:
> if a=b and c=d then a-c=b-d which can be rearranged into a-b=c-d which
> after you substitued back in the original values becomes 0=0

Destructive interference and Constructive interference both equal zero
only when the forward source wave is orthogonal to the reflected wave.
In the Conservation of Energy interference equation:

ï¿½ [Pref1 ï¿½ Pfwd1(RHO2) ï¿½ Pref2(1ï¿½RHO2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO2) ï¿½
Pref2(RHO2)

the only time both sides of the equation will equal zero is when the
forward wave is 90 degrees out of phase with the reflected wave at
the impedance discontinuity point. If that phase angle is anything
other than 90 degrees, both sides of the equation above will NOT
be equal to zero and interference energy will be flowing from one
side of the impedance discontinuity to the other.

If and only if the two waves are orthogonal will

Pref1 = Pfwd1(RHO^2) + Pref2(1-RHO^2) and

Pfwd2 = Pfwd1(1-RHO^2) + Pref2(RHO^2)

Besides the orthogonal condition, a<>b and c<>d.
--
73, Cecil http://www.qsl.net/w5dxp

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7569. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:23:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFEF666.6030604@ieee.org>
Source record: 113922

Reg Edwards wrote:
> HF VELOCITY FACTOR = 0.9798

Thanks very much, Reg. Why is the VF so different between
a bare wire and an insulated wire when it is used for an
antenna element?
--
73, Cecil http://www.qsl.net/w5dxp

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7570. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:26:18 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vfttogl96ng7ab@corp.supernews.com>
Source record: 113921

Several years ago Dan, N5AR was travelling down an Interstate and lightning
hit the 2 meter whip on his van and blew the antenna, coax, and radio to
pieces and scared the hell out of him. Shit happens!
good luck
hank wd5jfr
"R" <who@where.net> wrote in message
news:sfdtfvkumquso7qqfa6g0bktkcr26l9tmm@4ax.com...
> Hello! I was pointed here by a storm chase forum I subscribe to,
> i.e., "Go ye forth and seek Gary Coffman, for surely he must know that
> which ye inquire!"
>
> I've done a bit of back research on my question, and I think I have
> much of it answered. Mainly, I'm concerned that I may be introducing
> a lightning hazard into the passenger compartment of my car by using a
> magmount scanner antenna. The antenna is mounted to the trunk of my
> car and the coax is run through through the rear truck gap, into the
> trunk, up through a gap at the edge of the rear seat upholstery, along
> the floorwell, and to a handheld scanner attached via velcro to the
> dash on the passenger side.
>
> From what I've read, it seems that this pretty much defeats the
> Faraday's cage, as I'd feared. Since I primarily use the scanner to
> find severe storms which usually contain awe-inspiring displays of CG
> lightning, this is a disconcerting thing to discover.
>
> But I still wonder: how much of a risk is it to have this set up?
> Assuming for a moment that the mag mount antenna is directly struck,
> what is the most likely effect? Would the bulk of the current follow
> the coax into the passenger compartment, or would the current likely
> jump at some point from the coax to the car body? Seeing as my
> handheld scanner is not grounded, whereas my car body sort of is, I
> would hope so -- but part of me fears that by the time the actual
> discharge is occuring, the charge may simply go as far as it can along
> a conductive path (i.e., to my handheld scanner) and then find a new
> path -- even if that means arcing around in the inside of my car and
> blowing a hole through something not normally conductive.
>
> Honsetly, I could give a flip if the scanner was damaged or
> destroyed. What I'm worried about is getting zapped. Is internal
> arcing a reasonable possibilty if my mag mount is directly struck? Is
> there any way to minimize the danger? Mostly you seem to reccomend
> using polyphasers at the drilled coax entry point in order to give the
> lightning enough resistance to cause it to opt to follow the body of

> the car instead of the coax. But I'm not so keen on drilling holes in
> the car body; if there were a way to effectively use a polyphaser
> without drilling holes in the body, I'd do it in a heartbeat.
>
> I thought about trying a glass mount antenna, but then I figured
> that that would be just as bad; I'm guessing lightning can easily jump
> through a fourth inch of glass to get to a highly conductive coax
> cable, and that's probably preferable to jumping a good foot through
> air to get to the car body.
>
> Thanks for any help!
>
> -R

7571. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:28:42 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFEF79A.6060004@ieee.org>
Source record: 113923

Tarmo Tammaru wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
>
>>VF difference between bare wire and insulated wire is about 5% so I figured
>>insulated transmission wire must have a VF less than 0.95.

> What is your source for that? I would believe the 5% if the spacing were 0.1
> inch, but not 6 inches.

I wasn't talking about transmission lines, I was talking about
antenna elements. For dipoles, insulated antenna wire is about
5% "longer" than bare antenna wire.
--
73, Cecil http://www.qsl.net/w5dxp

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7572. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:43:58 UTC
From: "J. Stewart" <jstewart23@hotmail.com>
Message-ID: <01c33e4c$bca56b60$700c90cf@rockhill>
Source record: 113924

Just buy a 10 foot section of pvc pipe, cut it up in to four or five inch pieces, and drill a hole in each end and you will have a wire insulator. The hole pvc pipe will cost well under $5.00, and you will get MANY end insulators out of it.

Bob Miller <bxmiller@texas.netNOSPAM> wrote in article <058vevktgq71ebbcn4rc13k8nv7bli1rqj@4ax.com>...
> On 17 Jun 2003 20:50:38 GMT, nightowls627@aol.comnojunk (G. Doughty)
> wrote:
>
> >how about wood for center conductor?
> >
> >G Doughty
> >remove nojunk to email
>
> It might be okay for low power, but it could catch fire, and by the
> time you knew it, your whole roof would be going up.
>
> A short length of pvc would be better.
>
> Or, see if your local Radio Shack has any insulators for wire
> antennas. They usually do.
>
> A farm supply house that sells electric fence wire should have the
> plastic egg insulators -- they're pretty cheap.
>
> Or do a web search for The Wireman and mail order a few insulators
> from his antenna supplies.
>
> Bob
> k5qwg
>
>
>

7573. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 14:44:52 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306290644.4c8e96ce@posting.google.com>
Source record: 113925

richardharrison@webtv.net (Richard Harrison) wrote in message
news:<21660-3EFE68F9-23@storefull-2311.public.lawson.webtv.net>...
> Art, KB9MZ wrote:
> "(the term coupling seems to vary on this newsgroup coupled
> resistance!!!!)"
>
> Coupling is defined the same as mutual impedance. Please see Terman`s
> 1955 edition, page 894:
>
> "An antenna carrying current will induce a voltage in another antenna in
> the vicinity; i.e., two nearby antennas act as though they were coupled.
> -------
>
> Z12 = E2 / I1 "
>
> Mutual impedance = 2nd ant.V over 1st ant. I
>
> Best regards, Richard Harrison, KB5WZI

Richard, you do not have to go to antenna books for such things

Complex circuitry or mesh circuits are mathmematical contributions
to science in the same way as quadratics. If one understands the
primary form then its derivatives can be used in many secondary
areas such as antennas, The use of inductive and capacitive
coupling is a part of mesh circuitry mathematics where as in
quadratics many mathematical 'answers' can be obtained.
To be honest I have not heard of resistive coupling and frankly
have mixed up capacitive coupling with inductive coupling in
my early days with antennas when applying known mathematical
aproaches. I might add that I also agree with you regarding
stagger tuning as being another derivative of mesh circuitry
since all know that any radiator can be redrawn as a CLOSED
circuit containing pure but not distributed inputs.
Antenna programs shine because they can take account of
positional coupling where in the past it would be a mathematical
nightmare to arrive at the final solution. But to be sure
all the above is derived from mathematics in the same way that
negative resistance shows up or multiple answers with respect to
quadratic formulae.
Best regards
Art

7574. Re: 10m vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 15:13:34 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF021E.7020406@ieee.org>
Source record: 113926

J. Stewart wrote:
> Just buy a 10 foot section of pvc pipe, cut it up in to four or five inch
> pieces, and drill a hole in each end and you will have a wire insulator.
> The hole pvc pipe will cost well under $5.00, and you will get MANY end
> insulators out of it.

And if it's white, it will fall apart in the Texas sun.
--
73, Cecil http://www.qsl.net/w5dxp

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7575. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 15:40:11 UTC
From: Duane Allen <computeruser@sprintmail.com>
Message-ID: <3EFF0863.1060206@sprintmail.com>
Source record: 113927

W5DXP wrote:
> source----------Z01--------+----------Z02------------load
> Pfwd1--> RHO Pfwd2-->
> <--Pref1 <--Pref2
>
> The Conservation of Energy principle indicates that the energy flowing
> into the impedance discontinuity must equal the energy flowing out of
> the impedance discontinuity. Therefore:
>
> Pfwd1 + Pref2 = Pref1 + Pfwd2
>
> RHO^2 is the power reflection coefficient and equals
> [(Z02ï¿½Z01)/(Z02+Z01)]^2.

<<snipped>>

Cecil,

Is there only one value of RHO? It seems to me that in one direction
there is RHO and in the other direction there is -RHO. Does this affect
the construstion of your model?

Duane Allen
N6JPO

7576. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 16:14:12 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <ofELa.34883$pH3.13392@news2.east.cox.net>
Source record: 113928

"Bob Lombardi" <blombardi@cfl42.rr.com> wrote in message
news:3EE684BB.3070505@cfl42.rr.com...
>
> Thanks for all the info. I had not considered a quad, because I'm going
> to mount this antenna above my HF Log Periodic (Tennadyne T6) and since
> the quad will end up closer to the LP, I was concerned with interaction.
> My mast only gives me another 5 feet above the T6. Right now, I use
> the HF LP on 6 meters with reasonable results, and it even presents a
> 2.5:1 or so match on 144.2.
>
> I'll look into the Cubex quads and the KMA 6 meter antenna. There may
> be another Log Periodic in my future.
>
>
>
> 73,
> Bob
> W4ATM
>
>
> Bob Lombardi wrote:
>
> >
> > I've been doing some web searches for a 6 and 2 m interlaced yagi, but
> > haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
> > 70 cm, but it also mixes polarizations, and I want them both
> > horizontally polarized (for SSB/CW operation). At this point, I don't
> > care much whether I build it or buy it.
> >
> > It seems like the only single antenna solution I've found is a log
> > periodic. Does anyone have a reference to a 6/2 interlaced yagi?
> >
> >
> >
> > 73,
> > Bob
> > W4ATM
> >
> > if you wish to reply by email, there are no numbers in my address...
> >
>

7577. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 16:47:04 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EFF16F8.812B3A7D@gte.net>
Source record: 113929

Tarmo Tammaru wrote:

> Doug,
>
> If you have multiple antennas, first I would get a remote antenna switch
> that lets you switch between multiple antennas and a common feedline. I
> think Ameritron makes one. I don't tknow where you looked at for Heliax, but
> try Cablexperts, RadioWorks, and Texas Towers; actually, you best bet might
> be if you can get some 75 Ohm CATV line cheap. Also, at 30 MHz LMR400 would
> only have 1.6db loss for 200 feet, and only costs slightly more than RG213.
>
> Tam/WB2TT

This is exactly what I have done- got a free roll of 300' of 5/8" CATV hardline and a remote switch. The connectors (called stingers) for the hardline are inexpensive and at least one type of N connector (UG-536) screws directly into the CATV connector- all watertight.

Dale W4OP

7578. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:07:53 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fv6ufv4q7pafmmqs823jv1ar791fg4q6fs@4ax.com>
Source record: 113930

On Sun, 29 Jun 2003 09:19:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
>David Robbins wrote:
>> i think he just proved that:
>> if a=b and c=d
>a<>b and c<>d.
:-)

7579. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:20:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <cc7ufvsqngs9h4upv5od19fjrivdmc18co@4ax.com>
Source record: 113931

On Sun, 29 Jun 2003 13:41:51 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>Given an (almost) open wire line
snip
>HF VELOCITY FACTOR = 0.9798

The miracle of the notebook's math where you can find (almost) 1 place
resolution measurements expressed to 100 parts-per-million results!

73's
Richard Clark, KB7QHC

7580. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:40:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m58ufvclb4r4v8rqb8dfugedbocfqsiekg@4ax.com>
Source record: 113932

On Sun, 29 Jun 2003 09:47:16 GMT, R <who@where.net> wrote:

> The antenna is mounted to the trunk of my
>car and the coax is run through through the rear truck gap, into the
>trunk, up through a gap at the edge of the rear seat upholstery, along
>the floorwell, and to a handheld scanner attached via velcro to the
>dash on the passenger side.

Hi OM,

The shielded coax is a natural lightning suppresser IF:

Do you have it grounded?

I would presume you have grounded it at the trunk. Is the trunk grounded to the chassis? The hood, doors, trunk lid, moonroof, and any part that moves is often erroneously thought to be grounded simply because it is made of metal and "part" of the car.

As the song goes "'t'ain't necessarily so!"

You can solve this by adding wire or braid connections between the moving parts and the car body. Keep them short, probably no longer than the hinge that "apparently" grounds them, but doesn't (for any of a number of reasons like gaskets, grease, bushings, grommets....).

Do you ground the coax at the other end? Is your equipment grounded?

If so, any potential injected by the bolt into the car will be confined within some metal box (the point of shielding and grounding equipment) inside your metal box (the car). The longer the lead from that point to actual ground increases your chance of being bit.

Yes, I know you distinctly described a mag-mount. I can also guess the answers to my questions above. The implication should be apparent by now.

73's
Richard Clark, KB7QHC

7581. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:44:47 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030629134447.02031.00000495@mb-m10.aol.com>
Source record: 113933

N7WS:
> Our usual FD site has burned to a
>crisp, so I'm running a home station on emergency power.

Hi Wes,
are you talking about Coronado National Forest fires?
So sorry to hear about the fires. Our son lived in Oro Valley, we went up the mountain, admired towers there and beauty of the area in the middle of the desert. Our friend just phoned and said that it just about burned out and unfortunately not a single animal came out, looks like they all burned there.
All the environmental idiots should have been herded up in that forest and left to fight the fire and "preserve" the nature. What a shame, due to few idiots huge tracts of forests are being destroyed, rather than properly managed, cleared and some roads built to segment the forest and provide access in case of emergency and need for counter fires.
What a loss! Now if monsoons come, it will even get uglier.

73 Yuri

7582. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:47:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF2634.5090601@ieee.org>
Source record: 113935

Duane Allen wrote:
> Is there only one value of RHO? It seems to me that in one direction
> there is RHO and in the other direction there is -RHO. Does this affect
> the construstion of your model?

There are two values for RHO, the voltage reflection coefficient, but
there is only one value for RHO^2, the power reflection coefficient.
--
73, Cecil http://www.qsl.net/w5dxp

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7583. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:49:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF26C2.7070302@ieee.org>
Source record: 113937

Richard Clark wrote:
> On Sun, 29 Jun 2003 09:19:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
> wrote:
>
>>David Robbins wrote:
>>
>>>i think he just proved that:
>>>if a=b and c=d
>>
>>a<>b and c<>d.
>
> :-)

Don't see the humor, Richard. If the phase angle is 90 degrees,
then a=b and c=d. If the phase angle is not 90 degrees, then
a<>b and c<>d. If you need that explained to you, I'll be
glad to do it.
--
73, Cecil http://www.qsl.net/w5dxp

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7584. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:50:18 UTC
From: R <who@where.net>
Message-ID: <b39ufv4h4kdmrfkf2h945i532pmerq6une@4ax.com>
Source record: 113934

On Sun, 29 Jun 2003 05:09:02 -0500, 'Doc <w5lz@cwis.net> wrote:

>'R',
> I think worrying about a scanner antenna (or any kind of
>mobile antenna) increasing the lightning hazard of your car
>is a waste of good worrying time. I seriously doubt if it
>would increase the likelyhood of your car being struck by
>lightning. a

I'm not worried about it increasing the chance (though I'm sure it does; more elevated metal means more streamers), I'm worried that by not having the coax grounded to the car, any lightning that hits it will follow the coax path into my car. Having a bolt of lightning inside my car ain't a place I wanna go! ;)

>And if struck by lightning, the scanner and it's
>antenna will probably make absolutely no difference in the
>out come. 'Storm chasing' is a greater hazard than the antenna.

Actually, storm chasing is relatively safe. Driving is what is dangerous, followed by lightning, then danger from the actual tornado. I hope you're right about the scanner antenna, though!

-R

7585. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:51:34 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdn8v6dnl1@sparta.btinternet.com>
Source record: 113936

Cecil asked -

> Why is the VF so different between
> a bare wire and an insulated wire when it is used for an
> antenna element?

==========

It isn't. It is you Cec who said the VF of an insulated antenna wire was 0.95

I assumed, when you said it, you had adopted without question the popular misconception that it is of that order but I didn't bother to mention it then. It was getting in the way of your original open-wire question.

Sometime, ages ago on this newsgroup, I gave the formula for calculating either capacitance or VF of an insulated antenna wire. VF is proportional to the 1/Squareroot of capacitance per unit length.

Actually, to get as low as 0.95, the diameter over the wire insulation has to look like a dining-table wax candle with a wick down the middle.

If an antenna wire is one 'plate' of a capacitor there will be quite a distance between it and the other 'plate', the rest of the universe. The nearest part of the other plate is usually the ground. It doesn't matter very much what it is. To fill just a tiny fraction of the distance between the plates with a dielectric material of low permittivity produces only a very small increase in capacitance. And since VF is proportional to 1/Squareroot of capacitance, the proportional change in VF due to insulating the wire is only about half of the small proportional change in capacitance.

It takes 100 times longer to write all this down than it does to grasp the idea. And a 1000 times longer to work it out. I'ts not worth the trouble. And nobody would ever dream of dismantling and then re-erecting an 80m dipole just to prune a few inches off each end. It has already been swamped by end-effect.

Returning to the open wire line. The pair of wires have capacitance to each other. Each wire also has capacitance to the local environment which obviously affects the resultant. But quite sensibly nobody ever considers the change in line Zo and effective length, and their effects on SWR. Similarly, any change in the effective electrical length of a dipole due to adding a protective layer of insulation can be ignored.

It is often recommended a balanced twin line should not be run within 3 or 4 wire-spacings of metal objects to prevent losses. But metals are low-loss materials and unless 'objects' are an appreciable fraction of a wavelength,

such that appreciable current flows in them, induced losses will be negligible. The recommendation should be "No materials of ANY SORT over appreciable distances."

If the recommendation should be ignored and a ladder line be run down to ground level very near, broadside-on, to an aluminium mast, there will be a very considerable loss, but NONE in the mast. Loss will occur in the line conductors themselves due to high swr and other weird effects on the system. The metal mast has reduced the effective conductor spacing and increased line capacitance, the combined effect being a big reduction in Zo and the consequential increase in line attenuation.

Reg, G4FGQ

7586. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 17:57:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF2881.7050902@ieee.org>
Source record: 113938

Reg Edwards wrote:
> Cecil asked -
>
>
>>Why is the VF so different between
>>a bare wire and an insulated wire when it is used for an
>>antenna element?
>
> It isn't. It is you Cec who said the VF of an insulated antenna wire was
> 0.95

The measured resonant frequency of my dipole dropped by 5% when I replaced
the bare wire with an equal length of Flexweave insulated wire.
--
73, Cecil http://www.qsl.net/w5dxp

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7587. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:02:33 UTC
From: R <who@where.net>
Message-ID: <js9ufv4iv7b6v1s2b4622m2sccrb3oo6dt@4ax.com>
Source record: 113939

On Sun, 29 Jun 2003 17:40:54 GMT, Richard Clark <kb7qhc@attbi.com>
wrote:

>On Sun, 29 Jun 2003 09:47:16 GMT, R <who@where.net> wrote:
>
>> The antenna is mounted to the trunk of my
>>car and the coax is run through through the rear truck gap, into the
>>trunk, up through a gap at the edge of the rear seat upholstery, along
>>the floorwell, and to a handheld scanner attached via velcro to the
>>dash on the passenger side.
>
>Hi OM,
>
>The shielded coax is a natural lightning suppresser IF:
>
>Do you have it grounded?

Yes... kinda. The mag mount has a foil patch at the bottom which
snugs up against the metal body. However, I'm guessing that this is
far from an optimal ground.

>I would presume you have grounded it at the trunk. Is the trunk
>grounded to the chassis? The hood, doors, trunk lid, moonroof, and
>any part that moves is often erroneously thought to be grounded simply
>because it is made of metal and "part" of the car.
>
>As the song goes "'t'ain't necessarily so!"
>
>You can solve this by adding wire or braid connections between the
>moving parts and the car body. Keep them short, probably no longer
>than the hinge that "apparently" grounds them, but doesn't (for any of
>a number of reasons like gaskets, grease, bushings, grommets....).

Interesting! As long as these did not impair the mechanical
operability of the parts (i.e., I want to be able to open my trunk),
I'd give this a shot.

>Do you ground the coax at the other end? Is your equipment grounded?

That's a big hell-no. It's just a handheld scanner that I velcro to
the dash. I guess that's part of what worried me; since a bolt
introduced inside the passenger cabin wouldn't have a supplied path to
ground, it'll just pick its own-- and it's possible that that path
could be through me! My hope was that the bolt would be unlikely to
enter in the first place.

>If so, any potential injected by the bolt into the car will be
>confined within some metal box (the point of shielding and grounding
>equipment) inside your metal box (the car). The longer the lead from
>that point to actual ground increases your chance of being bit.
>
>Yes, I know you distinctly described a mag-mount. I can also guess
>the answers to my questions above. The implication should be apparent
>by now.

7588. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:13:38 UTC
From: MCB <a@c.com>
Message-ID: <J3GLa.44511$9C6.2119941@wards.force9.net>
Source record: 113940
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

Yes you are right they are expensive...

I have access to a calibration dipole and spectrum analyser to make a
incident power measurement. I can then calculate the field strength from
this no problem. (Just having trouble solving my orginal problem).

"Dave Shrader" <david.shrader@attbi.com> wrote in message
news:3EFEC7E0.5060602@attbi.com...
> Assuming you get an answer to your first question, I am going to jump to
> the second which you have not yet asked!
>
> Where do I get a calibrated [accurate] field intensity meter? BTW, they
> are moderately expensive.
>
> Deacon Dave, W1MCE
>
> MCB wrote:
> > Sorry If things look a little confusing....
> >
> > => The active dipole consists of a RF limiter and LNA all in one
package.
> > The maximum input power to the LNA is 100mW before damage. The limiter
> > limits power levels between (50mW and 3W) to 50mW - which is fed into
the
> > LNA. The RF limiter can withstand 3W before damage. To solve my problem
all
> > you need to know is that more than 3W will damage the antenna.
> >
> > So looking at it a different way I wish to know what is the maximum
field
> > strength that can be applied to the antenna before damage? (with the TX
and
> > RX antennas copolar (vertically polarised) at 2m).
> >
> > How do I calculate the field strength, knowing the gain of the antenna
> > (0dBi), the output power from the dipole (3W), if I assume that the
> > impedance is 50ohms? Are there any other quantities that I am not taking
> > into account? Does the impedance of free space (377ohms) come into it?
> >
> > "Richard Clark" <kb7qhc@attbi.com> wrote in message
> > news:aq0sfvc9bki896do7ia9ltucejkikneabd@4ax.com...
> >
> >>On Sat, 28 Jun 2003 21:58:09 +0100, "MCB" <a@c.com> wrote:
> >>

> >>
> >>>Thanks Richard
> >>>
> >>>More information: The antenna is an active dipole. There is a 3W RF
> >>
> > limiter
> >
> >>>on the output which connects directly to a low noise amplifier (LNA).
So
> >>
> > the
> >
> >>>antenna can cope with up to 3W on its output before any damage to the
> >>>limiter or LNA. I need to know the field strength as I have a
> >>
> > transmitter
> >
> >>>within 10 metres transmitting 100W into another dipole at the same
> >>
> > frequency
> >
> >>>as the RX !! (the receiver is isolated).
> >>>
> >>>So I need to know what the field strength in V/m will produce 3W on the
> >>>output of the antenna?....... Anyone know how to tackle this problem?
> >>>
> >>>Thanks
> >>>
> >>
> >>Hi OM,
> >>
> >>You still have a lot of unknowns.
> >>What frequency?
> >>Are the antennas in the same polarization (horiz/vert)?
> >>What is the gain of the "active dipole" amplifier?
> >>Is the LNA the active part of the "active dipole?"
> >>(It doesn't seem to be so by your description.)
> >>
> >>This may be academic because you say the output is limited to 3W.
> >>What is the power input limit of the LNA?
> >>
> >>If you are operating HF,
> >>Why are you using an LNA?
> >>
> >>If you are not operating HF, but rather VHF (2M) you are probably OK,
> >>but in all reality that is an issue with the input power ability of
> >>the "active dipole" amplifier, not its output.
> >>
> >>73's
> >>Richard Clark, KB7QHC

> >
> >
> >
>

7589. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:31:28 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfuc16862mtbd9@corp.supernews.com>
Source record: 113941

Amen. I have a son who is an honors graduate in forestry. Can not find
a job in forestry. Some of that is due to a desire by the non thinkers
to leave forests unmanaged. How stupid. A properly managed forest
produces income, lots of standing trees, and a much reduced chance of
fires.
Stupid! ...rant mode off
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
Office: JCM@McLMcL.Com
"Yuri Blanarovich" <k3bu@aol.comnoSaddam> wrote in message
news:20030629134447.02031.00000495@mb-m10.aol.com...
> N7WS:
> > Our usual FD site has burned to a
> >crisp, so I'm running a home station on emergency power.
>
> Hi Wes,
> are you talking about Coronado National Forest fires?
> So sorry to hear about the fires. Our son lived in Oro Valley, we went
up the
> mountain, admired towers there and beauty of the area in the middle of
the
> desert. Our friend just phoned and said that it just about burned out
and
> unfortunately not a single animal came out, looks like they all burned
there.
> All the environmental idiots should have been herded up in that forest
and left
> to fight the fire and "preserve" the nature. What a shame, due to few
idiots
> huge tracts of forests are being destroyed, rather than properly
managed,
> cleared and some roads built to segment the forest and provide access
in case
> of emergency and need for counter fires.
> What a loss! Now if monsoons come, it will even get uglier.
>
> 73 Yuri

7590. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:37:14 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <aabufv0kv7gp6o2og5qr3u4nd2sgdd761o@4ax.com>
Source record: 113942

On Sun, 29 Jun 2003 12:49:54 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> On Sun, 29 Jun 2003 09:19:50 -0500, W5DXP <Cecil.A.Moore@ieee.org>
>> wrote:
>>
>>>David Robbins wrote:
>>>
>>>>i think he just proved that:
>>>>if a=b and c=d
>>>
>>>a<>b and c<>d.
>>
>> :-)
>
>Don't see the humor, Richard.

Perception problems continue.

> If the phase angle is 90 degrees,

IF? you don't use the term "phase" at all.

>then a=b and c=d. If the phase angle is not 90 degrees, then
>a<>b and c<>d.

Your readers had to struggle through that alone. Poor writing.

> If you need that explained to you, I'll be
>glad to do it.

No doubt - even if I don't need it explained. Given the
correspondence here weighs heavily toward those who have to be
corrected or dismissed by you - you will win the blame the reader
competition.

This is why editors blow you off.

Put that aside and contemplate the supposed topic
Conservation of Energy
compared to
>"'Lost' *reflected* intensity" appearing as "enhanced intensity in the *transmitted*
>beam" certainly appears (to me) to be a change in direction of the interference
>energy flow.

One may be used to introduce the other, but they are separate topics
and reveal poor writing construction (no focus).

This is also why editors blow you off.

If we simply ignore that as well, we are faced with imponderables:
>ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½ Pref2(RHO^2)
taking 1ï¿½RHO^2 singly, you invent some of the oddest conventions.

Editors are no more impressed, than they were to this point.

What's left but to grin it out? :-)

73's
Richard Clark, KB7QHC

7591. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:39:43 UTC
From: "J. McLaughlin" <JCM@Power-Net.Net>
Message-ID: <vfucglii8iak99@corp.supernews.com>
Source record: 113943

Dear Reg:
Will you be disclosing the equation you derived so the world may
give you credit?
73 Mac N8TT

--
J. Mc Laughlin - Michigan USA
Home: JCM@Power-Net.Net
"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:bdmqav$89l$1@hercules.btinternet.com...
> Cec,
>
> With considerable labour I've just calculated an exact value of a
Velocity
> Factor for you. It was necessary first of all to derive from first
> principles a complicated formula which has now been recorded in my
notebook.
> It will not be found anywhere else - not even in Terman.
>

7592. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 18:46:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <iocufv898f58n6sr4iuha4bjpk7rggkjj0@4ax.com>
Source record: 113944
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

On Sun, 29 Jun 2003 19:13:38 +0100, "MCB" <a@c.com> wrote:

>Yes you are right they are expensive...
>
>I have access to a calibration dipole and spectrum analyser to make a
>incident power measurement. I can then calculate the field strength from
>this no problem. (Just having trouble solving my orginal problem).
>
Hi OM,

Barring quite a number of questions left unanswered, have you
considered the potential of blowing out the front end of the spectrum
analyser to make this measurement?

Do you know the instrument's maximum power tolerance?

73's
Richard Clark, KB7QHC

7593. Trap Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:00:00 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <lldufv0pron3f6e8gvs5s3ghlhh7rehp2s@4ax.com>
Source record: 113945

I have seen it suggested some authors that a trap's resonate frequency should be adjusted to a frequency lower than that of the desired operating frequency.

Now without getting into the pros and cons of traps themselves can anyone tell me what the reasoning is for adjusting them to a lower frequency?

And, if you feel the advice is sound, how much lower in frequency?

73
Danny, K6MHE

7594. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:25:29 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdnef9pdk1@sparta.btinternet.com>
Source record: 113946

> The measured resonant frequency of my dipole dropped by 5% when I replaced
> the bare wire with an equal length of Flexweave insulated wire.

==========

You didn't measure the resonant frequency of your dipole - you only thought you did.

You didn't just add the insulation - you also changed the conductor diameter.

The conductor length cahanged a bit. The antenna height changed a bit. Rain changed soil conductivity.

At no stage did you measure the resonant frequency of your dipole.

What you measured was resonant frequency of the dipole + FEEDLINE, before and after changing half a dozen different things which you have forgotten about and have no record of. You may even have changed the feedline.

All what you describe as measurements were made at the TRANSMITTER end of the feedline.

And furthermore you changed the TUNER settings, before and after.
Naughty-naughty !

And finally - you used an SWR METER as a frequency indicator.

I'm sorry to say Cec you must be suffering from delusions of accuracy. ;o)
Not that the uncertainties have done any harm.

What conclusions would you have jumped to if the 'measured' resonant frequency had INCREASED after you had done something ?

I expect you've already anticipated this sort of response and have mentally drafted your reply. Please go ahead -
----
Reg.

7595. Re: 6m and 2m Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:27:50 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <dcmdnYu8gtohoGKjXTWJkA@comcast.com>
Source record: 113947

Bob,

A new mast, and two separate antennas might be a cheaper solution. Even 5 feet might work. I have the 6m beam 7 feet above the tribander, with 2 m in between. I ran an EZNEC simulation on the 6 m beam, and don't see any harm from the 2m beam below it. Didn't look at the effect on the 2m beam, and know the tribander works. BTW, I have 7 el on 6, and 10 on 2. My mast is aluminum electrical conduit, about 1-3/4 OD. It has survived a 96 mph wind.

Tam/WB2TT
" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message news:ofELa.34883$pH3.13392@news2.east.cox.net...
>
> "Bob Lombardi" <blombardi@cfl42.rr.com> wrote in message
> news:3EE684BB.3070505@cfl42.rr.com...
> >
> > Thanks for all the info. I had not considered a quad, because I'm going
> > to mount this antenna above my HF Log Periodic (Tennadyne T6) and since
> > the quad will end up closer to the LP, I was concerned with interaction.
> > My mast only gives me another 5 feet above the T6. Right now, I use
> > the HF LP on 6 meters with reasonable results, and it even presents a
> > 2.5:1 or so match on 144.2.
> >
> > I'll look into the Cubex quads and the KMA 6 meter antenna. There may
> > be another Log Periodic in my future.
> >
> >
> >
> > 73,
> > Bob
> > W4ATM
> >
> >
> > Bob Lombardi wrote:
> >
> > >
> > > I've been doing some web searches for a 6 and 2 m interlaced yagi, but
> > > haven't found anything. I have seen the Cushcraft that mixes 6, 2 and
> > > 70 cm, but it also mixes polarizations, and I want them both
> > > horizontally polarized (for SSB/CW operation). At this point, I don't
> > > care much whether I build it or buy it.
> > >
> > > It seems like the only single antenna solution I've found is a log
> > > periodic. Does anyone have a reference to a 6/2 interlaced yagi?
> > >

> > >
> > >
> > > 73,
> > > Bob
> > > W4ATM
> > >
> > > if you wish to reply by email, there are no numbers in my address...
> > >
> >
>
>

7596. Re: Trap Question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:38:00 UTC
From: AMHAM73 <amham73@connectnet.net>
Message-ID: <seHLa.85058$Pc5.68545@fed1read01>
Source record: 113948

Dan -- maybe this URL will help:
http://www.w8ji.com/traps.htm

Also it has a link to trap design software:
http://members.shaw.ca./ve6yp/index.html

"Dan Richardson" <ChangeThisToCallSign@mendolink.com> wrote in message
news:lldufv0pron3f6e8gvs5s3ghlhh7rehp2s@4ax.com...
> I have seen it suggested some authors that a trap's resonate frequency
> should be adjusted to a frequency lower than that of the desired
> operating frequency.
>
> Now without getting into the pros and cons of traps themselves can
> anyone tell me what the reasoning is for adjusting them to a lower
> frequency?
>
> And, if you feel the advice is sound, how much lower in frequency?
>
> 73
> Danny, K6MHE
>

7597. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:39:42 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <zYOcncJfx74c3WKjU-KYvA@comcast.com>
Source record: 113949

Every wire antenna I ever put up used stranded plastic insulated wire. All resonated to within 1% of the cookbook formula.

Tam/WB2TT
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFEF79A.6060004@ieee.org...
> Tarmo Tammaru wrote:
> > "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
> >
> >>VF difference between bare wire and insulated wire is about 5% so I
figured
> >>insulated transmission wire must have a VF less than 0.95.
>
> > What is your source for that? I would believe the 5% if the spacing were
0.1
> > inch, but not 6 inches.
>
> I wasn't talking about transmission lines, I was talking about
> antenna elements. For dipoles, insulated antenna wire is about
> 5% "longer" than bare antenna wire.
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

7598. Re: Making a pass-cavity into a reject-cavity

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:51:31 UTC
From: Gary Schafer <gaschafer@attbi.com>
Message-ID: <mfgufvkukgpanq06hh46kg1n2t86isvh5f@4ax.com>
Source record: 113950

Hi Pete,

There are several ways to do it. There are three basic types of filters: pass, notch and pass/notch (sometimes known as "band pass band reject").

Series tuning the loop is usually done when a "pass - notch" type of cavity / duplexer is desired. This allows taking advantage of some of the pass band characteristics of the cavities while obtaining the deep notches usually needed. However the pass band part of the duplexer is usually pretty broad in comparison to what it would be if the filters were used as true pass band cavities. The skirts of the pass portion above and below the two frequencies involved are down only about 10 db or so. The band of frequencies that lie between the two frequencies are usually down 25 or so db and go down even more as either wanted frequency is approached. This is the result of the slope of the notch curves overlapping. The small pass rejection outside (the 10 db) is a result of the tunning of the loop.

And on this type of cavity you are right, the loop capacitor tunes the notch frequency and the pass is tuned with the cavity tuning. There is a limit as to the range of the notch tuning and it is still affected by the cavity tuning. In adjusting you first tune the cavity for maximum pass. The notch is the last adjustment as changing the cavity tuning has a great effect on the notch frequency. Tuning the notch has some effect on the pass tuning but the pass tuning is very broad in comparison to the notch.

Some strait notch type duplexers have fixed capacitors associated with the coupling loops to place the pass on the proper side of the notch. It does much the same as placing a certain length of line between the T and the loop. This is usually set up to give an unsymetrical notch with the lower loss on the proper side of the notch so that it does not attenuate the wanted frequency. Tuning is of course done by tuning the cavity.

The above is why most of the small mobile duplexers are limited to a certain range of frequencies. Even though the cavity may tune way outside the given range, the loop will be too far off and cause too much attenuation of the wanted signals.

Most straight notch type duplexers have little if any attenuation other than the notches themselves. Looking at their curves will show a nearly flat response out away from the notches.

73
Gary K4FMX

On Sun, 29 Jun 2003 02:34:54 GMT, " Uncle Peter"
<radioconnectionNO@cox.netSPAM> wrote:

>Gary
>
>I've seen the technique you're referring too, but I believe there's
>a series loop tuning capacitor to set the notch frequency for the
>coupling loop assemby, while the cavity tuning sets the bandpass.
>At least that's way I've seen it done in the Sinclair cavities we
>used in an inband VHF mobile pac/rt repeater setup.
>
>Pete
>
>"Gary Schafer" <gaschafer@attbi.com> wrote in message
>news:4uisfvc1uquueia0o5ohl7nbi9v8o44s75@4ax.com...
>> Just using a T on one of the pass loops of a pass band cavity will
>> provide a notch. Nothing connected to the other loop. This is the
>> simplest way to get going with it. I believe that this will look
>> somewhat like a low pass filter with the notch above the pass part.
>> Just what is needed to pass 2 meters and reject 152 mhz.
>>
>> Note that the pass will be very broad. Not really a pass band as we
>> usually think of one. The main thing is that the frequencies above the
>> notch in this case will have more (pass insertion) loss than the
>> frequencies below the notch.
>>
>> The tighter the loop is coupled to the cavity the deeper the notch.
>> Also the tighter coupling will increase the insertion loss of the
>> wanted frequencies.
>> The base of the notch gets wider. So the closer the wanted frequency
>> is to the notch frequency the more pronounced is the insertion loss as
>> you increase the loop coupling. You should see around 25 to 30 db of
>> notch attenuation.
>>
>> On some cavities like those from Sinclair, Telewave, TXRX, the
>> coupling can be varied by loosening the screws that hold the loop
>> mounting plate in place and rotating the loop. Some have a calibrated
>> insertion loss scale marked by the loop.
>>
>> Adding a 1/4 wave cable between the T and the cavity will move the
>> pass to the high side of the notch.
>>
>> Using an 1/8 wave cable will provide a symmetrical pass on each side
>> of the notch.
>>
>> You can join two or more cavities together to increase the amount of
>> rejection. With two cavities you can get a little better than twice
>> the rejection that one will provide. The interconnecting cable comes
>> into play and provided a few db of help.

>> The cavities are connected together with a quarter wave cable between
>> them. Each cavity is set up with its own T as it would be if you were
>> using a single cavity on its own. The quarter wave cable is connected
>> from one T to the other.
>>
>> With multiple cavities you can slightly stagger tune them to obtain a
>> wider notch if you have more than one frequency inter fearing. Each
>> notch can also be tuned to specific frequencies that may be causing
>> problems.
>>
>> Here are a couple of links that explain pretty much what you are
>> wanting to do.
>>
>>
>> http://iwce-mrt.com/ar/radio_vhf_cavities_overthecounter/
>>
>>
>http://www.emrcorp.com/images/tech_papers/tech_cover/cavity_resonators(54-67).pdf
>>
>>
>> 73
>> Gary K4FMX
>>
>>
>> On Sat, 28 Jun 2003 13:39:34 GMT, " Uncle Peter"
>> <radioconnectionNO@cox.netSPAM> wrote:
>>
>> >I could be wrong, but I think the coupling loop would look
>> >like a slightly reactive shunt at all frequencies except where the
>> >cavity has resonances... i.e. it would bandpass what he
>> >wants to notch?
>> >
>> >Pete
>> >
>> >
>> >"Gary Schafer" <gaschafer@attbi.com> wrote in message
>> >news:nn1qfv8mihuacuik1jtto9flv9e23cqvup@4ax.com...
>> >> I think that putting the T directly on the cavity will work better. It
>> >> should provide a deeper notch. Adjust the coupling loop for maximum
>> >> coupling to the cavity for the deepest notch.
>> >>
>> >> 73
>> >> Gary K4FMX
>> >>
>> >>
>> >> On Sat, 21 Jun 2003 13:14:13 -0700, "Eric C. Weaver" <weav@sigma.net>
>> >> wrote:
>> >>
>> >> >
>> >> >I have recently come to work for an outfit that does a fair bit of

>> >> >public-safety RF stuff, and might get the use of a pass cavity for
>around
>> >152
>> >> >MHz.
>> >> >
>> >> >What I'd really like is a notch for 152.48, where a pager transmitter
>> >causes
>> >> >my little V/U handheld all manner of grief when on the outdoor antenna
>at
>> >home.
>> >> >
>> >> >Is there any simple way to take a pass cavity and make it reject? Tee
>it
>> >onto
>> >> >the line and leave the output port open, perhaps? I'd like this to be
>> >> >"transparent" except for the vicinity of the notch.
>> >> >
>> >> >Thanks for whatever you can tell me.
>> >>
>> >
>>
>

7599. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 19:55:08 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <6ufufvcjajrv89cdgronfucp601a9f3g2v@4ax.com>
Source record: 113951

On Sun, 29 Jun 2003 13:02:33 -0500, R <who@where.net> wrote:

>>Do you have it grounded?
>
> Yes... kinda. The mag mount has a foil patch at the bottom which
>snugs up against the metal body. However, I'm guessing that this is
>far from an optimal ground.
>

Hi OM,

The scorch mark will reveal how optimal it "was" - but only if the trunk lid is grounded (optimally). With this being at the back of the car, I hope you have a tight gas cap. What you describe for lightning is a spark gap; and for RF, that's another matter (and the RF in lightning isn't going to reach you - unless you have ground problems).

Don't worry about a billion volts filling the cab, the natural limits imposed (with the gap in the body the line snugs past to go inside, the plastic insulation, carpet and all) will lower that to several 10's of thousands of volts. Provided, of course, those pass-thrus are not insulated from the greater "cage" of the body. This will limit the pyrotechnics to arcs about 2 or 3 inches long to add to the ambiance of storm chasing. Given this is a scanner, there would be less likelihood of fiddling with the knobs when the big one hits.

73's
Richard Clark, KB7QHC

7600. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 20:01:36 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <87ednRdtiLs72GKjRTvU2Q@crocker.com>
Source record: 113952

back to the beginning...

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFDDF2B.5070006@ieee.org...
> source----------Z01--------+----------Z02------------load
> Pfwd1--> RHO Pfwd2-->
> <--Pref1 <--Pref2
>
> Pfwd1 + Pref2 = Pref1 + Pfwd2

lets simplify:
a+b=c+d

>
> Pfwd1 = Pfwd1(RHO^2) + Pfwd1(1-RHO^2)
a=a*R+a*(1-R)

> Pref2 = Pref2(RHO^2) + Pref2(1-RHO^2)
b=b*R+b*(1-R)

note that both of these are true regardless of the value of R (my shorthand
for RHO^2 just to make the formulas simpler). so he is just taking and
substituting for b=b and a=a but why not for c and d?

>
> and we can substitute these values into the previous equation to obtain:
>
> Pfwd1(RHO^2) + Pfwd1(1–RHO^2) + Pref2(RHO^2) + Pref2(1–RHO^2) = Pref1 +
Pfwd2

so taking a+b=c+d and substituting more complex versions of a and b we now
get:

a*R+a*(1-R) + b*R+b*(1-R) = c+d

>
> – [Pref1 – Pfwd1(RHO^2) – Pref2(1–RHO^2)] = Pfwd2 – Pfwd1(1–RHO^2) –
Pref2(RHO^2)

just regrouped on different sides, no big deal

-[c-a*R-b*(1-R)] = d-a*(1-R)-b*R
or
-c+a*R+b*(1-R) = d-a*(1-R)-b*R
multiply out:
-c+a*R+b-b*R = d-a+a*R-b*R
remove a*R and -b*R from each side as they cancel each other out:

-c+b=d-a
rearrange:
a+b=c+d
voila! QED! right back where we started... a substitution that only makes the formulas uglier doesn't really help unless you are trying to confound the reader. fortunately your step of replacing b=b*R+b*(1-R) which is really b=b doesn't really do anything except give you 6 terms to shuffle around instead of 4, where 4 is plenty to start with.

7601. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 20:06:43 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <08gufv80cmmf6gma39l4beumd1h1i5m714@4ax.com>
Source record: 113953

On 29 Jun 2003 17:44:47 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich)
wrote:

|N7WS:
|> Our usual FD site has burned to a
|>crisp, so I'm running a home station on emergency power.
|
|Hi Wes,
|are you talking about Coronado National Forest fires?
|So sorry to hear about the fires. Our son lived in Oro Valley, we went up the
|mountain, admired towers there and beauty of the area in the middle of the
|desert. Our friend just phoned and said that it just about burned out and
|unfortunately not a single animal came out, looks like they all burned there.
|All the environmental idiots should have been herded up in that forest and left
|to fight the fire and "preserve" the nature. What a shame, due to few idiots
|huge tracts of forests are being destroyed, rather than properly managed,
|cleared and some roads built to segment the forest and provide access in case
|of emergency and need for counter fires.
|What a loss! Now if monsoons come, it will even get uglier.

Yes, that is the fire. It was usual for the Catalina Radio club (the club of Hughes Aircraft employees (now uck, Raytheon) to operate from Mt. Bigalow in the Santa Catalina Mountains (commonly called Mt. Lemmon). Most of our local TV stations are on that ridge along with an observatory belonging to the U of A.

Last summer there was a 30,000+ acre fire that nearly got those facilities and burned much of the north slope of the range.

This fire, now at 35,000 acres and expected to go to 60,000 before it's dead, destroyed most (>350) of the buildings in the mountain village of Summerhaven. The fire also caused a lot of damage to public service and ham radio repeaters on the top of Mt. Lemmon proper. Barely spared was the ski area and lifts. Yes, there is skiing in S. AZ... this is the southern most area in the country.

It is now stated that this one was man-caused, probably some careless hiker on the Aspen Trail, from which the fire was named.

I have mixed emotions about logging in National Forests. (I'd much rather lumber came from Plum Creek Timber's forests, since I own stock in them <G>) There actually is (was) a small sawmill on the mountain. In fact, I have some Ponderosa Pine timbers in my house that came from there. But this was a small operation and did not do any major road building or clear cutting. Certainly the fire suppression that has been practiced for the last 100 years has been bad policy. BTW, for

those that think AZ is nothing but desert, the largest continous stand of Pondersoa Pine in the country is in AZ.

It's too bad many people lost their homes and some will not be able to rebuild since they were on leased Forest Service land. But, they chose to build wooden houses nestled in dense pine and fir trees and then plant several hundred gallons of propane in tanks outside. A lot of fire fighting didn't happen because of the danger of exploding propane tanks. Some houses did survive right in the middle of the destruction, because the owners took precautions, and I suspect some blind luck.

In the meantime, it gets hotter and drier. 107 degrees yesterday in the Tucson valley.

Regards,

Wes

7602. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 20:14:25 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <pqhufv40uuugs7lf3mefl7icnilq65upq8@4ax.com>
Source record: 113954

On Sun, 29 Jun 2003 20:01:36 -0000, "David Robbins" <k1ttt@arrl.net>
wrote:

>voila! QED! right back where we started... a substitution that only makes
>the formulas uglier doesn't really help unless you are trying to confound
>the reader.

:-)

7603. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 20:15:52 UTC
From: MCB <a@c.com>
Message-ID: <iSHLa.44543$9C6.2122490@wards.force9.net>
Source record: 113955
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

Already made some preliminary measurements, used a 20dB attenuator between the cal dipole and spectrum analyser (as a safe guard), everything was OK.......... Hence I know the field strength where the active antenna is going to be placed, just don't know what field strength will damage it....

"Richard Clark" <kb7qhc@attbi.com> wrote in message news:iocufv898f58n6sr4iuha4bjpk7rggkjj0@4ax.com...
> On Sun, 29 Jun 2003 19:13:38 +0100, "MCB" <a@c.com> wrote:
>
> >Yes you are right they are expensive...
> >
> >I have access to a calibration dipole and spectrum analyser to make a
> >incident power measurement. I can then calculate the field strength from
> >this no problem. (Just having trouble solving my orginal problem).
> >
> Hi OM,
>
> Barring quite a number of questions left unanswered, have you
> considered the potential of blowing out the front end of the spectrum
> analyser to make this measurement?
>
> Do you know the instrument's maximum power tolerance?
>
> 73's
> Richard Clark, KB7QHC

7604. Re: Antenna field strength question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 20:38:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <5gjufv0jrjq3ktt86i6adft5d81h61q94c@4ax.com>
Source record: 113956
Cross-posted to: alt.radio.amateur,fido7.hamradio,nl.radio.amateur,rec.radio,rec.radio.amateur.antenna

On Sun, 29 Jun 2003 21:15:52 +0100, "MCB" <a@c.com> wrote:

>Already made some preliminary measurements, used a 20dB attenuator between
>the cal dipole and spectrum analyser (as a safe guard), everything was
>OK.......... Hence I know the field strength where the active antenna is
>going to be placed, just don't know what field strength will damage it....
>

Hi OM,

I don't understand.

Why do you need the computation when you already know the answer?

73's
Richard Clark, KB7QHC

7605. Re: Lightning dangers from Faraday's cage comprimise while storm ch...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:01:27 UTC
From: richardharrison@webtv.net
Message-ID: <24307-3EFF53A7-47@storefull-2312.public.lawson.webtv.net>
Source record: 113959

R wrote:
"But I still wonder how much of a risk it is to have this set up?"

Inside a metal enclosure, you are safe from lightning to the extent the enclosure is continuous and does not have conductors insulated from the enclosure which penetrate it.

Safety arises from the near short-circuit for lightning provided by the enclosure. The voltage difference between points on the enclosure is so small as to be non-hazardous to occupants in the usual case.

A conductor charged to a high potential with respect to the vehicle which penetrates is hazardous.

Lightning follows an easy path. Encountering a high impedance in one direction, it takes a new direction.

Avoiding lightning is similar to avoiding noise on a much larger scale.

No doubt lightning might strike an auto antenna destroying everything connected with it. But, there are hundreds of millions of vehicular antennas and such occurrences are rare indeed.

The shielded lead connecting an antenna is protective if not overwhelmed. Its series inductance and shunt capacitance, inside and out, retard a surge. The surge impedance incites a flashover at the antenna end of the line.

Auto radios have a good ground connection to the car body at the antenna end. This is a must for noise rejection and it helps reject lightning too.

I`ll cite many years of commercial 2-way radio experience including hundreds of mobile installations of almost every sort, and no case of lightning damage to a mobile radio or its coax cable. No Polyphasers or such were ever used either. Every coax was solidly grounded at the car body with a sharp=pointed screw driven from the antenna-mounting hardware. The radio inputs had d-c continuity so no extraordinary gradient was produced by charge build-up.

Best regards, Richard Harrison, KB5WZI

7606. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:04:23 UTC
From: DOUGLAS SNOWDEN <SNOWDEN@peoplepc.com>
Message-ID: <vful2nsuisr03e@corp.supernews.com>
Source record: 113957

OK - think the CATV hardline is 75 ohm, so I would
need to make some sort of matching network to covert
each end to 50 ohm. Sounds like a plan...

Doug N4IJ

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3EFF16F8.812B3A7D@gte.net...
>
>
> Tarmo Tammaru wrote:
>
> > Doug,
> >
> > If you have multiple antennas, first I would get a remote antenna switch
> > that lets you switch between multiple antennas and a common feedline. I
> > think Ameritron makes one. I don't tknow where you looked at for Heliax,
but
> > try Cablexperts, RadioWorks, and Texas Towers; actually, you best bet
might
> > be if you can get some 75 Ohm CATV line cheap. Also, at 30 MHz LMR400
would
> > only have 1.6db loss for 200 feet, and only costs slightly more than
RG213.
> >
> > Tam/WB2TT
>
> This is exactly what I have done- got a free roll of 300' of 5/8" CATV
hardline
> and a remote switch. The connectors (called stingers) for the hardline
are
> inexpensive and at least one type of N connector (UG-536) screws directly
into
> the CATV connector- all watertight.
>
> Dale W4OP
>

7607. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:13:01 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3EFF554F.DEFF8710@gte.net>
Source record: 113958

DOUGLAS SNOWDEN wrote:

> OK - think the CATV hardline is 75 ohm, so I would
> need to make some sort of matching network to covert
> each end to 50 ohm. Sounds like a plan...
>
> Doug N4IJ

I would not be concerned about the 75 Ohm cable- diameter for diameter it is lower loss than 50 Ohm. The slight VSWR (1.5:1 or so) is negligible on HF. In my case, my 20M Moxon was 1.4:1 at the tower base and 1.05:1 at the shack- serendipity.

Dale W4OP

7608. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:22:22 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <nw6dnTIYeukMxWKjXTWJiw@comcast.com>
Source record: 113960

When I said cookbook formula, I meant L(ft)=468/F(MHz). Interesting that it includes a 5% fudge factor relative to what you would get if you used L(m)=3E8/2*F(Hz). According to the ARRL Antenna book, the 468 formula is supposed to work for bare wire, insulated wire, and even folded dipoles made from 300 Ohm transmission line with a vp of 88%

I don't know what Flexweave is, but sounds like something that would stretch.

Tam/WB2TT

7609. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:28:40 UTC
From: richardharrison@webtv.net
Message-ID: <24302-3EFF5A08-157@storefull-2312.public.lawson.webtv.net>
Source record: 113963

Art, KB9MZ wrote:
"---you don`t have to go to antenna books for such things
(coupling)---."

Someone might believe Art who implies inductive coupling is superior to
any other without an authoritative definition.

Best rergards, Richard Harrison, KB5WZI

7610. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:29:07 UTC
From: Dave Shrader <david.shrader@attbi.com>
Message-ID: <3EFF59B3.6020201@attbi.com>
Source record: 113961

Lightning is NOT an issue for the OUTER coax braid!!!

The vertical element is connected directly to the coax center conductor
not the braid!!

A streamer or direct strike propagates directly on the center conductor
and from/into the radio/passenger compartment!

Solution: disconnect antenna when lightning/thunder is nearby!!

Deacon Dave, W1MCE
+ + +

R wrote:
> Hello! I was pointed here by a storm chase forum I subscribe to,
> i.e., "Go ye forth and seek Gary Coffman, for surely he must know that
> which ye inquire!"
>
> I've done a bit of back research on my question, and I think I have
> much of it answered. Mainly, I'm concerned that I may be introducing
> a lightning hazard into the passenger compartment of my car by using a
> magmount scanner antenna. The antenna is mounted to the trunk of my
> car and the coax is run through through the rear truck gap, into the
> trunk, up through a gap at the edge of the rear seat upholstery, along
> the floorwell, and to a handheld scanner attached via velcro to the
> dash on the passenger side.
>
> From what I've read, it seems that this pretty much defeats the
> Faraday's cage, as I'd feared. Since I primarily use the scanner to
> find severe storms which usually contain awe-inspiring displays of CG
> lightning, this is a disconcerting thing to discover.
>
> But I still wonder: how much of a risk is it to have this set up?
> Assuming for a moment that the mag mount antenna is directly struck,
> what is the most likely effect? Would the bulk of the current follow
> the coax into the passenger compartment, or would the current likely
> jump at some point from the coax to the car body? Seeing as my
> handheld scanner is not grounded, whereas my car body sort of is, I
> would hope so -- but part of me fears that by the time the actual
> discharge is occuring, the charge may simply go as far as it can along
> a conductive path (i.e., to my handheld scanner) and then find a new
> path -- even if that means arcing around in the inside of my car and
> blowing a hole through something not normally conductive.
>

> Honsetly, I could give a flip if the scanner was damaged or
> destroyed. What I'm worried about is getting zapped. Is internal
> arcing a reasonable possibilty if my mag mount is directly struck? Is
> there any way to minimize the danger? Mostly you seem to reccomend
> using polyphasers at the drilled coax entry point in order to give the
> lightning enough resistance to cause it to opt to follow the body of
> the car instead of the coax. But I'm not so keen on drilling holes in
> the car body; if there were a way to effectively use a polyphaser
> without drilling holes in the body, I'd do it in a heartbeat.
>
> I thought about trying a glass mount antenna, but then I figured
> that that would be just as bad; I'm guessing lightning can easily jump
> through a fourth inch of glass to get to a highly conductive coax
> cable, and that's probably preferable to jumping a good foot through
> air to get to the car body.
>
> Thanks for any help!
>
> -R

7611. Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:35:19 UTC
From: Karl Almquist <kalmquist2@cox.net>
Message-ID: <3YILa.113700$MJ5.100913@fed1read03>
Source record: 113962

I am setting up an end-fed wire antenna. Is a ground connection essential
for operation or is it for safety in case of an electrical storm.

Thanks
Karl Almquist

7612. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 21:57:37 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bdnnck$u9ps3$1@ID-134747.news.dfncis.de>
Source record: 113964

It is an important part of the antenna system.
You should have at least one wire 1/4 wave length
long at the lowest frequency you plan to operate.
More wires are better. For a long-wire you
probably could get away with one wire for each
band if you wanted to improve over the one wire
only ground.

73 es cul

wb3fup
a Salty Bear

"Karl Almquist" <kalmquist2@cox.net> wrote in
message news:3YILa.113700$MJ5.100913@fed1read03...
> I am setting up an end-fed wire antenna. Is a
ground connection essential
> for operation or is it for safety in case of an
electrical storm.
>
> Thanks
> Karl Almquist
>
>

7613. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:02:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF6207.2040002@ieee.org>
Source record: 113965

Richard Clark wrote:
>>If the phase angle is 90 degrees,
>
> IF? you don't use the term "phase" at all.

Don't need phase in a scalar power equation that is valid for *all* phase angles. If the phase angle between the source voltage and the reflected voltage is 90 degrees at the impedance discontinuity, there will be zero destructive interference and zero constructive interference associated with those two voltages. They are orthogonal. That is the only time both sides of the interference equation equals zero and is a special case.

>>then a=b and c=d. If the phase angle is not 90 degrees, then
>>a<>b and c<>d.
>
> Your readers had to struggle through that alone. Poor writing.

Perhaps you don't know that a<>b is standard BASIC notation for 'a' not equal to 'b'? If not, now you do know.

> ... we are faced with imponderables:
>
>>ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½ Pref2(RHO^2)

If you don't understand the derivation of that equation please reread my first posting to this thread. Perhaps an old example would help. From a couple of years ago: Pfwd1=100W, Pref1=0W, Pfwd2=133.33W, Pref2=33.33W
RHO = (150-50)/(150+50) = 0.5, RHO^2 = 0.25, (1-RHO^2) = 0.75.

Substituting these values into the above equation we get:

- [0 - 100W(0.25) - 33.33W(0.75)] = 133.33W - 100W(0.75) - 33.33W(0.25)

- [0 - 25W -25W] = 133.33W - 75W -8.33W

-[-50W] = +50W

The sign of the interference in brackets on the source side of the equation is negative so there is 50 watts of destructive interference on the source side of the impedance discontinuity.

The sign of the interference on the source load side of the equation is positive so there is 50 watts of constructive interference on the load side of the impedance discontinuity.

All of this is based on the original Conservation of Energy equation to which I trust there are no objections. In a lossless system, energy in = energy out.

Pfwd1 + Pref2 = Pref1 + Pfwd2

The "imponderable" interference equation is a *direct derivation* from that equation so simple a high school student could understand the derivation.

> taking 1ï¿½RHO^2 singly, you invent some of the oddest conventions.

I didn't invent it, Richard. (1-RHO^2) is the power transmission coefficient. I would be surprised to find out that you had forgotten that or, worse yet, never learned it. Pfwd(1-RHO^2) is the power accepted by a mismatched load. Pfwd(RHO^2) is the power rejected by a mismatched load. Here's a little quiz for you: (RHO^2) + (1-RHO^2) = _____? :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7614. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:16:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF6548.2050208@ieee.org>
Source record: 113966

Reg Edwards wrote:
>>The measured resonant frequency of my dipole dropped by 5% when I replaced
>>the bare wire with an equal length of Flexweave insulated wire.
>
> You didn't measure the resonant frequency of your dipole - you only thought
> you did.

I used 1/2WL of 450 ohm window line on each frequency, Reg. The length
of the feedline changed by 5%.

> You didn't just add the insulation - you also changed the conductor
> diameter.

It was the same size wire, #14.

> The conductor length changed a bit. The antenna height changed a bit. Rain
> changed soil conductivity.

Conductor length was as close to the same length as I could make them.
Antenna tension was controlled by weights. No rain in Arizona. :-)

> At no stage did you measure the resonant frequency of your dipole.

As you know, I could adjust my feedline to any reasonable length. After
all my resonant frequency measurements, the feedline was within one
foot of 1/2WL on 75m.

> And furthermore you changed the TUNER settings, before and after.
> Naughty-naughty !

Just to make the feedline length as close to 1/2WL as possible.

> And finally - you used an SWR METER as a frequency indicator.

Nope, I used a ladder-lizard pick-up loop to locate the current maximum
points and measured the length between them.

I had the same experience with a triangular loop made from bare copper
wire Vs Flexweave. This was coax fed at a 50 ohm feedpoint. The resonant
frequency shifted by about 5% to a point completely outside the 40m band.
--
73, Cecil http://www.qsl.net/w5dxp

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7615. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:18:22 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF65AE.3030205@ieee.org>
Source record: 113967

Tarmo Tammaru wrote:
> Every wire antenna I ever put up used stranded plastic insulated wire. All
> resonated to within 1% of the cookbook formula.

Well, there you go. If you had used bare copper wire, it would have
resonated to within 4% of the cookbook formula. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7616. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:26:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF67A7.7010206@ieee.org>
Source record: 113968

David Robbins wrote:
> note that both of these are true regardless of the value of R (my shorthand
> for RHO^2 just to make the formulas simpler). so he is just taking and
> substituting for b=b and a=a but why not for c and d?

Because b and a are incident upon the impedance discontinuity and subject
to reflections at the impedance discontinuity. c and d are flowing away
from the impedance discontinuity and are therefore not subject to reflections
at the impedance discontinuity.

It's exactly the same reason that there are two a1 terms and two a2 terms
in the s-parameter equations but only one b1 term and only one b2 term.
You can't be serious can you?

b1 = s11*a1 + s12*a2, b2 = s21*a1 + s22*a2

a1 and a2 are subject to reflection at the impedance discontinuity. b1 and
b2 are not.

> voila! QED! right back where we started...

Yes, most derivations are reversible to get back to where one started.
It simply proves that the derivation math is correct.

Your just pulling my leg, right David?
--
73, Cecil http://www.qsl.net/w5dxp

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7617. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:30:47 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF6897.5070605@ieee.org>
Source record: 113869

Richard Clark wrote:
> "David Robbins" <k1ttt@arrl.net> wrote:
>>voila! QED! right back where we started... a substitution that only makes
>>the formulas uglier doesn't really help unless you are trying to confound
>>the reader.
>
> :-)

All David proved by running the derivation backwards to the beginning equation is to prove that my derivation math is correct. I'm surprised that you guys don't realize that a reversible derivation supports my argument. It's supposed to be reversible.

Please solve the following: x^2+2x+1=0 When you find the answer, you can backtrack to the original equation to prove it correct. That's all David did.
--
73, Cecil http://www.qsl.net/w5dxp

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7618. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:32:46 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF690E.4080601@ieee.org>
Source record: 113871

Tarmo Tammaru wrote:
> I don't know what Flexweave is, but sounds like something that would
> stretch.

It has super thick insulation designed to prohibit static electricity
from bleeding into the wire.
--
73, Cecil http://www.qsl.net/w5dxp

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7619. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:34:54 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <fopufv0atuvlka2hjun6cukmjr5kvffqt8@4ax.com>
Source record: 113870

On Sun, 29 Jun 2003 17:02:47 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>>>If the phase angle is 90 degrees,
>>
>> IF? you don't use the term "phase" at all.
>
>Don't need phase in a scalar power equation

And yet you have to say phase. "IF?" :-)

>>>then a=b and c=d. If the phase angle is not 90 degrees, then
>>>a<>b and c<>d.
>>
>> Your readers had to struggle through that alone. Poor writing.
>
>Perhaps you don't know that a<>b is standard BASIC notation for
>'a' not equal to 'b'? If not, now you do know.

That was the joke. Your readers and you come to different conclusions
with the same material. You explain it as a stylistic convention. :-)

This kind of poor writing is what causes editors to blow you off.

>> taking 1ï¿½RHO^2 singly, you invent some of the oddest conventions.
>
>I didn't invent it, Richard. (1-RHO^2) is the power transmission coefficient.

You didn't actually read your material quoted four lines above, did
you? It would be the first thing the editor catches before putting
this in the round file.

Cecileo, if you cannot even be consistent from one post to the next
>1ï¿½RHO^2
to
>1-RHO^2
are we to believe
>ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½
Pref2(RHO^2)
>- [Pref1 - Pfwd1(RHO^2) - Pref2(1-RHO^2)] = Pfwd2 - Pfwd1(1-RHO^2) - Pref2(RHO^2)
is what you meant to write? Is the Cecileo dot-operator meant for
subtraction?

Sloppy formulas certainly won't impress the editor.

73's
Richard Clark, KB7QHC

7620. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 22:54:12 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF6E14.4000603@ieee.org>
Source record: 113872

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:

> And yet you have to say phase. "IF?" :-)

Yes, someone asked about a special case. What is it about, "If
it is that special case ..." that you don't understand?

> This kind of poor writing is what causes editors to blow you off.

Actually, technically correct but politically incorrect material
attacking sacred cows is no doubt the reason you and others try to
give me so much grief.

> Cecileo, if you cannot even be consistent from one post to the next
>
>>1ï¿½RHO^2
>
> to
>
>>1-RHO^2

Those look identical to me, Richard. Why would you bear false witness and
say identical things are not consistent?

> are we to believe
>
>>ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½
Pref2(RHO^2)
>>- [Pref1 - Pfwd1(RHO^2) - Pref2(1-RHO^2)] = Pfwd2 - Pfwd1(1-RHO^2) - Pref2(RHO^2)

Those both look identical to me also, Richard. What is your problem?

> is what you meant to write? Is the Cecileo dot-operator meant for
> subtraction?

That's exactly what I meant to write. There's no dot-operator anywhere,
just some multiplications implied by parentheses. What is your problem?
--
73, Cecil http://www.qsl.net/w5dxp

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7621. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:02:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdnr5r$o28$1@hercules.btinternet.com>
Source record: 113873

Hello Karl,

Yes, a ground connection is essential for radio purposes. The ground connection can be considered to be entirely separate from lightning protection of the home. Or, without affecting radio performance, it can be included in it. Indeed, if the two systems are connected together, the radio performance may be marginally improved. A lightning protection electrode will constitute yet other shallow buried 'wire' or set of wires.

The radio ground need not be elaborate. Depending on the condition of the soil under and in the vicinity of the antenna the ground 'connection' need be no more than a few shallow-buried wires of no great length or lengths.

You may find program ENDFEED interesting. It is available free from the following website. Download in a few seconds and run immediately.

The program will enable the performance of one antenna length and height to be compared immediately with another. Also compare one ground system with another. Also calculate the L and C component values of 2 or 3 different antenna tuning networks. Don't forget to include the incoming water main and domestic plumbing system in the ground electrode system.

An Inverted-L end-fed wire is an all-round, multiband antenna. Its only disadvantage is a poor receiving signal-to-noise ratio at the lower frequencies, 160m and 80m. But only when used in a densely-populated or industrial area where man-made noise predominates over atmospherics and the many long distance electrical storms. I've never been without a 45 or 55 metre inverted-L or inverted-U. (Avoid an overall length of 40 metres. It may not tune up very well on 160m).

Download program ENDFEED now. Best wishes for both Local and DX operations.
--
========================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
========================

==

"Karl Almquist" wrote -
> I am setting up an end-fed wire antenna. Is a ground connection essential
> for operation or is it for safety in case of an electrical storm.
>
> Thanks
> Karl Almquist
>

>

7622. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:08:39 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdnrhn$a23$1@titan.btinternet.com>
Source record: 113874

> I don't know what Flexweave is, but sounds like something that would
> stretch.
>
Is it like knickers' elastic ?

7623. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:16:05 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <vsrufvc7h69hu0o19qaa145krs9e47kgva@4ax.com>
Source record: 113875

On Sun, 29 Jun 2003 17:54:12 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>
>> And yet you have to say phase. "IF?" :-)
>
>Yes, someone asked about a special case. What is it about, "If
>it is that special case ..." that you don't understand?

A special case of phase that is unnecessary? :-)

>> This kind of poor writing is what causes editors to blow you off.
>
>Actually, technically correct but politically incorrect material
>attacking sacred cows is no doubt the reason you and others try to
>give me so much grief.

Another emotional appeal, is it written in Esperanto?

>
>> Cecileo, if you cannot even be consistent from one post to the next
>>
>>>1ï¿½RHO^2
>> to
>>>1-RHO^2
>
>Those look identical to me, Richard. Why would you bear false witness and
>say identical things are not consistent?

You need a new prescription for glasses. I am not responsible for
your perceptual problems.

>
>> are we to believe
>>>ï¿½ [Pref1 ï¿½ Pfwd1(RHO^2) ï¿½ Pref2(1ï¿½RHO^2)] = Pfwd2 ï¿½ Pfwd1(1ï¿½RHO^2) ï¿½
Pref2(RHO^2)
>>>- [Pref1 - Pfwd1(RHO^2) - Pref2(1-RHO^2)] = Pfwd2 - Pfwd1(1-RHO^2) - Pref2(RHO^2)
>
>Those both look identical to me also, Richard. What is your problem?
>
>> is what you meant to write? Is the Cecileo dot-operator meant for
>> subtraction?
>
>That's exactly what I meant to write. There's no dot-operator anywhere,

>just some multiplications implied by parentheses. What is your problem?

:-)

I just didn't recognize your newest version of
300 denials left on the wall!

Cecileo,

When you are pressed with obvious errors and your own contradictions,
your responses pegs the pin of the laugh meter.

So far, you have a perfect score at blame the reader. Unfortunately
editors require a 0% passing grade.

73's
Richard Clark, KB7QHC

7624. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:31:02 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bdnsrl$q7g$1@sparta.btinternet.com>
Source record: 113876

> It has super thick insulation designed to prohibit static electricity
> from bleeding into the wire.

==========

Cec, just out of curiosity, how thick is "super-thick", what is the overall diameter, and what is the insulating material ?

Does it look like coax with the braid stripped off ?

7625. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:44:05 UTC
From: Marvin Rosen <puns@att.net>
Message-ID: <9RKLa.27934$3o3.2107787@bgtnsc05-news.ops.worldnet.att.net>
Source record: 113877

Sir,
Please accept my apology for the snide remarks
i made in reference to your equations. I have come up with the following: A
160-2 mtr coax fed antenna.
This antenna is only 75' long, end fed with any length
of any type of coax. 1.2 swr on all frequencies without a
tuner. The above antenna was constructed by a
thorough study & analysis of your "Conservation Of
Energy" formula! Because of your selfless desire to
help others, i now have an antenna that far exceeds any
that i have purchased or constructed. I sincerely hope
that your equations will go down in the "anals" of
engineering & physics! True nobel prize material!
God bless you professor!
Sincerely,
Your eternal student
> David Robbins wrote:
> > note that both of these are true regardless of the value of R (my
shorthand
> > for RHO^2 just to make the formulas simpler). so he is just taking and
> > substituting for b=b and a=a but why not for c and d?
>
> Because b and a are incident upon the impedance discontinuity and subject
> to reflections at the impedance discontinuity. c and d are flowing away
> from the impedance discontinuity and are therefore not subject to
reflections
> at the impedance discontinuity.
>
> It's exactly the same reason that there are two a1 terms and two a2 terms
> in the s-parameter equations but only one b1 term and only one b2 term.
> You can't be serious can you?
>
> b1 = s11*a1 + s12*a2, b2 = s21*a1 + s22*a2
>
> a1 and a2 are subject to reflection at the impedance discontinuity. b1 and
> b2 are not.
>
> > voila! QED! right back where we started...
>
> Yes, most derivations are reversible to get back to where one started.
> It simply proves that the derivation math is correct.
>
> Your just pulling my leg, right David?
> --

> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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7626. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:56:39 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <m3vufv4q2fv302akhj0b12eoe18k8ovcsr@4ax.com>
Source record: 113878

On Sun, 29 Jun 2003 23:44:05 GMT, "Marvin Rosen" <puns@att.net> wrote:

> God bless you professor!
> Sincerely,
> Your eternal student

More grist for the acolyte grinder. :-)

7627. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:57:21 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3EFF7CE1.EF3C83C0@cwis.net>
Source record: 113879

Richard,
Very little risk of that happening. It takes approximately
4 posts from Art to show how much he can be believed...
'Doc

7628. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-29 23:58:08 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <d4edndYTeb6K4GKjRTvU2Q@crocker.com>
Source record: 113880

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFF67A7.7010206@ieee.org...
> David Robbins wrote:
> > note that both of these are true regardless of the value of R (my
shorthand
> > for RHO^2 just to make the formulas simpler). so he is just taking and
> > substituting for b=b and a=a but why not for c and d?
>
> Because b and a are incident upon the impedance discontinuity and subject
> to reflections at the impedance discontinuity. c and d are flowing away
> from the impedance discontinuity and are therefore not subject to
reflections
> at the impedance discontinuity.
>
> It's exactly the same reason that there are two a1 terms and two a2 terms
> in the s-parameter equations but only one b1 term and only one b2 term.
> You can't be serious can you?
>
> b1 = s11*a1 + s12*a2, b2 = s21*a1 + s22*a2
>
> a1 and a2 are subject to reflection at the impedance discontinuity. b1 and
> b2 are not.
>
> > voila! QED! right back where we started...
>
> Yes, most derivations are reversible to get back to where one started.
> It simply proves that the derivation math is correct.
>
> Your just pulling my leg, right David?
> --
I don't think so. just reducing the argument to the absurd (sri, i forget
the latin for that). i am sorry, but i can't believe that adding powers
discussion is still going on, it just doesn't make sense in my experience.
you can add currents, and you can add voltages, but you can not just add
powers. when you compute a power out of either voltage or current you lose
important information about the phase that is necessary for proper addition
of complex values.

i do find it interesting that in reviewing my standard texts here none of
the writers uses rho^2 in any kind of reflection calculations in
transmission lines, waveguides, or with waves reflecting from dielectrics.
there is one example i found in one of them where it is calculated and said
that it 'may be interesting to examine' but no further use is made of it...
all the calculations are done with voltage, current, E, or B.

finally i will leave you with an excercise for the student from page 321 of 'Basic Circuit Theory' by Desoer&Kuh:

"Show, by an example, that if two sinusoidal sources have the same frequency and deliver power to the same linear time-invarient circuit, the average power delivered by both sources acting together is not necessarily equal to the sum of the average power delivered by each source acting alone. Call Z the driving point impedance of the circuit at the frequency of interest."

7629. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:12:30 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306291612.72f94695@posting.google.com>
Source record: 113881

k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote in message
news:<20030625230759.20722.00000858@mb-m22.aol.com>...
> bla, bla, bla......
>
> >The
> >trick is ofcourse, is to seduce experts to remove themselves from the
> >box that they have enclosed themselves and to think in a more open
> >'out of the box' fashion which is in direct conflict to prior
> >explanations given both in books and on this forum.
> >
> >Best regards
> >Art Unwin KB9MZ.....XG
> >
> >
I don't know why am responding to you but here goes
I am not dumping on Kraus period
The basic priciples on complex circuits with respect to antennas
was casually mentioned by Brown in a paper to an American radio
society.
I am not sure whether the whole paper or just complex part was
rejected
because the experts at that time just couldn't accept the idea.
Kraus mentor I understand was Brown himself and when Kraus wrote a
thesis possibly for a doctorate he slipped this in without to much ado
and this time in went thru thus the W8JK was born. Kraus did not fully
expand on the background of the antenna and rightfully so as his main
requirement was to have his thesis go thru without a hitch. If Kraus
had fully
enlarged on the principles involved and I assume he
understood them where the prior experts could not,
then I am sure that antennas would have undergone many changes.
Kraus ofcourse has gone on to big and better thing and
the underpinnings that Brown referred to did not make
it to the books.
On the 'reflector' business you have blurbed on for more
than a year.
I made that error when writing up the patent, attorneys
are expensive. One a patent is seen by the examiner there
are rules as to what can be changed. In any patent the most
important things are the actual claims and the drawing that
outline thosem claims, my drawings do not reflect the typo
that you keep harping on. The patent offering would have
been 500% better and the claimes more formalised if I had
a patent attorney but my antenna work was a means to

an end to get thru a bad medical patch where I needed
something to get me thru the days and not to impress
people like yourself. Patents were just part of getting
better, I've had patents during my working career so there
was no reason to impress anybody only to satisfy myself.
As I said I don't know why I am explaining myself to you
since you have placed yourself on a roll now that it is
said I have no credability but I am learning to live with
it and to accept it as my health gets better
Art Unwin KB9MZ....XG
> It is getting more and more annoying to read musings of F. Art ex G man.
> Must be reincarnation of ancient freaktalental.
>
> Some smart man said, that more you learn, the more you find how little you know
> (or something like that).
>
> Now he is dumping on Kraus, hams who can only use dipole, while he is
> reflecting with directors.
>
> For your edification, hams (VE3BMV) used small shielded loop antenna coupled to
> beverage antenna and the result was beverage directivity and suppression of
> local QRN. This was described in Radiosporting Magazine in late 80s. Lot of
> things were tried, described and used by hams and/or professionals that you
> might be ignorant of.
>
> Looks like limited horizons are affecting the reasoning and spelling faculties
> of this unrecognized shining star on ham radio antenna sky.
>
> Bada Boxed BUm

7630. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:16:06 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0306291616.406314c7@posting.google.com>
Source record: 113882

R <who@where.net> wrote in message news:<b39ufv4h4kdmrfkf2h945i532pmerq6une@4ax.com>...
> On Sun, 29 Jun 2003 05:09:02 -0500, 'Doc <w5lz@cwis.net> wrote:
>
> >'R',
> > I think worrying about a scanner antenna (or any kind of
> >mobile antenna) increasing the lightning hazard of your car
> >is a waste of good worrying time. I seriously doubt if it
> >would increase the likelyhood of your car being struck by
> >lightning. a
>
> I'm not worried about it increasing the chance (though I'm sure it
> does; more elevated metal means more streamers), I'm worried that by
> not having the coax grounded to the car, any lightning that hits it
> will follow the coax path into my car. Having a bolt of lightning
> inside my car ain't a place I wanna go! ;)

I would think most would go to the roof of the car at the antenna, and
then "jump" to ground all around the outside of the car. Not a whole
heck of a lot should flow along the coax shield, but it would be
enough to worry about. You should ground the shield at the entrance
point where it "coax" enters the car.
I've read Gary's posts on mobile lightning hazards in the past. Most
all the info is the same as for a house. IE: Use a single grounding
point to tie all grounds to. Ground the coax shield where it enters
the car. And do it well. Take the paint off the metal at the grounding
point, many times in the trunk, and get a real connection. If you want
to protect the radio, you should use a gas tube suppressor grounded at
that same single grounding point.
>
> >And if struck by lightning, the scanner and it's
> >antenna will probably make absolutely no difference in the
> >out come. 'Storm chasing' is a greater hazard than the antenna.
>
> Actually, storm chasing is relatively safe. Driving is what is
> dangerous, followed by lightning, then danger from the actual tornado.
> I hope you're right about the scanner antenna, though!

Lightning will hit cars and antennas. If you have a ball on the tip
of the antenna, you are less likely to be struck than if the tip is
pointy and sharp. I've been in cases out in the boonies to where I
took my mobile antenna off the car because of lightning in the area.
One case was in a fairly open field. I was getting paranoid, and
yanked the antenna off the car. I have a quick connect so it takes

about 2 seconds to do. BTW, the foil ground connection is not good at all as a lightning return. Too much resistance. You *really* need to ground your coax shield at the entrance point to the car. Very simple to do. On my antennas I have a good ground connection under the antenna itself. Due to the coax, a direct strike to the center pin should be reduced to a few hundred volts by the time it gets to the rig due to arcing over to the shield. So that will help a bit. The "scare" factor of being hit is about as bad as the actual damage or injury itself. Once when I was a young pup living up in the Merriam KS area, "K.C." I saw a station wagon get struck on I-35 in view from our house. A woman was driving. I don't think the lightning hurt her, but the scare factor "I think" caused her to have a wreck, and she died later. But "I think" her injuries were from the wreck, not the lightning. That was back in the middle to late 60's. MK

7631. Re: Lightning dangers from Faraday's cage comprimise while storm c...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:25:12 UTC
From: richardharrison@webtv.net
Message-ID: <15155-3EFF8368-240@storefull-2314.public.lawson.webtv.net>
Source record: 113884

Dave, W1MCE wrote:
"A streamer or direct strike propagates directly on the center conductor and from/into the radio / passenger compartment!"

If that were ordinarily so, you would see more cases of damage as there are hundreds of millionns of vehicular radios.

Look at the equivalent circuit of a transmission line. It is an infinite string of series chokes shunted at close intervals by capacitors. No way a surge flashes through the length of that.

Best regards, Richard Harrison, KB5WZI

7632. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:31:57 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF84FD.4040003@ieee.org>
Source record: 113883

Richard Clark wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
>>>Cecileo, if you cannot even be consistent from one post to the next
>>>
>>>>1ï¿½RHO^2
>>>to
>>>>1-RHO^2
>>>
>>Those look identical to me, Richard. Why would you bear false witness and
>>say identical things are not consistent?
>
> You need a new prescription for glasses. I am not responsible for
> your perceptual problems.

Would you mind telling me how those things look different on your world?
On earth, they still look identical.
--
73, Cecil http://www.qsl.net/w5dxp

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7633. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:49:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF891C.9070700@ieee.org>
Source record: 113885

Reg Edwards wrote:
>>It has super thick insulation designed to prohibit static electricity
>>from bleeding into the wire.

> Cec, just out of curiosity, how thick is "super-thick", what is the overall
> diameter, and what is the insulating material ?

I don't know what material and I had the name wrong. It's called "Quietflex" and was available from Antennas West. The wire is supposed to be #14 with many, many strands and the OD is about 1/8 inch. As I remember, it was supposed to stand off at least four digits of voltage. But my memory is hazy.

I replaced all my bare copper antenna wires in Arizona because of the static electricity when the wind blew which it did most of the time. I replaced them with identical lengths of Quietflex and they all shifted down in frequency about 5% as I remember, but it might have been 3%. My memory is not what it used to be.

But I have measured the VF of 450 ohm window line at close to 0.9 and the VF of 300 ohm window line at close to 0.8, much lower than 300 ohm twinlead.
--
73, Cecil http://www.qsl.net/w5dxp

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7634. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:52:21 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF89C5.909@ieee.org>
Source record: 113886

Marvin Rosen wrote:
> Sir,
> Please accept my apology for the snide remarks
> i made in reference to your equations. I have come up with the following: A
> 160-2 mtr coax fed antenna.
> This antenna is only 75' long, end fed with any length
> of any type of coax.

That's a mistake. It has to be fed with lossless coax. :-)
--
73, Cecil http://www.qsl.net/w5dxp

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7635. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 00:53:07 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF89F3.4070601@ieee.org>
Source record: 113887

Richard Clark wrote:
> On Sun, 29 Jun 2003 23:44:05 GMT, "Marvin Rosen" <puns@att.net> wrote:
>
>
>> God bless you professor!
>> Sincerely,
>> Your eternal student
>
> More grist for the acolyte grinder. :-)

I just love the technical content of your postings.
--
73, Cecil http://www.qsl.net/w5dxp

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7636. Re: Lightning dangers from Faraday's cage comprimise while storm c...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:26:31 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <f94vfvcfsu3khbf4ht62qgs91gtpqtc8e6@4ax.com>
Source record: 113888

On Sun, 29 Jun 2003 19:25:12 -0500 (CDT), richardharrison@webtv.net
(Richard Harrison) wrote:

>Dave, W1MCE wrote:
>"A streamer or direct strike propagates directly on the center conductor
>and from/into the radio / passenger compartment!"
>
>If that were ordinarily so, you would see more cases of damage as there
>are hundreds of millionns of vehicular radios.
>
>Look at the equivalent circuit of a transmission line. It is an infinite
>string of series chokes shunted at close intervals by capacitors. No way
>a surge flashes through the length of that.
>
>Best regards, Richard Harrison, KB5WZI

Hi Richard,

The original poster has offered a magmount with transmission line that
is grounded no where on its way to his scanner inside the cab.

You can see where this is leading - so can the bolt.

73's
Richard Clark, KB7QHC

7637. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:35:19 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <at4vfv88juv8i7bnqkqiv8hl2hsej4kj51@4ax.com>
Source record: 113889

On Sun, 29 Jun 2003 19:53:07 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> On Sun, 29 Jun 2003 23:44:05 GMT, "Marvin Rosen" <puns@att.net> wrote:
>>
>>
>>> God bless you professor!
>>> Sincerely,
>>> Your eternal student
>>
>> More grist for the acolyte grinder. :-)
>
>I just love the technical content of your postings.

As you should.

7638. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:37:49 UTC
From: richardharrison@webtv.net
Message-ID: <9645-3EFF946D-56@storefull-2317.public.lawson.webtv.net>
Source record: 113893

Karl Almquist wrote:
"I am setting up an end-fed wire antenna. Is a ground connection essential for operation or is it for safety in case of an electrical storm?"

Both, and further it is needed for efficiency.

First, the ground connection serves as a terminal for aerial electrical discharges and it bypasses surges around occupants and equipment on your site.

Second, the ground serves to protect you from mains power shocks from leakage to your r-f lines.

Third, an end-fed antenna is as unbalanced as you can get. R-F, just as other electricity, requires two terminals for sources, loads, and lines. So does an end-fed wire. An end-fed antenna circuit is completed by capacitance between ground, be it vehicle body or earth, and the salient antenna. One terminal of your antenna goes to the end-fed wire. The other terminal of the antenna system is made through the ground and its capacitance to the antenna. A good r-f ground connection is needed for a radio with an end-fed antenna.

Fourth, a low reactance and low resistance feed system is needed for an effective antenna. The low resistance is `for efficiency. Signal current drops proportionally across antenna radiation and loss resistances. Radiation resistance is desirable as it represents radiation and it is a function of antenna configuratiuon. Loss resistance is undesirable and it is easily dominated by the quality of the earth contact. For efficiency at h-f, a radial system is usually required to minimize loss resistance.

Best regards, Richard Harrison, KB5WZI

7639. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:40:38 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF9516.5060505@ieee.org>
Source record: 113891

David Robbins wrote:
> "W5DXP" <Cecil.A.Moore@ieee.org> wrote:
> i am sorry, but i can't believe that adding powers
> discussion is still going on, it just doesn't make sense in my experience.

The sun being the center of the solar system didn't make any sense to
the Catholic priests either.

> you can add currents, and you can add voltages, but you can not just add
> powers.

Hmmmmmm, you believe we cannot add scalar values? How about one quart of
water plus one quart of water?

If we are careful, we can add powers. I have been extremely careful. If
we are careful, we can even think about the earth not being the center
of the universe, like Galileo did.

> i do find it interesting that in reviewing my standard texts here none of
> the writers uses rho^2 in any kind of reflection calculations in
> transmission lines, waveguides, or with waves reflecting from dielectrics.

What do they use for the power reflection coefficient? If 100W is incident
upon the load and 50W is accepted by the load, what is the power reflection
coefficient? What is the reflected power? If all this stuff was in standard
texts, there would be no sense in discussing it. Is anyone afraid of learning
something new?

> there is one example i found in one of them where it is calculated and said
> that it 'may be interesting to examine' but no further use is made of it...

Not only is it "interesting to examine", it is often the easiest method
of analysis. Knowing the forward power and the Z0, one can calculate the
forward voltage and forward current. The only problem I have found with
an energy analysis is that we can't determine the sign of the reactance
but matched systems have no reactance at the match point so that problem
goes away. Matched systems are the typical case with hams and a simple
energy analysis often provides an adequate solution at the match point
without having to use transmission line equations.

> finally i will leave you with an excercise for the student from page 321 of
> 'Basic Circuit Theory' by Desoer&Kuh:
>
> "Show, by an example, that if two sinusoidal sources have the same frequency
> and deliver power to the same linear time-invarient circuit, ...

Why does everyone resort to a two source model to argue with me about a single source, single feedline, single load system as is typical for an amateur radio operator? What's wrong with real world examples?

Why not try thinking outside the box and see what happens? Follow my logic and see if you can find a mistake instead of completely dismissing everything without a second thought. Would you be willing to do that to see where it leads? I promise I won't get you lost down some primrose path. All I'm asking for is an open mind.
--
73, Cecil http://www.qsl.net/w5dxp

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7640. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:41:15 UTC
From: Wes Stewart <*n7ws*@arrl.net>
Message-ID: <t15vfvgnr33gj3355f0k4arii01tkuk2t2@4ax.com>
Source record: 113890

On Sun, 29 Jun 2003 19:49:32 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:
[snip]
|
|But I have measured the VF of 450 ohm window line at close to 0.9

Okay.

| and the
|VF of 300 ohm window line at close to 0.8, much lower than 300 ohm twinlead.

This doesn't sound correct. Window line, with a lower effective
dielectric constant (more air) has a VF lower than solid webbed 300
ohm line?

Are you into Reg's wine?

7641. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:47:21 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <ij5vfvg8und4op8cj2el0ps4me99qfptqv@4ax.com>
Source record: 113892

On Sun, 29 Jun 2003 19:31:57 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>1ï¿½RHO^2
>to
>1-RHO^2

Cecileo,

Whenever someone points out one of your mistakes, you demand they do
your work. Whenever someone does that work, you simply reject it as
the reader's aberration.

You have twice, or more, refused to check your own manuscript when
notified of error.

The simple point of this exercise is that you cut and pasted your
formulas from a document with a richer text font than is available to
a common newsreader which employs ASCII. Your "dot" is a foreign
character NOT a minus sign. In various text editors, it is either a
black block, a dot, a full space wide dash, or an u with a caret (^)
over it.

This is an editor's job, but for you to shrug criticism off more than
once merits the round file. This editor does not accept substitutions
of dashes as equivalent to the math symbol for subtraction. Sloppy
work is your hallmark.

73's
Richard Clark, KB7QHC

7642. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:49:32 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF972C.1050907@ieee.org>
Source record: 113894

Wes Stewart wrote:
> W5DXP <Cecil.A.Moore@ieee.org> wrote:
> | and the
> |VF of 300 ohm window line at close to 0.8, much lower than 300 ohm twinlead.
>
> This doesn't sound correct. Window line, with a lower effective
> dielectric constant (more air) has a VF lower than solid webbed 300
> ohm line?

It may have more air but it also has about five times as much insulation
as the twinlead. That insulation is *extremely* thick.
--
73, Cecil http://www.qsl.net/w5dxp

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7643. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 01:58:59 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF9963.8020507@ieee.org>
Source record: 113895

Richard Clark wrote:
> The simple point of this exercise is that you cut and pasted your
> formulas from a document with a richer text font than is available to
> a common newsreader which employs ASCII. Your "dot" is a foreign
> character NOT a minus sign.

Netscape 7 doesn't indicate that anything is wrong and there's no "dot" visible to me. I did cut and paste it from a Word 97 document. Are you saying that Word 97 is smart enough to take the "dash" I entered for a minus sign and change it to a special minus sign character? I have been very careful not to enter any of Word's special characters.

So what I see with my Netscape 7 newsreader is not what you see with whatever newsreader you are using?
--
73, Cecil http://www.qsl.net/w5dxp

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7644. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 02:18:54 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFF9E0E.2020606@ieee.org>
Source record: 113896

Richard Clark wrote:
> Whenever someone points out one of your mistakes, you demand they do
> your work. Whenever someone does that work, you simply reject it as
> the reader's aberration.

Well, there was no evidence on my end that anything was wrong. Netscape 7 handled those special characters just fine so I thought you were losing your mind. You said look at the difference, and there was no difference on my end. If I ever do anything like that again, I will paste to Notepad as an intermediate step. Thanks, I learned something. I thought only standard ASCII characters were transferred from Word to Netscape. Netscape 7 must be smarter than Netscape 4 was.

I copied the original posted article and pasted it into Notepad. That showed up the special characters. So here is what the original posting was supposed to look like:

```
source----------Z01--------+----------Z02------------load
Pfwd1--> RHO Pfwd2-->
<--Pref1 <--Pref2
```

The Conservation of Energy principle indicates that the energy flowing into the impedance discontinuity must equal the energy flowing out of the impedance discontinuity. Therefore:

Pfwd1 + Pref2 = Pref1 + Pfwd2

RHO^2 is the power reflection coefficient and equals [(Z02-Z01)/(Z02+Z01)]^2. (1-RHO^2) is the power transmission coefficient, i.e. the power that is not reflected from the impedance discontinuity is transmitted through the impedance discontinuity.

Pfwd1(RHO^2) is the power reflected back toward the source by the physical impedance discontinuity. This power component is associated with a rearward-traveling wave component.

Pfwd1(1-RHO^2) is the power transmitted through the physical impedance discontinuity, i.e. not reflected, and is associated with a forward-traveling wave component.

Pref2(RHO^2) is the power reflected from the load that is re-reflected back toward the load by the impedance discontinuity and is associated with a forward-traveling wave component.

Pref2(1-RHO^2) is the power reflected from the load that is not re-reflected back toward the load and is instead transmitted through the impedance discontinuity as a rearward-traveling wave component.

It should be obvious that:

Pfwd1 = Pfwd1(RHO^2) + Pfwd1(1-RHO^2) and Pref2 = Pref2(RHO^2) + Pref2(1-RHO^2)

and we can substitute these values into the previous equation to obtain:

Pfwd1(RHO^2) + Pfwd1(1-RHO^2) + Pref2(RHO^2) + Pref2(1-RHO^2) = Pref1 + Pfwd2

The above equation is still a valid representation of the Conservation of
Energy principle. Now let's do something that may not make sense at first.
Let's group the rearward-traveling components on the left side of the equation
and group the forward-traveling components on the right side of the equation.
The result is:

- [Pref1 - Pfwd1(RHO^2) - Pref2(1-RHO^2)] = Pfwd2 - Pfwd1(1-RHO^2) - Pref2(RHO^2)

Note that the above equation is still based on the original Conservation of
Energy equation. What physical meaning can we draw from the terms on the left
side and the terms on the right side of the equation? What we are looking at
in the above equation are the interference terms. The left side of the equation
represents the interference term at the impedance discontinuity looking toward
the source. The right side of the equation represents the interference term at
the impedance discontinuity looking toward the load.

If the sign of the interference term is negative, then that interference is destructive.

If the sign of the interference term is positive, then that interference is constructive.

If destructive interference exists on the source side of the impedance discontinuity,
then an equal magnitude of constructive interference will exist on the load side of
the impedance discontinuity.

If constructive interference exists on the source side of the impedance discontinuity,
then an equal magnitude of destructive interference will exist on the load side of
the impedance discontinuity.

The absolute magnitude of the terms on the left side of the equation must equal the
absolute magnitude of the terms on the right side of the equation, i.e. the constructive
interference is always equal in magnitude to the destructive interference. The sign
associated with the left side of the equation will always be the opposite to the sign
associated with the right side of the equation.

For one boundary condition, both sides of the equation can equal zero and there is no
transfer of energy across the impedance discontinuity due to interference.

Conclusion at this point: Interference energy exists at an impedance discontinuity in
a transmission line and the Conservation of Energy principle says that *all* energy must
be conserved.

Quoting from Optics, by Hecht: "The principle of Conservation of Energy makes it clear
that if there is constructive interference at one point, the 'extra' energy at that
location must have come from elsewhere. There must therefore be destructive energy
somewhere else."

Quoting from the Melles-Griot web page at:

http://www.mellesgriot.com/products/optics/oc_2_1.htm

"In the absence of absorption or scatter, the principle of conservation of energy indicates all 'lost' reflected intensity will appear as enhanced intensity in the transmitted beam."

"'Lost' *reflected* intensity" appearing as "enhanced intensity in the *transmitted* beam" certainly appears (to me) to be a change in direction of the interference energy flow.

I am in the process of posting information to my web page concerning impedance discontinuities in transmission lines. Part-1 of my article (rejected by QEX) is already posted there.
--
73, Cecil http://www.qsl.net/w5dxp

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7645. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 02:36:07 UTC
From: Richard Clark <kb7qhc@attbi.com>
Message-ID: <g67vfvsvvtkl5o9551q90mvh2b3lv9auut@4ax.com>
Source record: 113897

On Sun, 29 Jun 2003 20:58:59 -0500, W5DXP <Cecil.A.Moore@ieee.org>
wrote:

>Richard Clark wrote:
>> The simple point of this exercise is that you cut and pasted your
>> formulas from a document with a richer text font than is available to
>> a common newsreader which employs ASCII. Your "dot" is a foreign
>> character NOT a minus sign.
>
>Netscape 7 doesn't indicate that anything is wrong and there's no "dot"
>visible to me. I did cut and paste it from a Word 97 document. Are you
>saying that Word 97 is smart enough to take the "dash" I entered for a
>minus sign and change it to a special minus sign character? I have been
>very careful not to enter any of Word's special characters.
>
>So what I see with my Netscape 7 newsreader is not what you see with
>whatever newsreader you are using?

You are using:
Mozilla/5.0 (Windows; U; Win 9x 4.90; en-US; rv:1.0.2) Gecko/20030208
Netscape/7.02

You have combined the documents with two antagonistic packages.

In whatever newsreader I am using? You can't figure that out for
yourself as I did for you above?
Forte Agent 1.92/32.572
easily the most widely used reader on the net.

Why in the world did you go out of your way to use a dash when the
minus sign is so common? Every step away from a standard requires
more effort to correct the problems that follow (note the metaphor's
application to your own work).

If you want to publish complex math to the net, use a math editor, not
some hodge-podge of characters. Yes, our forum constricts in that
matter, but you fail to use even characters available to you like
I ï¿½ Rï¿½

For your own view of how you look to a great many readers, your
formula appears as:
>>>. [Pref1 . Pfwd1(RHO^2) . Pref2(1.RHO^2)] = Pfwd2 . Pfwd1(1.RHO^2) . Pref2(RHO^2)
which, when paired with your other oddities, is par for the course and
when pointed out to your shrugs, confirms your impairment.

73's
Richard Clark, KB7QHC

7646. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 02:48:15 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bdo8df$392$0@208.206.142.109>
Source record: 113898

Henry Kolesnik wrote:

> Several years ago Dan, N5AR was travelling down an Interstate and lightning
> hit the 2 meter whip on his van and blew the antenna, coax, and radio to
> pieces and scared the hell out of him. Shit happens!

I think maybe now we have the definitive answer to the original inquiry!
:-0

7647. Re: Lightning dangers from Faraday's cage comprimise while storm c...

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 02:49:34 UTC
From: richardharrison@webtv.net
Message-ID: <9646-3EFFA53E-24@storefull-2317.public.lawson.webtv.net>
Source record: 113899

Richard Clark wrote:
"You can see where this is heading - so can the bolt."

Yes. The ungrounded coax lead violates the protection of the metal enclosure. With luck, the coax diameter is small so its exterior offers high surge impedance, as compared with RG-8, to the bolt. The mag-mount base will flashover to the car, clamping the volts on the coax to a shocking, but likely non-injurious value above the car body volts. I would not want to bet my life on the breakdown between the mag-mount and the car body because it is unecessary. All that`s needed for safety is a secure ground on the coax exterior at the point where it enters the car. Contrary to other posts, I would not be concerned about the coax center-conductor as a safety threat. The breakdown voltage of the coax is inconsequential when compared with the (L di/dt) of the bolt in the coax.

Best regards, Richard Harrison, KB5WZI

7648. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:25:33 UTC
From: tdonaly@aol.com
Message-ID: <20030629232533.01164.00001250@mb-m12.aol.com>
Source record: 113900

David Robbins wrote,
>
>> --
>I don't think so. just reducing the argument to the absurd (sri, i forget
>the latin for that). i am sorry, but i can't believe that adding powers
>discussion is still going on, it just doesn't make sense in my experience.
>you can add currents, and you can add voltages, but you can not just add
>powers. when you compute a power out of either voltage or current you lose
>important information about the phase that is necessary for proper addition
>of complex values.
>
(Some snipped for brevity.)

Cecil gets away with adding his "powers" because he is sure to multiply
his reflected voltage-times-current by Rho squared. This works for the
simple examples he gives, but represents a trap for the unwary.
73,
Tom Donaly

7649. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:34:26 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFFAFC2.9010103@ieee.org>
Source record: 113901

Richard Clark wrote:
> Why in the world did you go out of your way to use a dash when the
> minus sign is so common?

I didn't. I think Word must have recognized a math equation and
automatically changed my hyphen to a mathematical minus sign.

> If you want to publish complex math to the net, use a math editor, not
> some hodge-podge of characters.

That hodge-podge of characters has been defined over the years by
common practice on usenet. I had no idea Word was changing hyphens
to minus signs.

> For your own view of how you look to a great many readers, your
> formula appears as:
>
>. [Pref1 . Pfwd1(RHO^2) . Pref2(1.RHO^2)] = Pfwd2 . Pfwd1(1.RHO^2) . Pref2(RHO^2)

Well, now you tell me. It would have been nice if you had simply told me that
earlier in plain English. Until today, this is all the information you gave me.

> You remain the unreliable correspondent as ever.
> I am not responsible for your perceptual problems.
--
73, Cecil http://www.qsl.net/w5dxp

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7650. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:42:46 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <5G6dnd-vN6MILGKjXTWJiw@comcast.com>
Source record: 113902

Which formula are you using, 468/f, or 492/f ?

Tam/WB2TT
"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFF65AE.3030205@ieee.org...
> Tarmo Tammaru wrote:
> > Every wire antenna I ever put up used stranded plastic insulated wire.
All
> > resonated to within 1% of the cookbook formula.
>
> Well, there you go. If you had used bare copper wire, it would have
> resonated to within 4% of the cookbook formula. :-)
> --
> 73, Cecil http://www.qsl.net/w5dxp
>
>
>
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7651. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:43:40 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFFB1EC.5060808@ieee.org>
Source record: 113903

Tdonaly wrote:
> Cecil gets away with adding his "powers" because he is sure to multiply
> his reflected voltage-times-current by Rho squared. This works for the
> simple examples he gives, but represents a trap for the unwary.

Moral: Don't be unwary. Doesn't it stand to reason that if the reflected voltage is Vfwd*Rho and the reflected current is Ifwd*Rho that the reflected power is Vfwd*Ifwd*Rho^2? If we deal with the wave reflection model and the traveling wave components that are the cause of the standing waves, we can stay out of trouble. Once a person gets the concepts down, an energy analysis of a match point in a transmission line is much, much easier than a formal transmission line analysis.
--
73, Cecil http://www.qsl.net/w5dxp

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7652. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:47:06 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFFB2BA.3050406@ieee.org>
Source record: 113904

Tarmo Tammaru wrote:
> Which formula are you using, 468/f, or 492/f ?

1005/f I noticed the problem first on a loop.
--
73, Cecil http://www.qsl.net/w5dxp

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7653. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:56:33 UTC
From: tdonaly@aol.com
Message-ID: <20030629235633.13706.00001783@mb-m12.aol.com>
Source record: 113905

Cecil wrote,
>
>Tdonaly wrote:
>> Cecil gets away with adding his "powers" because he is sure to multiply
>> his reflected voltage-times-current by Rho squared. This works for the
>> simple examples he gives, but represents a trap for the unwary.
>
>Moral: Don't be unwary. Doesn't it stand to reason that if the reflected
>voltage is Vfwd*Rho and the reflected current is Ifwd*Rho that the reflected
>power is Vfwd*Ifwd*Rho^2? If we deal with the wave reflection model and the
>traveling wave components that are the cause of the standing waves, we can
>stay out of trouble. Once a person gets the concepts down, an energy analysis
>of a match point in a transmission line is much, much easier than a formal
>transmission line analysis.
>--
>73, Cecil http://www.qsl.net/w5dxp
>

Isn't the current reflection coefficient supposed to be the negative of the
voltage reflection coefficient?
73,
Tom Donaly

7654. Re: Xnecview rocks!

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 03:57:19 UTC
From: Jim Richardson <warlock@eskimo.com>
Message-ID: <v1p4t-5ct.ln1@grendel.myth>
Source record: 113906

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

On Fri, 27 Jun 2003 01:17:46 -0700,
Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> I was able to process this file with nec2dx, but I wasn't able to
> figure out how to animate the output. Can you provide more
> assistance?
>
> Thanks for all your help so far!
>

Not sure if I follow, all I do is select "animate" from the menu, and
the currents animate.

-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (GNU/Linux)

iD8DBQE+/7Ufd90bcYOAWPYRAkPgAKC+SWUWtsxU4sEbE7Hrk2Xdtk1jhgCcD6sb
iEK3+qrFBDIrpjyewF6YWzM=
=6b/Q
-----END PGP SIGNATURE-----

--
Jim Richardson http://www.eskimo.com/~warlock

Linux, because eventually, you grow up enough to be trusted with a fork()
```

7655. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 04:23:28 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3EFFBB40.2010906@ieee.org>
Source record: 113907

Tdonaly wrote:
> Isn't the current reflection coefficient supposed to be the negative of the
> voltage reflection coefficient?

Yep, I'm dealing with absolute magnitudes above. I know the directions
and the phases. I don't need the signs which are only conventions.

Did you know the negative sign for reflected current is just a Kirchhoff
convention and the H-field doesn't actually reverse phase unless the
E-field also reverses phase? The field of optics doesn't have the problem
of a positive index of refraction for the E-field and a negative index of
refraction for the H-field.
--
73, Cecil http://www.qsl.net/w5dxp

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7656. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 04:58:40 UTC
From: tdonaly@aol.com
Message-ID: <20030630005840.01923.00000617@mb-m10.aol.com>
Source record: 113908

Cecil wrote,
>
>Tdonaly wrote:
>> Isn't the current reflection coefficient supposed to be the negative of the
>
>> voltage reflection coefficient?
>
>Yep, I'm dealing with absolute magnitudes above. I know the directions
>and the phases. I don't need the signs which are only conventions.
>

I see. That's a pretty solipsistic attitude for a guy who is trying to communicate
a theory to the uninitiated. It's also intellectually sloppy. However, if you're
only dealing with your own understanding, I suppose you can do what you want.

>Did you know the negative sign for reflected current is just a Kirchhoff
>convention and the H-field doesn't actually reverse phase unless the
>E-field also reverses phase? The field of optics doesn't have the problem
>of a positive index of refraction for the E-field and a negative index of
>refraction for the H-field.

I have no interest in the field of optics. You're just using it metaphorically

anyway.

>--
>73, Cecil http://www.qsl.net/w5dxp
>
>

73,
Tom Donaly, KA6RUH

7657. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 05:02:03 UTC
From: Mike Luther <mike.luther@ziplog.com>
Message-ID: <vfvh069sskepb2@corp.supernews.com>
Source record: 113909

Relax ..

I've had my car hit. Hit the roof, jumped from the rim to the pavement at about 50MPH in front of the old Consolidated School system on what was then Jersey Drive in front of the A&M golf course at the top of the hill there in College Station, Texas as a kid.

Blew the left front tire out. Interesting other observation. When it happened, all I heard was this massive buzz inside the car, a 51 Chevy Coupe, with a late model Corvette engine shovelled into it. I'm told that the buzz is mostly the overload on the sensory circuits .. but. The intriquing thing was that just after the hit and the pop from the tire, I could hear the reflected sound waves off the expanding boom coming back off the buildings over at the school system and on further away. It's a crazy sort of a stacatto boombidy boombidy boom like affair, as the air disturbance richochets off the objects around you! The further they are out there away from you that reflect it back to you at the strike point, the longer (in split seconds, mostly!) that they take to get back to you!

Second run in like this down in Houston on Main Street where Westheimer crosses it was related to a strike that hit a light pole off to one side of me! In this case, same buzz of the initial hit, and a REALLY interesting cascade of boombidy boombidy boom off the vertical faces of the higer rise office buildings and so on that could be heard echoing back to me...

We've had two Beech Baron aircraft long ago, first N7826R and then N81UC that I flew all the time in very hard IFR conditions. N7826R didn't have radar, but N81UC did, and that smoothed the ride up quite a bit. Total of six known hits direct to those aircraft when I was flying them. Massive panic, but no internal damage at all inside the planes. Dime sized burned spots on the skin and obliterated paint where the stroke hits, and departure in this case was always from a trailing edge somewhere as far as we could tell. No avionics lost in any event. There is a terrific flash of light at the time of the strike and, granted, disturbance of the radio gear and navaid stuff at that point, grin. That even though when you get into this stuff in craft like this you always turn up the cabin lights to try to minimize the effects of the blinding of the flare...

BTW .. as to storm chasing, you haven't, I think, sort of lived, until you've more or less done it in something like a BE55 or BE58, sigh. I can tell you the most intriquing flight I ever had this way was

summer-winter transition time flight from Indianpolis, Indianna to College Station, Texas, our home base. You have to realize that lightning, in the normal sense, never can occur in a cloud until the cloud goes through the freezing level! There are several mechanism's which can produce charge effects. However, the one which is responsible for the real capability of what you normally see as thunderstorm lightning, is the tearing of freezing raindrops as the supercooled droplets are blown up aloft through the freezing level.

In this case, there was significant convection activity al very low and very warm air levels close to the ground, and the freezing level was down about 5000 feet. We were up in the 10,000 foot range, and there were dozens and dozens of these very tiny, tiny thunderstorms with very low, but very intense top activity in the say 10,000 foot cap height! When you see this from upstairs, it looks for all the world like a giant gray pinball machine table. Each of these little tiny TRW's is like a bumper that flashes like in the pinball machines! I discovered that if I were to fly the aircraft over toward them, and touch the wingtip to the little tiny anvil tops, or in many cases as I would get close to them, I could actually make these little tiny thunderstorms actually fire off with that action! Got special permission from Center that day to deviate from the route to go along for about an hour parallel with the instability zone popping they like a huge giant pinball game! Flying from one to the next. just like the pinball roling along the table and touching the little rings in the bumpers!

Absolutely incredible and permanent memory flight. BTW, I had taken a passenger from Indianapolis to CLL who had a girl friend that lived in Houston he wanted to surprise with a walk-in visit and he'd never been in a light plane before! Boy what a treat he got. A once in a lifetime ever deal. Back in 1968 onward this was a far different worlk of electronincs. Oh what I'd have given to have had the VCR stuff and so on that we have today to have captured this on one, sniffle.

You may try this stunt to see what the issue of frictional shearing of freezing raindrops is really working like. In the cool of winter, take a roll of adhesive tape and a screwdriver or other rod into a dark closet or pitch black cold room with you some time. Then put the rod through the hole in the adhesive tape roll. Take your other hand and rapidly yank the free end of the tape, stripping it very quickly from that roll ... Zipppppppp!

You'll see a cascade of sparks from the tearing of the adhesive at the split line where the tape cascades off the roll in front of you.

Next time you go storm chasing and you look at lightning, or up inside the eye of the tornado at all the rotating fireworks that is normally inside the funnel, you'll have a much better understanding of all this ... and what can and normally will not happen if your car gets hit ..

Provided that the shield on the coax can distribute the charge to the shell of the car on the surface as the RF travels over it seeking an

exit point.

W5WQN

R wrote:

>On Sun, 29 Jun 2003 05:09:02 -0500, 'Doc <w5lz@cwis.net> wrote:
>
>
>
>>'R',
>> I think worrying about a scanner antenna (or any kind of
>>mobile antenna) increasing the lightning hazard of your car
>>is a waste of good worrying time. I seriously doubt if it
>>would increase the likelyhood of your car being struck by
>>lightning. a
>>
>>
>
> I'm not worried about it increasing the chance (though I'm sure it
>does; more elevated metal means more streamers), I'm worried that by
>not having the coax grounded to the car, any lightning that hits it
>will follow the coax path into my car. Having a bolt of lightning
>inside my car ain't a place I wanna go! ;)
>
>
>
>>And if struck by lightning, the scanner and it's
>>antenna will probably make absolutely no difference in the
>>out come. 'Storm chasing' is a greater hazard than the antenna.
>>
>>
>
> Actually, storm chasing is relatively safe. Driving is what is
>dangerous, followed by lightning, then danger from the actual tornado.
>I hope you're right about the scanner antenna, though!
>
>-R
>
>

--

--> Sleep well; OS2's still awake! ;)

Mike Luther

7658. Re: Lightning dangers from Faraday's cage comprimise while storm chasing/spotting?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 07:08:58 UTC
From: Keith <kilowattradio_spam@earthlink.net>
Message-ID: <bdonma01g09@enews3.newsguy.com>
Source record: 113910

On Sun, 29 Jun 2003 17:50:18 GMT,
R <who@where.net> wrote:
> On Sun, 29 Jun 2003 05:09:02 -0500, 'Doc <w5lz@cwis.net> wrote:
>
>>'R',
>> I think worrying about a scanner antenna (or any kind of
>>mobile antenna) increasing the lightning hazard of your car
>>is a waste of good worrying time. I seriously doubt if it
>>would increase the likelyhood of your car being struck by
>>lightning. a
>
> I'm not worried about it increasing the chance (though I'm sure it
> does; more elevated metal means more streamers), I'm worried that by
> not having the coax grounded to the car, any lightning that hits it
> will follow the coax path into my car. Having a bolt of lightning
> inside my car ain't a place I wanna go! ;)

The mag mount is grounded to the car through the magnet. Doesn't
your car have a antenna for the AM/FM radio? It is the same thing,
if a bolt of lightening strikes your car the fact that you have
a mag mount antenna will make no difference. You are worrying about
nothing, you have a better chance of being in a auto wreck which
could injury or kill you then be hit by lightening in your low
profile car.

--
HTTP://home.earthlink.net/~kilowattradio/
NW Oregon Radio Page

7659. Travelling Wave HF dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 09:59:44 UTC
From: Michael Hart <mixstat-donotspam@bigpond.net.au>
Message-ID: <kSTLa.269$jT3.3969@news-server.bigpond.net.au>
Source record: 113911

Some time ago while surfing the net I came upon the design of a HF travelling wave broadband HF dipole made from coaxial cable.

Unfortunately I lost the reference / web page for it.

does anyone know where this is?

Michael

7660. Re: Travelling Wave HF dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 10:17:54 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3F000E52.C715683D@cwis.net>
Source record: 113912

Michael,
Try doing a search for a 'coaxial dipole', or a
'double bazooka'. Never heard of a traveling wave
dipole...
'Doc

7661. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 11:19:09 UTC
From: Duane Allen <computeruser@sprintmail.com>
Message-ID: <3F001DB3.5020802@sprintmail.com>
Source record: 113913

W5DXP wrote:
<<snipped>>
>
> If you don't understand the derivation of that equation please reread my
> first posting to this thread. Perhaps an old example would help. From a
> couple of years ago: Pfwd1=100W, Pref1=0W, Pfwd2=133.33W, Pref2=33.33W
> RHO = (150-50)/(150+50) = 0.5, RHO^2 = 0.25, (1-RHO^2) = 0.75.
>

I do not understand the values that you provide in this example. From your original post of this thread, I interpret the power transfers as follows:

Given Pfwd1 = 100W and RHO^2 = 0.25, then Pfwd1 contributes 100W(.25) = 25W back to the source and 75W through the discontinuity to the load.

Given Pref2 = 33.33W and RHO^2 = 0.25, then Pref2 contributes 33.33W(.25) = 8.33W back to the load and 25W through the discontinuity to the source.

Hence, Pref1 = 25W + 25W = 50W and not the Pref1=0W you cite above. Similarly, Pfwd2 = 75W + 8.3W = 83.3W and not the Pfwd2=133.33W you cite above.

When you put the values you provided into your equation you get

> - [0 - 100W(0.25) - 33.33W(0.75)] = 133.33W - 100W(0.75) - 33.33W(0.25)
>
> - [0 - 25W -25W] = 133.33W - 75W -8.33W
>
> -[-50W] = +50W
>

When I substitute my power outs, I get

- [50W - 25W -25W] = 83.33W - 75W -8.33W

-[0W] = +0W

I am still seeing zero equals zero.

Duane Allen
N6JPO

7662. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 11:26:51 UTC
From: jaroslavlipka@msn.com
Message-ID: <d7855f42.0306300326.50ba073@posting.google.com>
Source record: 113914

'Doc <w5lz@cwis.net> wrote in message news:<3EFF7CE1.EF3C83C0@cwis.net>...
> Richard,
> Very little risk of that happening. It takes approximately
> 4 posts from Art to show how much he can be believed...
> 'Doc

and it takes just "one" to show you for the clown you are.

Sure sign the thread is coming to an end when you pop up. There
is no chance of you ever getting involved in any thing technical is
there?.
Jaro.

7663. GPRS Tri-band and Inmarsat MPDS Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 12:41:12 UTC
From: scomerlin@yahoo.co.uk
Message-ID: <d0d6b240.0306300441.282daeef@posting.google.com>
Source record: 113915

Could someone recommend a good qulaity tri-band capable antenna for use with a Siemens MC45-based GPRS product and a good satellite capable antenna for use with the Inmarsat satellite network.

7664. how far apert?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 14:21:11 UTC
From: Wedgew <wedgew@rochester.rr.com>
Message-ID: <3F004757.6090503@rochester.rr.com>
Source record: 113916

I currently have a dipole wire antenna for hf. and a scantenna for
25-??? mhz
I am putting up a j-pole for 2m
How far should the jpole be away from the other antennas?

Thanks in advance!

7665. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 14:57:03 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <MZSdncnalsNc0p2iXTWJiQ@comcast.com>
Source record: 113917

"W5DXP" <Cecil.A.Moore@ieee.org> wrote in message
news:3EFFB2BA.3050406@ieee.org...
> Tarmo Tammaru wrote:
> > Which formula are you using, 468/f, or 492/f ?
>
> 1005/f I noticed the problem first on a loop.
> --
> 73, Cecil http://www.qsl.net/w5dxp

Cecil,
Very interesting. 1005 is what Bill Orr claims you need for the driven element of a quad; also what the ARRL claims for a horizontal loop. On the other hand, the ARRL claims 1032/f for the circumference of a vertical loop made of #18 wire. I have a 3.8 MHz vertical loop, which I first simulated on EZNEC. It came up with about 265 feet when using #14 wire. That works out to 1007/f. The actual antenna came out to within about 2 feet of that (shorter) when using #14 twisted insulated wire. After the antenna had been up about a month, I changed the feedpoint from the bottom center to bottom corner. At that point I had to whack off about 5 feet. I attributed that to stretching and leaves growing on the trees. Now, about 3 years later, resonance has moved down to 3695. I am matching with a 1/4 wave section of RG11.

Among other things, there is a real problem in measuring 265 feet of wire, while keeping it taut.

Tam/WB2TT

7666. Re: how far apert?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 15:12:40 UTC
From: David Robbins <k1ttt@arrl.net>
Message-ID: <gJudnUpCW8vyzp2iRTvU2Q@crocker.com>
Source record: 113918

as far as you can easily put it. i would worry the most about overloading
the receiver of whatever is connected to the 'scantenna'.

"Wedgew" <wedgew@rochester.rr.com> wrote in message
news:3F004757.6090503@rochester.rr.com...
> I currently have a dipole wire antenna for hf. and a scantenna for
> 25-??? mhz
> I am putting up a j-pole for 2m
> How far should the jpole be away from the other antennas?
>
>
> Thanks in advance!
>

7667. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 16:49:26 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbg0qgl.26kn.bit-bucket@localhost.config.com>
Source record: 113819

On Sat, 28 Jun 2003 12:15:59 -0400, DOUGLAS SNOWDEN hath writ:
> I will be moving into a home in a couple of months that
> has a fair amount of property to the back. I am planning
> on putting all or most of my antennas back several hundred feet from the
> house and radio equipment.

> Maybe there are cheaper sources of Heliax (hardline) I have seen?

How about FREE? Cable TV Hardline.
See
http://jonz.net/W3DHJ/catvhardline.html
Google can find other references...

73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

7668. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 16:58:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <02r0gvk9m7pdobo8egtu8lc2tc6pnn8gi3@4ax.com>
Source record: 113820

On Mon, 30 Jun 2003 11:19:09 GMT, Duane Allen
<computeruser@sprintmail.com> wrote:
>I am still seeing zero equals zero.
>
>Duane Allen
>N6JPO

Hi Duane,

It is a simple case of you have to know the answer before you can do
the math to - uh - find the answer.

It's kinda like:
me: "I have exactly $5 and you have exactly $5, right?"
you: "yup, exactly. (howd he know?)"
me: "If I give myself an imaginary $5
and I gave you an imaginary $5,
then we would both have a virtual $10, right?"
you: "um, I suppose so."
me: "I have added the same value to both sides, right?"
you: "that seems OK, sure."
me: "I can also subtract the same $5 from both sides
and that is perfectly balanced too, right?"
you: "Sure! The conservation of money always works."
me: "give me back my $5!"

73's
Richard Clark, KB7QHC

7669. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 17:03:15 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <bdpqgj$4be$1@news1.tribune.com>
Source record: 113821

In 1978 I was at an SK sale, in Orange County New York. The station was at least 200 yards from the 200 foot tall tower with HF beam(s).

The ham had made open wire line by cutting triangles out of plastic. The triangles were pointy side up. The top line was a messenger line carrying the wieght, hooked to supports, etc. The bottom lines were the transmission line. It went right up the tower and some where near the top it was converted to some thing that worked well around the rotator.

I was told this guys was a big gun DXer and his signal was great.

John
KA9CAR

7670. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 17:12:08 UTC
From: aunwin@insightbb.com
Message-ID: <85ed38d.0306300912.13506746@posting.google.com>
Source record: 113822

jaroslavlipka@msn.com (jaroslav lipka) wrote in message
news:<d7855f42.0306300326.50ba073@posting.google.com>...
> 'Doc <w5lz@cwis.net> wrote in message news:<3EFF7CE1.EF3C83C0@cwis.net>...
> > Richard,
> > Very little risk of that happening. It takes approximately
> > 4 posts from Art to show how much he can be believed...
> > 'Doc
>
> and it takes just "one" to show you for the clown you are.
>
> Sure sign the thread is coming to an end when you pop up. There
> is no chance of you ever getting involved in any thing technical is
> there?.
> Jaro.

You are correct the buzzards close in at the end so I'm done
Art

7671. Re: Long Transmission Line Ideas Wanted

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 17:18:24 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <gd2dnWmvi7587Z2iXTWJiw@comcast.com>
Source record: 113823

I checked out your link. Considering that the hardline is free, I would
spend the money that I would have on RG8 and buy real Heliax connectors.
about 25 bucks each.

Tam/WB2TT
"Allodoxaphobia" <bit-bucket@config.com> wrote in message
news:slrnbg0qgl.26kn.bit-bucket@localhost.config.com...
> On Sat, 28 Jun 2003 12:15:59 -0400, DOUGLAS SNOWDEN hath writ:
> > I will be moving into a home in a couple of months that
> > has a fair amount of property to the back. I am planning
> > on putting all or most of my antennas back several hundred feet from the
> > house and radio equipment.
>
> > Maybe there are cheaper sources of Heliax (hardline) I have seen?
>
> How about FREE? Cable TV Hardline.
> See
> http://jonz.net/W3DHJ/catvhardline.html
> Google can find other references...
>
> 73
> Jonesy
> --
> | Marvin L Jones | jonz | W3DHJ | OS/2
> | Gunnison, Colorado | @ | Jonesy | linux __
> | 7,703' -- 2,345m | config.com | DM68mn SK

7672. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 17:38:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sor0gvobiv2h1dpro87n3jc6irbnag4uju@4ax.com>
Source record: 113824

you: "WAIT JUST A MOMENT THERE!"
me: "Don't panic. I want to do this honestly."
you: "Hmmph, don't panic you say, and you got my money!"
me: "Here take it back and let's put our money on the table."
you: "Something about this I don't like"
me: "Why, it is the samething, everything's above board isn't it?"
you: "ALL the money ONLY on the table?"
me: "Yes, yes, exactly. We will be perfectly balanced."
you: "OK, there's my $5 on the table. WHERE'S YOURS!?"
me: "Right here, OK?"
you: "mmmph, I suppose so."

me: "So now I give each of us an imaginary $5."
you: "You mean I have to imagine we both have $10?"
me: "Yes! The Conservation of Money demands it, you agree with
the principle don't you?"
you: "Run that by me again."
me: "The Conservation of Money Law states that new wealth cannot
be created without there being a corresponding tax that takes
it away."
you: "Everybody knows that (damn democrats)."
me: "So you see that we both have risen with the same tide of my
generous offer, and we each have a virtual $10."
you: "Run that by me again."
me: "Think of it as a tax rebate (praise be to the republicans)"
you: "WOW! Can you boost it another $5?"
me: "Even steven, we must be fair so that no one gets left
behind. An imaginary $5 for me, the same for you."
you: "Great, with a virtual $15, I am $10 ahead."
me: "And so am I, let's not forget that everything is balanced."

me: "But we also have to share problems, and I have an unexpected
$5 bill come due because of some lousy foreign snags."
you: "... not my problem."
me: "I've trippled your income and you are going to grudge me $5?
you: "What's fair about this?"
me: "I can also subtract the same $5 from both sides
and that is perfectly balanced too, right?"
you: "Sure! The conservation of money always works."
me: "give me back my $5!"

you: "WAIT a minute! Howcum you are taking my $5?"
me: "We both have a virtual $15 and this is -$5 right?"
you: "It sure is!"
me: "So this -$5 and my virtual $15 is the same as

your virtual $10"

7673. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 18:27:32 UTC
From: Michalkun <no.spam@nospam.com>
Message-ID: <Xns93AA7E91A8D28michalkunyahoocom@128.233.192.251>
Source record: 113825

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in news:bdnnck$u9ps3$1@ID-134747.news.dfncis.de:

> It is an important part of the antenna system.
> You should have at least one wire 1/4 wave length
> long at the lowest frequency you plan to operate.
> More wires are better. For a long-wire you
> probably could get away with one wire for each
> band if you wanted to improve over the one wire
> only ground.
>
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "Karl Almquist" <kalmquist2@cox.net> wrote in
> message news:3YILa.113700$MJ5.100913@fed1read03...
>> I am setting up an end-fed wire antenna. Is a
> ground connection essential
>> for operation or is it for safety in case of an
> electrical storm.

Guys, when you talk about ground connection, do you mean the outer shield of the coax and the antenna mast, but not the antenna and center of the coax?

7674. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 18:35:33 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3F0082F5.F6270E1D@cwis.net>
Source record: 113826

Michalkun,
Yes.
'Doc

7675. Re: W8JK Gain - a result of Zo ?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 18:48:53 UTC
From: 'Doc <w5lz@cwis.net>
Message-ID: <3F008615.AB7EFB59@cwis.net>
Source record: 113827

Jaro,
After checking back over the past few weeks, I see that
you have only posted in response to two people on this NG.
In neither case was the post 'technical' in nature. In both
cases, your posts was to show dissatisfaction with the poster.
Have you ever heard the old saw about the pot calling the
kettle black?
'Doc

7676. Re: VF of 600 ohm open-wire feedline

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 18:56:20 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306301056.6b42795c@posting.google.com>
Source record: 113828

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bdn8v6dnl1@sparta.btinternet.com>...
...
> It is often recommended a balanced twin line should not be run within 3 or 4
> wire-spacings of metal objects to prevent losses. But metals are low-loss
> materials and unless 'objects' are an appreciable fraction of a wavelength,
> such that appreciable current flows in them, induced losses will be
> negligible. The recommendation should be "No materials of ANY SORT over
> appreciable distances."
>
> If the recommendation should be ignored and a ladder line be run down to
> ground level very near, broadside-on, to an aluminium mast, there will be a
> very considerable loss, but NONE in the mast. Loss will occur in the line
> conductors themselves due to high swr and other weird effects on the system.
> The metal mast has reduced the effective conductor spacing and increased
> line capacitance, the combined effect being a big reduction in Zo and the
> consequential increase in line attenuation.

It seems to me that a large part of the reason for the recommendation
is to keep the balanced system balanced. It becomes difficult to keep
the system symmetrical if there are random dielectrics and conductors
in the immediate vicinity of the line.

As for loss induced by an increased SWR...I wonder if the additional
loss isn't more because of the lower line impedance for the same
conductor resistance. I did a back-of-the envelope calc of line
impedance for a nominal 600 ohm line (freespace) line standing off a
ground plane by a distance equal to the line's wire spacing. That
seems pretty close to the ground plane to me. The line impedance
drops to about 195 ohms, which causes the matched line loss in dB to
increase three-fold. For example, for a 50-meter run at 30MHz, the
600 ohm line made from 1.6mm (nom. 14AWG) conductors would have about
0.20dB matched-line loss, and the same line spaced off a ground plane
by the conductor spacing would have about 0.62dB matched line loss.
If the load was 600 ohms, the freespace condition would result in
0.2dB loss and the other about 1.0dB loss. Most of that additional
loss is due to the lower line impedance, not the increased SWR on the
line. If the load were 195 ohms, the 600 ohm line would show about
0.34dB loss (matched line loss times about 1.7), and the 195 ohm
version would show about 0.62dB loss (just matched).

In any event, none of those loss figures is enough for me to worry
about for most ham applications.

Cheers,
Tom

7677. Re: how far apert?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 19:05:51 UTC
From: k7itm@aol.com
Message-ID: <3200347.0306301105.197d4371@posting.google.com>
Source record: 113829

Wedgew <wedgew@rochester.rr.com> wrote in message
news:<3F004757.6090503@rochester.rr.com>...
> I currently have a dipole wire antenna for hf. and a scantenna for
> 25-??? mhz
> I am putting up a j-pole for 2m
> How far should the jpole be away from the other antennas?

I'd say you could put the j-pole immediately above the center of the dipole and not have any significant adverse effects on either, if you properly decouple the feedline from the j-pole. It's as much a matter of symmetry as actual spacing. Also, your hf and 2-meter rigs probably have very low response to each other's output frequencies, and if they don't, a simple filter would solve that problem. For the scanner antenna, I'd say to keep it and the j-pole separated enough that you don't blow out the front end of the scanner when you transmit on 2 meters: a couple meters of vertical separation, or maybe 10 meters of horizontal separation, might be enough, or even more than enough, but don't blame me if you zap your scanner. Depends on power levels and how well built the scanner is with regard to input overload protection.

Cheers,
Tom

7678. 10m contact

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 19:24:43 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030630152443.01209.00001981@mb-m07.aol.com>
Source record: 113830

I am monitoring 10m right now and am noticing something about my rig. I have an htx 10 that seems to have a ground problem. I do not have the dipole grounded. nor is the radio but when I touch the mic cord the squelch clears up and I can hear much better. Is this a grounding problem and if so, what is the best way to ground it? Sometimes when the mike gets closer to the radio it clears up too.

I am not transmitting, just monitoring

G. Doughty
KI4BBL
remove nojunk to email

7679. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:07:14 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3F009872.4040803@ieee.org>
Source record: 113832

Tdonaly wrote:
> I have no interest in the field of optics. You're just using it metaphorically
> anyway.

Actually, I am drawing upon the vast body of knowledge of EM waves
contained in the field of optics.
--
73, Cecil http://www.qsl.net/w5dxp

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7680. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:09:11 UTC
From: Michalkun <no.spam@nospam.com>
Message-ID: <Xns93AA8FCDBF23Dmichalkunyahoocom@128.233.192.251>
Source record: 113831

>
>
> Michalkun,
> Yes.
> 'Doc

Do you mean that the line should be grounded at the same time when you listen to the radio? Won't the grounding line become the antenna and interfere or pick up other unwanted noise?

7681. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:18:04 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3F009AFC.9020000@ieee.org>
Source record: 113833

Duane Allen wrote:
> Hence, Pref1 = 25W + 25W = 50W and not the Pref1=0W you cite above.

We know Pref1 = 0W because the system is matched. So something happens to that 50W at the impedance discontinuity to change its direction of travel and allow it to join Pfwd2. Here are those two 25W waves:

35.36V at zero degrees times 0.707A at 180 degrees equals 25W

35.36V at 180 degrees times 0.707A at zero degrees equals 25W

Adding those two waves together yields zero volts and zero amps.

Those two waves engage in wave cancellation but the energy in those two waves cannot be canceled. It changes direction and joins the forward wave. I am trying to find out the official name of that mechanism.

> Similarly, Pfwd2 = 75W + 8.3W = 83.3W and not the Pfwd2=133.33W you cite
> above.

Since the 50W contained in the canceled waves changes direction, we get Pfwd2 = 75W + 8.33W + 50W = 133.33W

> When you put the values you provided into your equation you get
>
>> - [0 - 100W(0.25) - 33.33W(0.75)] = 133.33W - 100W(0.75) - 33.33W(0.25)
>>
>> - [0 - 25W -25W] = 133.33W - 75W -8.33W
>>
>> -[-50W] = +50W

The -50W is destructive interference, The +50W is constructive interference. The Conservation of Energy principle is satisfied.
--
73, Cecil http://www.qsl.net/w5dxp

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7682. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:22:58 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3F009C22.8090802@ieee.org>
Source record: 113834

Richard Clark wrote:
> It is a simple case of you have to know the answer before you can do
> the math to - uh - find the answer.

Actually, it's a simple of case of already knowing the answer and
trying to find an explanation for the answer.

Example: The Sun God rides his chariot across the sky every day.

What is the explanation? Basically, it is the rotation of the
earth on its axis while the sun "stands still". Therefore, no
Sun God is required.
--
73, Cecil http://www.qsl.net/w5dxp

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7683. Reg gets an article on ARRL's website

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:42:50 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3F00A0CA.3000205@psu.edu>
Source record: 113836

I see Stan Horzepa, WA1LOU has written a nice article on our very own
Reg Edwards on ARRL's site. It deals with the programs on Reg's website.

http://www.arrl.org/news/features/2003/06/20/1/

- Mike KB3EIA -

7684. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 20:48:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00A232.7A6B85A3@uci.edu>
Source record: 113835

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
> >>I'm sorry, Jim, but that equation is wrong for an general
> >>impedance discontinuity in a transmission line where there are
> >>*FOUR* measurable energy components. You are quoting that
> >>equation OUT OF CONTEXT.
> >
> > Then please quote the correct equation for conservation of energy.
>
> I already did, Jim, for an impedance discontinuity in a transmission
> line. Why did you delete it? Here it is again.
>
> Pfwd1 + Pref2 = Pref1 + Pfwd1 Note there are 4 terms, not 3 terms.

The Law of Conservation of Energy strictly applies to closed systems.
It doesn't have to apply to open systems. A two port network is not a
closed system. You're talking about something more akin to the First
Law of Thermodynamics.

> Our disagreements seem to boil down to a couple of issues which you
> can resolve by answering the following questions (which you have
> refused to answer in the past).
>
> 1. Can an EM wave exist without intrinsic energy?

> 2. Can standing waves exist without reflected waves in a single source,
> single feedline, single load system?

Neither question makes any sense. But you could resolve our
disagreement by learning that cancelled waves transfer no energy. It
would help if you actually understood what is meant by 'transfer of
energy'.

7685. Re: Cecilian Math

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 21:18:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00A91B.590DF969@uci.edu>
Source record: 113837

W5DXP wrote:
>
> Jim Kelley wrote:
> > W5DXP wrote:
>
> >>|b1|^2 is the reflected power so the wattmeter reads zero.
> >
> > And in fact, no power or energy is reflected from the discontinuity.
>
> You are wrong. In fact, s11*a1 is reflected from the discontinuity
> and the associated power is |s11*a1|^2 according to HP AN 95-1.
> Sorry, you lose again.

And you're out of your mind. But tomorrow I will be right, and you will
still be out of your mind. :-) (With thanks to W.C. Fields.)

No power or energy is reflected from the discontinuity in a matched
system, by definition. We measure this very effect every time we set
our tuner to 1:1.

> > Your V3^2/Z0 calculation indicates 25 Joules per second is reflected
> > from it. You claim that 25 watts is reflected from it. That claim is
> > obviously in error.

> Nope, the claim is obviously correct. |s11*a1|^2 = 25 watts.
> Sorry, you lose again.

As you observe below, no power is reflected from an antenna tuner set to
perfectly match the load impedance.

> > As bizarre as quantum
> > electrodynamics seems, a mechanism is still required in order for there
> > to exist a significant probability of occurance. Your claim would be
> > that interference provides that mechanism. Maybe so. It could provide
> > an elegant solution. I await the proof.

> Wave cancellation is a special form of wave interference.

You don't say.

> It would result
> in a probability of zero of photons materializing in the rearward > direction.

That's part is right.

> Thus they materialize in the forward direction. That is obviously what
> happens since reflected power equals zero. That's all the proof I need.

Scientists are a little pickier than you are, I guess.

> > The reflective coefficient of the > network and load is zero.

> You are just digging your hole deeper and deeper. 'a11' is the reflection
> coefficient and it is NOT zero.

Nope. Obviously you aren't following the topic very closely. a11 is
not a network parameter. It's a port parameter for one of the ports.

> Sorry, you lose again.

You cannot make it so just by saying so - not even on usenet.

> > Since there is no rearward traveling energy in a matched system, your
> > figures are somewhat less than useful.

> There is no rearward-traveling energy because the two rearward-traveling
> waves engage in wave cancellation. Their energy components cannot continue
> traveling rearward.

You're so close to the truth! The energy never travels rearward after
the transient period. But, I've explained that to you before, and you
just don't get it. It's not even that hard to understand! And even
better, it requires no hand waving.

ac6xg

7686. Re: Travelling Wave HF dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 21:20:20 UTC
From: Michael Hart <mixstat-donotspam@bigpond.net.au>
Message-ID: <oQ1Ma.17$w14.1497@news-server.bigpond.net.au>
Source record: 113838

The one I am thinking of workes off the same principle as

http://www.cebik.com/wbfd.html

or http://www.hard-core-dx.com/nordicdx/antenna/wire/t2fd.html

and http://www.paws.dircon.co.uk/draka.htm

but is made from a couple of lenghts of coaxial cable. These are non-resonant antennas and work from just being a piece of line approximately the same impedance as free space with a termination at the end. There is no standing wave pattern set up as there is with resonant antennas. The wave travels from the feed to the terminating resistor getting radiated along the way.

The Bazooka antenna has no where near the bandwidth I was thinking of. It is simply a modified resonant antenna and sets up standing waves like a normal wire dipole, except it has a modified stub feed.

Michael

"'Doc" <w5lz@cwis.net> wrote in message news:3F000E52.C715683D@cwis.net...
>
>
> Michael,
> Try doing a search for a 'coaxial dipole', or a
> 'double bazooka'. Never heard of a traveling wave
> dipole...
> 'Doc

7687. Re: Cecil's Math a Blunder

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 21:24:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00AA72.6603CFDB@uci.edu>
Source record: 113840

W5DXP wrote:
>
> Jim Kelley wrote:
> > Or, the more correct view, energy wasn't conducted in that direction to
> > begin with.
>
> Admitting that you have been seduced by the steady-state model doesn't
> help your argument, Jim. Please prove that standing waves are possible
> without energy-driven reflected waves. You are just digging your hole
> deeper and deeper.
>
> Can an EM wave exist without energy?

> >>Where does the energy in those waves go?
> >
> > What waves? The ones that cancelled?

> Yes!!!! The waves that existed, were driven by intrinsic energy, and
> disappeared during wave cancellation. What happened to the intrinsic
> energy in those waves?

The waves DIDN'T EXIST. They couldn't. Cancellation occurs at every
instant of time after the transient period.

> > Cancellation means no waves.

> You are obviously confusing cause and effect.

No. I'm simply describing the physics, and the math.

> You cannot have wave cancellation without the existence
> of waves and waves cannot exist without energy. What happens to the
> energy in the canceled waves.

Wave cancellation prevents energy from being reflected, thus allowing
the energy to continue in the forward direction. It's very simple.

ac6xg

7688. Re: Cecil's Math, i.e. Blunderous Conjecture

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 21:28:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00AB65.B4705655@uci.edu>
Source record: 113839

W5DXP wrote:
>
> Jim Kelley wrote:
> >
> > W5DXP wrote:
> >>I don't remember doing any of that, Jim. Would an iota of proof be
> >>too much to ask?
> >
> > Do the words "Cecil's Math Error" ring a bell?
>
> Yep, but all your "proofs" were bafflegab about phantom waves that
> exist without energy.

That you describe quotes from physics books as "bafflegab" is a fair
summary.

7689. Re: Newbie antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 21:46:15 UTC
From: richardharrison@webtv.net
Message-ID: <19655-3F00AFA7-105@storefull-2313.public.lawson.webtv.net>
Source record: 113842

Michalkan wrote:
"---do you mean the outer shield of the coax and the antenna mast, but not the antenna and center conducter of the coax?"

Yes. Coax shields and antenna masts are usually grounded for safety and performance.

Antenna system grounds on sites served by commercial power must be connected to the commercial power ground system by law in most jurisdictions and it makes sense, too.

Best regards, Richard Harrison, KB5WZI

7690. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 22:14:43 UTC
From: W5DXP <Cecil.A.Moore@ieee.org>
Message-ID: <3F00B653.2010400@ieee.org>
Source record: 113841

Jim Kelley wrote:
> The Law of Conservation of Energy strictly applies to closed systems.
> It doesn't have to apply to open systems. A two port network is not a
> closed system.

Good Grief, Jim, the Conservation of Energy principle states that energy cannot be created or destroyed. That applies to any system around which you can draw a boundary. All I have done is draw a boundary around an impedance discontinuity in a transmission line. You are trying to tell us that if energy is allowed to enter or exit a system, then the Conservation of Energy principle doesn't apply. That's laughable.

> But you could resolve our
> disagreement by learning that cancelled waves transfer no energy.

You have learned some bafflegab. You have not learned a fact of physics. The waves you are talking about above are not canceled at all. They are merely interfered with. "Canceled", in this context means destroyed. Do destroyed waves transfer no energy? How could anything that is destroyed not give up its energy?

If canceled waves transfer no energy when they are destroyed, then they didn't contain any intrinsic energy to begin with. So we are back to me challenging you to demonstrate an EM wave devoid of any energy. Waves that are destroyed are *required by the laws of physics* to give up, i.e. transfer, whatever energy they have. Waves destroyed by wave cancellation do indeed transfer their energy. There is simply no other possibility.

You are continuing to confuse ordinary destructive interference (where the irradiance is canceled but the waves are not) with wave cancellation where the waves themselves are destroyed. Jim, when a wave is destroyed, it MUST give up, i.e. transfer, its energy. Nothing else is possible. Your bafflegab is *NOT* true for all cases of destructive interference. Repeating it 1000 times doesn't make it true. It just makes you look ridiculous.
--
73, Cecil http://www.qsl.net/w5dxp

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7691. Re: Is Cecil's Math a Blunder?

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 23:01:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00C13D.28C13064@uci.edu>
Source record: 113843

W5DXP wrote:
>
> Jim Kelley wrote:
> > The Law of Conservation of Energy strictly applies to closed systems.
> > It doesn't have to apply to open systems. A two port network is not a
> > closed system.
>
> Good Grief, Jim, the Conservation of Energy principle states that energy
> cannot be created or destroyed.

I thought you said that it states that Pfwd1+Pref2=Pref1+Pfwd2. Make up
your mind!

I be you were in the physics for poets class. :-)

> That applies to any system around which
> you can draw a boundary.

A closed system is a pretty specific sort of thing. You can't just
arbitrarily draw boundaries and then claim that energy must be conserved
within them.

> You are trying to tell
> us that if energy is allowed to enter or exit a system, then the
> Conservation of Energy principle doesn't apply.

We would all be better served if you restricted yourself to saying only
what you mean to say, and let everybody read what I am saying for
themselves. You're almost always wrong about it.

> > But you could resolve our
> > disagreement by learning that cancelled waves transfer no energy.

> You have learned some bafflegab. You have not learned a fact of physics.
> The waves you are talking about above are not canceled at all. They
> are merely interfered with. "Canceled", in this context means
> destroyed. Do destroyed waves transfer no energy? How could anything
> that is destroyed not give up its energy?

The energy is not destroyed because V3 and V4 do not "materialize" in
the first place.

ac6xg

7692. Re: Conservation of Energy

Newsgroup: rec.radio.amateur.antenna
Date: 2003-06-30 23:34:59 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <3F00C923.9A713179@uci.edu>
Source record: 113844

W5DXP wrote:
>
> Tdonaly wrote:
> > I have no interest in the field of optics. You're just using it metaphorically
> > anyway.
>
> Actually, I am drawing upon the vast body of knowledge of EM waves
> contained in the field of optics.

And the drawing is like a Picasso! :-)

ac6xg